

**GOVT. HOLKAR (MODEL AUTONOMOUS)  
SCIENCE COLLEGE, INDORE**



(An ISO 9001:2015 & ISO 14001:2015 Certified Institution)



# SSR DOCUMENT

2017-18 TO 2021-22

## CRITERION -1

### Curricular Aspects

**Metric No.:1.3.2**

#### Document Title:

**Brochure/Notice and Course Modules for the Value-Added  
Course for the Academic Year 2017-2018 to 2021-2022**

तमसो मा ज्योतिर्गमय



**Brochure/Notice and Course Modules for the Value-Added Course for the  
Academic Year 2017-2018 to 2021-2022**

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2017-2018

1.

# Understanding Physics using Computer Software



### 1.1 Notice: -



शासकीय होलकर (आदर्श, स्वशासी) विज्ञान महाविद्यालय, इंदौर  
(मध्य प्रदेश)

#### आवश्यक सूचना

महाविद्यालय के समस्त छात्र छात्राओं को सूचित किया जाता है कि भौतिक शास्त्र विभाग द्वारा "Understanding Physics Using Computer Softwares" विषय पर एक वैल्यू एडेड कोर्स दिनांक 28 अगस्त से प्रारंभ किया जा रहा है। जो भी छात्र-छात्र उक्त पाठ्यक्रम के संबंध में कोई जानकारी चाहते हैं अथवा इस पाठ्यक्रम में पंजीयन करवाना चाहते हैं, भौतिक शास्त्र विभाग में दिनांक 20 अगस्त 2017 तक अपना पंजीयन करावें।

*(Signature)*

विभाग प्रमुख

भौतिकशास्त्र

शास. होलकर (आदर्श, स्वशासी)  
विज्ञान महाविद्यालय, इंदौर (म. प्र.)

**GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE**  
**COLLEGE INDORE**

**DEPARTMENT OF PHYSICS**

**NOTICE**

Department of physics is conducting the following value Added Certificate course  
in

**UNDERSTANDING PHYSICS USING COMPUTER SOFTWARE**

The classes shall be conducted by the faculty of the Department of Physics & Computer Science, Government Holkar (Model Autonomous) Science College, Indore.

**Duration:** 30 Hrs.

**Date:** August 28, 2017 to September 27, 2017

**Time:** 4.00 to 5.20PM

**Strength:** 35

  
प्राध्यापक एवं विभागाध्यक्ष  
भौतिकी विभाग  
ग.स. होलकर विज्ञान महाविद्यालय  
इन्दौर

## **1.2 Syllabus: -**

### **UNDERSTANDING PHYSICS USING COMPUTER SOFTWARES**

(Value added Certificate Course in Physics)

#### **Syllabus**

##### **Course Out Comes:**

Students will learn to use various softwares for data fitting and visualization. They will also get hands-on experience in easy methods of carrying out numerical analysis using Excel. Some software's for symbolic calculations will also be introduced. Simulating electronic circuits on a computer will be taught. Most of these software's can run on any Android mobile phone. Basic knowledge of Arduino

##### **Course Content**

**Module 1** Graph plotting and data fitting using gnu plot: drawing simple, surface, contour plots, fitting curves to data, setting labels, legends and saving the figures in different formats, making batch file, etc.

**Module 2** Data visualization and simple numerical analysis using Excel: Plotting different plots from the given data.

**Module 3** Perform simple numerical differentiation and integration: To solve some problems in physics, generate a trajectory of a simple nonlinear mapping and study various bifurcations, so on.


**Module 4** Introduction to Arduino

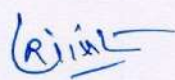
**Module 5** Electronic Circuit Basics:

**EVALUATION** Assignments & multiple choice test

**WHO SHOULD DO IT?** Physics Undergraduate and PG students

**Approved**

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore



### **1.3 Schedule: -**

**Govt. Holkar Science College Indore**

**Department of Physics**

**Time Table for Value added course "Understanding Physics using Computer Software"**

<b>Module</b>	<b>Description</b>	<b>Date</b>	<b>Time</b>	<b>Name of Resource person</b>
<b>Module 1</b>	Graph plotting and data fitting using gnu plot: drawing simple, surface, contour plots, fitting curves to data, setting labels, legends and saving the figures in different formats, making batch file, etc	<b>28/08/2017 to 5/9/2017</b>	<b>4.00 to 5.20</b>	<b>Dr.P.K.Sharma</b>
<b>Module 2</b>	Data visualisation and simple numerical analysis using Excel: Plotting different plots from the given data.	<b>6/9/2016 to 14/09/2017</b>	<b>4.00 to 5.20</b>	<b>Dr R.C. Dixit</b>
<b>Module 3</b>	Perform simple numerical differentiation and integration: To solve some problems in physics, generate a trajectory of a simple nonlinear mapping and study various bifurcations, so on.	<b>15/09/2017 to 20/09/2017</b>	<b>4.00 to 5.20</b>	<b>Dr Nidhi Parmar</b>

<b>Module 4</b>	Introduction to Arduino	21/09/2017 to 24/09/2017	4.00 to 5.20	DR. Bhavna Chouresia
<b>Module 5</b>	Electronic Circuit Basics	25/09/2017 to 27/09/2017	4.00 to 5.20	Dr Netram Kaurav
On the last day of every module, there will be an assessment test				

*(Signature)*

प्राध्यापक एवं विभागाध्यक्ष  
भौतिकी विभाग  
मास. होलकर विज्ञान महाविद्यालय  
इन्दौर

2.

# Applied Zoology for Entrepreneurs

## 2.1 Notice: -



शासकीय होलकर (आदर्श, स्वशासी) विज्ञान महाविद्यालय, इंदौर  
(मध्य प्रदेश)

### आवश्यक सूचना

महाविद्यालय के समस्त छात्र छात्राओं को सूचित किया जाता है कि प्राणी शास्त्र विभाग द्वारा "Applied Zoology for Entrepreneurs" विषय पर एक वैल्यू एडेड कोर्स दिनांक 01 सितम्बर 2017 से प्रारंभ किया जा रहा है। जो भी छात्र-छात्र उक्त पाठ्यक्रम के संबंध में कोई जानकारी चाहते हैं अथवा इस पाठ्यक्रम में पंजीयन करवाना चाहते हैं, प्राणी शास्त्र विभाग में दिनांक 28 अगस्त 2017 तक अपना पंजीयन करावें।

*R. Shah*

Co-ordinator, Board of Studies  
पाठ्यक्रम समन्वयक  
Govt. Holkar (Model Autonomous)  
Science College, Indore

शास. होलकर (आदर्श, स्वशासी)  
विज्ञान महा., इंदौर (म. प्र.)



**GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE**  
**COLLEGE INDORE**

**DEPARTMENT OF ZOOLOGY**

**NOTICE**

Department of ZOOLOGY is conducting following Certificate course on

**Applied Zoology for Entrepreneurs**

The classes shall be conducted by the faculty of the Department of Zoology & Fisheries, Government Holkar (Model Autonomous) Science College, Indore

**Duration:** 30 Hrs.

**Date:** September 1, 2017 to September 27, 2017

**Time:** 4.00 to 5.20 PM

**Strength:** 35

For

Roharmg

Dep't. of Z. & F.  
Govt. Holkar Sc. College, Indore



## 2.2 Syllabus: -

### Applied Zoology for Entrepreneurs

#### Syllabus

##### Course objectives:

1. Gain knowledge about silkworms, Bee keeping and insect pests.
2. Students will understand dairy animal management, the breeds and diseases of cattle and learn the testing of milk quality.
3. Learn various concepts about Vermiculture and gain basic information about aquaculture and poultry

##### Course Outcomes:

1. Students can start their own business i.e. self-employment.
2. Get employment in different applied sectors of Zoology
3. Students should be able to design an appropriate management strategy with consideration for sustainability

##### Course Content

##### Module 1.

**Sericulture** History and status of sericulture in India, Silkworm rearing techniques: Processing of cocoon, reeling, Silkworm diseases and pest control.

##### Module 2.

**Apiculture** Introduction, Species of honey bees in India, life cycle of *Apis indica*, division of labour and communication, Bee keeping as an agro based industry, extraction of honey from the comb and processing, Bee pasturage, honey, bees wax and their uses, pests and diseases of bees and their management

##### Module 3.

**Pest management** Structural organization of an insect, Categories and types of insect pests, Agricultural pests (pests of crops and stored food products), Veterinary insects, Pests of public health importance (Mosquito, House fly, Louse, Bed bugs), urban pests (cockroach), Basics of pest control

##### Module 4

**Vermiculture:** Scope of vermiculture, Types of earthworms, Methodology of vermicomposting: containers for culturing, raw materials required, preparation of bed, environmental pre-requisites, feeding, harvesting and storage of vermicompost. Advantages of vermicomposting.

##### Module 5.

**Aquaculture:** Introduction, Types of aquaculture: Pond culture; carp culture, shrimp culture, shellfish culture, composite fish culture and pearl culture. Common fishes used for culture. Construction and maintenance of aquarium - materials used, aquarium plants, ornamental objects, cleaning the aquarium. Culture of fresh and marine water prawns. Preparation of farm. Preservation and processing of prawn, export of prawn

**EVALUATION** Assignments & multiple choice test

**WHO SHOULD DO IT?** Zoology Undergraduate and PG students

*Rohani*

Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

Approved

*BW*  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

### **2.3 Schedule: -**

**Govt. Holkar Science College Indore**

**Department of Zoology**

**Time Table for Value added course "Applied Zoology for Entrepreneurs"**

<b>Module</b>	<b>Description</b>	<b>Date</b>	<b>Time</b>	<b>Name of Resource person</b>
<b>Module 1</b>	<b>Sericulture</b> History and status of sericulture in India, Silkworm rearing techniques: Processing of cocoon, reeling, Silkworm diseases and pest control	<b>1/9/2017 to 5/9/2017</b>	<b>4.00 to 5.20</b>	<b>Dr. Vipul k Sharma</b>
<b>Module 2</b>	<b>Apiculture</b> Introduction, Species of honey bees in India, life cycle of <i>Apis indica</i> , division of labour and communication, Bee keeping as an agro based industry, extraction of honey from the comb and processing, Bee pasturage, honey, bees wax and their uses, pests and diseases of bees and their management	<b>6/9/2016 to 11/09/2017</b>	<b>4.00 to 5.20</b>	<b>Dr Rekha Sharma</b>
<b>Module 3</b>	<b>Pest management</b> Structural organization of an insect, Categories and types of insect pests, Agricultural pests (pests of crops and stored food products), Veterinary insects, Pests of public health importance (Mosquito, House fly, Louse, Bed bugs), urban pests (cockroach), Basics of pest control	<b>12/09/2017 to 17/09/2017</b>	<b>4.00 to 5.20</b>	<b>Dr Santosh Geharwal</b>

<b>Module 4</b>	<b>Vermiculture:</b> Scope of vermiculture, Types of earthworms, Methodology of vermicomposting: containers for culturing, raw materials required, preparation of bed, environmental pre-requisites, feeding, harvesting and storage of vermicompost. Advantages of vermicomposting.	<b>18/09/2017 to 23/09/2017</b>	<b>4.00to 5.20</b>	<b>DR. Kiran Billore</b>
<b>Module 5</b>	<b>Aquaculture:</b> Introduction, Types of aquaculture: Pond culture; carp culture, shrimp culture, shellfish culture, composite fish culture and pearl culture. Common fishes used for culture. Construction and maintenance of aquarium - materials used, aquarium plants, ornamental objects, cleaning the aquarium. Culture of fresh and marine water prawns. Preparation of farm. Preservation and processing of prawn, export of prawn	<b>24/09/2017 to 27/09/2017</b>	<b>4.00to 5.20</b>	<b>Dr Ruchi Shivale</b>
<b>On the last day of every module, there will be an assessment test</b>				

*Rsharmy*

Head  
Deptt. of Zoology  
Govt. Holkar Sc. College, Indore



# 3.

## Molecular Techniques and Molecular Modelling

### **3.1 Permission: -**

दिनांक 15/12/2017

प्रति,  
प्राचार्य महोदय,  
शा.होलकर विज्ञान महाविद्यालय,  
इंदौर (म0प्र0)


**विषय :** Value added Course करवाने के संबंध में।

महोदय,

उपरोक्त विषयांतर्गत लेख है कि बायोटेक्नोलॉजी विभाग में दिनांक 01/01/2018 से 13/01/2018 तक Value added Course on "Molecular techniques and Molecular modelling" किया जायेगा जो समय 1 से 4 बजे तक संचालित किया जायेगा।

कृपया आप से निवेदन है कि Value added Course संचालित करने कि अनुमति प्रदान करने की कृपा करे।

धन्यवाद

  
(डॉ.किरण बिल्लौर)

विभागाध्यक्ष

बायोटेक्नोलॉजी विभाग

शा.होलकर विज्ञान महाविद्यालय, इंदौर (म.प्र.)

Head

Department of Biotechnology  
Govt. Holkar Science College, Indore

### **3.2 Notice: -**

शासकीय (स्वशासी) होलकर विज्ञान महाविद्यालय, इन्दौर (म.प्र.)  
बायोटेक्नोलॉजी एवं बायोइंफरमेटिक्स विभाग

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Department of Biotechnology & Bioinformatics is conducting following certificate course on  
**"Value added course on "Molecular techniques and Molecular modelling"**


The classes shall be conducted by the faculty on the Department of Biotechnology & bioinformatics, Govt Holkar (Model Autonomous) Science College Indore.

Duration: 30 hrs

Date: 01/01/2018 to 13/01/2018

Time: 1:00 pm to 4:00 pm

Strength: 24

  
डॉ. किरण बिल्लौरे)  
विभागाध्यक्ष  
शासकीय होलकर विज्ञान महाविद्यालय  
इन्दौर (म.प्र.)  
**Head**  
Department of Biotechnology  
Govt. Holkar Science College

शासकीय (स्वशासी) होलकर विज्ञान महाविद्यालय, इन्दौर (म.प्र.)  
बायोटेक्नोलॉजी एवं बायोइंफरमेटिक्स विभाग

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// आवश्यक सूचना //

महाविद्यालय के समस्त छात्र-छात्राओं को सूचित किया जाता है कि बायोटेक्नोलॉजी विभाग द्वारा दिनांक 01/01/2018 से 13/01/2018 तक **“Value added course on “Molecular techniques and Molecular modelling”** विषय पर वैल्यू एडेड कोर्स आयोजित किया जा रहा है जो भी छात्र छात्रा उक्त पाठ्यक्रम से संबंध में कोई जानकारी चाहते हैं अथवा पाठ्यक्रम में पंजीयन करवाने चाहते हैं बायोटेक्नोलॉजी विभाग में दिनांक 23/12/2017 से 30/12/2017 तक अपना पंजीयन करवाये।

  
डॉ. किरण बिल्लौरे)  
विभागाध्यक्ष  
शासकीय होलकर विज्ञान महाविद्यालय  
इन्दौर (म.प्र.)  
Head  
Department of Biotechnology  
Govt Holkar Science College, Indore

### **3.3 Syllabus: -**

#### **Value added course on Molecular techniques and Molecular modelling 2017-18**

##### **Learning Outcome**

- Learn DNA extraction and DNA quantification.
- Apply the lab techniques such as Electrophoresis, Agarose gel electrophoresis.
- Evaluate SDS- PAGE.
- Know the PCR- Principle, procedure, applications of PCR.
- Analyse DNA sequencing- Difference between PCR and sequencing.

##### **Course Outcomes**

- Student get knowledge about molecular laboratory instruments.
- Apply the skill in the field of structure modelling and domain analysis.
- get employability in molecular research areas.

#### **Syllabus for value added courses**

##### **Module 1: -Lecture on Molecular Techniques**


1. DNA extraction from plant
2. Electrophoresis
3. Quantification of DNA and applications
4. Agarose gel electrophoresis
5. SDS - PAGE
6. Nucleic acid Hybridization
7. Southern Blotting
8. Northern Blotting
9. Western blotting
10. PCR
11. Quiz

##### **Module 2: - Lecture on Molecular Modelling**

1. Primer designing
2. Primer designing tools and data base
3. DNA Sequencing tools and data base
4. Genomic data base
5. Detection and applications of DNA sequencing
6. Expert lecture
7. Quiz

**Who Can apply:** Only for postgraduate students.

**Approved**

  
**Member Secretary, Academic Council**  
**Govt. Holkar (Model Autonomous)**  
**Science College, Indore**

  
**Head**  
**Department of Biotechnology**  
**Govt. Holkar Science College, Indore**



### **3.4 Schedule: -**

#### **Value added course on Molecular techniques and Molecular modelling 2017-18**

##### **Module 1: -Lecture on Molecular Techniques**

Lecture Topic	Faculty	Time	Date
DNA extraction from plant	Dr Namrata Khurana	1:00- 2:30 PM	01 / 01 / 2018
Electrophoresis	Dr Gunjan Sharma	2:30 - 4:00 PM	01 / 01 / 2018
Quantification of DNA and applications	Dr Pratibha Yadav	1:00- 2:30 PM	02 / 01 / 2018
Agarose gel electrophoresis	Dr M Qureshi	2:30 - 4:00 PM	02 / 01 / 2018
SDS - PAGE	Prof Rahis Khan	1:00- 2:30 PM	03 / 01 / 2018
Nucleic acid Hybridization	Prof Akansha Lal	2:30 - 4:00 PM	03 / 01 / 2018
Southern Blotting	Prof Arun Patel	1:00- 2:30 PM	04 / 01 / 2018
Northern Blotting	Prof Rajesh Tokariya	2:30 - 4:00 PM	04 / 01 / 2018
Western blotting	Prof Preetika Patidar	1:00- 2:30 PM	05 / 01 / 2018
PCR	Prof Sadhana Notwani	2:30 - 4:00 PM	05 / 01 / 2018
Quiz	Prof Saroj Solanki	1:00- 2:30 PM	06 / 01 / 2018

##### **Module 2: - Lecture on Molecular Modelling**

Lecture Topic	Faculty	Time	
Primer designing	Prof Aakriti Shrivastava	2:30 - 4:00 PM	06 / 01 / 2018
Primer designing tools and data base	Dr Gunjan Sharma	1:00- 2:30 PM	08 / 01 / 2018
DNA sequencing tools and data base	Dr Pratibha Yadav	2:30 - 4:00 PM	09 / 01 / 2018
Genomic data base	Dr M Qureshi	1:00- 2:30 PM	10 / 01 / 2018
Detection and applications of DNA sequencing	Prof Rahis Khan	2:30 - 4:00 PM	11 / 01 / 2018
Expert lecture	Dr Namrata Khurana	1:00- 2:30 PM	12 / 01 / 2018
Quiz	Prof Arun Patel	2:30 - 4:00 PM	13 / 01 / 2018

  
Head  
Department of Biotechnology  
Govt. Holkar Science College, Indore

4.

# Web Development

#### **4.1 Notice: -**

**GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE**  
**COLLEGE INDORE**

**DEPARTMENT OF COMPUTER SCIENCE**

**NOTICE**

Department of Computer Science is conducting the following value Added  
Certificate course in

**Web- Development**


The classes shall be conducted by the faculty of the Department of Computer  
Science Government Holkar (Model, Autonomous) Science College, Indore &  
Industrial Experts.

**Duration:** 30 Hrs.

**Date:** 28 Aug. 2017 to 27 Sept. 2017

**Time:** 4.00 to 5.20PM

**Strength:** 30

  
**HEAD**  
Computer Science Department  
Govt. Holkar Science College, INDORE

## 4.2 Syllabus: -

### Web- Development

(Value added Certificate Course in Computer Science)

### Syllabus

#### Course Out Comes:

After the completion of this course, a successful student will be able to do the following:

1. Code a handful of useful HTML & CSS examples.
2. Build semantic, HTML & CSS web page.
3. Add Interactivity to a Web Page.
4. Create Dynamic Web Pages using Java Script & CSS in HTML forms
5. Create Webpage with database connectivity

#### Course Content

**Module 1: Web Programming Introduction:** Architecture of a website, Different technologies in making the website, Web Development Introduction.

**Introduction:** History of HTML, what you need to do to get going and make your first HTML page, what are HTML Tags and Attributes? HTML Tag vs. Element, HTML Attributes.

**Basic Formatting Tags and HTML-Grouping Using Div & Span:** HTML Basic Tags, HTML Formatting Tags, HTML Color Coding, Div and Span Tags for Grouping. List, Images, Hyperlink, Table, Iframe, Form, Headers.

**Module 2: CSS: Introduction:** Benefits of CSS, CSS Versions History, CSS Syntax, External Style Sheet using < link >, Multiple Style Sheets, Value Lengths and Percentages. **Syntax:** single Style Sheets, Multiple Style Sheets, Value Lengths and Percentages. **Selectors:** ID Selectors, Class Selectors, Grouping Selectors, Universal Selector, Descendant / Child Selectors, Attribute Selectors. Pseudo Classes, **Color Background Cursor:** background-image, background-repeat, background-position, Cursor. **Text Fonts:** color, background-color, text-decoration, text-align, vertical-align, text-indent, text-transform, white space, letter-spacing, word-spacing, line-height, font-family, font-size, font-style, font-variant, font-weight.

**Module 3: Lists:** list-style-type, list-style-position, list-style-image, and list-style. **Tables:** border, width & height, text-align, vertical-align, padding, color. **Box Model:** Borders & Outline, Margin & Padding, Height and width, Dimensions. **Display Positioning:** CSS Visibility CSS Display, CSS Scrollbars, CSS Positioning, Static Positioning, Fixed Positioning, Relative Positioning, Absolute Positioning, CSS Layers with Z-Index. **Floats:** The float Property, The clear Property, The clear fix Hack.

**Module 4:** Introduction, **Language Syntax:** Variable declaration, Operators, Control Statements, Error Handling, Understanding arrays, Function Declaration. **Built In Functions:** Built In Functions, Standard Date and Time Functions. **HTML Forms:** HTML Document objects Model, Working with HTML form and its elements.



HEAD

Computer Science Department  
Govt. Hekar Science College, INDORE



**Module 5: HTML DOM:** HTML form and its elements, Other HTML Document object Model, Working with Document Object Model. **Cookies, Working with Objects and Classes:** Working with Objects, Call method in JavaScript, Inheritance in JavaScript using prototype. **Database Connectivity:** Using MS-Access, Using MySQL, Using Oracle

**EVALUATION:** Assignments & multiple choice test  
**WHO SHOULD DO IT?** Undergraduate and PG students



Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore



Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

### 4.3 Schedule: -

Govt. Holkar Science College Indore

Department of Computer Science

Time Table for Value added course "Web Development"

Module	Description	Date	Time	Name of Resource person
Module 1	Introduction	28/08/17 to	4.00 to 5.20	Dr. Pradeep Sharama
	Basic Formatting Tags	05/09/17	4.00 to 5.20	Ms. Priyanaka Agiwal
Module 2	CSS Introduction, Selectors	06/09/17 to	4.00 to 5.20	Ms. Sarita Sharma
	Color, Text Formatting	14/09/17	4.00 to 5.20	Ms. Aarti Shirvastava
Module 3	List, Box Model	15/09/17 to	4.00 to 5.20	Mr. Manish Singh
	Display Positioning, Floats	20/09/17	4.00 to 5.20	Ms. Yugal Sharma
Module 4	JavaScript, Built-in function	21/09/17 to	4.00 to 5.20	Mr. Anish Singh, Software Engineer, TCS.
	HTML DOM	24/09/17	4.00 to 5.20	Mr. Anish Singh, Software Engineer, TCS.
Module 5	Working With Class and Object	25/09/17 to	4.00 to 5.20	Mr. Akhilesh Khare, Software Engineer, Lirisoft Pvt. Ltd.
	Database Connectivity	27/09/17	4.00 to 5.20	Mr. Akhilesh Khare, Software Engineer, Lirisoft Pvt. Ltd.
On the last day of every module, there will be an assessment test				

HEAD

Computer Science Department  
Govt. Holkar Science College, INDORE

5.

# Programming and Problem Solving Through Python

## **5.1 Notice: -**

### **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

#### **DEPARTMENT OF COMPUTER SCIENCE**

#### **NOTICE**

Department of Computer Science is conducting the following value Added  
Certificate course in

#### **Programming and Problem Solving through Python**

The classes shall be conducted by the faculty of the Department of Computer  
Science Government Holkar (Model, Autonomous) Science College, Indore &  
Industrial Experts.

**Duration:** 30 Hrs.

**Date:** 23 Oct. 2017 to 18 Nov. 2017

**Time:** 4.00 to 5.20PM

**Strength:** 30

  
HEAD  
Computer Science Department  
Govt. Holkar Science College, INDORE



## **5.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Programming and Problem Solving through Python**  
(Value added Certificate Course in Computer Science)

### **Syllabus**

#### **Course Out Comes:**

After the completion of this course, a successful student will be able to do the following:

1. Write simple Python programs using common data structures.
2. Use files for data input and output.
3. Make use of sequences and standard libraries in programming.
4. Apply object Oriented Programming concepts in problem solving.
5. Gain knowledge of Python frameworks for Data Analysis & web development.

#### **Course Content**

**Module 1: Introduction:** History of Python, Need of Python Programming, The application area of python, Installation of Python IDE(PyCharm), Execute form command line and using IDE. **Python Basics:** Keyword, Data Types & Variables, Type conversion in Python, Expression, Operator, Data input and output.

**Module 2: Control Statement in Python:** if statement, if-elif-else statement, for loop, while loop, break, continue, pass, else clause. **Sequences in Python:** Array, String, list, Tuple, Set, Dictionary.

**Module 3: Function:** Define Function, main() in python, Calling function, Passing Argument, Keyword Arguments, Default Arguments, Variable length Argument, Anonymous Functions, Fruitful function(Function Returning Values), Scope of Variable in Function, Recursion, Decorator. **Module:** Definition, Importing module using import statement, from statement, Creating Module, namespacing, Python Packages, Introduction to PIP, installing package by a PIP.

**Module 4: Object- Oriented Programming in Python:** Class & Object, Methods, Constructor and Destructor, Inheritance, Overriding, Overloading, Data Hiding, Error and Exception Handling.

**Module 5: File Handling in Python:** Read, Create/Write, Delete, and Rename, Reading and Writing CSV Files in Python. **Data Analysis with Python:** NumPy, SciPy, Pandas, Matplotlib. Interface Python with SQL, Introduction to MongoDB.

**EVALUATION:** Assignments & multiple choice test

**WHO SHOULD DO IT?** Undergraduate and PG students

  
HEAD  
Computer Science Department  
Govt. Holkar Science College, INDORE

### **5.3 Schedule: -**

**Govt. Holkar Science College Indore**

**Department of Computer Science**

**Time Table for Value added course “Programming and Problem Solving through Python”**

Module	Description	Date	Time	Name of Resource person
Moodule1	Introduction	23-10-2017 to 27-10-2017	4.00 to 5.20	Dr. Pradeep Sharama
	Python Basics		4.00 to 5.20	Ms. Priyanaka Agiwal
Module 2	Control Statement in Python	28-10-2017 to 01-11-2017	4.00 to 5.20	Ms. Sarita Sharma
	Sequences in Python		4.00 to 5.20	Ms. Aarti Shirvastava
Module 3	Function	2-11-2017 to 7-11-2017	4.00 to 5.20	Mr. Manish Singh
	Module		4.00 to 5.20	Ms. Payal Jain
Module 4	Object- Oriented Programming in Python -I	8-11-2017 to 12-11-2017	4.00 to 5.20	Mr. Anish Singh, Software Engineer, TCS.
	Object- Oriented Programming in Python -II		4.00 to 5.20	Mr. Anish Singh, Software Engineer, TCS.
Module 5	File Handling in Python	13-11-2017 to 18-11-2017	4.00 to 5.20	Mr. Akhilesh Khare, Software Engineer, Lirisoft Pvt. Ltd.
	Data Analysis		4.00 to 5.20	Mr. Akhilesh Khare, Software Engineer, Lirisoft Pvt. Ltd.
	Python with SQL		4.00 to 5.20	Mr. Manish Singh
On the last day of every module, there will be an assessment test				

  
HEAD  
Computer Science Department  
Govt. Holkar Science College, INDORE

6.

# Food Adulteration & Its Detection

## **6.1 Notice: -**

### **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE, INDORE**

**DEPARTMENT OF CHEMISTRY (Session 2017-2018)**

#### **NOTICE**

Department of CHEMISTRY is conducting the following value-added Certificate course in

#### **FOOD ADULTERATION AND ITS DETECTION**

The classes shall be conducted by the faculty of the Department of Chemistry, Government Holkar (Model Autonomous) Science College, Indore.

**Duration:** 35 Hrs.

**Date:** August 30, 2017 to September 29, 2017

Holidays: All Sundays, September 02, 2017

**Time:** 4.00 to 5.30 PM

**Strength:** 75

*Professor And Head*  
Department of Chemistry  
Govt. Holkar Sc. College, INDORE

## 6.2 Syllabus: -

GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE, INDORE

### FOOD ADULTERATION AND ITS DETECTION

(Value added Certificate Course in Chemistry)

#### Syllabus

##### Course Learning Out Comes:

This Value added Certificate Course will give the students an overview of the nature of food adulteration, their harmful effects to and their detection by simple analytical methods. The students will be able to supplement their knowledge as well as analytical Skills in detecting various contaminants:

##### Course Content

###### **Module 1:**

###### **Introduction to detection of Food Adulteration:**

- Sources of Food Contamination
- Types & methods of Food adulteration
- How to detect Adulteration with Rapid test (DART)

###### **Module 2:**


###### **Adulteration in Milk and Milk Products:**

- Detection of water in milk.
- Detection of detergent in milk.
- Detection of starch in milk and milk products.
- Detection of mashed potatoes, sweet potatoes in Ghee and butter.

###### **Module 3:**

###### **Adulteration in Oils and Fats:**

- Detection of other oils in coconut oil
- Detection of margarine or vanaspati in Ghee / Butter.

  
Professor  
Department of Chemistry  
Govt. Holkar Sc. College, INDORE



- Detection of starch in Ghee / Butter.
- Detection of non-permitted colours in oil.

#### **Module 4:**

##### **Adulteration in Sugar and Confectionaries:**

- Detection of sugar solution in honey.
- Detection of Chalk Powder in sugar and jaggery.
- Detection of Metanil Yellow colour in jaggery.
- Detection of washing soda in sugar.

#### **Module 5 :**

##### **Adulteration in Food grains and its Products:**

- Detection of extraneous matter in food grains.
- Detection of ergot in food grains
- Detection of dhatura in food grains
- Detection of excess bran in food grains
- Detection of khesari dal in whole or split dal.
- Detection of added colours in food grains
- Detection of iron filings in attaa/maida/suji
- Detection of turmeric in sella rice
- Detection of rhodamine B in ragi

**EVALUATION METHOD:** Modular Assignments & MCQ based test

**ELIGIBILITY:** for UG and PG students

*Asana*

Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

Approved

*Bh.*

Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

### **6.3 Schedule: -**

Govt. Holkar (Model, Autonomous) Science College, Indore

Department of Chemistry

Time Table for Value added course

#### **“FOOD ADULTERATION AND ITS DETECTION”**

Module	Description	Date	Time	Name of Resource person
Module 1	<b>Introduction to detection of Food Adulteration:</b> <ul style="list-style-type: none"><li>• Sources of Food Contamination</li><li>• Types &amp; methods of Food adulteration</li><li>• How to detect Adulteration with Rapid test (DART)</li></ul>	30/08/2017 to 05/09/2017	4.00 to 5.30	Dr. Anamika Jain & Dr. Neelima Pradhan
Module 2	<b>Adulteration in Milk and Milk Products:</b> <ul style="list-style-type: none"><li>• Detection of water in milk.</li><li>• Detection of detergent in milk</li><li>• Detection of starch in milk and milk products.</li><li>• Detection of mashed</li></ul>	06/09/2017 to 14/09/2017	4.00 to 5.20	Dr Vijayshree Nilose & Dr. P K Jain

Professor A. Jain  
Department of Chemistry  
Govt. Holkar Sc. College

	potatoes, sweet potatoes in Ghee and butter.			
<b>Module 3</b>	<b>Adulteration in Oils and Fats:</b> <ul style="list-style-type: none"> <li>• Detection of other oils in coconut oil</li> <li>• Detection of margarine or vanaspati in Ghee / Butter.</li> <li>• Detection of starch in Ghee / Butter.</li> <li>• Detection of non-permitted colours in oil.</li> </ul>	15/09/2017 to 21/09/2017	4.00 to 5.20	Dr. Ashok Barua & Dr. Vineeta Khare
<b>Module 4</b>	<b>Adulteration in Sugar and Confectionaries:</b> <ul style="list-style-type: none"> <li>• Detection of sugar solution in honey.</li> <li>• Detection of Chalk Powder in sugar and jaggery.</li> <li>• Detection of Metanil Yellow colour in Jaggery.</li> <li>• Detection of washing soda in sugar.</li> </ul>	22/09/2017 to 25/09/2017	4.00 to 5.20	Dr. Pramila Kori & Dr. Laxmi Tantuvai
<b>Module 5</b>	<b>Adulteration in Food grains and its Products:</b>	26/09/2017 to 29/09/2017	4.00 to 5.20	Dr. Sandeep Gohar & Dr. Rachana Dubey

Professor   
 Department of Chemistry  
 Govt. Holkar Science College, Indore



	<ul style="list-style-type: none"> <li>• Detection of extraneous matter in food grains.</li> <li>• Detection of ergot in food grains</li> <li>• Detection of dhatura in food grains</li> <li>• Detection of excess bran in food grains</li> <li>• Detection of khesari dal in whole or split dal.</li> <li>• Detection of added colours in food grains</li> <li>• Detection of iron filings in attaa/maida/suji</li> <li>• Detection of turmeric in sella rice</li> <li>• Detection of rhodamine B in ragi</li> </ul>			
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On the last day of every module, there will be an assessment test

*Jai*  
 Professor and Head  
 Department of Chemistry  
 Govt. Polkar Sc. College, INDOR

2018-2019

1.

# Mobile Repairing and DTH Installation & TV Repairing

### **1.1 Notice: -**

## **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

### **DEPARTMENT OF ELECTRONICS**

#### **NOTICE**

Department of Electronics is conducting the following workshop / value-Added Certificate course in

### **Mobile Repairing and DTH Installation & TV Repairing**

The classes shall be conducted by the faculty of the Department of Electronics, Government Holkar (Model Autonomous) Science College, Indore.

**Duration:** 36 Hrs.

**Date:** September 04, 2018 to September 25, 2018

**Time:** 2.00 to 4.00PM

**Strength:** 35

**शासकीय होलकर विज्ञान महाविद्यालय, इन्दौर**  
**इलेक्ट्रॉनिक्स विभाग**  
**वर्ष 2018**

होलकर विज्ञान महाविद्यालय का इलेक्ट्रॉनिक्स विभाग इलेक्ट्रॉनिक्स एवं कम्प्यूटर सांइस के विद्यार्थियों हेतु मोबाईल रिपेरिंग, डी.टी.एच. स्थापना एवं टी.बी. रिपेरिंग आदि पर एक 18 दिवसीय वर्कशॉप महाविद्यालय में आयोजित कर रहा है।

- कार्यशाला का विषय : मोबाईल रिपेरिंग, डी.टी.एच. स्थापना एवं टी.बी. रिपेरिंग
- कार्यशाला की अवधि : 18 दिन
- प्रस्तावित तिथि : 04.09.2018 मंगलवार से 25.09.2018 मंगलवार तक  
(कार्यदिवस)
- कार्यशाला का समय : दोपहर 2 से 4 बजे तक
- कार्यशाला स्थल : इलेक्ट्रॉनिक्स विभाग - फ़ैराडे लेब

1. विद्यार्थी को रजिस्ट्रेशन फॉर्म इलेक्ट्रॉनिक्स विभाग से प्राप्त करके एवं आवश्यक जानकारी भरकर इलेक्ट्रॉनिक्स विभाग में जमा करना होगा। (27.8.18 - 4.09.18)
2. न्यूनतम विद्यार्थियों की संख्या 15 रहेगी। इस संख्या से कम आवेदन प्राप्त होने पर कार्यशाला संचालित नहीं की जा सकेगी।
3. अधिकतम विद्यार्थियों की संख्या 30 रहेगी। कार्यशाला में संलग्न पत्र के अनुसार मोबाईल रिपेरिंग पर सैध्दांतिक एवं प्रायोगिक जानकारी दी जावेगी।
4. कार्यशाला के अन्त में विद्यार्थियों का एक टेस्ट आयोजित किया जावेगा।
5. कोर्स पूर्ण करने पर महाविद्यालय द्वारा इस विषयक प्रमाण पत्र दिया जावेगा।

मु. र. नि.  
इलेक्ट्रॉनिक्स विभाग  
शासकीय होलकर विज्ञान महाविद्यालय  
इन्दौर



## **1.2 Syllabus: -**

Approved

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Dept. of Electronics**  
**Mobile Repairing and DTH Installation & TV Repairing**  
**Syllabus 2018-19**

### **Unit 1**

Basics of mobile communication. Study of Digital Electronics. Assembling and disassembling of various models of mobile phones. Study of various tools and equipment used in mobile phone repairs. Study of parts inside a mobile phone. Using a multimeter. Use of DC Power Supply.

### **Unit 2**

Introduction and study of Printed Circuit Board (Motherboard). Details of various components on the PCB. Testing of various parts and components. Study of different ICs (chips) used on the motherboard.

### **Unit 3**

Introduction to DTH . Process of installation. Techniques to install and working method of DTH.

### **Unit 4**

Study of TV panel, CRT description, IPS panel display, How to recognize various ICs. Soldering & desoldering of components by using a soldering iron.

*Manoj Singh*  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

*Ravi*  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

2.

# Tissue Culturing of Medical Plants and Organic Farming

## **2.1 Notice: -**

### **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

#### **DEPARTMENT OF BIOTECHNOLOGY**

##### **NOTICE**

Department of Biotechnology is conducting the following workshop / value-Added Certificate course in

#### **Tissue Culturing of Medical Plants and Organic Farming**

The classes shall be conducted by the faculty of the Department of Biotechnology, Government Holkar (Model Autonomous) Science College, Indore.

**Duration:** 36 Hrs.

**Date:** September 17, 2018 to September 29, 2018

**Time:** 2.00 to 5.00PM

**Strength:** 60

## 2.2 Permission: -

प्रति,  
प्रचार्य महोदय  
शा. होलकर विज्ञान महा.  
इन्दौर (म.प्र.)

दिनांक  
14.7.18

विषय:- स्वामी विवेकानंद कैरियर मार्गदर्शन योजना के अन्वये  
2 सप्ताह (36 घंटे) के प्रशिक्षण कार्यक्रम हेतु।

महोदय,  
उपरोक्त विषयों पर निवेदन है कि वाशिंगटन डी.सी.  
विभाग द्वारा स्वामी विवेकानंद कैरियर मार्गदर्शन योजना (6 पक्ष) के  
अन्वये दो सप्ताह (14.7.18 से 28.7.18) का प्रशिक्षण कार्यक्रम मोडर्नल स्कूल  
विश्वविद्यालय में आयोजित किया जा रहा है।  
कृपया उक्त हेतु आग्रह से की जाये।

प्रति,  
[Signature]  
[Signature]  
डा. वि. ल. 18/7/18

Permit  
(3)

PERMISSION



## **2.3 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Biotechnology**  
**Session: 2018-19**  
**Syllabus for Workshop / Value Added Course in Tissue Culturing of**  
**Medical Plants and Organic Farming**

**Module 1:** Introduction to Plant Tissue Culture and Its Techniques:

- Overview of plant tissue culture
- History and significance of plant tissue culture
- Types of plant tissue culture techniques
- Basic requirements for plant tissue culture

**Practical:**

- Preparation of nutrient media for plant tissue culture
- Sterilization of culture vessels and instruments
- Aseptic techniques for plant tissue culture

**Module 2:** Organic Farming:

- Introduction to organic farming
- Advantages of organic farming
- Organic farming practices
- Organic certification

**Practical:**

- Soil preparation for organic farming
- Composting techniques for organic farming
- Organic pest management techniques

**Module 3:** Biofertilizers and Biopesticides:

- Introduction to biofertilizers and biopesticides
- Types of biofertilizers and biopesticides
- Preparation and application of biofertilizers and biopesticides
- Advantages and disadvantages of using biofertilizers and biopesticides

**Practical:**

- Preparation of biofertilizers and biopesticides
- Application of biofertilizers and biopesticides

**Module 4:** M.S Media and Its Preparation and Sterilization Techniques

- Introduction to M.S media
- Composition and preparation of M.S media
- Sterilization techniques for M.S media
- Storage and use of M.S media

**Practical:**

- Preparation of M.S media
- Sterilization of M.S media

**Module 5:** Explant Sterilization, Embryo Culture, and Seed Germination

- Techniques for explant sterilization
- Embryo culture techniques
- Techniques for seed germination
- Factors affecting seed germination

**Practical:**

- Sterilization of explants
- Embryo culture techniques



- Seed germination techniques

**Module 6: Synthetic Seed Preparation**

- Introduction to synthetic seed
- Advantages and disadvantages of synthetic seed
- Techniques for synthetic seed preparation
- Applications of synthetic seed

**Practical:**

- Preparation of synthetic seed

**Module 7: Azotobacter and Rhizobium Isolation**

- Introduction to nitrogen-fixing bacteria
- Types of nitrogen-fixing bacteria
- Isolation and identification of Azotobacter and Rhizobium
- Advantages of using nitrogen-fixing bacteria in agriculture

**Practical:**

- Isolation and identification of Azotobacter and Rhizobium

**Module 8: Result Discussion, Plant Acclimatization, and Test Practices**

- Interpretation and presentation of results
- Techniques for plant acclimatization
- Test practices for plant tissue culture and organic farming

**Practical:**

- Presentation and discussion of results
- Techniques for plant acclimatization
- Test practices for plant tissue culture and organic farming

**Module 9: TAIR and Its Application, Knowledge of Seed, and BLAST of Plant Protein**

- Introduction to TAIR
- Applications of TAIR in plant research
- Knowledge of seed structure and development
- Introduction to BLAST and its application in plant protein research

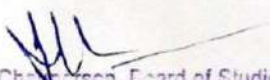
**Practical:**

- Practical exercises using TAIR
- Practical exercises on seed structure and development
- Practical exercises using BLAST


**Module 10: Scope of Self Employment in Tissue Culture and Organic Farming, and**

**Valedictory Function**

- Opportunities for self-employment in tissue culture and organic farming
- Entrepreneurial skills for self-employment
- Valedictory function

  
Chairperson, Board of Studies  
Govt. Hulkar (M. Autonomus)  
Science College, Indore  
Govt. Hulkar (M. Autonomus)  
Science College, Indore



  
Member Secretary Academic Council  
Govt. Hulkar (Model Autonomous)  
Science College, Indore

3.

# Computer Hardware & Networking

### **3.1 Notice: -**

## **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

### **DEPARTMENT OF COMPUTER SCIENCE**

#### **NOTICE**

Department of Computer Science is conducting the following value-Added  
Certificate course in

#### **Computer Hardware & Networking**

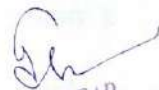
The classes shall be conducted by the faculty of the Department of Computer  
Science Government Holkar (Model, Autonomous) Science College, Indore &  
Industrial Experts.

**Duration:** 40 Hrs.

**Date:** 07/09/2018 to 27/09/2018

**Time:** 3.30 to 5.30PM

**Strength:** 30

  
HEAD  
Computer Science Department  
Govt. Holkar Science College, INDORE

### **3.2 Syllabus: -**

Approved

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Computer Science**  
**Session: 2018-19**

**Title: Computer Hardware & Networking**

**Outcomes: -**

- Basic understanding of computer hardware and troubleshooting techniques.
- Understanding operating systems and software installation.
- Understanding networking concepts and troubleshooting techniques.
- Understanding peripheral devices and troubleshooting.
- Understanding advanced computer hardware and networking concepts and exploring emerging trends.

**Syllabus: -**

**Module 1: Introduction to Computer Hardware:**

- ❖ Overview of computer hardware and its block diagram
- ❖ Introduction to different types of memory (primary and secondary)
- ❖ Understanding the structure of RAM and ROM
- ❖ Introduction to hard disk (IDE, SATA, PATA)
- ❖ Overview of SMPS, its installation, and fan installation
- ❖ Introduction to motherboard, its structure, and how to connect pins
- ❖ Basic troubleshooting techniques for motherboard and CPU

**Module 2: Operating Systems and Software Installation:**

- ❖ Understanding different operating systems (Windows, Unix, Linux) and their functions
- ❖ Introduction to the functions of an operating system
- ❖ Overview of computer maintenance techniques (disk cleanup, disk defragmentation, etc.)
- ❖ Basic techniques for computer security (firewalls, antivirus, malware protection, etc.)
- ❖ How to install and uninstall software using Control Panel

**Module 3: Networking Concepts:**


- ❖ Introduction to networking and types of networking
- ❖ Overview of different network topologies and communication media
- ❖ Introduction to networking connection devices (HUB, repeater, modem, etc.)
- ❖ Basic troubleshooting techniques for networking issues


**Module 4: Peripheral Devices and Troubleshooting:**

- ❖ Basic introduction to peripheral devices such as printer, keyboard, mouse, and speakers
- ❖ Troubleshooting techniques for printer, keyboard, mouse, and speakers

**Module 5: Advanced Computer Hardware and Networking Concepts:**

- ❖ Understanding advanced computer hardware concepts (GPU, SSD, RAID, etc.)
- ❖ Advanced networking concepts (IP addressing, subnetting, VLANs, etc.)
- ❖ Understanding cloud computing and virtualization technologies

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore


  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



### **3.3 Schedule: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Computer Science**  
**Session: 2018-19**  
**Time Table for Value added course "Computer Hardware & Networking"**

Module	Description	Date	Time	Name of Resource person
Moodule1	Introduction to Computer Hardware	22/11/2018 to 29/09/2018	3.30 to 5.30 PM	Shri Sanjay Vyas, HTP Computers, Indore
Module 2	Operating Systems and Software Installation	01/10/2018 to 07/10/2018	3.30 to 5.30 PM	
Module 3	Networking Concepts	08/10/2018 to 12/10/2018	3.30 to 5.30 PM	
Module 4	Peripheral Devices and Troubleshooting	13/10/2018 to 18/10/2018	3.30 to 5.30 PM	
Module 5	Advanced Computer Hardware and Networking Concepts	20/10/2018 to 26/10/2018	3.30 to 5.30 PM	
On the last day of every module, there will be an assessment test				

  
HEAD  
Computer Science Department  
Govt. Holkar Science College, INDORE



4.

# Chem-Informatics and Biophysical Techniques

#### **4.1 Notice: -**

### **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

#### **DEPARTMENT OF CHEMISTRY**

##### **NOTICE**

Department of Chemistry is conducting the following workshop / value-Added Certificate course in

#### **Cheminformatics & Biophysical Techniques**

The classes shall be conducted by the faculty of the Department of Chemistry, Government Holkar (Model Autonomous) Science College, Indore.

**Duration:** 36 Hrs.

**Date:** Feb 1, 2019 to Feb 11, 2019

**Time:** 11.30 AM to 4.00PM

**Strength:** 100

## 4.2 Syllabus: -

Approved

**Govt. Holkar (Model Autonomous) Science College, Indore**

**Department of Chemistry**

**Session: 2018-19**

**Syllabus for Workshop / Value Added Course in Cheminformatics & Biophysical Techniques**

**Outcomes: -**

- ❖ Introduction to Biomolecules - Students will gain an understanding of the role of biomolecules in our body and everyday life.
- ❖ Laboratory Practices and Precautions - Students will learn best laboratory practices and precautions to ensure accuracy and safety during practicals.
- ❖ Introduction to Cheminformatics - Students will gain knowledge of the basics of cheminformatics and its applications in various research and industrial sectors.
- ❖ Computer-Aided Drug Design (CADD) and Homology Modeling - Students will gain knowledge of computer-aided drug design (CADD) and homology modeling as techniques for drug design.
- ❖ Biophysical Techniques and Instrumentation - Students will receive hands-on training on various biophysical techniques and the importance of cheminformatics and biophysical techniques in research fields.

**Module 1: Introduction to Biomolecules:**

- Overview of biomolecules and their role in our body and everyday life.
- Simplified explanation of biomolecules such as carbohydrates, proteins, lipids, and nucleic acids.
- Importance of studying biomolecules in various fields.

**Module 2: Laboratory Practices and Precautions:**

- Best practices to follow in the laboratory.
- How to reduce errors during practicals.
- Precautions to keep in mind while in the lab.
- Introduction to laboratory safety guidelines.

**Module 3: Introduction to Cheminformatics:**


- Basics of cheminformatics and its application in various research and industrial sectors.
- Library visit and project work by students.
- Importance of chemical databases and their use in drug design.


**Module 4: Computer-Aided Drug Design (CADD) and Homology Modeling:**

- Overview of CADD and its role in drug design.
- Tools used in CADD and their importance.
- Introduction to homology modeling and its application in drug design.

**Module 5: Biophysical Techniques and Instrumentation:**

- Introduction to DFT (Density Functional Theory) and hands-on training.
- Working demonstration of FTIR (Fourier Transform Infrared Spectroscopy) and Spectroscopy.
- Working of spectrophotometric and its applications.
- Scope on cheminformatics and biophysical techniques in various research fields.

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

5.

# Understanding Physics using Computer Software

### 5.1 Notice: -



शासकीय होलकर (आदर्श, स्वशासी) विज्ञान महाविद्यालय, इंदौर  
(मध्य प्रदेश)

#### आवश्यक सूचना

महाविद्यालय के समस्त छात्र छात्राओं को सूचित किया जाता है कि भौतिक शास्त्र विभाग द्वारा "Understanding Physics Using Computer Softwares" विषय पर एक वैल्यू एडेड कोर्स दिनांक 24 सितम्बर 2018 से प्रारंभ किया जा रहा है। जो भी छात्र-छात्र उक्त पाठ्यक्रम के संबंध में कोई जानकारी चाहते हैं आथवा इस पाठ्यक्रम में पंजीयन करवाना चाहते हैं, भौतिक शास्त्र विभाग में दिनांक 20 सितम्बर 2018 तक अपना पंजीयन करावें।

विभाग प्रमुख

भौतिकशास्त्र

प्राध्यापक एवं विभागाध्यक्ष

शास. होलकर (आदर्श, स्वशासी)  
विज्ञान महा., इंदौर (म. प्र.)



**GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE**  
**COLLEGE INDORE**

**DEPARTMENT OF PHYSICS**

**NOTICE**

Department of physics is conducting the following value added Certificate course  
in

**UNDERSTANDING PHYSICS USING COMPUTER SOFTWARE**

The classes shall be conducted by the faculty of the Department of Physics & Computer Science, Government Holkar (Model, Autonomous) Science College, Indore.

**Duration:** 30 hrs.

**Date:** September 24, 2018, to October 26, 2018

Holidays: All Sunday, 2 Oct, 19 Oct, 24 Oct.

**Time:** 4:00 to 5:20 PM

**Strength:** 35

  
प्राध्यापक एवं विभागाध्यक्ष  
भौतिकी विभाग  
ग.स. होल्कर विज्ञान महाविद्यालय  
इन्दौर

## **5.2 Syllabus: -**

### **UNDERSTANDING PHYSICS USING COMPUTER SOFTWARES**

(Value added Certificate Course in Physics)

#### **Syllabus**

##### **Course Out Comes:**

Students will learn to use various softwares for data fitting and visualization. They will also get hands-on experience in easy methods of carrying out numerical analysis using Excel. Some software's for symbolic calculations will also be introduced. Simulating electronic circuits on a computer will be taught. Most of these software's can run on any Android mobile phone. Basic knowledge of Arduino

##### **Course Content:**

**Module 1** Graph plotting and data fitting using gnu plot: drawing simple, surface, contour plots, fitting curves to data, setting labels, legends and saving the figures in different formats, making batch file, etc.

**Module 2** Data visualization and simple numerical analysis using Excel: Plotting different plots from the given data.

**Module 3** Perform simple numerical differentiation and integration: To solve some problems in physics, generate a trajectory of a simple nonlinear mapping and study various bifurcations, so on.


**Module 4** Introduction to Arduino

**Module 5** Electronic Circuit Basics:

**EVALUATION** Assignments & multiple choice test

**WHO SHOULD DO IT?** Physics Undergraduate and PG students

**Approved**

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

### **5.3 Schedule: -**

**Government Holkar (Model, Autonomous) Science College Indore**

**Department of Physics**

**Time Table for Value added course "Understanding Physics using Computer Software"**

<b>Module</b>	<b>Description</b>	<b>Date</b>	<b>Time</b>	<b>Name of Resource person</b>
<b>Module 1</b>	Graph plotting and data fitting using gnu plot: drawing simple, surface, contour plots, fitting curves to data, setting labels, legends and saving the figures in different formats, making batch file, etc	<b>24/09/2018 to 29/9/2018</b>	<b>4.00 to 5.20</b>	<b>Dr.P.K.Sharma</b>
<b>Module 2</b>	Data visualisation and simple numerical analysis using Excel: Plotting different plots from the given data.	<b>1/10/2018 to 06/10/2018</b>	<b>4.00 to 5.20</b>	<b>Dr R.C. Dixit</b>
<b>Module 3</b>	Perform simple numerical differentiation and integration: To solve some problems in physics, generate a trajectory of a simple nonlinear mapping and study various bifurcations, so on.	<b>8/10/2018 to 12/10/2018</b>	<b>4.00 to 5.20</b>	<b>Dr Nidhi Parmar</b>



<b>Module 4</b>	Introduction to Arduino	<b>13/10/2018 to 18/10/2018</b>	<b>4.00 to 5.20</b>	<b>DR. Bhavna Chourcsia</b>
<b>Module 5</b>	Electronic Circuit Basics	<b>20/10/2018 to 26/10/2018</b>	<b>4.00 to 5.20</b>	<b>Dr Netram Kaurav</b>
<b>On the last day of every module, there will be an assessment test</b>				

  
 प्राध्यापक एवं विभागाध्यक्ष  
 भौतिकी विभाग  
 आ. होलकर विज्ञान महाविद्यालय  
 इन्दौर

6.

# Applied Zoology for Entrepreneurs



## 6.1 Notice: -



शासकीय होलकर (आदर्श, स्वशासी) विज्ञान महाविद्यालय, इंदौर  
(मध्य प्रदेश)

### आवश्यक सूचना

महाविद्यालय के समस्त छात्र छात्राओं को सूचित किया जाता है कि प्राणी शास्त्र विभाग द्वारा "Applied Zoology for Entrepreneurs" विषय पर एक वैल्यू एडेड कोर्स दिनांक 24 सितम्बर 2018 से प्रारंभ किया जा रहा है। जो भी छात्र-छात्रा उक्त पाठ्यक्रम के संबंध में कोई जानकारी चाहते हैं अथवा इस पाठ्यक्रम में पंजीयन करवाना चाहते हैं, प्राणी शास्त्र विभाग में दिनांक 20 सितम्बर 2018 तक अपना पंजीयन करावें।

for  
Rohay

पाठ्यक्रम समन्वयक  
Co-ordinator, Board of Studies  
प्राणी शास्त्र  
शास. होलकर (आदर्श, स्वशासी)  
विज्ञान महा., इंदौर (म. प्र.)

**GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE**  
**COLLEGE INDORE**

**DEPARTMENT OF ZOOLOGY**

**NOTICE**

Department of ZOOLOGY is conducting following Certificate course on

**Applied Zoology for Entrepreneurs**

The classes shall be conducted by the faculty of the Department of Zoology & Fisheries, Government Holkar (Model Autonomous) Science College, Indore

**Duration:** 30 Hrs.

**Date:** September 24 ,2018 to October 26,2018

**Holidays:** All Sundays, 2 October, 19 October, 24 October.

**Time:** 4.00 to 5.20PM

**Strength:** 35

For

Rohit

Head  
Dept. of Zoology  
Govt. Holkar Sc. College, Indore

## 6.2 Syllabus: -

### Applied Zoology for Entrepreneurs

#### Syllabus

##### Course objectives:

1. Gain knowledge about silkworms, Bee keeping and insect pests.
2. Students will understand dairy animal management, the breeds and diseases of cattle and learn the testing of milk quality.
3. Learn various concepts about Vermiculture and gain basic information about aquaculture and poultry

##### Course Outcomes:

1. Students can start their own business i.e. self-employment.
2. Get employment in different applied sectors of Zoology
3. Students should be able to design an appropriate management strategy with consideration for sustainability

##### Course Content

###### Module 1.

**Sericulture** History and status of sericulture in India, Silkworm rearing techniques: Processing of cocoon, reeling, Silkworm diseases and pest control.

###### Module 2.

**Apiculture** Introduction, Species of honey bees in India, life cycle of *Apis indica*, division of labour and communication, Bee keeping as an agro based industry, extraction of honey from the comb and processing, Bee pasturage, honey, bees wax and their uses, pests and diseases of bees and their management

###### Module 3.

**Pest management** Structural organization of an insect, Categories and types of insect pests, Agricultural pests (pests of crops and stored food products), Veterinary insects, Pests of public health importance (Mosquito, House fly, Louse, Bed bugs), urban pests (cockroach), Basics of pest control

###### Module 4

**Vermiculture:** Scope of vermiculture, Types of earthworms, Methodology of vermicomposting: containers for culturing, raw materials required, preparation of bed, environmental pre-requisites, feeding, harvesting and storage of vermicompost. Advantages of vermicomposting.

###### Module 5.

**Aquaculture:** Introduction, Types of aquaculture: Pond culture; carp culture, shrimp culture, shellfish culture, composite fish culture and pearl culture. Common fishes used for culture. Construction and maintenance of aquarium - materials used, aquarium plants, ornamental objects, cleaning the aquarium. Culture of fresh and marine water prawns. Preparation of farm. Preservation and processing of prawn, export of prawn

**EVALUATION** Assignments & multiple choice test

**WHO SHOULD DO IT?** Zoology Undergraduate and PG students

For  
Rohan

Approved

Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



### **6.3 Schedule: -**

**Govt. Holkar Science College Indore**

**Department of Zoology**

**Time Table for Value added course "Applied Zoology for Entrepreneurs"**

<b>Module</b>	<b>Description</b>	<b>Date</b>	<b>Time</b>	<b>Name of Resource person</b>
<b>Module 1</b>	<b>Sericulture</b> History and status of sericulture in India, Silkworm rearing techniques: Processing of cocoon, reeling, Silkworm diseases and pest control	<b>24/09/2018 to 29/09/2018</b>	<b>4.00 to 5.20</b>	<b>Dr. Vipul k Sharma</b>
<b>Module 2</b>	<b>Apiculture</b> Introduction, Species of honey bees in India, life cycle of Apis indica, division of labour and communication, Bee keeping as an agro based industry, extraction of honey from the comb and processing, Bee pasturage, honey, bees wax and their uses, pests and diseases of bees and their management	<b>01/10/2018 to 06/10/2018</b>	<b>4.00 to 5.20</b>	<b>Dr Rekha Sharma</b>
<b>Module 3</b>	<b>Pest management</b> Structural organization of an insect, Categories and types of insect pests, Agricultural pests (pests of crops and stored food products), Veterinary insects, Pests of public health importance (Mosquito, House fly, Louse, Bed bugs), urban pests (cockroach), Basics of pest control	<b>08/10/2018 to 12/10/2018</b>	<b>4.00 to 5.20</b>	<b>Dr Santosh Geharwal</b>

<b>Module 4</b>	<b>Vermiculture:</b> Scope of vermiculture, Types of earthworms, Methodology of vermicomposting: containers for culturing, raw materials required, preparation of bed, environmental pre-requisites, feeding, harvesting and storage of vermicompost. Advantages of vermicomposting.	<b>13/10/2018 to 18/10/2018</b>	<b>4.00to 5.20</b>	<b>DR. Kiran Billore</b>
<b>Module 5</b>	<b>Aquaculture:</b> Introduction, Types of aquaculture: Pond culture; carp culture, shrimp culture, shellfish culture, composite fish culture and pearl culture. Common fishes used for culture. Construction and maintenance of aquarium - materials used, aquarium plants, ornamental objects, cleaning the aquarium. Culture of fresh and marine water prawns. Preparation of farm. Preservation and processing of prawn, export of prawn	<b>20/10/2018 to 26/10/2018</b>	<b>4.00to 5.20</b>	<b>Dr Ruchi Shivale</b>
<b>On the last day of every module, there will be an assessment test</b>				

Ror

Rshay

Head  
Deptt. of Zoology  
Govt. Holkar Sc. College, Indore



7.

# Bioinformatics Analysis from Genomics to Proteomics

## **7.1 Notice: -**

शासकीय (स्वशासी) होलकर विज्ञान महाविद्यालय, इन्दौर (म.प्र.)

बायोटेक्नोलॉजी एवं बायोइंफरमेटिक्स विभाग

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Department of Biotechnology & bioinformatics is conducting following certificate course on **“Value added course on Bioinformatics analysis from genomics to proteomics”**


The classes shall be conducted by the faculty on the Department of Biotechnology & bioinformatics, Govt Holkar (Model Autonomous) science college Indore.

Duration: 30 hrs

Date: 09/09/2018 to 21/09/2018

Time: 2:00 pm to 5:00 pm

Strength: 29

  
डॉ. किरण बिल्लौरे)  
विभागाध्यक्ष  
शासकीय होलकर विज्ञान महाविद्यालय  
इन्दौर (म.प्र.)


Head  
Department of Biotechnology  
Govt. Holkar Science College, Indore

शासकीय (स्वशासी) होलकर विज्ञान महाविद्यालय, इन्दौर (म.प्र.)  
बायोटेक्नोलॉजी एवं बायोइंफरमेटिक्स विभाग

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// आवश्यक सूचना //

महाविद्यालय के समस्त छात्र –छात्राओं को सूचित किया जाता है कि बायोटेक्नोलॉजी विभाग द्वारा Value added course on “Bioinformatics analysis from genomics to proteomics” विषय पर एक वैल्यू एडेड कोर्स आयोजित किया दिनांक 09/09/2018 से 21/09/2018 तक आयोजित किया जा रहा है जो भी छात्र छात्रा उक्त पाठ्यक्रम से संबंध में कोई जानकारी चाहते हैं अथवा पाठ्यक्रम में पंजीयन करवाने चाहते हैं बायोटेक्नोलॉजी विभाग में दिनांक 30/08/2018 से 07/09/2018 तक अपना पंजीयन करवाये।

  
डॉ. किरण बिल्लौरे)  
विभागाध्यक्ष  
शासकीय होलकर विज्ञान महाविद्यालय  
इन्दौर (म.प्र.)

Head  
Department of Biotechnology  
Govt. Holkar Science College, Indore

## 7.2 Permission: -

दिनांक 23/08/2019

प्रति,  
प्राचार्य महोदय,  
शा.होलकर विज्ञान महाविद्यालय,  
इंदौर (म0प्र0)

विषय : Value added Course करवाने के संबंध में।

महोदय,

उपरोक्त विषयांतर्गत लेख है कि बायोटेक्नोलॉजी विभाग में दिनांक 09/09/2018 से 21/09/2018 तक Value added Course on “Bioinformatics analysis from genomics to proteomics” पर संचालित किया जायेगा। जिसका समय 02 से 05 pm तक रहेगा।

कृपया आप से निवेदन है कि Value added Course संचालित करने की अनुमति प्रदान करने की कृपा करे।

धन्यवाद

  
(डॉ.किरण बिल्लौर)

विभागाध्यक्ष  
बायोटेक्नोलॉजी विभाग  
शा.होलकर विज्ञान महाविद्यालय, इंदौर (म.प्र.)

 **Head**  
Department of Biotechnology  
Govt. Holkar Science College, Indore

### **7.3 Syllabus: -**

**Value added course on  
Bioinformatics analysis from genomics to proteomics  
2018-19**

**Course Objective**

- **Learn** bioinformatics in Genomics and Proteomics.
- **Evaluate** results Annotation of Certain Analysis
- **Know** genomics Bioinformatics Analysis and Results
- **Analyse** Research Perspective

**Course Outcomes**

- Student able to apply bioinformatics Analysis methods.
- Student should be able to use appropriate genomics and proteomics analysis methods.
- Get job genomics & proteomics research perspective

**Syllabus for value added courses**

**Module 1: -Lecture on Genomics Analysis**

- Genomics Analysis
  - Promoter and Regulatory Elements
  - Genome Assembly and Annotation
- A Critical Analysis of Assessment Quality in Genomics and Bioinformatics Education
- Expression Analysis to Cancer Variant Detection and More
- Transposable Elements Detection
- Regulatory Site Detection to Gene Expression Data handling
- Uses of Bioinformatics in Genome Analysis

**Module 2: - Lecture on Proteomics analysis**


- Basic Proteomics analysis
- Protein Structure Prediction
- Structure Visualization to Domain Analysis
- Molecular Docking to oligosaccharide structure detection
- Bioinformatics Analysis of Proteomics Data

**Module 3: Lecture on Insilco Research Perspective**

- Important Analysis to Consider When Working on Bioinformatics Research
- Important Bioinformatics Research Areas
- Bioinformatics Research Career

**Who Can apply:** Only for postgraduate students.

**Approved**

  
**Member Secretary, Academic Council**  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
**Head**  
Department of Biotechnology  
Govt. Holkar Science College, Indore



## **7.4 Schedule: -**

**Value added course on  
Bioinformatics analysis from genomics to proteomics  
2018-19**

**Module 1**

<b>Lecture Topic</b>	<b>Faculty</b>	<b>Time</b>	<b>Date</b>
Genomics Analysis	Dr Namrata Khurana	2:00- 3:30 PM	09/09/2018
Promoter and Regulatory Elements	Dr Gunjan Sharma	3:30 - 5:00 PM	09/09/2018
Genome Assembly and Annotation	Dr Pratibha Yadav	2:00- 3:30 PM	10/09/2018
A Critical Analysis of Assessment Quality in Genomics and Bioinformatics Education	Dr M Qureshi	3:30 - 5:00 PM	10/09/2018
Expression Analysis to Cancer Variant Detection and More	Prof Rahis Khan	2:00- 3:30 PM	11/09/2018
Transposable Elements Detection	Prof Akansha Lal	3:30 - 5:00 PM	11/09/2018
Regulatory Site Detection to Gene Expression Data handling	Prof Arun Patel	2:00- 3:30 PM	12/09/2018
Uses of Bioinformatics in Genome Analysis	Prof Saroj Solanki	3:30 - 5:00 PM	12/09/2018
Genomics Analysis	Prof Preetika Patidar	2:00- 3:30 PM	13/09/2018
Promoter and Regulatory Elements	Prof Saroj Solanki	3:30 - 5:00 PM	13/09/2018
Quiz	Prof Rahis Khan	2:00- 3:30 PM	14/09/2018

  
**Head**  
Department of Biotechnology  
Govt. Holkar Science College, Indore

**Value added course on  
Bioinformatics analysis from genomics to proteomics  
2018-19**

**Module 2**

Lecture Topic	Faculty	Time	Date
Basic Proteomics analysis	Dr Namrata Khurana	3:30 - 5:00 PM	14/09/2018
Protein Structure Prediction	Dr Gunjan Sharma	2:00- 3:30 PM	16/09/2018
Structure Visualization to Domain Analysis	Dr Pratibha Yadav	3:30 - 5:00 PM	16/09/2018
Molecular Docking to oligosaccharide structure detection	Dr M Qureshi	2:00- 3:30 PM	17/09/2018
Bioinformatics Analysis of Proteomics Data	Prof Rahis Khan	3:30 - 5:00 PM	17/09/2018
Basic Proteomics analysis	Prof Akansha Lal	2:00- 3:30 PM	18/09/2018
Protein Structure Prediction	Prof Aakriti Shrivastava	3:30 - 5:00 PM	18/09/2018
Structure Visualization to Domain Analysis	Prof Rajesh Tokariya	2:00- 3:30 PM	19/09/2018
Quiz	Prof Akansha Lal	3:30 - 5:00 PM	19/09/2018

**Module 3**

Lecture Topic	Faculty	Time	Date
Important Analysis to Consider When Working on Bioinformatics Research	Dr Namrata Khurana	2:00- 3:30 PM	20/09/2018
Important Bioinformatics Research Areas	Dr Gunjan Sharma	3:30 - 5:00 PM	20/09/2018
Bioinformatics Research Career	Prof Aakriti Shrivastava	2:00- 3:30 PM	21/09/2018
Quiz	Dr Gunjan Sharma	3:30 - 5:00 PM	21/09/2018

  
**Head**  
 Department of Biotechnology  
 Govt. Holkar Science College, Indore

8.

# Web Development

## **8.1 Notice: -**

### **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

#### **DEPARTMENT OF COMPUTER SCIENCE**

##### **NOTICE**

Department of Computer Science is conducting the following value Added  
Certificate course in

##### **Web- Development**

The classes shall be conducted by the faculty of the Department of Computer  
Science Government Holkar (Model, Autonomous) Science College, Indore &  
Industrial Experts.

**Duration:** 30 Hrs.

**Date:** 24/09/2018 to 26/10/2018

**Time:** 4.00 to 5.20PM

**Strength:** 30

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## 8.2 Syllabus: -

Approved

### **Govt Holkar (Model Autonomous) Science College Indore**

**Department of Computer Science**

**Session: 2018-19**

#### **Web- Development**

(Value Added Certificate Course in Computer Science)

#### **Syllabus**

##### **Course Out Comes:**

After the completion of this course, a successful student will be able to do the following:

1. Code a handful of useful HTML & CSS examples.
2. Build semantic, HTML & CSS web page.
3. Add Interactivity to a Web Page.
4. Create Dynamic Web Pages using Java Script & CSS in HTML forms
5. Create Webpage with database connectivity

##### **Course Content**

**Module 1: Web Programming Introduction:** Architecture of a website, Different technologies in making the website, Web Development Introduction.

**Introduction:** History of HTML, what you need to do to get going and make your first HTML page, what are HTML Tags and Attributes? HTML Tag vs. Element, HTML Attributes.

**Basic Formatting Tags and HTML-Grouping Using Div & Span:** HTML Basic Tags, HTML Formatting Tags, HTML Color Coding, Div and Span Tags for Grouping. List, Images, Hyperlink, Table, Iframe, Form, Headers.

**Module 2: CSS: Introduction:** Benefits of CSS, CSS Versions History, CSS Syntax, External Style Sheet using < link >, Multiple Style Sheets, Value Lengths and Percentages. **Syntax:** single Style Sheets, Multiple Style Sheets, Value Lengths and Percentages. **Selectors:** ID Selectors, Class Selectors, Grouping Selectors, Universal Selector, Descendant / Child Selectors, Attribute Selectors. Pseudo Classes, **Color Background Cursor:** background-image, background-repeat, background-position, Cursor. **Text Fonts:** color, background-color, text-decoration, text-align, vertical-align, text-indent, text-transform, white space, letter-spacing, word-spacing, line-height, font-family, font-size, font-style, font-variant, font-weight.

**Module 3: Lists:** list-style-type, list-style-position, list-style-image, and list-style. **Tables:** border, width & height, text-align, vertical-align, padding, color. **Box Model:** Borders & Outline, Margin & Padding, Height and width, Dimensions. **Display Positioning:** CSS Visibility CSS Display, CSS Scrollbars, CSS Positioning, Static Positioning, Fixed Positioning, Relative Positioning, Absolute Positioning, CSS Layers with Z-Index. **Floats:** The float Property, The clear Property, The clear fix Hack.

**Module 4: Introduction, Language Syntax:** Variable declaration, Operators, Control Statements, Error Handling, Understanding arrays, Function Declaration. **Built In Functions:**




Built In Functions, Standard Date and Time Functions. **HTML Forms:** HTML Document objects Model, Working with HTML form and its elements.

**Module 5: HTML DOM:** HTML form and its elements, Other HTML Document object Model, Working with Document Object Model. **Cookies, Working with Objects and Classes:** Working with Objects, Call method in JavaScript, Inheritance in JavaScript using prototype. **Database Connectivity:** Using MS-Access, Using MySQL, Using Oracle

**EVALUATION:** Assignments & multiple choice test

**WHO SHOULD DO IT?** Undergraduate and PG students

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

### 8.3 Schedule: -

**Govt. Holkar (Model Autonomous) Science College Indore**

**Department of Computer Science**

**Time Table for Value added course "Web Development"**

Module	Description	Date	Time	Name of Resource person
<b>Module 1</b>	Introduction	24/09/2018	4.00 to 5.20	Dr. Pradeep Sharama
	Basic Formatting Tags	to 29/09/2018	4.00 to 5.20	Ms. Priyanaka Agiwal
<b>Module 2</b>	CSS Introduction, Selectors	1/10/2018	4.00 to 5.20	Ms. Sarita Sharma
	Color, Text Formatting	to 06/10/2018	4.00 to 5.20	Ms. Aarti Shirvastava
<b>Module 3</b>	List, Box Model	8/10/2018	4.00 to 5.20	Mr. Manish Singh
	Display Positioning, Floats	to 12/10/2018	4.00 to 5.20	Ms. Yugal Sharma
<b>Module 4</b>	JavaScript, Built-in function	13/10/2018	4.00 to 5.20	Mr. Anish Singh, Software Engineer, TCS.
	HTML DOM	to 18/10/2018	4.00 to 5.20	Mr. Anish Singh, Software Engineer, TCS.
<b>Module 5</b>	Working With Class and Object	20/10/2018	4.00 to 5.20	Mr. Akhilesh Khare, Software Engineer, Lirisoft Pvt. Ltd.
	Database Connectivity	to 26/10/2018	4.00 to 5.20	Mr. Akhilesh Khare, Software Engineer, Lirisoft Pvt. Ltd.
<b>On the last day of every module, there will be an assessment test</b>				

  
HEAD  
Computer Science Department  
Govt. Holkar Science College, INDORE

9.

# Programming and Problem Solving Through Python

## **9.1 Notice: -**

### **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

#### **DEPARTMENT OF COMPUTER SCIENCE**

#### **NOTICE**

Department of Computer Science is conducting the following value Added  
Certificate course in

#### **Programming and Problem Solving through Python**

The classes shall be conducted by the faculty of the Department of Computer  
Science Government Holkar (Model, Autonomous) Science College, Indore &  
Industrial Experts.

**Duration:** 34 Hrs.

**Date:** 22/11/2018 to 26/12/2018

**Time:** 4.00 to 5.30PM

**Strength:** 30

  
**HEAD**  
Computer Science Department  
Govt. Holkar Science College, INDORE

## 9.2 Syllabus: -

Approved

### GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE DEPARTMENT OF COMPUTER SCIENCE

Session: 2018-19

**Programming and Problem Solving through Python**  
(Value added Certificate Course in Computer Science)

#### **Syllabus**

##### **Course Out Comes:**

After the completion of this course, a successful student will be able to do the following:

1. Write simple Python programs using common data structures.
2. Use files for data input and output.
3. Make use of sequences and standard libraries in programming.
4. Apply object Oriented Programming concepts in problem solving.
5. Gain knowledge of Python frameworks for Data Analysis & web development.

##### **Course Content**

**Module 1: Introduction:** History of Python, Need of Python Programming, The application area of python, Installation of Python IDE(PyCharm), Execute from command line and using IDE. **Python Basics:** Keyword, Data Types & Variables, Type conversion in Python, Expression, Operator, Data input and output.

**Module 2: Control Statement in Python:** if statement, if-elif-else statement, for loop, while loop, break, continue, pass, else clause. **Sequences in Python:** Array, String, list, Tuple, Set, Dictionary.


**Module 3: Function:** Define Function, main() in python, Calling function, Passing Argument, Keyword Arguments, Default Arguments, Variable length Argument, Anonymous Functions, Fruitful function(Function Returning Values), Scope of Variable in Function, Recursion, Decorator. **Module:** Definition, importing module using import statement, from statement, Creating Module, namespacing, Python Packages, Introduction to PIP, installing package by a PIP.


**Module 4: Object- Oriented Programming in Python:** Class & Object, Methods, Constructor and Destructor, Inheritance, Overriding, Overloading, Data Hiding, Error and Exception Handling.

**Module 5: File Handling in Python:** Read, Create/Write, Delete, and Rename, Reading and Writing CSV Files in Python. **Data Analysis with Python:** NumPy, SciPy, Pandas, Matplotlib. Interface Python with SQL, Introduction to MongoDB.

**EVALUATION:** Assignments & multiple choice test

**WHO SHOULD DO IT?** Undergraduate and PG student

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



### 9.3 Schedule: -

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Computer Science**  
**Time Table for Value added course "Programming and Problem Solving through Python"**

Module	Description	Date	Time	Name of Resource person
Module 1	Introduction	22/11/2018 to 29/09/2018	4.00 to 5.20	Dr. Pradeep Sharama
	Python Basics		4.00 to 5.20	Ms. Priyanaka Agiwal
Module 2	Control Statement in Python	01/10/2018 to 07/10/2018	4.00 to 5.20	Ms. Sarita Sharma
	Sequences in Python		4.00 to 5.20	Ms. Aarti Shirvastava
Module 3	Function	08/10/2018 to 12/10/2018	4.00 to 5.20	Mr. Manish Singh
	Module		4.00 to 5.20	Ms. Payal Jain
Module 4	Object- Oriented Programming in Python -I	13/10/2018 to 18/10/2018	4.00 to 5.20	Mr. Anish Singh, Software Engineer, TCS.
	Object- Oriented Programming in Python -II		4.00 to 5.20	Mr. Anish Singh, Software Engineer, TCS.
Module 5	File Handling in Python	20/10/2018 to 26/10/2018	4.00 to 5.20	Mr. Akhilesh Khare, Software Engineer, Lirisoft Pvt. Ltd.
	Data Analysis		4.00 to 5.20	Mr. Akhilesh Khare, Software Engineer, Lirisoft Pvt. Ltd.
	Python with SQL		4.00 to 5.20	Mr. Manish Singh
On the last day of every module, there will be an assessment test				

  
**HEAD**  
 Computer Science Department  
 Govt. Holkar Science College, INDORE

10.

Food Adulteration:  
Legal Aspects and  
Complaint Redressal  
System

### **10.1 Notice: -**

**GOVT HOLKAR (MODEL, AUTONOMOUS) SCIENCE  
COLLEGE, INDORE**

**DEPARTMENT OF CHEMISTRY**

**NOTICE**

Department of Chemistry is conducting the following Value added Certificate course in

**FOOD ADULTERATION: LEGAL ASPECTS AND COMPLAINT  
REDRESSAL SYSTEM**

The classes will be conducted by the faculty of the Department of Chemistry, Government Holkar (Model, Autonomous) Science College, Indore.


**Duration:** 36 hrs.

**Date:** September 25, 2018 to October 27, 2018

Holidays: All Sundays, 2<sup>nd</sup> October, 19th October & 24 October, 2018.

**Time:** 4:00 to 5:30 PM

**Strength:** 50

  
**Professor and Head**  
Department of Chemistry  
Govt. Holkar Sc. College, INDORE

## **10.2 Syllabus: -**

### **FOOD ADULTERATION: LEGAL ASPECTS AND COMPLAINT REDRESSAL SYSTEM**

(Value added Certificate Course in Chemistry)

#### **Syllabus**

##### **Course Learning Out Comes:**

On completion of this Value added Certificate Course, The student will be able to enhance their knowledge and Skills in following areas:

- Understand the concept of Food Adulteration.
- Supplement their knowledge of laws against Food Adulteration.
- Know about the mechanism of complaint redressal regarding food adulteration.

##### **Course Content:**

##### **Module 1: Introduction to Food Adulteration:**

- What do you understand by Food adulteration?
- History of Food Adulteration
- Sources of Food Contamination
- Types of Food adulteration

##### **Module 2: General overview of types of food adulteration:**


- In food grains
- In dairy products
- In spices
- Others

##### **Module 3: Detection of Food Adulteration:**

- Methods of detection of Food Adulteration
- Detect Adulteration with Rapid test (DART)

##### **Module 4: Laws for prevention of food adulteration in India:**

- Laws in India against Adulteration of Food
- The Prevention of Food Adulteration (PFA) Act 1954,

  
Professor Anil Hema  
Department of Chemistry  
Tert. Holkar Sc. College, INDOR



- The Food safety and Standards Acts, 2006,
- Role of Food Safety and Standards Authority of India (FSSAI)

**Module 5 :Complaint Redressal System against Food Adulteration in India:**

- Where to complain if a food article is found to be adulterated?
- 3-Tier Complaint Redressal System:
  - a. The local shop-keeper from where the consumer has purchased the product.
  - b. Local health authority of district or Commissioner of food safety of the State Union Territory
  - c. Consumer Forum
- Filing Complaint through Online portal “The Advertising Standards Council of India”
- Punishment given under law for guilty for food adulteration.

**EVALUATION METHOD:** Modular Assignments & MCQ based test

**ELIGIBILITY:** UG and PG students

*Harsha*  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

**Approved**

*Blu*  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



### **10.3 Schedule: -**

**Government Holkar (Model, Autonomous) Science College Indore**


**Department of Chemistry**

**Time Table for Value added course**

**“FOOD ADULTERATION: LEGAL ASPECTS AND COMPLAINT REDRESSAL SYSTEM”**

Module	Description	Date	Time	Name of Resource person
Module 1	Introduction to Food Adulteration	25/09/2018 to 29/9/2018	4.00 to 5.30	Dr. Anamika Jain & Dr. Bijendra Rai
Module 2	General overview of types of food adulteration	1/10/2018 to 07/10/2018	4.00 to 5.30	Dr. Meenal Shrivastava & Dr. Namita Bende
Module 3	Detection of Food Adulteration	8/10/2018 to 12/10/2018	4.00 to 5.30	Dr. Aparna Gandhe & Dr. Pushpa Makwana
Module 4	Laws for prevention of food adulteration in India	13/10/2018 to 18/10/2018	4.00 to 5.30	Dr. S. K. Choure & Dr. Rajshree Somani
Module 5	Complaint Redressal System against Food Adulteration in India	20/10/2018 to 26/10/2018	4.00 to 5.30	Dr. Namrata Pathak & Dr. M. K. Dwivedi

**On the last day of every module, there will be a MCQ based assessment test**

  
Professor And Head  
Department of Chemistry  
Govt. Holkar Sc. College, INDOR

11.

# Soap and Detergents: Entrepreneurial Context

### **11.1 Notice: -**

**GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

**DEPARTMENT OF CHEMISTRY**

**NOTICE**

Department of Chemistry is conducting the following Value added Certificate course in

**SOAPS AND DETERGENTS: ENTREPRENEURIAL CONTEXT**

The classes will be conducted by the faculty of the Department of Chemistry, Government Holkar (Model, Autonomous) Science College, Indore.

**Duration:** 34 hrs.

**Date:** 22<sup>nd</sup> November, 2018 to 23<sup>rd</sup> December, 2018

Holidays: All Sundays & 23<sup>rd</sup> November, 2018.

**Time:** 4:00 to 5:30 PM

**Strength:** 75

  
Professor And Head  
Department of Chemistry  
Govt. Holkar Sc. College, INDOR

## **11.2 Syllabus: -**

### **SOAPS AND DETERGENTS: ENTREPRENEURIAL CONTEXT**

(Value added Certificate Course in Chemistry)

#### **Syllabus**

##### **Course Learning Out Comes:**

The course will empower the students with skill enhancement in elementary Chemistry and processes involved with making of various types of soaps and detergents, which has a ever flourishing market. This will enhance the curriculum by supplementing the students with skill development for entrepreneurial ventures with very small financial investment.

##### **Course Content:**

###### **Module 1:**

Introduction to history of Soap and Detergent making. Brief understanding of Classification (types) of soaps & detergents.

###### **Module 2 :**

A brief account of preparation, properties and uses of chemical soaps and detergents.

###### **Module 3 :**

Preparation, properties and uses of Herbal Soaps and Detergents.

###### **Module 4 :**

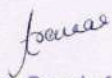
Environmental aspects related to Soaps and Detergents.


###### **Module 5:**

Two Case Studies ( One Start – up & one established Industry).

**EVALUATION METHOD:** Modular Assignment & MCQ based test

**ELIGIBILITY:** UG students

  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

**Approved**



### **11.3 Schedule: -**


Government Holkar (Model, Autonomous) Science College Indore

Department of Chemistry

Time Table for Value added course

**"SOAPS AND DETERGENTS: ENTREPRENEURIAL CONTEXT"**

Module	Description	Date	Time	Name of Resource person
Module 1	Introduction to Food Adulteration	22/11/2018 to 29/9/2018	4.00 to 5.30	Dr. P. K. Jain & Dr. V.R.Choure
Module 2	General overview of types of food adulteration	1/10//2018 to 07/10/2018	4.00 to 5.30	Dr. Namrata Pathak & Dr. Pushpa Makwana
Module 3	Detection of Food Adulteration	8/10/2018 to 12/10/2018	4.00 to 5.30	Dr.Aparna Gandhe & Dr. Namita Bende
Module 4	Laws for prevention of food adulteration in India	13/10/2018 to 18/10/2018	4.00 to 5.30	Dr. S. K. Choure & Dr. Agrawal
Module 5	Complaint Redressal System against Food Adulteration in India	20/10/2018 to 26/10/2018	4.00 to 5.30	Dr. Geeta Sarasan & Dr. Vijayshree Nilose
On the last day of every module, there will be a MCQ based assessment test				

  
Professor And Head  
Department of Chemistry  
Govt. Holkar Sc. College, INDORE



12.

## Communication Skills

## 12.1 Brochure: -

### **GOVERNMENT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE, INDORE (M.P.)**

**NAAC Accredited "A" Grade College**

Established : 1891

#### *Certificate Course For PG Students on Communication Skills*

**Organizer:** English Department

**Duration:** 30 hours

(15.09.2018 - 30.09.2018)

#### **COURSES HIGHLIGHTS**

- Importance of English Language in the global arena
- Meaning and importance of Communication
- Interpersonal and Interpersonal Skills
- Phonetics and Linguistics
- How to improve Listening, Writing, Speaking, Reading Skills
- Hand on practice
- How to appear in group discussion on Interview

#### **Resource Persons**

1. Dr. Indu Tiwari
2. Dr. Kanta Mulchandani
3. Dr. Suwarna Tanwani
4. Dr. Perna Ojha
5. Dr. Tausheeh Abbasi

## **Goal**

**TO ENHANCE  
COMMUNICATION SKILLS**

**Prof. Rajni Mishra  
Convener**

**Dr. Indu Tiwari  
HOD, English**

**Dr. Rooplekha Vyas  
Principal**

## 12.2 Syllabus: -

Approved

**Government Holkar (Model Autonomous) Science College, Indore (M.P.)**

**Department of English**

**Certificate Course in Communication Skills - 2018-19 (For PG Students)**

**Duration 15-09-2018 to 30.09.2018**

**Syllabus**

Name of Paper : Communication Skills

Maximum Marks : 25

Duration : 30 hours

1	Pre-requisite (if any)	To improve the Communication Skills of PG students.
2	Course Learning Outcome (CLO)	<b>Course Objective -</b> To develop the comprehensive skills of students in listening, speaking, reading and writing (LSWR), by giving the knowledge of phonetics and linguistics
		<b>Course Outcome –</b> After the completion of the course - <ol style="list-style-type: none"><li>1. Students will be able to master the skills of listening , speaking, writing and reading the text .</li><li>2. Students will be equipped with a richer vocabulary, which will render expression of thoughts and ideas more powerful.</li><li>3. How to communicate in social, personal and professional life.</li><li>4. The course comprises of Group- Discussion and interview which will enable the students to develop public speaking skills, group behavior and etiquettes.</li><li>5. When the student acquires these skills, he is ready to face the external world more confidently and has better options of employment.</li></ol>

*Indira*

## I

**Communication:-** Meaning and importance of communication, Verbal and non verbal communication, Barriers of communication, Seven C's of effective communication, Interpersonal and Intrapersonal skills.

## II

**Phonetics:-** Meaning and definition, Phonology- definition, The organs of speech – Vowel and consonant sounds, place of articulation, manner of articulation, syllable, word accent / stress and intonation, phonetic transcription of words.

**Linguistics :-** Meaning and definition, characteristics of language, morphology, syntax, semantics.

## III

**Reading skills -** Purpose, Methodology and Strategy, news paper and article reading.

**Listening skills -** Tips for effective listening, benefits of effective listening, barriers to effective listening, listening to talks, presentations, radio and television news.

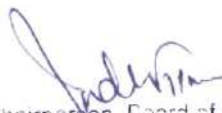
## IV


**Writing Skills-** Effective writing skills, elements of effective writing.

**Speaking Skills-** Importance and types

## V

**Group Discussion and Interview**

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

2019-2020



1.

# Advance Agro Techniques for Entrepreneurship Development

**1.1 Brochure: -**

**Value Added Course  
60 Hours Training Program  
On  
“Advanced Agro Techniques for Entrepreneurship  
Development”**



**Organized by:**

**Department of Botany,**

**Govt. Holkar Science College, Indore**

**Dated: 22<sup>nd</sup> Jan. 2020 to 14<sup>th</sup> Feb. 2020**

**Patron: Dr. Suresh T. Silawat,**

**Additional Director, Indore-Division &  
Principal,**

**Govt. Holkar Science College, Indore**

**Convenor: Dr. Sanjeeda Iqbal**

**Co – Convenor: Dr. Priti Chaturvedi**

**Department of Botany**

**Venue**

**Department of Botany,**

**Govt. Holkar Science, College,**

### **Committee**

**Patron:** Dr. Suresh T. Silawat, Additional Director,  
Indore-Division & Principal,  
Govt. Holkar Science College, Indore  
Dr. Sanjeeda Iqbal (Prof., & Head, Dept. of Botany)

**Organizing Secretaries:** Dr. Kamla Shivani ,  
Prof. Amiya Pahare

### **Committee Members:**

Dr. Kislaya Pancholi  
Dr. N.K. Jain  
Dr. Smita Dubey  
Dr. Uday Chitnis  
Dr. Seemawati Sisodiya  
Dr. Pramila Sadhav  
Dr. Sandhya Parihar  
Dr. Shagufta Khan

**Value Added Course  
60 Hours Training Program  
On  
“Advanced Agro Techniques for  
Entrepreneurship Development”:**

## **1.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Botany**  
**Course Title: Advance Agro Techniques**  
**Syllabus**

**Course Description:**

This course is designed to provide students with the knowledge and skills to improve their agricultural practices and techniques. It will cover a range of topics related to modern agricultural techniques, including sustainable farming practices, commercial crop production, innovations in agriculture, and emerging trends in agro techniques. The course will consist of lectures, demonstrations, and hands-on activities to help students understand the practical aspects of these topics. By the end of the course, students will have the skills and knowledge needed to improve their farming practices and increase their yields.

**Module 1: Introduction to Modern Agro Techniques;**

- Ultra-High Density Mango Plantation
- E-Agriculture Services

**Module 2: Sustainable Farming Practices;**

- Organic Farming and Employment Generation
- Visit of Kasturba Gram Compost System

**Module 3: Commercial Crop Production;**

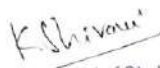
- Commercial Vegetable Production
- Sweet Orange Production
- Value Addition of Post-Harvest Crops


**Module 4: Innovations in Agriculture;**


- Invention in Micro Irrigation
- Qualitative Production of Ginger and Turmeric
- Bank Policies for Loan and Subsidies to Establish New Ventures
- Biofertilizers – Production and Marketing
- Biopesticides – Production and Utilization
- Schemes of Loan Facilities by MSME – Govt. of India

**Module 5: Emerging Trends in Agro Techniques;**

- Hydroponics and Its Commercialization
- Soil-less Cultivation on a Commercial Scale
- Vertical Farming and Its Uses
- Compost Management – Vermiculture and Vermicompost
- Tissue Culture and Commercial Production
- Tour and Visit of MRSC, Indore

  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

### **1.3 Schedule: -**

**Government Holkar (Model Autonomous) Science College, Indore**  
**Department of Botany**  
**Value Added Course on Advanced Agro Techniques for**  
**Entrepreneurship Development**

Value added courses are the types of courses which help a particular individual to develop their skills in their chosen field of the study. The Value-Added Courses aim to provide additional learner centric graded skill oriented technical training, with the primary objective of improving the employability skills of students. It is important for all institutions to supplement the curriculum to make students better prepared to meet industry demands as well as develop their own interests and aptitudes. For example, one of the speakers suggested that “Agrobacterium as an agricultural tool” may be defined as the sum of the activities performed for pesticide resistant plants.

Eligibility: As per course requirement: 10+2/Graduation

Prerequisites: As per course requirement: Basic knowledge of Botany, Seed Tech, Horticulture, Agriculture.

Course Duration information: 60 hrs

#### **Activity and plan of the program**

**Date: 22<sup>nd</sup> Jan. 2020 to 14<sup>th</sup> Feb. 2020**

<b>S. No.</b>	<b>Name of Prof. Incharge</b>	<b>Date</b>	<b>Guest Speaker</b>	<b>Topics</b>
1	Dr. Kamla Shiwani Dr. Uday Chitnis Dr. Sandhya Parihar Prof. Shagufta Khan	22-01-2020	Mr. Murli Iyer (Agronomist)	Ultra-High Density Mango Plantation
2	Dr. Pramila Sadhav Dr. Navin Kumar Jain Dr. Sandhya Parihar Prof. Shagufta Khan	23-01-2020	Mayank Patel Samadhan Agro InfoTech	e-Agriculture Services
3	Dr. Smita Dubey Dr. Navin Kumar Jain Dr. Sandhya Parihar	24-01-2020	Ms. Vaishali Malviya and Shri Rahul Malviya	Organic Farming and Employment Generation



	Prof. Shagufta Khan			
4	Dr. Navin Kumar Jain Dr. Preeti Chaturvedi Dr. Uday Chitnis Dr. Amiya Pahare	25-01-2020	Dr. D.K. Mishra Senior Scientist KVK, Indore	Visit of Kasturba Gram Compost System
5	Dr. Kamla Shivani Dr. Pramila Sadhav Dr. Sandhya Parihar Prof. Shagufta Khan	27-01-2020	Mr. Murli Iyer (Agronomist)	Commercial Vegetable production
6	Dr. Uday Chitnis Dr. Pramila Sadhav Dr. Sandhya Parihar Prof. Shagufta Khan	28-01-2020	Mr. Murli Iyyer (Agronomist)	Sweet Orange Production
7	Dr. Kamla Shivani Dr. Pramila Sadhav Dr. Sandhya Parihar Prof. Shagufta Khan	29-01-2020	Dr. Swati Barche Prof. Agriculture College, Indore	Value Addition of Post-Harvest Crops
8	Dr. Preeti Chaturvedi Dr. Navin Kumar Jain Dr. Sandhya Parihar Prof. Shagufta Khan	30-01-2020	Mr. Murli Iyer (Agronomist)	Invention in micro irrigation
9	Dr. Preeti Chaturvedi Dr. Navin Kumar Jain Dr. Sandhya Parihar Prof. Shagufta Khan	31-01-2020	Mr. Murli Iyer (Agronomist)	Qualitative production of Ginger and Termaric
10	Dr. Smita Dubey Dr. Preeti Chaturvedi Dr. Uday Chitnis Dr. Sandhya Parihar	01-02-2020	Mr. Uday Pandey Manager SBI	Bank Policies for loan and Subsidies to Establish new Ventures
11	Dr. Seemavati Sisodiya Dr. Kamla Shivani Dr. Sandhya Parihar	03-02-2020	Mr. Nitesh Patidar	Bio fertilizers – Production and Marketing

	Prof. Shagufta Khan			
12	Dr. Seemavati Sisodiya Dr. Uday Chitnis Dr. Sandhya Parihar Prof. Shagufta Khan	04-02-2020	Mr. Nitesh Patidar	Bio pesticides – Production and Utilization
13	Dr. Seemavati Sisodiya Dr. Pramila Sadhav Dr. Sandhya Parihar Prof. Shagufta Khan	05-02-2020	Mr. Niles Trivedi	Schemes of loan facilities by MSME – Govt. of India
14	Dr. Navin Kumar Jain Dr. Pramila Sadhav Dr. Sandhya Parihar Prof. Shagufta Khan	06-02-2020	Mr. Niles Trivedi	Schemes of loan facilities by MSME – Govt. of India
15	Dr. Navin Kumar Jain Dr. Smita Dubey Dr. Sandhya Parihar Prof. Shagufta Khan	07-02-2020	Mr. Tejram Nagar (Agronomist ) Dehradun	Hydroponics- its Commercialization
16	Dr. Navin Kumar Jain Dr. Smita Dubey Dr. Sandhya Parihar Prof. Shagufta Khan	08-02-2020	Mr. Tejram Nagar (Agronomist ) Dehradun	Soil Less Cultivation on Commercial Scale
17	Dr. Amiya Pahare Dr. Uday Chitnis Dr. Sandhya Parihar Prof. Shagufta Khan	10-02-2020	Mr. Tejram Nagar (Agronomist ) Dehradun (Uttarakhand)	Vertical Farming and its uses
18	Dr. Navin Kumar Jain Dr. Uday Chitnis Dr. Sandhya Parihar Prof. Shagufta Khan	11-02-2020	Mr. Tejram Nagar (Agronomist ) Dehradun (Uttarakhand)	Compost Management – Vermiculture and Vermicompost
19	Dr. Amiya Pahare Dr. Uday Chitnis Dr. Sandhya Parihar	12-02-2020	Dr. Monika Jain (MRSC, Indore)	Tissue Culture and Commercial Production

	Prof. Shagufta Khan			
20	Dr. Preeti Chaturvedi Dr. Uday Chitnis Dr. Sandhya Parihar Prof. Shagufta Khan	13-02-2020	Dr. Monika Jain (MRSC, Indore)	Tissue Culture and Commercial Production
21	Dr. Preeti Chaturvedi Dr. Navin Kumar Jain Dr. Sandhya Parihar Prof. Shagufta Khan	14-02-2020	Dr. Monika Jain (MRSC, Indore)	Tour and Visit of MRSC, Indore

2.

## Health and Nutrition

## 2.1 Permission: -

जीवरसायन विभाग, शासकीय होलकर विज्ञान महाविद्यालय, इन्दौर (म.प्र.)

प्रति,

श्रीमान प्रचार्य,  
शा. होलकर विज्ञान महाविद्यालय,  
इन्दौर (म.प्र.)

विषय :- जीवरसायन विषय के अन्तर्गत स्वास्थ्य एवं आहार पर तीन सप्ताह के सर्टिफिकेट  
कोर्स का प्रस्ताव।

माहोदय,

उपरोक्त विषयान्तर्गत विभाग द्वारा स्वास्थ्य एवं आहार पर तीन सप्ताह का सर्टिफिकेट कोर्स  
अ योजित करने का प्रस्ताव है। इस संबंध में विवरण निम्नानुसार है-

1- सर्टिफिकेट कोर्स का नाम	Certificate course on Health and Nutrition
2. अवधि	तीन सप्ताह
3. प्रस्तावित तिथि	16/09/19 से 12/10/19
4. शुल्क	रुपये 200 प्रत्येक प्रतिभागी
5- अर्हता	12 <sup>th</sup>
6. परीक्षा	सर्टिफिकेट कोर्स हेतु (3 घंटे की लिखित परीक्षा आयोजित की जावेगी)
7. विषय पाठ्यक्रम	सलग्न है
8. सर्टिफिकेट कोर्स हेतु कुल व्यय	10000/-
स्टेशनरी	1000/-
प्रिंटिंग एवं फोटोकापी	3000/-
विषय विशेषज्ञों का मानदेय	5200/- (@ रुपये 850/-प्रति व्याख्यान)
विविध व्यय	800/-
9. संभावित आवक	5000/- (फीस द्वारा)
10. स्वामी विवेकानंद करियर प्रकोष्ठ से व्यय	5000/-

उपरोक्तानुसार इस सर्टिफिकेट कोर्स को आयोजित करने की अनुमति प्रदान करने का कष्ट  
करें।

जनभागीदारी  
सुविधि में प्रस्ताव  
22/9/19  
7/11/19

HOD Biorubber  
विभागाध्यक्ष  
जीवरसायन विभाग  
शा. होलकर विज्ञान महाविद्यालय,  
इन्दौर (म.प्र.)  
यदि सुझाविका  
शिक्षा नहीं देना है तो  
जनभागीदारी को  
नहीं होनी चाहिए  
म.प्र.



Duration of Course:- Three week

Eligibility:- 12<sup>th</sup>

Fees of certificate course- 200/-

Resource persons:- Experienced Professors, physiotherapist, dietician, dentist and faculty members of Biochemistry.

Examination – 3 hours written test of 100 (70 marks, 30 marks Viva) marks based on prescribed syllabus will be conducted by the examination department of Govt. Holkar Science College, Indore. Minimum passing marks will be 40%. Certificate will be awarded to the qualifying candidates by the Head of the Institution. There is no provision for revaluation and answer book showing.

Expenditure- 1. Stationary Rs. 1000/-

2. Printing and Photocopy of literature- Rs. 3000/-

3. Honorarium of Subject experts- 5200/- @Rs 650/- per Lecture)

4. Miscellaneous expenditure Rs. 800/-

Total Expenditure- Rs. 10,000/-

Expected Income from fees- Rs. 5000/-

Remaining amount Rs. 5000/- will meet out from Swami Vivekanand Career Guidance Cell.

  
Head

Department of Biochemistry

## 2.2 Syllabus: -

### **Department of Biochemistry**

#### **Certificate Course**

#### **Health and Nutrition**

**Syllabus (2019-20)**

**Duration 60 Hrs**

##### **Unit 1**

- Nutrition and dietary habits: Definition and Introduction of food and nutrition.
- Nutritional aspect of protein- Sources, requirement and functions
- Nutritional aspect of the lipid- Sources, requirement and functions, Essential fatty acid.
- Nutritional aspect of the carbohydrate- available and unavailable carbohydrates, Role of dietary fibres.

##### **Unit 2**

- Basic food groups: energy giving foods, body building foods and protective food.
- Balanced diet: Composition of balanced diet, Vegetarian and non-vegetarian diets. Combination of food for balanced diet.
- Vitamins- Dietary, sources, biochemical importance and specific vitamin deficiency diseases.

##### **Unit 3**

- Immunity enhancer food: Vitamin A, Vitamin C, Iodine, Protein, Calcium containing food. Healthy versus junk food.
- Role of diet in management of- Obesity, Diabetes, Heart diseases.
- Role of intermittent fasting in management of diseases

Dr. A. Bafna	Prof. A. R. Batham
Dr. Purnima Dey Sarkar	Prof. Tasneem Rangwala
Prof. R.S. Gupta	Prof. Deepak Choudhary
Prof. R.S. Maheshwari	Dr. Bhavna Sharma
Mr. Rohan Gupta	Rajshree Kabra

## Department of Biochemistry

### Certificate Course

### Health and Nutrition

Syllabus (2019-20)

Duration 60 Hrs

#### Unit 4

Nutritive and calorific value of foods: Basic concept of energy expenditure, units of energy.

Energy expenditure: BMR and its measurement, factors affecting BMR.

#### Unit 5

Food processing and loss nutrients during processing and cooking. Naturally occurring anti-nutrients. Food Adulteration, Food preservation methods, Food borne infections.

Dr. A. Bafna	Prof. A. R. Batham
Dr. Purnima Dey Sarkar	Prof. Tasneem Rangwala
Prof. R.S. Gupta	Prof. Deepak Choudhary
Prof. R.S. Maheshwari	Dr. Bhavna Sharma
Mr. Rohan Gupta	Rajshree Kabra

**Department of Biochemistry**

**Certificate Course**

**Health and Nutrition**

**Syllabus (2019-20)**

**Duration 60 Hrs**

**PRACTICAL-**

- 1) Measurement of BMI.
- 2) Measurement of blood pressure.
- 3) Test for detection of adulterant in different foods.
- 4) Estimation of sugar in urine.
- 5) Estimation of haemoglobin.
- 6) Qualitative test for detection of pathogen in food and water.
- 7) Visit to Hospital: Pathology Lab and Dietician.

Dr. A. Bafna	Prof. A. R. Batham
Dr. Purnima Dey Sarkar	Prof. Tasneem Rangwala
Prof. R.S. Gupta	Prof. Deepak Choudhary
Prof. R.S. Maheshwari	Dr. Bhavna Sharma
Mr. Rohan Gupta	Rajshree Kabra

## 2.3 Schedule: -

Department of Biochemistry Certificate Course (3 Week) Health and Nutrition				
S.No	Date	Topic	Name of teacher	Signature
1	02/12/2019	Definition and Introduction of food and nutrition	Dr. A. Bafna	
2	03/12/2019	Nutritional aspect of protein- Sources, requirement and functions	Prof. R.S. Maheshwari	
3	04/12/2019	Nutritional aspect of the lipid- Sources, requirement and functions, Essential fatty acid	Prof. Tasneem Rangwala	
4	05/12/2019	Nutritional aspect of the carbohydrate, Available and unavailable carbohydrates, Role	Prof. Deepak Choudhary	
5	06/12/2019	Basic food groups: energy giving foods, body building foods and protective food.	Prof. Bhavna Sharma	
6	09/12/2019	Balanced diet: Composition of balanced diet, Vegetarian and non-vegetarian diets	Dr. A. Bafna	
7	10/12/2019	Combination of food for balanced diet	Prof. R.S. Maheshwari	
8	11/12/2019	Vitamins- Dietary, sources, biochemical importance, deficiency diseases.	Prof. Tasneem Rangwala	
9	12/12/2019	Immunity enhancer food, Vitamin A, Vitamin C, Iodine, Protein, Calcium containing	Prof. Deepak Choudhary	
10	13/12/2019	Healthy versus junk food	Prof. Bhavna Sharma	
11	16/12/2019	Role of diet in management of- Obesity	Dr. A. Bafna	
12	17/12/2019	Role of diet in management of- Diabetes	Prof. R.S. Maheshwari	
13	18/12/2019	Role of diet in management of- Heart diseases	Prof. Tasneem Rangwala	
14	19/12/2019	Role of intermittent fasting in management of diseases	Prof. Deepak Choudhary	
15	20/12/2019	Nutritive and calorific value of foods	Prof. Bhavna Sharma	
16	23/12/2019	Basic concept of energy expenditure, units of energy, Energy expenditure	Dr. A. Bafna	
17	24/12/2019	BMR and its measurement, Factors affecting BMR	Prof. R.S. Maheshwari	
18	26/12/2019	Food processing and loss of nutrients during processing and cooking	Prof. Tasneem Rangwala	
19	27/12/2019	Naturally occurring anti-nutrients	Prof. Deepak Choudhary	
20	30/12/2019	Food Adulteration	Prof. Sheetal Uikey	
✓ 21	31/12/2019	Food preservation methods and Food borne infections	Dr. A. Bafna	

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# 3.

## Instrumentation Techniques

### **3.1 Notice: -**

## **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

### **DEPARTMENT OF CHEMISTRY**

#### **NOTICE**

Department of Chemistry is conducting the following workshop / value-Added Certificate course in

### **Instrumentation Techniques**

The classes shall be conducted by the faculty of the Department of Chemistry, Government Holkar (Model Autonomous) Science College, Indore.

**Duration:** 30 Hrs.

**Date:** 06-01-2020 to 17-01-2020

**Time:** 2.00 PM to 5.00 PM

**Strength:** 50



Professor And Head  
Department of Chemistry  
Govt. Holkar Sc. College, INDORE

### **3.2 Syllabus: -**

Approved

**Govt. Holkar (Model Autonomous) Science College, Indore**

**Department of Chemistry**

**Session: 2019-20**

**Syllabus for Value Added Course in Instrumentation Techniques**

**Module 1: UV-Visible Spectrophotometry: -**

- Principles of UV-Visible Spectroscopy
- Absorption and Transmittance
- Beer-Lambert Law and its applications
- Instrumentation and components
- Sample preparation and handling
- Quantitative analysis using UV-Vis spectroscopy
- Application in pharmaceutical and clinical studies

**Module 2: X-ray Diffraction (XRD):-**

- Introduction to crystallography
- Bragg's Law and XRD principles
- X-ray sources and detectors
- Sample preparation techniques
- Identification and characterization of crystalline materials
- Qualitative and quantitative analysis using XRD
- Applications in material science and pharmaceutical research

**Module 3: High-Performance Liquid Chromatography (HPLC):-**

- Basics of chromatography
- HPLC principles and instrumentation
- Types of HPLC columns and detectors
- Mobile phase selection and optimization
- Analyte separation and quantification
- HPLC method development
- Applications in pharmaceutical analysis and clinical diagnostics

**Module 4: Atomic Absorption Spectrophotometry: -**

- Atomic Absorption (AA) spectroscopy principles
- Atomic absorption vs. atomic emission spectroscopy
- Hollow cathode lamps and light sources
- Flame and graphite furnace AA techniques
- Sample preparation and matrix effects
- Quantitative analysis using AA spectroscopy
- Applications in environmental analysis and trace metal detection

**Module 5: Fourier Transform Infrared (FTIR) Spectroscopy and Colorimetric Measurements: -**

- Introduction to FTIR spectroscopy
- FTIR instrumentation and data interpretation
- Applications in chemical identification and structure elucidation
- Colorimetric principles and applications
- Colorimetric analysis of chemical and biological samples
- Clinical applications of FTIR and colorimetric measurements

  
Professor Anil Hoon  
Department of Chemistry  
Govt. Holkar Sc. College (M.A.) Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

4.

# Basic Programming with Python

#### 4.1 Permission: -

इलेक्ट्रॉनिक्स विभाग, शासकीय (स्वाशासीय) होलकर विज्ञान महाविद्यालय, इन्दौर (म0प्र0)

क्रमांक.....

इन्दौर, दिनांक 10/01/2020

प्रति,

प्राचार्य,

शासकीय होलकर विज्ञान महाविद्यालय,

इन्दौर (म0प्र0)

विषय : इलेक्ट्रॉनिक्स विभाग द्वारा सर्टिफिकेशन कोर्स करने बाबत प्रस्ताव।

महोदय,

इलेक्ट्रॉनिक्स विभाग द्वारा Basic Programming with Python विषय पर 90.00 घंटे के सर्टिफिकेट कोर्स आयोजित करने का प्रस्ताव निम्नानुसार प्रस्तुत है -

1. कोर्स का नाम - Certification Course on Basic Programming with Python

2. अवधि - 90:00 घंटे

3. कोर्स प्रारंभ करने की तिथि - 15 जनवरी 2020 से 19 फरवरी 2020

4. कोर्स के विषय पाठ्यक्रम - इलेक्ट्रॉनिक्स विषय के अध्ययन मण्डल (बोर्ड ऑफ स्टडी) द्वारा सर्टिफिकेट कोर्स हेतु अनुमोदित पाठ्यक्रम (सलग्न)

5. रिसर्स पर्सन (विषय विशेषज्ञों की जानकारी) इन्दौर शहर में कार्यरत कम्पनी के इंजीनियरों को आमन्त्रित किया जाएगा।

6. विषय विशेषज्ञों को मानदेय रु 500 प्रति व्याख्यान के दर से देय होगा। स्थानीय विशेषज्ञों को 100 रु वाहन भत्ता प्रदान किया जावेगा। इन्दौर से बाहर के विशेषज्ञों को एसी थर्ड श्रेणी का किराया एवं मध्यप्रदेश शासन के नियमानुसार डीए देय होगा।

7. कोर्स के लिए अर्हता - किसी भी विषय में बी.एस.सी उत्तीर्ण या अध्ययनरत विद्यार्थी इस कोर्स के लिए अर्ह है।

8. कोर्स फीस - रु 1200/- प्रति अभ्यर्थी

9. संभावित प्रतिभागियों की संख्या - 30

10. फीस द्वारा प्राप्त होने वाली संभावित आय - रु 36,000/-

11. महाविद्यालय से प्राप्त - नहीं



12. कुल संभावित आय रू - 36,000/-
13. कुल आय रू - 36,000/-
14. विषय विशेषणों के मानदेय, वाहन भत्ता/टीए एवं डीए, लॉजिंग बोर्डिंग आदि पर संभावित कुल व्यय रू - 33,000/-
15. परीक्षा शुल्क - परीक्षा विभाग द्वारा निर्धारित किया जावेगा।
16. स्टेशनरी, कम्प्यूटर स्टेशनरी, फोटो कॉपी एवं अन्य स्टेशनरी आदि पर व्यय-1200/-
17. अन्य विविध व्यय एवं आकस्मिक व्यय - 1800/-
18. कुल संभावित व्यय रू. - 36,000/-

इस सर्टिफिकेट कोर्स के लिए नियमित कक्षाएँ प्रतिदिन दोपहर 2:30 से 5:30 तक इलेक्ट्रॉनिक्स विभाग में आयोजित की जाएंगी। इस कोर्स के लिए परीक्षा विभाग द्वारा परीक्षा आयोजित की जावेगी जिसके अन्तर्गत सैद्धांतिक एवं प्रयोगिक परीक्षा आयोजन होगा। सफल अभ्यर्थियों को सर्टिफिकेट प्रदान किए जावेगे।

कृपया इस कोर्स को आयोजित करने हेतु अनुमति विभाग को प्रदान करने का कष्ट करें।

संलग्न:-

डॉ. नेतराम कौरव  
विभागाध्यक्ष  
इलेक्ट्रॉनिक्स विभाग  
पॉ. हॉलिकर विभाग मण्डल  
इन्दौर

अध्ययन मण्डल के सदस्यों द्वारा अनुमोदित पाठ्यक्रम की प्रतिलिपी।

Yes  
10/01/2020

## 4.2 Syllabus: -

### Short term Course on Basic Programming with Python

Class	Subject	CCE	Min. Marks	Term End Exam	Min Marks	Total	Min. Marks
Short Term Course	Basic Programming with Python	10	4	40	14	50	17
	Practical					50	17

#### UNIT – I:

8 Hrs

Introduction: History of Python, Need of Python Programming, Python and PyCharm Installation, Running Python Scripts, Variables, Assignment, Keywords, Input-Output. Data Structures Lists- Operations, Slicing, Methods; Tuples, Sets, Dictionaries, Sequences.

#### UNIT – II:

8 Hrs

Types, Operators, and Expressions: Types – Integers, Strings, Booleans; Operators- Arithmetic Operators, Comparison (Relational) Operators, Assignment Operators, Logical Operators, Bitwise Operators, Membership Operators, Identity Operators, Expressions and order of evaluations Control Flow- if, if-elif-else, for, while, break, continue, pass.

#### UNIT – III:

9 Hrs

**Functions** – Defining Functions, Calling Functions, Passing Arguments, Keyword Arguments, Default Arguments, Variable-length arguments, Anonymous Functions, Fruitful Functions (Function Returning Values), Scope of the Variables in a Function- Global and Local Variables, Recursion, decorators. **Modules:** Creating modules, import statements, from. The import statement, namespaces, Python packages, Introduction to PIP, Installing Packages via PIP, Using Python Packages.

#### UNIT – IV:

8 Hrs

**Built in Functions-** Files- read, write, open, close, readline, readlines, writelines, seek, tell etc. Date and Time, audio related function, lambda, F-string and string formatting, enumerate, If `__name__ == __main__` usage & necessity, join, map, filter, reduce, **Built in Modules** like Time, OS,.

#### UNIT – V:

7 Hrs

Object-Oriented Programming OOP in Python: Classes, 'self-variable', Methods, Constructor Method, Inheritance, Overriding Methods, Data hiding, Overloading.

#### Minor Project

#### OUTCOMES:

- Making Software easily right out of the box.
- Experience with an interpreted Language.
- To build software for real needs.
- Prior Introduction to testing software

Session 2020-2021

*[Handwritten signatures and dates]*  
21/4/20  
Rupesh  
10/12/2020

# 5.

## Embedded System Design Based on Arduino

## 5.1 Permission: -

इलेक्ट्रॉनिक्स विभाग, शासकीय (स्वाशासीय) होलकर विज्ञान महाविद्यालय, इन्दौर (म0प्र0)  
 क्रमांक.....  
 प्राचार्य, इन्दौर, दिनांक 10/01/2020  
 शासकीय होलकर विज्ञान महाविद्यालय,  
 इन्दौर (म0प्र0)  
 विषय : इलेक्ट्रॉनिक्स विभाग द्वारा सर्टिफिकेशन कोर्स करने बाबत प्रस्ताव।  
 महोदय,

इलेक्ट्रॉनिक्स विभाग द्वारा Embedded System Design based on Arduino विषय पर 90:00 घंटे के सर्टिफिकेट कोर्स आयोजित करने का प्रस्ताव निम्नानुसार प्रस्तुत है -

1. कोर्स का नाम - Certification Course on Embedded System Design based on Arduino
2. अवधि - 90:00 घंटे
3. कोर्स प्रारंभ करने की तिथि - 15 जनवरी 2020 से 19 फरवरी 2020
4. कोर्स के विषय पाठ्यक्रम - इलेक्ट्रॉनिक्स विषय के अध्ययन मण्डल (बोर्ड ऑफ स्टडी) द्वारा सर्टिफिकेट कोर्स हेतु अनुमोदित पाठ्यक्रम (सलग्न)
5. रिसर्स पर्सन (विषय विशेषज्ञों की जानकारी) इन्दौर शहर में Robotics के क्षेत्र में कार्यरत कम्पनी के इंजीनियरों को आमंत्रित किया जाएगा।
6. विषय विशेषज्ञों को मानदेय रु 500 प्रति व्याख्यान के दर से देय होगा। स्थानीय विशेषज्ञों को 100 रु वाहन भत्ता प्रदान किया जावेगा। इन्दौर से बाहर के विशेषज्ञों को एसी थर्ड श्रेणी का किराया एवं मध्यप्रदेश शासन के नियमानुसार डीए देय होगा।
7. कोर्स के लिए अर्हता - किसी भी विषय में बी.एस.सी. (इलेक्ट्रॉनिक्स, कम्प्यूटर साइंस) उत्तीर्ण या अध्ययनरत विद्यार्थी इस कोर्स के लिए अर्ह है।
8. कोर्स फीस - रु 1200/- प्रति अभ्यर्थी
9. संभावित प्रतिभागियों की संख्या - 30
10. फीस द्वारा प्राप्त होने वाली संभावित आय - रु 36,000/-
11. महाविद्यालय से प्राप्त Seed money - नहीं

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## 5.2 Syllabus: -

### Short term Course on Embedded System Design based on Arduino

Class	Subject	CCE	Min. Marks	Term End Exam	Min Marks	Total	Min. Marks
Short Term Course	Embedded System Design based on Arduino	10	4	40	14	50	17
	Practical					50	17

#### Unit-I

##### Introduction

5 Hrs

Embedded system, components, advantages, application, Arduino and Its History, popularity, capabilities of arduino, real world applications  
Introduction to Arduino IDE, Familiarizing with Arduino Development Board, Understanding Arduino Sketch, Compile and Upload sketches in Arduino

#### Unit-II

##### Arduino Programming Concepts

12 Hrs

Arduino data types, Variables and Constants, Operators, Control Statements If, If-else, nested if-else, Loop- while, for, break, continue, Functions, basic programming of arduino.

#### Unit III

##### Arduino Online Simulator

8 Hrs

Introduction of Arduino Online Simulator, Benefits of Online Simulator, operate Online Simulator, Integration and working of Online simulator with Arduino Development Board

#### Unit IV

##### Input Interfacing

8 Hrs

Sensors: InfraRed, UltraSonic, Thermistor (LM35), LDR, Clap, Switch.

#### Unit V

##### Output Interfacing

7 Hrs

LED, LCD, Relay, Motors- DC, Stepper, Bluetooth.

Note: Project

Session 2020-2021

6.

# Computer Hardware, Equipment Repairing & Fabrication

## **6.1 Notice: -**

### **GOVT HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE INDORE**

#### **DEPARTMENT OF ELECTRONICS**

##### **NOTICE**

Department of Electronics is conducting the following workshop / value-Added Certificate course in

#### **Computer Hardware, Equipment Repairing & Fabrication**

The classes shall be conducted by the faculty of the Department of Electronics, Government Holkar (Model Autonomous) Science College, Indore.

**Duration:** 36 Hrs.

**Date:** 18 Nov. 2019 to 16 Dec. 2019

**Time:** 2.00 to 3.30 PM

**Strength:** 45

## 6.2 Syllabus: -

Approved

**Govt. Holkar (Model Autonomous) Science College, Indore**

**Dept. of Electronics**


**Computer Hardware, Equipment's Repairing & Fabrication  
Training**


**Syllabus 2019-20**

S.No.	LEARNING OUTCOMES	ASSESSMENT CRITERIA
1.	Perform all the functions with Electrical and Electronic Components related to Computer and Networking system following safety precautions. Assemble and repair Desktop Computers with all its hardware components.	Construct a simple circuit using AC/DC supply, lamp, fuse and switch. Measure circuit voltage and current using voltmeters and ammeters. Also check voltage between earth and neutral. Measure resistance using Multimeter. Practice of soldering and desoldering techniques, practice using hook-up wires. Soldering resistors on Tag board. Practice using surface mount board/ device. Construct a small circuit using digital electronic components.
2.	Assemble and repair of Desktop Computer with all its hardware components.	Open the cabinet and identify various motherboard components, connectors, slots, ports (USB, VGA, DVI, and HDMI), cables and Connectors. Identify Motherboard Components and connections. CPU (Processor) RAM (Memory) Hard Drive Connections Mechanical vs. Solid State Drives ROM Drives Graphic Cards, Sound Cards. Use Post Error Debug Card and understand error Code for fault troubleshooting. Verify components with the configuration of CMOS BIOS setup. Check DDR3 and DDR4 RAM's FSB. Insert it in the memory slot. Test and understand various beep sounds in case of trouble. Removing the Processor, Installing the Processor. Understand and identify various different processor sockets
3.	Install different Operating Systems and all other application software.	Boot the PC through a BOOTABLE DVD of OS. Partition the disk, Format the drive. Install Windows 7 and Windows 10 from DVD Disk. Make Win-7 AND Win-10 dual boot properly. Practice on recovery partition Install and boot Win-10 in UEFI mode. Collecting and installing specific/compatible Device drivers from the internet. Update the driver software from the internet. Uninstall and Rollback the driver. Go to Windows Update in the control panel. Check installed updates. Change/ update Setting. Install any popular antivirus software. Install various application software programs in windows. Install Firefox and chrome browser. Install Linux (Ubuntu, Fedora, Debian, Use diskpart command. Practice important Linux commands.



4.	Customize Operating System and maintenance of system application software.	Open Personalize Setting and find Desktop icon setting, Screen Resolution and various other setting. Open windows explorer and find different drives, files and folders, their size and other properties. Do it through command prompt also. Create and configure user accounts in Windows 7/8/10. Create Administrator and Limited user account. Make Changes to an Account. Reset Limited user account password through Administrative account. Configure outlook and connect with Gmail, use thunderbird IMAP/POP3 along with security features. Configuration of Browsers.
5.	Assemble and repair Laptop and its hardware Components.	Assemble and disassemble a Laptop. Upgrade RAM, HDD and other parts. Test fault finding and troubleshooting techniques. Enabling support for SATA technology. Installation of OS using SATA technology drivers. Configuration of camera, mic, WLAN and Bluetooth, touchpad, fingerprint scanner.
6.	Perform the operations of office package (word, excel, power point).	Format text and editing. Set up pages and margins. Tabs and indents. Create Worksheets using Spreadsheet Software. Create Slideshows, insert picture, theme, format text, animation and object.

  
 Coordinator, Board of Studies,  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

  
 Member Secretary, Academic Council  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore



7.

Value Added Course  
on Cambridge  
Assessment English

## 7.1 Brochure: -

**GOVT. HOLKAR (MODEL AUTONOMOUS)  
SCIENCE COLLEGE,  
INDORE**



# **CAMBRIDGE ASSESSMENT ENGLISH (CAE)**

**A VALUE-ADDED COURSE**

**INITIATED BY DHE, BHOPAL**

**21 OCTOBER 2019 TO 16 JANUARY 2019**

**LEARNING OUTCOME:  
PROFICIENCY IN LANGUAGE.**

**Course Highlights:**

- An International Level Course
- Modular Support
- Practice Papers
- Examination
- Certification

**District Course  
Coordinator:  
Dr. Kanta  
Moolchandani**

## 7.2 Syllabus: -

### Government Holkar (Model, Autonomous) Science College, Indore Cambridge Assessment English (CAE) 2019-20 Syllabus of Value Added Certificate Course

The CAE Course focused on Listening, Reading, Writing and Free talk (Speaking)  
For this purpose the Touchstone Book was prescribed and Students were also expected to do self – study, which included vocabulary building, interaction, using different conversation strategies and overall focusing on grammar as well as pronunciation. The detailed syllabus, provided by the Cambridge University, was divided in 12 Units is given below:

Touchstone Level 3 Contents and learning outcomes				
	Learning outcomes	Language		
		Grammar	Vocabulary	Pronunciation
<b>Unit 1</b> The way we are pages 1–10	<ul style="list-style-type: none"> <li>Talk about people's behavior using adverbs</li> <li>Describe people's personalities using adverbs before adjectives</li> <li>Use always with a continuous verb to describe habits</li> <li>Use at least to point out the positive side of a situation</li> <li>Read online student profiles</li> <li>Write a personal profile</li> </ul>	<ul style="list-style-type: none"> <li>Adjectives as manner adverbs</li> <li>Adverbs before adjectives and adverbs</li> <li>Adjective prefixes</li> </ul> <b>Extra practice</b>	<ul style="list-style-type: none"> <li>Behavior and personality</li> <li>Personal qualities</li> </ul>	<b>Speaking naturally</b> <ul style="list-style-type: none"> <li>Using and testing interaction in questions giving alternatives</li> </ul> <b>Sounds right</b> <ul style="list-style-type: none"> <li>Word stress</li> </ul>
<b>Unit 2</b> Experiences pages 11–20	<ul style="list-style-type: none"> <li>Talk about experiences and secret desires using the present perfect</li> <li>Ask about unusual experiences using present perfect questions</li> <li>Keep a conversation going</li> <li>Show interest with Do you?, Have you?, etc.</li> <li>Read a travel blog</li> <li>Write a post for a travel blog</li> </ul>	<ul style="list-style-type: none"> <li>Present perfect statements</li> <li>Present perfect and simple past questions and answers</li> </ul> <b>Extra practice</b>	<ul style="list-style-type: none"> <li>Past participles of irregular verbs</li> </ul>	<b>Speaking naturally</b> <ul style="list-style-type: none"> <li>Reduced and unreduced forms of have</li> </ul> <b>Sounds right</b> <ul style="list-style-type: none"> <li>Different ways to pronounce the letter o</li> </ul>
<b>Unit 3</b> Wonders of the world pages 21–30	<ul style="list-style-type: none"> <li>Talk about the best, worst, and most beautiful things in your city and country</li> <li>Describe natural features</li> <li>Use short responses to be a supportive listener</li> <li>Use superlatives for emphasis</li> <li>Read an article about world records</li> <li>Write a factual article about your country</li> </ul>	<ul style="list-style-type: none"> <li>Superlatives</li> <li>Questions with How + adjective ... ?</li> </ul> <b>Extra practice</b>	<ul style="list-style-type: none"> <li>Buildings and structures</li> <li>Natural features</li> </ul>	<b>Speaking naturally</b> <ul style="list-style-type: none"> <li>Linking and deletion with superlatives</li> </ul> <b>Sounds right</b> <ul style="list-style-type: none"> <li>Which sound in each group is different?</li> </ul>
<b>Checkpoint Units 1–3 pages 31–32</b>				
<b>Unit 4</b> Family life pages 33–42	<ul style="list-style-type: none"> <li>Talk about family life using let, make, help, have, get, want, ask, and tell</li> <li>Talk about your immediate and extended family</li> <li>Describe memories using used to and would</li> <li>Give opinions with expressions like I you ask me</li> <li>Agree with opinions using expressions like Absolutely</li> <li>Read a blog about family meals</li> <li>Write a blog entry about a family memory</li> </ul>	<ul style="list-style-type: none"> <li>Verbs let, make, help, have, get, want, ask, and tell</li> <li>Used to and would</li> </ul> <b>Extra practice</b>	<ul style="list-style-type: none"> <li>Types of families</li> <li>Relatives and extended family members</li> </ul>	<b>Speaking naturally</b> <ul style="list-style-type: none"> <li>Reduction of used to</li> </ul> <b>Sounds right</b> <ul style="list-style-type: none"> <li>Matching vowel sounds</li> </ul>
<b>Unit 5</b> Food choices pages 43–52	<ul style="list-style-type: none"> <li>Talk about eating habits using containers and quantities</li> <li>Talk about different ways to cook food</li> <li>Talk about food using too, too much, more, and enough</li> <li>Respond to suggestions by letting the other person decide</li> <li>Use expressions like I'm fine to politely refuse offers</li> <li>Read about snacks around the world</li> <li>Write about a dish from your country</li> </ul>	<ul style="list-style-type: none"> <li>Review of countable and uncountable nouns</li> <li>Quantifiers a little, a few, very little, and very few</li> <li>Too, too much, too many, and enough</li> </ul> <b>Extra practice</b>	<ul style="list-style-type: none"> <li>Containers and quantities</li> <li>Different ways of cooking food</li> </ul>	<b>Speaking naturally</b> <ul style="list-style-type: none"> <li>Stretching new information</li> </ul> <b>Sounds right</b> <ul style="list-style-type: none"> <li>Are the sounds the same or different?</li> </ul>
<b>Unit 6</b> Managing life pages 53–62	<ul style="list-style-type: none"> <li>Talk about future plans and schedules using will, be going to, present continuous, and simple present</li> <li>Ask for and give advice about personal situations using modal verbs and expressions</li> <li>Use expressions with make and do</li> <li>End phone calls with expressions like I'd better go</li> <li>Say good-bye in a friendly, informal way</li> <li>Read a blog about multitasking</li> <li>Write some advice about time management</li> </ul>	<ul style="list-style-type: none"> <li>The future with will, be going to, the present continuous, and the simple present</li> <li>Use I'd better, ought to, and might want to to say what's advisable</li> <li>Use have to and going to have to to say what's necessary</li> <li>Use would rather to say what's preferable</li> </ul> <b>Extra practice</b>	<ul style="list-style-type: none"> <li>Expressions with make and do</li> </ul>	<b>Speaking naturally</b> <ul style="list-style-type: none"> <li>Reduction of verbs want to, you'd better, going to have to, might to, and have got to</li> </ul> <b>Sounds right</b> <ul style="list-style-type: none"> <li>Matching vowel sounds</li> </ul>
<b>Checkpoint Units 4–6 pages 63–64</b>				



Interaction	Skills				Self study
Conversation strategies	Listening	Reading	Writing	Free talk	Vocabulary notebook
<ul style="list-style-type: none"><li>Use always and a continuous verb to talk about things people do more than is usual</li><li>Use at least to point out the positive side of a situation</li></ul>	<p><b>People I admire most</b></p> <ul style="list-style-type: none"><li>Listen to people talk about people they admire and fill in a chart</li></ul> <p><b>Things you don't know about me</b></p> <ul style="list-style-type: none"><li>Predict what people will say next</li></ul>	<p><b>Student profiles</b></p> <ul style="list-style-type: none"><li>Online student profiles</li></ul>	<p><b>Your personal profile</b></p> <ul style="list-style-type: none"><li>Write a personal profile</li><li>Useful expressions for biographical writing</li></ul>	<p><b>What are we like?</b></p> <ul style="list-style-type: none"><li>Class activity: Ask questions to find out new things about your classmates</li></ul>	<p><b>Happy or sad?</b></p> <ul style="list-style-type: none"><li>When you learn a new word, find out if it has an opposite</li></ul>
<ul style="list-style-type: none"><li>Keep the conversation going</li><li>Use response questions like <i>Do you?</i> and <i>Have you?</i> to show interest</li></ul>	<p><b>What have they done?</b></p> <ul style="list-style-type: none"><li>Listen to conversations about things people have done and choose the best responses</li></ul> <p><b>A traveler's adventures</b></p> <ul style="list-style-type: none"><li>Listen to a conversation about travel and identify information; then answer questions about details</li></ul>	<p><b>Travel blogs</b></p> <ul style="list-style-type: none"><li>Read travel blogs</li></ul>	<p><b>Ring about it</b></p> <ul style="list-style-type: none"><li>Write a blog entry about an exciting experience</li><li>Use adverbs like <i>fortunately</i>, <i>unfortunately</i>, and <i>amazingly</i> to show your attitude or feeling</li></ul>	<p><b>I've never done that!</b></p> <ul style="list-style-type: none"><li>Group games: Play a game to find out things that your classmates have never done</li></ul>	<p><b>Have you ever...?</b></p> <ul style="list-style-type: none"><li>When you learn a new verb, write the three main forms in a chart</li></ul>
<ul style="list-style-type: none"><li>Use short responses with <i>really</i> and <i>sure</i> to agree and be a supportive listener</li><li>Use superlatives to emphasize your opinions and feelings</li></ul>	<p><b>What do you know?</b></p> <ul style="list-style-type: none"><li>Listen to a quiz and answer questions</li></ul> <p><b>Travel talk</b></p> <ul style="list-style-type: none"><li>Listen to an interview about travel experiences and answer questions</li></ul>	<p><b>World records</b></p> <ul style="list-style-type: none"><li>Read an article about world records</li></ul>	<p><b>Interesting facts</b></p> <ul style="list-style-type: none"><li>Write a paragraph about an interesting place in your country</li><li>Adding information</li></ul>	<p><b>Where's the best place to...?</b></p> <ul style="list-style-type: none"><li>Pair work: Think of advice to give to someone visiting your country for the first time</li></ul>	<p><b>From the mountains to the sea</b></p> <ul style="list-style-type: none"><li>Draw a map of your country and label it</li></ul>
Checkpoint Units 1–3 pages 31–32					
<ul style="list-style-type: none"><li>Give opinions with expressions like <i>It seems like...</i> and <i>If you ask me...</i></li><li>Use expressions like <i>exactly</i>, <i>definitely</i>, and <i>absolutely</i> to agree with people's opinions</li></ul>	<p><b>Reasonable demands?</b></p> <ul style="list-style-type: none"><li>Listen to people talk about demands their parents make on them</li></ul> <p><b>Family memories</b></p> <ul style="list-style-type: none"><li>Listen to people talk about things they used to do</li></ul>	<p><b>Barbara's Blog</b></p> <ul style="list-style-type: none"><li>Read a blog about family meals</li></ul>	<p><b>Family memories</b></p> <ul style="list-style-type: none"><li>Write a blog about a family memory</li><li>Time markers to show the past and present</li></ul>	<p><b>Family histories</b></p> <ul style="list-style-type: none"><li>Group work: Prepare a short history of your family and share it with your group</li></ul>	<p><b>Remember that?</b></p> <ul style="list-style-type: none"><li>Use word webs to log new vocabulary about your family members</li></ul>
<ul style="list-style-type: none"><li>Respond to suggestions by letting the other person decide</li><li>Refuse offers politely with expressions like <i>No, thanks. I'm fine.</i></li></ul>	<p><b>That sounds good.</b></p> <ul style="list-style-type: none"><li>Listen to conversations and number pictures in order; then match each picture with the best response</li></ul> <p><b>Snack habits</b></p> <ul style="list-style-type: none"><li>Listen to people talk about snacks and fill in a chart</li></ul>	<p><b>Snacks around the world</b></p> <ul style="list-style-type: none"><li>Read an article about popular snacks from around the world</li></ul>	<p><b>You should definitely try it!</b></p> <ul style="list-style-type: none"><li>Write an article about a popular snack from your country</li><li>Give examples with <i>like</i>, <i>for example</i>, and <i>such as</i></li></ul>	<p><b>Whichever is easier</b></p> <ul style="list-style-type: none"><li>Group work: Plan a "pot luck" dinner with your group</li></ul>	<p><b>Filed homework</b></p> <ul style="list-style-type: none"><li>Learn new words in combination with other words</li></ul>
<ul style="list-style-type: none"><li>End phone conversations with expressions like <i>I'd better go, I've got to go, and I'll call you later</i></li><li>Use informal expressions like <i>See you later</i> to end friendly phone conversations</li></ul>	<p><b>Fun invitations</b></p> <ul style="list-style-type: none"><li>Listen to three people respond to different invitations and fill in a chart</li></ul> <p><b>When should I do that?</b></p> <ul style="list-style-type: none"><li>Listen to four people talk about their time management problems and identify how they solved them</li></ul>	<p><b>The art (and science) of doing less and achieving more</b></p> <ul style="list-style-type: none"><li>Read an article about multitasking</li></ul>	<p><b>When should I do that?</b></p> <ul style="list-style-type: none"><li>Write advice about time management</li><li>Link ideas using <i>as long as</i>, <i>provided that</i>, and <i>unless</i></li></ul>	<p><b>Who's going to do what?</b></p> <ul style="list-style-type: none"><li>Group work: Plan a community event and tell the class about your event</li></ul>	<p><b>Do your best!</b></p> <ul style="list-style-type: none"><li>When you learn a new expression, use it in a sentence to help you remember it</li></ul>
Checkpoint Units 4–6 pages 63–64					

	Learning outcomes	Language		
		Grammar	Vocabulary	Pronunciation
<b>Unit 7</b> Relationships pages 65–74	<ul style="list-style-type: none"> <li>Talk about your circle of friends using relative clauses</li> <li>Talk about dating using phrasal verbs</li> <li>Soften comments with expressions like <i>sort of</i></li> <li>Use <i>though</i> to give a contrasting idea</li> <li>Read an article about online dating</li> <li>Write an article about your circle of friends</li> </ul>	<ul style="list-style-type: none"> <li>Subject relative clauses</li> <li>Object relative clauses</li> <li>Phrasal verbs</li> </ul> <p><b>Extra practice</b></p>	<ul style="list-style-type: none"> <li>Phrasal verbs, including expressions to talk about relationships</li> </ul>	<p><b>Speaking naturally</b></p> <ul style="list-style-type: none"> <li>Stress in phrasal verbs</li> </ul> <p><b>Sounds right</b></p> <ul style="list-style-type: none"> <li>Which sound in each group is different?</li> </ul>
<b>Unit 8</b> What if? pages 75–84	<ul style="list-style-type: none"> <li>Talk about wishes and imaginary situations using <i>wish</i> and <i>if</i> clauses</li> <li>Discuss how to deal with everyday dilemmas</li> <li>Give advice using expressions like <i>If I were you...</i></li> <li>Use <i>that would be...</i> to comment on a suggestion or a possibility</li> <li>Read a blog about regrets</li> <li>Write an article about how you would change your life</li> </ul>	<ul style="list-style-type: none"> <li>Use <i>wish</i> + past form of verb to talk about wishes for the present or future</li> <li>Conditional sentences with <i>if</i> clauses about imaginary situations</li> <li>Asking about imaginary situations or events</li> </ul> <p><b>Extra practice</b></p>	<ul style="list-style-type: none"> <li>Expressions with verbs and prepositions</li> </ul>	<p><b>Speaking naturally</b></p> <ul style="list-style-type: none"> <li>Intonation in long questions</li> </ul> <p><b>Sounds right</b></p> <ul style="list-style-type: none"> <li>Are these sounds the same or different?</li> </ul>
<b>Unit 9</b> Tech savvy? pages 85–94	<ul style="list-style-type: none"> <li>Talk about problems with technology using questions within sentences</li> <li>Ask for help and describe how things work using <i>how to</i>, <i>where to</i>, <i>what to</i>, and separable phrasal verbs</li> <li>Give different opinions with expressions like <i>On the other hand...</i></li> <li>Ask someone to agree with you using expressions like <i>You know what? I need a...</i></li> <li>Read an article about email scams</li> <li>Write an article about protecting personal information</li> </ul>	<ul style="list-style-type: none"> <li>Questions within sentences</li> <li>Separable phrasal verbs with objects</li> <li><i>how to</i> + verb, <i>where to</i> + verb, and <i>what to</i> + verb</li> </ul> <p><b>Extra practice</b></p>	<ul style="list-style-type: none"> <li>Phrasal verbs, including expressions to talk about operating electronic machines and gadgets</li> </ul>	<p><b>Speaking naturally</b></p> <ul style="list-style-type: none"> <li>Linking consonants and vowels</li> </ul> <p><b>Sounds right</b></p> <ul style="list-style-type: none"> <li>Identifying unstressed syllables</li> </ul>
Checkpoint Units 7–9 pages 95–96				
<b>Unit 10</b> What's up? pages 97–106	<ul style="list-style-type: none"> <li>Talk about news with the present perfect continuous, present perfect, <i>since</i>, <i>for</i>, and <i>in</i></li> <li>Use the present perfect with <i>already</i>, <i>still</i>, and <i>yet</i></li> <li>Describe different kinds of movies</li> <li>Ask someone for a favor politely</li> <li>Use <i>All right</i>, <i>OK</i>, and <i>Sure</i> to agree to requests</li> <li>Use <i>All right</i>, <i>OK</i>, and <i>So</i> to change topic</li> <li>Read a movie review</li> <li>Write a review</li> </ul>	<ul style="list-style-type: none"> <li>Present perfect continuous vs. present perfect</li> <li><i>Since</i>, <i>for</i>, and <i>in</i> for duration</li> <li><i>Already</i>, <i>still</i>, and <i>yet</i> with present perfect</li> </ul> <p><b>Extra practice</b></p>	<ul style="list-style-type: none"> <li>Kinds of movies</li> <li>Expressions to describe types of movies</li> </ul>	<p><b>Speaking naturally</b></p> <ul style="list-style-type: none"> <li>Reduction of <i>have</i></li> </ul> <p><b>Sounds right</b></p> <ul style="list-style-type: none"> <li>Matching vowel sounds</li> </ul>
<b>Unit 11</b> Impressions pages 107–116	<ul style="list-style-type: none"> <li>Speculate about people and things using <i>must</i>, <i>might</i>, <i>can't</i>, and <i>could</i></li> <li>Describe situations and people's feelings using adjectives that end in <i>-ed</i> and <i>-ing</i></li> <li>Show you understand situations or feelings</li> <li>Use <i>you see</i> to explain a situation and <i>I see</i> to show you understand</li> <li>Read an article about a music education program</li> <li>Write an email to the founder of a charity</li> </ul>	<ul style="list-style-type: none"> <li>Modal verbs <i>must</i>, <i>may</i>, <i>might</i>, <i>can't</i>, or <i>could</i> for speculating</li> <li>Adjectives ending in <i>-ed</i> vs. adjectives ending in <i>-ing</i></li> </ul> <p><b>Extra practice</b></p>	<ul style="list-style-type: none"> <li>Feelings and reactions</li> </ul>	<p><b>Speaking naturally</b></p> <ul style="list-style-type: none"> <li>Linking and deletion with <i>must</i></li> </ul> <p><b>Sounds right</b></p> <ul style="list-style-type: none"> <li><i>-ed</i> adjective endings</li> </ul>
<b>Unit 12</b> In the news pages 117–126	<ul style="list-style-type: none"> <li>Talk about news events using the simple past passive</li> <li>Talk about natural disasters using the simple past passive + <i>by</i></li> <li>Use expressions like <i>Guess what?</i> to tell news</li> <li>Introduce ideas with expressions like <i>The thing is...</i></li> <li>Read an interview with a foreign correspondent</li> <li>Write a report using statistics</li> </ul>	<ul style="list-style-type: none"> <li>The simple past passive</li> <li>The simple past passive with <i>by</i> + agent</li> <li>Adverbs with the passive</li> </ul> <p><b>Extra practice</b></p>	<ul style="list-style-type: none"> <li>Extreme weather conditions</li> <li>Natural disasters</li> </ul>	<p><b>Speaking naturally</b></p> <ul style="list-style-type: none"> <li>Breaking sentences into parts</li> </ul> <p><b>Sounds right</b></p> <ul style="list-style-type: none"> <li>Matching words that have the same sounds</li> </ul>
Checkpoint Units 10–12 pages 127–128				




Interaction	Skills				Self study
	Listening	Reading	Writing	Free talk	Vocabulary notebook
<b>Conversation strategies</b> <ul style="list-style-type: none"> <li>• Soften comments with expressions like <i>I think, probably, kind of, and in a way</i></li> <li>• Use <i>though</i> to give a contrasting idea</li> </ul>	<b>People I look forward to seeing</b> <ul style="list-style-type: none"> <li>• Listen to someone describe three people; listen for the reasons he likes to see them</li> </ul> <b>Getting back in touch</b> <ul style="list-style-type: none"> <li>• Listen to a conversation about losing touch and find in a chart</li> </ul>	<b>Looking for love? Online is the way to go!</b> <ul style="list-style-type: none"> <li>• Read an article about online dating</li> </ul>	<b>Your circle of friends</b> <ul style="list-style-type: none"> <li>• Write an article describing your circle of friends</li> <li>• Use <i>both</i> and <i>neither</i> to show what you have in common</li> </ul>	<b>Your ideal partner</b> <ul style="list-style-type: none"> <li>• Group work: Discuss your ideal partner and questions you should ask before you decide to get married</li> </ul>	<b>Matching up</b> <ul style="list-style-type: none"> <li>• When you learn a phrasal verb, it's a good idea to write down some other verbs you can use with the particle and some other particles you can use with the verb</li> </ul>
<ul style="list-style-type: none"> <li>• Give advice using expressions like <i>If I were you, ...</i> and <i>You might want to ...</i></li> <li>• Use <i>That would be ...</i> to comment on a suggestion or possibility</li> </ul>	<b>Just one wish</b> <ul style="list-style-type: none"> <li>• Identify four people's wishes; then write the reasons they can't have their wishes</li> </ul> <b>Here's my advice</b> <ul style="list-style-type: none"> <li>• Listen to a conversation about problems and advice</li> </ul>	<b>If I could live my life over ...</b> <ul style="list-style-type: none"> <li>• Read a blog about regrets</li> </ul>	<b>What would you change?</b> <ul style="list-style-type: none"> <li>• Write an article about how you would change your life</li> <li>• Use adverbs like <i>probably</i> and <i>definitely</i> in affirmative and negative statements</li> </ul>	<b>What would you do?</b> <ul style="list-style-type: none"> <li>• Group work: Discuss what you would do in imaginary situations</li> </ul>	<b>Imagine that!</b> <ul style="list-style-type: none"> <li>• When you learn a new verb, find out what prepositions (if any) can come after it</li> </ul>
<ul style="list-style-type: none"> <li>• Give different opinions using expressions like <i>On the other hand, ...</i> and <i>I know what you mean, but ...</i></li> <li>• Use expressions like <i>You know what I mean?</i> when you want someone to agree with you</li> </ul>	<b>What do you know about the Internet?</b> <ul style="list-style-type: none"> <li>• Answer questions about the Internet; then listen to a conversation and check your answers</li> </ul> <b>Technology matters</b> <ul style="list-style-type: none"> <li>• Listen to a conversation about the pros and cons of technology; then agree or disagree with three opinions</li> </ul>	<b>Sorry and safe</b> <ul style="list-style-type: none"> <li>• Read an article about email scams</li> </ul>	<b>Keeping it safe</b> <ul style="list-style-type: none"> <li>• Write an article about protecting personal information</li> <li>• Planning your article</li> </ul>	<b>Technology etiquette</b> <ul style="list-style-type: none"> <li>• Pair work: Debate different opinions about technology etiquette</li> </ul>	<b>Go and off</b> <ul style="list-style-type: none"> <li>• When you learn expressions with a new or complex structure, think of everyday situations where you might use them</li> </ul>
Checkpoint Units 7–9 pages 95–96					
<ul style="list-style-type: none"> <li>• Ask for a favor politely using expressions like <i>I was wondering ...</i> and <i>Would it be OK with you ...</i></li> <li>• Use <i>All right, OK, and Sure</i> to agree to requests and <i>All right, OK, and So</i> to move a conversation to a new topic</li> </ul>	<b>Favors at work</b> <ul style="list-style-type: none"> <li>• Match people with the favors they ask; then listen again for more information</li> </ul> <b>I'd really recommend it</b> <ul style="list-style-type: none"> <li>• Listen for details of a conversation about going to see a show</li> </ul>	<b>Avatar is stunning, memorable, and mesmerizing!</b> <ul style="list-style-type: none"> <li>• Read a movie review</li> </ul>	<b>A Review</b> <ul style="list-style-type: none"> <li>• Write a review of a concert, show, movie, or book</li> <li>• Contrast ideas with <i>although, even though, and even if</i></li> </ul>	<b>Who's been doing what?</b> <ul style="list-style-type: none"> <li>• Class activity: Ask questions to find out interesting things your classmates have been doing lately</li> </ul>	<b>Great movies</b> <ul style="list-style-type: none"> <li>• When you learn a new word or expression, link it to something you have recently seen or done</li> </ul>
<ul style="list-style-type: none"> <li>• Show you understand another person's feelings or situation</li> <li>• Use <i>you see</i> to explain a situation</li> <li>• Use <i>I see</i> to show you understand</li> </ul>	<b>People and situations</b> <ul style="list-style-type: none"> <li>• Match four people and their situations; then write a response with <i>must</i> to each</li> </ul> <b>People making a difference</b> <ul style="list-style-type: none"> <li>• Listen for details of conversations about people and organizations; discuss which organization you would choose to get involved with</li> </ul>	<b>El Sistema</b> <ul style="list-style-type: none"> <li>• Read an article about a music education program</li> </ul>	<b>My impression is ...</b> <ul style="list-style-type: none"> <li>• Write an email to the founder of a charity</li> <li>• Expressions to show impressions, reactions, and opinions</li> </ul>	<b>That must be fun!</b> <ul style="list-style-type: none"> <li>• Pair work: Make sentences to share with a partner. Then continue the conversation and speculate about what they say.</li> </ul>	<b>How would you feel?</b> <ul style="list-style-type: none"> <li>• When you learn new words for feelings, link them to different situations where you might experience each one</li> </ul>
<ul style="list-style-type: none"> <li>• Introduce news with expressions like <i>Did you hear (about) ...?</i> and <i>Guess what?</i></li> <li>• Use <i>The thing is / was ...</i> to introduce issues</li> </ul>	<b>News update</b> <ul style="list-style-type: none"> <li>• Listen to news stories and answer questions</li> </ul> <b>What do they say next?</b> <ul style="list-style-type: none"> <li>• Listen to people telling personal news and make predictions</li> </ul>	<b>Life's work: Christiane Amanpour</b> <ul style="list-style-type: none"> <li>• Read an interview with a foreign correspondent</li> </ul>	<b>Are you up on the news?</b> <ul style="list-style-type: none"> <li>• Write a report using statistics</li> <li>• Writing about statistics</li> </ul>	<b>Here's the news!</b> <ul style="list-style-type: none"> <li>• Pair work: Make up short TV news reports about pictures and take turns telling news stories to another pair.</li> </ul>	<b>Forces of nature</b> <ul style="list-style-type: none"> <li>• When you learn a new word, use a dictionary to find out what other words are typically used with it.</li> </ul>
Checkpoint Units 10–12 pages 127–128					

8.

# Value Added Course on Entrepreneurship Development

## 8.1 Brochure: -



Govt. Holkar (Model Autonomous) Science College, Indore  
Madhya Pradesh  
(Accredited Grade "A" By NAAC)

**Certificate Course on Entrepreneurship Development**

Duration: 35 Hours  
07-12-2019  
To  
26-12-2019

4 QUALITY EDUCATION

**Organized By :**  
Department of English

**Syllabus /Course Highlights**

- Entrepreneurial Developmental Model.
- 5P's of Entrepreneurship.
- Concept of Entrepreneurship.
- Economic Resources.
- Women Entrepreneurs.
- Entrepreneurs Problems & their Solution.

**Goal :**  
To Enhance Entrepreneurship Spirit

**Dr. Suresh T. Silawat**  
Principal

**"Resource Persons"**

1. Dr. Sanjay Vyas
2. Dr. Amiya Pahare
3. Dr. Kanta Mulchandani
4. Dr. Sona Sankte
5. Dr. Bharti Sisodiya

**Dr. Indu Tiwari**  
HOD. English

**Dr. Kanta Mulchandani**  
Convener

## 8.2 Syllabus: -

1

**Govt. Holkar (Model, Autonomous) Science College, Indore**  
**Department of English**  
**Certificate Course on Entrepreneurship Development**  
**Syllabus Session 2018-19 (UG Students)**  
**Duration 07/12/2018 To 26/12/2018**

Name of Paper : Entrepreneurship Development  
Maximum Marks : 25  
Duration : 35 Hours

1	Pre-requisite (if any)	
2	Course Learning Outcome (CLO)	<p><b>Course Objective -</b></p> <p>The objective of the course is that the students should develop the ability of analyzing various aspects of Entrepreneurship.</p> <p><b>Course Outcome –</b> After the completion of the course -</p> <ol style="list-style-type: none"><li>1. Students will be able to understand the concept of taking risk, creativity, and think about innovative ability.</li><li>2. Create awareness among students about economic activity.</li><li>3. Accumulate the various resources and to utilize them skillfully.</li><li>4. Students undertake managerial activities as part of their work.</li><li>5. Know the parameters to assess opportunity, risk constraints for making Business plans.</li></ol>



**I Model of Entrepreneurship Development :-** Sociological Models, Psychological Models Economic Models Integrated Model, 5 P'S of Entrepreneurship development Persistence, Patience, Purpose, People and Profit.

**II Concept of Entrepreneurship Development :-** Risk bearing capacity, group level reaction, organisation creation capacity, highest achievement capacity, managerial skills, innovative ability.

**III Economic Resources :-** Capital, Land, Labour, Organisation and Entrepreneur.

**IV Women Entrepreneur :-** Problem, solution and possibilities.

**V Entrepreneur Problem & Solution :-**

Problem of capital – Sources of raising capital.

Problem of power – Source of Power.

Problem of Registration – Absence of the registration at the time of registration.

Administrative problem –

Problem of ownership of an entrepreneur.



9.

Value Added Course  
on English  
Communication Skills

## **9.1 Brochure: -**



Govt. Holkar (Model Autonomous) Science College, Indore  
Madhya Pradesh  
(Accredited Grade "A" By NAAC)

### **Certificate Course on Communication skills**

Duration: 30 Hours

14-11-2019

To

30-11-2019

4 QUALITY  
EDUCATION



Organized By :

Department of English

#### **Syllabus /Course Highlights**

- Improve Communicative Skills.
- Business Communication.
- Enhance reading Skills.
- Enhance Writing Skills.
- Vocabulary Building.
- Use of Correct Grammar.

**Goal :**

**To Enhance Communicative Ability**

#### **"Resource Persons"**

1. Dr. Indu Tiwari
2. Dr. Kanta Mulchandani
3. Dr. Suwarna Tanwani

**Dr. Suresh T. Silawat**

**Principal**

**Dr. Indu Tiwari**

**HOD. English**

**Dr. Tausheeh Abbassi**

**Convener**

## 9.2 Syllabus: -

**Government Holkar (Model Autonomous) Science College, Indore**  
**Department of English**  
**Certificate Course in Communication Skills – (2019-2020)**  
**Duration – 14/11/2019 to 30/11/2019**  
**Syllabus**

Name of Paper : Communication Skills  
Maximum Marks : 25  
Duration : 30 Hours

1.	Pre-Requisite (if any)	To improve the communication skills of the students.
2.	Course Learning Outcomes(CLO)	<b>Course Objective -</b> To develop the comprehensive skills of students in listening, speaking, reading and writing (LSWR), by giving the knowledge of phonetics and linguistics.
3.		<b>Course Outcome -</b> The study of this course will <b>enable</b> the students to <b>acquire</b> the knowledge of • Communication Skills and Conversational English • Syntax and Structure • Vocabulary and Discourse The students will be <b>able to acquire</b> linguistic and communication competence in real-life situations with effective language skills. The course will also help them to • <b>Acquire</b> literary sense • Use idiomatic and lexical language and • <b>Communicate effectively</b> across the globe

*Jabbasi*

I	<b>I. Communication</b> What is communication? Its meaning, types and purpose in the age of globalization. Communicative needs and problems. Rules of use of a language, Use of appropriate words. Communicative approach, lexical approach.
II	<b>II. Practising Listening Skills, Reading and Understanding Skills</b> Types of Listening. Tips for effective listening . Listening to Radio and TV news, discussion. Listening to Talks and presentations. Different Reading Techniques. Reading newspapers, analysis and interpretation.
III	<b>III. Practising Writing Skills.</b> Formal and informal writing of letters and invitation. Meeting minutes, official orders and appointments.
IV	<b>IV. Grammar.</b> Parts of Speech. Direct and Indirect Speech. Active and Passive Voice.
V	<b>V. Practising Writing Skills.</b> Report writing, writing daily routine. Situational conversation between two friends on different topics.

*Iskhan*

2020-2021



1.

# Application of Statistics in Biosciences

## 1.1 Brochure: -

**Govt. Holkar (Model, Autonomous) Science College, Indore, M.P [INDIA]**

Grade "A" Accredited by NAAC

**DEPARTMENT OF BIOCHEMISTRY**





**Patron**  
Dr. Suresh T. Silawat  
Additional Director, Higher Education, Indore Division & Principal Govt. Holkar Science College, Indore

**Certificate course on**  
**"Applications of statistics in Biosciences"**

Date: 16<sup>th</sup> – 30<sup>th</sup> September 2020  
Platform: Google Meeting App  
Last date for Applying: 10<sup>th</sup> September 2020 till 5.00 PM  
Time : 2:00 PM - 4:30 PM  
e- certificate will be given to qualified participants.  
Registration link: <https://forms.gle/YcZxycWjAR1PVQjb6>

Registration fees - 200/-

**Coordinator**  
Dr. Angurbala Bafna  
Associate Professor and Head  
Department of Biochemistry  
Govt. Holkar Science College, Indore

**Convenor:**  
Prof. Tasneem Rangwala

**Co-convenor:**  
Prof. Sheetal Uikey

This program empowers the participants to explore use of MS- Excel for calculating different statistical parameters and also build their capability to represent data in various ways. This will help in efficient research presentation. Knowledge of statistics will enable researchers to conduct research and also to present their results and conclusion in reader's friendly way.

- ❖ Only shortlisted registered candidates will get email to pay the registration fees.
- ❖ Attendance will be taken daily and 100 % attendance is mandatory.
- ❖ 1:30 hrs theory + 1:00 hrs practice session in MS-Excel.
- ❖ Candidates should have their own laptop/PC for practice session.
- ❖ Assignment and quiz will be given daily which are compulsory.
- ❖ One final quiz on completion of course.
- ❖ Minimum 40% score is mandatory to get certificate.
- ❖ Feedback from candidates will be taken daily.

## **1.2 Syllabus: -**

### **Department of Biochemistry Online Certificate Course “Application of Statistics in Biosciences”**

**Duration:** 12 Days (30 hrs)

**Each session -** 02:30 hrs.

This course will help in efficient research presentation. Knowledge of statistics will enable researchers to conduct research and also to present their results and conclusion in reader's friendly way. This program empowers the participants to explore use of MS- Excel for calculating different statistical parameters and also build their capability to represent data in various ways.

- 1: Introduction and importance of statistics in Biosciences.
- 2: Graphical representation of ungrouped data- Line, Bar, Pie, Pictogram
- 3: Graphical representation of grouped data- Frequency Curve, Cumulative frequency, Histogram
- 4: Measures of Central tendency (Special reference to mean)
- 5: Measures of Dispersion (Special reference to SD)
- 6: Standard error
- 7: Correlation (Simple Correlation)
- 8: Regression equation
- 9: Normal Distribution Curve and critical region
- 10: Test of significance
- 11: Hypothesis and type of error

Dr. A. Bafna

Prof. R.S. Maheshwari

Prof. R.S. Gupta

Dr. Purnima Dey Sarkar

Prof. A.R. Batham

Mr. Rohan Gupta

Prof. Tasneem Rangwala

Prof. Sheetal Ukey

Prof. Deepak Choudhary

Mrs. Rajshree Kabra

**Department of Biochemistry**  
**Online Certificate Course**  
**“Application of Statistics in Biosciences”**

12: t-test

13: ANOVA (Analysis of Variance)

**Note:**

- Candidate should have their own laptop/PC for practice session.
- 1:30 hrs theory + 1:00 hrs practice session in MS-Excel.
- Assignment and quiz will be given daily.
- One final quiz on completion of course.
- Minimum 40% score is mandatory to get certificate.
- Feedback from candidates will be taken daily.

Dr. A. Bafna

Prof. R.S. Maheshwari

Prof. R.S. Gupta

Dr. Purnima Dey Sarkar

Prof. A.R. Batham

Mr. Rohan Gupta

Prof. Tasneem Rangwala

Prof. Sheetal Uikey

Prof. Deepak Choudhary

Mrs. Rajshree Kabra

### **1.3 Resource Person: -**

**Govt. Holkar (Model, Autonomous) Science College, Indore**  
**M.P (India)**  
**Grade “A” Accredited by NAAC**  
**Department of Biochemistry**

Online certificate course on “Applications of statistics in Biosciences”

(Dated: 16<sup>th</sup> – 30<sup>th</sup> September 2020)



#### **List of Resource Persons**

##### **Theory sessions (All):**

**Dr. Angurbala Bafna**  
Head,  
Associate professor  
Department of Biochemistry  
Govt. Holkar Science College, Indore  
M.P (India)

##### **Practical Sessions (All):**

**Prof. Tasneem Rangwala**  
Assistant professor  
Department of Biochemistry  
Govt. Holkar Science College, Indore  
M.P (India)



## 2.

# Fundamental of GIS using Open-Source Software

## **2.1 Brochure: -**

### **Online Certificate Course on Fundamentals of GIS using Open Source Software**

#### **Organised by**

**Department of Geology, Govt. Holkar (Model, Autonomous) Science College,  
Indore**

**From 20<sup>th</sup> July to 3<sup>rd</sup> Aug 2020**

#### **About the course:**

This certificate course is aimed at learning of fundamental concepts of Geographical Information System using by both theory and intensive practical sessions using open source geospatial software QGIS. After completing this course students will learn 1) Basics of GIS, 2) GIS Data creation, 3) Map preparation, 4) Data exploration, query, spatial analysis and 5) Basics of web-based GIS.

**As looking to the COVID 19 situation the course will be offered in online mode.**

#### **Who can join:**

This course is for the students who are computer savvy and strongly willing to learn geospatial technology and fulfill any of the following requirements:

B.Sc. - With subjects Geology or Geography or

M.Sc. – Geology or MA/M.Sc. –Geography or BE/ME – Civil engineering or

Students appearing in final year/ final semester with above mentioned subjects can also apply

**Mandatory** - The participant must be comfortable and efficient in using computers and he/she must have a laptop/Desktop with internet facility.

#### **Number of seats and Selection criteria:**

The total number of seats is 30. Selection will be on the basis of merit. Out of 30 seats, 20 seats will be reserved for the B.Sc./M.Sc. students of Holkar Science college, Indore.

#### **Award of certificate:**

After successful completion of course the certificate will be provided to only those

1) Who complete the daily assignment within stipulated time

2) Who have attendance 80% or above. If somebody is absent for two consecutive days then he/she will not be able to continue the course.

Based on the assessment the grades will be given and mentioned in the certificate.

**Online class timings:** 3 to 5 PM every day. There will be no class on Sunday.

#### **How to apply:**

Application is online and there is no course fee. The last date is 16<sup>th</sup> July 2020. A copy of self-attested mark sheet of final year exam will also be required. The information about the selection will be sent to you through email. [Link for application](#) -

**Course Coordinator:** Dr. Shailesh Chaure

Contact No: 9893035078 email : geologyhsc@gmail.com

Dr. Vishnu Gadgil  
**Head, Dept. of Geology**  
Mob No.9425384421

Dr. Suresh Silawat  
**Principal**  
Govt. Holkar Science College, Indore

## **2.2 Syllabus: -**

1.6

**Department of Geology, Govt. Holkar (Modal, Autonomous) Science College, Indore**  
**Certificate Course on Fundamental of GIS using Open source Software**  
**Syllabus**

This certificate course is designed for general orientation and basic awareness about the rapidly emerging geospatial technology. The course is aimed at learning of fundamental concepts of Geographical Information System using by both theory and intensive practical sessions using open source geospatial software mainly QGIS and SAGA (System for Automated Geoscientific Analyses).

**Fundamentals of GIS-** Introduction of Geographical Information system, GIS data types and Applications of GIS and Introduction to open source GIS software.

**Basics of map projection** – Map scale and common types of map projections

**Georeferencing** – Georeferencing scanned maps, SOI topographical maps and satellite imagery.

**Digitization** – Digitization of point, line and polygons features, editing features, adding style to the features.

**Data collecting from other sources** – How to digitize features from google Earth and open then in GIS software. Collecting and importing data from GPS.

**Map preparation** – Symbolology, labelling and map composition.

**Data Exploration** – How to view existing data and see attribute tables and features information

**Working with tables** – Importing external data from MS Excel and CSV files and joining tables

**Data Query** – Attribute based query and spatial query.

**Spatial analysis** – Basics of spatial analysis and common functions used in spatial analysis, decision making using multi criteria analysis.

**Watershed delineation** – Delineation of watershed from SOI topographical maps by manual digitization and automatic delineation of watershed from DEM.

**Introduction of Web-GIS** – Basics of web-GIS, characteristics advantages and open source tools for Web-GIS.

*[Handwritten signatures and initials]*

## **2.3 Resource Persons: -**

### **Certificate Course on Fundamentals of GIS Using Open Source Software**

#### **Names of resource persons -**


- 1) Prof. Biplab Biswas, Dept of Geography, University of Birbhan, WB
- 2) Prof. Seema Jalan, Dept of Geography, Mohanlal Sukhadiya University, Udaipur, Raj.
- 3) Prof. Monika Kannan, Dept of Geography, Sohpie Girls College, Ajmer, Raj
- 4) Dr. Shailesh Chaure, Dept of Geology, Govt. Holkar Science College, Indore

# 3.

## Wild-Life Conservation and Managements



### **3.1 Brochure: -**

<p align="center"><b>Govt.Holkar (Model, Autonomous) Science College, Indore, M.P [INDIA]</b>  <b>Grade "A" Accredited by NAAC</b>  <b>Online Certificate course on</b>  <b>"Wild life conservation and Managements"</b>  <b>Department of Zoology</b></p>			
 <b>Patron</b> DR . Suresh T. Silawat Additional Director, Higher Education, Indore Division & Principal Govt. Holkar Science College, Indore	<p><b>Date: 15 October to 28 Oct. 2020</b>  <b>Platform: Google meeting App</b>  <b>Time: 2:30 PM to 5:00PM</b>  <b>Registration link :- <a href="https://forms.gle/yXymreqmzjfDEMqC6">https://forms.gle/yXymreqmzjfDEMqC6</a></b></p>		
	<p align="center">Chair Person Dr. M.M.P. Shrivastava</p>	<p align="center">Coordinator Dr. Kiran Billore</p>	<p align="center">HOD Dr. Rekha Sharma</p>
	<p align="center">Convener Prof. Priti Khullar</p>	<p align="center">Co-convener Prof. Vipul Kirti Sharma</p>	<p align="center">Member All Staff Member</p>
<p> <input type="checkbox"/> No registration Fees  <input type="checkbox"/> Seats are Limited (50) and registration is on the basis of first come first serve  <input type="checkbox"/> The certificate course contains four modules  <input type="checkbox"/> Attendance will be taken daily and 90% attendance is mandatory  <input type="checkbox"/> Assignment/Quiz will be given daily which is compulsory  <input type="checkbox"/> Evaluation will be on the basis of grading system and the grades will be mention on the certificate  <input type="checkbox"/> Feedback will be taken after the completion of each modules                 </p>			

### 3.2 Syllabus: -

**Govt. Holkar Science College, Indore**  
**Zoology Department**

#### Syllabus for online certificate course

<b>Module - 1</b>	
<b>Day - 1</b>	<b>Biodiversity of wild life Animals</b> What is Biodiversity, Example of Biodiversity, How does biodiversity affect Animals, Some examples of species diversity.
<b>Day - 2</b>	<b>Management of Wild Life</b> What does wild life management means, What is the goal of wild life management, Wild life conservation and management, Some wild life management and practices.
<b>Day - 3</b>	<b>Behavior of Wild Life Animals</b> What is Animal behavior, Types of animal behavior, Wild life Animals, Patterns of behavior, What is normal behavior of Animals.



**Govt. Holkar Science College, Indore**  
**Zoology Department**

<b>Module -2</b>	<b>Topic –</b>
<b>Day - 1</b>	<b>FRIENDLY INSECTS</b> How insects effect directly or indirectly human life, how insects are useful to human life.
	<b>IMPORTANCE OF NATIONAL PARK</b> National parks help to maintain and protect wild life and landscape. Helping preserve cultures & tribes giving people the chance for healthy activities.
<b>Day - 2</b>	<b>LAWS AND GOVERNANCE OF WILD LIFE CONSERVATION</b> Introduction, Different laws and Governance of wild life conservation.
	<b>PROJECT CROCODILE</b> Brief introduction of crocodile, different species of crocodile crocodile sanctuaries and national parks and crocodile projects.
<b>Day – 3</b>	<b>WILD LIFE SANCTUARIES IN M.P.</b> Introduction, Some special wild life sanctuaries, state wise important wild life sanctuaries and detail of their wild animals.
	<b>PROJECT TIGER</b> Introduction of project Tiger, objectives and management of project Tiger.



**Govt. Holkar Science College, Indore**  
**Zoology Department**

Module -3	Topic
Day- 1	<p><b>Tiger Reserves of M.P.</b></p> <p>Definition of tiger Reserve and their types, establishment Animals found in it, details of all Tiger reserves in M.P.</p> <p><b>HEALTH CARE AND MANAGEMENT OF WILD ANIMALS</b></p> <p>Basic knowledge about health care and common diseases, wild life health programs and monitoring, Public responsibilities towards the wild life resources.</p>
Day - 2	<p><b>WILD LIFE AND ECOTOURISM</b></p> <p>Discus about the relation between wild life and ecotourism and their types. Positive and Negative impact of wild life tourism and their importance, ecotourism deteriorations in India.</p>
Day - 3	<p><b>ENDANGERED SPECIES</b></p> <p>Introduction of endangered species, information about 'DATA BOOK', Top most endangered animals and their conservation technique.</p>



**Govt. Holkar Science College, Indore**  
**Zoology Department**

<b>Module – 4</b>	
<b>Day - 1</b>	<b>SPIDER AROUND US</b> Diversity of spiders, Different families of spider and their representatives, Understanding spider behavior, Application of spider's venom, Silk Spider as a biopesticide.
<b>Day – 2</b>	<b>Photography of birds of Sirpur Tank.</b>
<b>Day - 3</b>	<b>Fish diversity, Fish farming and Induced breeding.</b>



**Outcomes of Online Certificate Course on  
“Wildlife Conservation and Management”**

**15 Oct -28 Oct 2020**

**Department of Zoology**

- To know about wildlife conservation and their management techniques.
- Understand the basics of identification, characteristics, habitat and requirements of wildlife species.
- To gain knowledge about National Parks, Sanctuaries and endangered species.
- To motivate the learner about wildlife and Ecotourism.
- To know about the Biodiversity of fish and spiders around us.

# 4.

## Applied Zoology

## 4.1 Brochure: -



GOVT. HOLKAR (MODEL, AUTONOMOUS) SCIENCE COLLEGE, INDORE (M.P.)  
(Affiliated to Devi Ahilya Vishwavidhalaya, Indore)



### DEPARTMENT OF ZOOLOGY

### ONLINE CERTIFICATE COURSE ON "APPLIED ZOOLOGY"



Patron  
Dr. Suresh T. Silawat  
Additional Director, Higher  
education Indore division &  
Principal Gov. Holkar Science  
College, Indore.

Date :- 11 October to 27 October 2021  
Platform :- Google meet App  
Time :- 2:30 to 5:00 PM  
Registration link :- <https://forms.gle/eVs6n8EN372ZK1Ry5>

- ☐ Registration fees: - 200/-.
- ☐ Attendance will be taken daily.
- ☐ Quiz will be given daily which is compulsory.
- ☐ Feedback will be taken after the completion of course.

Director & H.O.D	Co-Ordinator	Chairman	Convenor	Co-convenor
Dr. Rekha Shrama	Dr. kiran Billore	Dr. C.S. Shrivastva	Dr. Amita Dagaonkar	Dr. Anjali Kumar

## **4.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Zoology**  
**Value Added Course**  
**On**  
**Applied Zoology**  
**Syllabus**

### **Module-1 Aquaculture**

**Day-1:** Aquaculture - Introduction, scope and status of aquaculture, Advantage salient features.

**Day 2:**

- Frog culture
- Prawn culture
- Oyster culture

**Day 3:**

- Pearl culture
- Crab Culture and their commercial species

### **Module 2 Fish farming**

**Day 1:**

- Fresh water fish culture
- Pond culture (Construction, Maintenance and types, Abiotic and biotic factors).

**Day 2:**

- Composite fish culture
- Induced breeding in carp

**Day 3:**

- Fish Preservation and processing
- Economics importance of fishes.

### **Module 3- Beneficial Insects**

**Day 1:** Sericulture

**Day 2:** Apiculture

**Day 3:** Lac culture

### **Module 4**

**Day 1:** Vermiculture

**Day 2:**

- Harmful Insects (Vectors)
- Present Status of Fisheries in M.P.

**Day 3:**

- Microbial Culture
- Valedictory Function

*Rsharny*

Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

**Approved**

*Blu*

Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



### 4.3 Resource Person: -

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Zoology**  
**Resource Persons**

ONLINE CERTIFICATE COURSE ON "APPLIED ZOOLOGY"		
11 October to 27 October 2021		
S.No.	Name	
1	<b>Name</b>	<b>Dr. Anand Kar</b>
	Current Position	Dean, School of Life Sciences, DAVV, Indore (M.P.)
	Designation	Professor
	Teaching Experience	40 Years
2	<b>Name</b>	<b>Dr. P. Bakre</b>
	Current Position	Retd. Professor, Jaipur University Rajasthan
	Designation	Retd. Professor
	Teaching Experience	45 Years
3	<b>Name</b>	<b>Mr. Rohit Mishra</b>
	Current Position	Entrepreneur (Co-Founder : Oceana Aquaculture Bhopal (M.P.)
	Designation	Co- Founder
	Teaching Experience	02 Years
4	<b>Name</b>	<b>Dr. B. C. Choudhary</b>
	Current Position	Scientist, Lucknow
	Designation	Scientist
	Teaching Experience	10 Years
5	<b>Name</b>	<b>Dr. Dushyant Sharma</b>
	Current Position	Professor of Zoology, Govt Model Science College, Gwalior (M.P.)
	Designation	Professor
	Teaching Experience	30 Years
6	<b>Name</b>	<b>Dr. Milind Shirbate</b>
	Current Position	Assistant Professor of Zoology, Nagpur University.
	Designation	Professor
	Teaching Experience	30 Years
7	<b>Name</b>	<b>Dr. S. Punekar</b>
	Current Position	OSD MPPSC Office
	Designation	OSD
	Teaching Experience	30 Years
8	<b>Name</b>	<b>Dr. Ravi Upadhaya</b>
	Current Position	Assistant Professor, Zoology Pipariya
	Designation	Assistant Professor
	Teaching Experience	15 Years
9	<b>Name</b>	<b>Dr. R. K. Upadhaya</b>
	Current Position	Retd. Fisheries Officer
	Designation	Retd. Officer
	Teaching Experience	40 Years

10	<b>Name</b>	<b>Dr. Anita Kanesh</b>
	Current Position	Assistant Professor, Zoology, Govt. College Mhow
	Designation	Assistant Professor
	Teaching Experience	15 Years
11	<b>Name</b>	<b>Dr. G.K. Kulkarni</b>
	Current Position	Assistant Professor, Zoology, Nagpur University
	Designation	Assistant Professor
	Teaching Experience	15 Years
12	<b>Name</b>	<b>Dr. Namrata Khurana</b>
	Current Position	Assistant Professor, Zoology, Govt. PG College Dhar
	Designation	Assistant Professor
	Teaching Experience	3 Years
13	<b>Name</b>	<b>Dr. Pooja Jain</b>
	Current Position	Assistant Professor, Zoology, Govt. PG College Dhar
	Designation	Assistant Professor
	Teaching Experience	3 Years
14	<b>Name</b>	<b>Dr. Vikas Piteray</b>
	Current Position	Assistant Professor, Zoology, Govt. Degree college Guna
	Designation	Assistant Professor
	Teaching Experience	9 Years
15	<b>Name</b>	<b>Dr. O. P. Agrawal</b>
	Current Position	Retd. VC and Professor, Gwalior
	Designation	Retd VC and Professor
	Teaching Experience	40 Years
16	<b>Name</b>	<b>Dr. Ranjana Verma</b>
	Current Position	Assistant Professor, Zoology, Govt. College Mhow
	Designation	Assistant Professor
	Teaching Experience	10 Years
17	<b>Name</b>	<b>Dr. Pooja Sharma</b>
	Current Position	Assistant Professor, Zoology, Govt. College Mhow
	Designation	Assistant Professor
	Teaching Experience	10 Years
18	<b>Name</b>	<b>Dr. Vijay Shakya</b>
	Current Position	Assistant Professor, Zoology, Govt. College Ganjvasuda
	Designation	Assistant Professor
	Teaching Experience	10 Years
19	<b>Name</b>	<b>Dr. Anjali Kumar</b>
	Current Position	Professor, Department of Zoology, Government Holkar Science College Indore (M.P.)
	Designation	Professor
	Teaching Experience	30 Years

20	<b>Name</b>	<b>Dr. Amita Dagaonkar</b>
	Current Position	Professor, Department of Zoology, Government Holkar Science College Indore (M.P.)
	Designation	Professor
	Teaching Experience	30 Years
21	<b>Name</b>	<b>Dr. Lipi</b>
	Current Position	Assistant Professor, Department of Zoology, Baroda
	Designation	Assistant Professor
	Teaching Experience	10 Years
22	<b>Name</b>	<b>Dr. Rekha Sharma</b>
	Current Position	Head& Professor, Department of Zoology, Government Holkar Science College Indore (M.P.)
	Designation	Professor
	Teaching Experience	38 Years

# 5.

## Questioned Documents



## 5.1 Brochure: -



**Govt. Holkar (Model, Autonomous) Science College,  
Indore (M.P.)**

Grade 'A' accredited by NAAC



### DEPARTMENT OF FORENSIC SCIENCE

Online Certificate Course  
on  
**‘Questioned Documents’**

Platform: Zoom

**Date: 31/03/2021 to 11/04/2021**

**Time: 02:30 pm to 05:00 pm**



**Patron**

Dr. Suresh T. Silawat  
Additional Director  
Higher Education, Indore  
Division  
&  
Principal  
Govt. Holkar Science College,  
Indore (M.P.)



**Convener**

Dr. Vijay R. Chourey  
HOD  
Department of Forensic  
Science  
Govt. Holkar Science College,  
Indore (M.P.)

- **Free Registration.**
- **Only for PG students and Faculties.**

**Registration Link:**

<https://forms.gle/5zcHcmdCmDxfkeHr8>

**WhatsApp Group Link:**

<https://chat.whatsapp.com/HKWzq6QXHLQAwmc6DS3vfE>

**Organizing Committee:**

- ❖ Mrs. Neha Chaurasia [9981291667]
- ❖ Mr. Satish Rai [7000543411]
- ❖ Mr. Ankesh Ahirwar [7999151030]
- ❖ Ms. Ritu Bharti [9617641344]
- ❖ Ms. Rashi Dubey [9770067892]

**Technical Support:**

Mr. Magan Bhawar

## **5.2 Syllabus: -**



**DEPARTMENT OF FORENSIC SCIENCE**  
**Government Holkar Science College, Indore (M.P.)**  
**Syllabus for Certificate Course**  
**(Questioned Documents)**



### **Unit- I**

Documents, Questioned document and their types, Physical and Chemical examination of paper and Ink, Collection, Handling, Preservation and forwarding of documents seized from scene of crime. Examination of Documents.

### **Unit- II**

**Handwriting:** Role of CNS and body, Class and Individual Characteristics, Basis of Handwriting Comparison, Making of Exemplar, Development of Handwriting, Simon New Comb theory of probability.

### **Unit –III**

Different vernacular Indian languages and scripts.

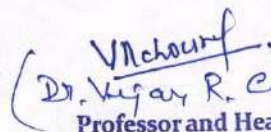
**Signature:** Genuine, Forged, Digital Signature with their examination, Trends in forgery.

### **Unit – IV**

**Forged Documents:** Alteration, Secret writing, Indented writing and its decipherment. Charred documents, Photocopied and Scanned Document, Demonstrative and juxtapose charts and their relevance.

### **Unit – V**

Detection of Counterfeit in Indian Bank Notes, fake Indian Passports, E-Passports, Security features of Credit/Debit/Smart cards and Detection of fake plastic cards.

  
**Dr. Vijay R. Chauri**  
**Professor and Head**  
**Forensic Science Department**  
**Govt. Holkar Science College**  
**Indore (M.P.)**

### 5.3 Resource Persons & Lecture Schedule: -

#### Lecture Schedule




Sr. No.	Date	Speaker
1.	31/03/2021 & 01/04/2021	<b>Mr. Harbans Singh Tuteja</b> Retd. G.E.Q.D Expert, Shimla (Himachal Pradesh) 
2.	02/04/2021 & 03/04/2021	<b>Dr. Swati Dubey Mishra</b> Assistant Professor Shri Vaishnav Institute of Forensic Science, SVVV, Indore (M.P.) 
3.	04/04/2021 & 05/04/2021	<b>Mr. Anurag Shrivastav</b> Assistant Professor Shri Vaishnav Institute of Forensic Science, SVVV, Indore (M.P.) 
4.	06/04/2021 & 07/04/2021	<b>Mr. Anurag Sahu</b> Assistant Professor Government Institute of Forensic Science, Aurangabad (Maharashtra) 
5.	08/04/2021 & 09/04/2021	<b>Ms. Hansi Bansal</b> Assistant Professor Government Institute of Forensic Science, Nagpur (Maharashtra) 
6.	10/04/2021 & 11/04/2021	<b>Mr. Sachin G Kurhekar</b> Head of Department, Scientific Aid Unit, Central Forensic Science Laboratory (CBI), Belapur, Navi Mumbai 

# 6.

## Analytical Aspects of Chemistry for Industry



## 6.1 Brochure: -

Govt. Holkar (Autonomous, Model) Science College, Indore (M.P.)		
<p><b>Dr. Anamika Jain</b> HOD, Department of Chemistry</p> <p> <b>Convener</b></p> <p><b>Dr. M.K. Dwivedi</b> HOD, Department of Pharmaceutical Chemistry</p>	<p><b>A Certificate Course on</b> "Analytical Aspects of Chemistry for Industries"</p> <p></p> <p><b>Organized by :</b> Department of Chemistry &amp; Department of Pharmaceutical Chemistry</p> <p><b>Duration :</b> 15-03-2021 to 27-03-2021</p> <p><b>Time :</b> 2:30 pm to 5:00 pm</p>	<p></p> <p>Patron <b>Dr. Suresh T. Silawat</b> Additional Director, Indore Division &amp; Principal, Govt. Holkar Science College, Indore [M.P.]</p> <p><b>Organizing Committee</b></p> <p>Dr. Aparna Gandhe Dr. Rajeev Dixit Dr. Neelima Pradhan Dr. Sandeep Gohar Dr. Ashok Barua Dr. Pushpa Makwane Dr. Rashmi Agrawal</p>

## **6.2 Syllabus: -**

Govt. Holkar (Autonomous, Model) Science College, Indore [M.P.]

*A Certificate Course on*  
*"Analytical Aspects of Chemistry for Industries"*

Conducted by: Department of Chemistry & Department of Pharmaceutical Chemistry

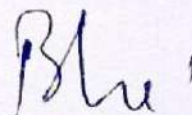
1.
  - a) Safety in analytical Lab.
  - b) Cleaning & Calibration of Glass wares.
  - c) Handling of Reagents
  - d) Notebook maintenance
  - e) Preparation of solution and calculations.
2. Errors in analysis: Error, accuracy and precision, Types of errors, methods of expressing precision significant figures.
3. Qualitative & Quantitative Analysis:
  - a) Mixture Analysis in inorganic and organic chemistry.
  - b) Volumetric analysis, terms in volumetric analysis, Types of volumetric analysis acid-base, redox, non-aqueous, complexometric, precipitation titration and their applications.
  - c) Gravimetric analysis: experimental techniques: precipitation, filtration, washing; ignition, drying, weighing, applications of gravimetric analysis.
3. Chromatographic techniques: basic principle, operational techniques of paper, Thin layer, Column and gas chromatography.
4.
  - a) Conductometric measurements: Introduction, instrumentation, types of conductometric titration and applications.
  - b) Potentiometric Titration. Principle, Instrumentation & applications.
5.
  - a) Nephelometry and Turbidimetry- Introduction, principle, instrumentation, and applications.
  - b) Colorimetric Analysis-Introduction, principle, instrumentation and pharmaceutical applications.
  - c) Flame Photometry- Introduction, principle, instrumentation and their applications in pharmaceutical chemistry.
  - d) Hardness, Friability and Disintegration time of tablets.

6. Solvent extraction: Introduction, principle, techniques, types of solvent extraction and applications.
7. Spectroscopic methods of Analysis: IR, UV, Visible, NMR.  
Principle, instrumentation & applications.
8. Solid Waste management.
9. a) Polymers: Rubber, Paint, Nylon, Fiber, dyes etc.
10. Food Adulteration: Common Methods of Testing and effects of adulterants on health.
11. Common Diseases & Pandemic:
12. a) Analysis of water sample ; B.O.D., C.O.D., D.O.  
b) Drug Analysis  
c) Soil analysis



Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

**Approved**



Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



### 6.3 Resource Person & Schedule: -

#### Certificate Course on "Analytical Aspects of Chemistry for Industries"

Date: 15<sup>th</sup> March to 27<sup>th</sup> March 2021

#### Organized by:

Department of Chemistry & Department of Pharmaceutical Chemistry,  
Govt. Holkar (Autonomous, Model) Science College, Indore [M.P.]

#### Programme Schedule

Date	Time	Topic	Guest Lecture
15-03-2021	2.30 pm to 5:00 pm	Inauguration by Dr. Suresh T. Silawat, Additional Director, Higher Education, Indore Division, Indore [M.P.]	-----
		<i>Solid Waste Management</i>	<b>Dr. Gunwant Joshi</b> Former Chief Chemist, MP Pollution Control Board, Bhopal [M.P.] Mob: 9827268015
16-03-2021	2.30 to 3.30 pm	<i>Safety in Analytical Lab, Cleaning and Calibration, Preparation of Solutions and Calculations</i>	<b>Dr. Pramod Kumar Jain</b> Professor, Chemistry Govt. Holkar Science College, Indore [M.P.] Mob: 9425369298
	3:30 to 3:45 pm	<i>Question Answer Session</i>	
	3.45 to 4:45pm	<i>Flame Photometry</i>	<b>Mr. Subodh Thakur</b> Analyst Mob. : 7000660259
	4:45 to 5:00 pm	<i>Question Answer Session</i>	
17-03-2021	2.30 to 3.30 pm	<i>Chromatographic Techniques</i>	<b>Dr. Mangla Dave</b> Professor, Chemistry Mata Jija Bai Govt. Girls P.G. College, Indore [M.P.] Mob: 9425084377
	3:30 to 3:45 pm	<i>Question Answer Session</i>	
	3.45 to 4:45pm	<i>Errors in Analysis</i>	<b>Prof. Unnati Bhayre</b> Assistant Professor, Statistics Govt. P.G. College, Ratlam M.P.] Mob. : 9425032923
	4:45 to 5:00	<i>Question Answer Session</i>	



18-03-2021	2.30 to 3.30 pm	Gravimetric Analysis	<b>Dr. Juhi Banerjee</b> Associate Professor, Chemistry Govt. Holkar Science College, Indore [M.P.] Mob: 9977371998
	3.30 to 3:45 pm	Question Answer Session	
	3.45 to 4:45pm	Colorimetric Analysis	<b>Dr. Namita Bende</b> Professor, Chemistry Govt. Holkar Science College, Indore [M.P.] Mob: 9424540041
	4:45 to 5:00 pm	Question Answer Session	
19-03-2021	2.30 to 3.30 pm	NMR Spectroscopy: Principal, Instrumentation and applications	<b>Dr. Swagata Gupta</b> Professor, Chemistry Govt. P.G. College, Mhow [M.P.] Mob: 9826028060
	3.30 to 3:45 pm	Question Answer Session	
	3.45 to 4:45pm	Nephelometry & Turbidimetry	<b>Prof. Hema Kochar</b> Dept of Pharma Chemistry Govt. Holkar Science College, Indore [M.P.] Mob: 8770896232
	4:45 to 5:00 pm	Question Answer Session	
20-03-2021	2.30 to 3:30 pm	Polymers	<b>Dr. Bindiya Sharma</b> Assistant Professor, Chemistry SAGE University, Indore [M.P.] Mob.: 9926124179
	3:30 to 3:45 pm	Question Answer Session	
	3.45 to 4:45pm	Conductometric Measurements	<b>Dr. Rachna Dubey</b> Assistant Professor, Chemistry Govt. Holkar Science College, Indore [M.P.] Mob:9725495872
	4:45 to 5:00 pm	Question Answer Session	

22-03-2021	2.30 to 3.30 pm	Good Lab Practices	<b>Dr. Rishina Natu</b> Professor, Chemistry P.M.B. Gujarati Science College, Indore [M.P.] Mob: 9827284853
	3:30 to 3:45 pm	Question Answer Session	
	3.45 to 4:45pm	Food Adulteration	<b>Dr. Kirti Yadav</b> Assistant Professor, Chemistry Kasturbagram Rural Institute, Indore [M.P.] Mob: 7987223277
	4:45 to 5:00 pm	Question Answer Session	
23-03-2021	2.30 to 3:30 pm	UV, Visible & IR Spectroscopy: Instrumentation and applications	<b>Dr. Dhananjay Dwivedi</b> Assistant Professor, Chemistry P.M.B. Gujarati Science College, Indore [M.P.] Mob: 9425350698
	3:30 to 3:45 pm	Question Answer Session	
	3.45 to 4:45pm	Volumetric Analysis	<b>Dr. Bijendra Rai</b> Professor, Chemistry Govt. Holkar Science College, Indore [M.P.] Mob: 9425450749
	4:45 to 5:00 pm	Question Answer Session	
24-03-2021	2.30 to 3:30 pm	Solvent extraction	<b>Prof. Rashmi Joshi</b> Dept. of Pharma Chemistry Govt. Holkar Science College, Indore [M.P.] Mob: 9826825010
	3:30 to 3:45 pm	Question Answer Session	
	3.45 to 4:45pm	Hardness, Friability & disintegration time of tablets	<b>Dr. Rashmi Agrawal</b> Dept of Pharma Chemistry Govt. Holkar Science College, Indore [M.P.] Mob: 9406869682
	4:45 to 5:00 pm	Question Answer Session	

25-03-2021	2.30 to 3.30 pm	Common Disease & Pandemic	<b>Dr. H. Parmar</b> Associate Professor, Biotechnology DAVV, Indore [M.P.] Mob; 9826536730
	3.30 to 3.45 pm	Question Answer Session	
	3.45 to 4.45pm	Analysis of Water & Soil	<b>Prof. Anuja Sharma</b> Dept. of Microbiology Govt. Holkar Science College, Indore [M.P.] Mob: 9425915397
	4.45 to 5:00 pm	Question Answer Session	
26-03-2021	2.30 to 5.00 pm	Test	
27-03-2021	2.30 to 3.30 pm	How to overcome challenges in life?	<b>Dr. Ashok Jain</b> Retired Professor (Psychology) GACC, Indore [M.P.] Mob: 9302102963
	3.30 pm to 5:00 pm	Feedback and Valedictory	

# 7. Soft Skill



## 7.1 Brochure: -



**GOVT. HOLKAR (MODEL AUTONOMOUS)  
SCIENCE COLLEGE, INDORE  
(ACCREDITED GRADE "A" BY NAAC)**

**DURATION: 30 HOURS  
(25.11.2020 TO 11.12.2020)**

**SHORT TERM CERTIFICATE COURSE  
ON  
SOFT SKILLS**

**ORGANIZED BY:  
DEPARTMENT OF BOTANY**

**OUR RESOURCE PARTNERS**

- IMS, DAVV, INDORE
- JAYPURIA INSTITUTE OF MANAGEMENT, INDORE
- PRESTIGE INSTITUTE OF MANAGEMENT, INDORE.
- CH EDGE MAKER, INDORE

**COURSE HIGHLIGHTS**

- BUILDING A POSITIVE ATTITUDE
- EMOTIONAL AND SOCIAL INTELLIGENCE
- COMMUNICATION AND LISTENING SKILLS
- ADAPTABILITY FOR CAREER SUCCESS
- SELF MANAGEMENT
- PERSONALITY TRAITS AND CAREER CHOICES
- POST COVID: TECHNOLOGY AS AN ENABLER
- TEAM WORK FOR SUCCESS
- STRESS AND COPING STRATEGIES
- DECISION MAKING
- GROUP DISCUSSION
- PERSONAL INTERVIEW


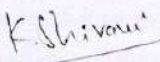


**GOAL:  
TO ENHANCE EMPLOYABILITY**

**PROF. AMIYA PAHARE  
CONVENER**

**DR. SANJIDA IQBAL  
HOD, BOTANY**

**DR. SURESH T. SILAWAT  
PRINCIPAL**

## **7.2 Syllabus: -**

Part B :Content of the Course	
<b>Govt. Holkar (Model Autonomous) Science College, Indore (M.P.)</b>	
<b>Department of Botany</b>	
Year 2020-21	
Class - For UG and PG Students	
Certificate Course on Soft Skill	
Max. Marks 50	Min. Marks -17
<b>Unit-I</b>	
<ul style="list-style-type: none"><li>1- Building a positive attitude.</li><li>2- Communication and listening.</li><li>3- Emotional and social intelligence.</li></ul>	
<b>Unit-II</b>	
<ul style="list-style-type: none"><li>1- Adaptability for career Success</li><li>2- Self-management</li><li>3- Personality traits and career choices.</li></ul>	
<b>Unit- III</b>	
<ul style="list-style-type: none"><li>1- Post covid: Technology as an Enabler.</li><li>2- Conflict Management</li><li>3- Team work for success.</li></ul>	
<b>Unit- IV</b>	
<ul style="list-style-type: none"><li>1- Stress and coping strategies for success</li><li>2- CV Writing and presentation skills.</li><li>3- Decision Making</li></ul>	
<b>Unit- V</b>	
<ul style="list-style-type: none"><li>1- Group discussion and formal dressing</li><li>2- Personal Interview</li><li>3- Problem solving sessions.</li></ul>	
<div style="text-align: center;"></div>	
<div style="display: flex; justify-content: space-around;"><div> Coordinator, Board of Studies Govt. Holkar (Model Autonomous) Science College, Indore</div><div> Chairperson, Board of Studies Govt. Holkar (Model Autonomous) Science College, Indore</div></div>	
<div style="text-align: center;"> Member Secretary, Academic Council Govt. Holkar (Model Autonomous) Science College, Indore</div>	

### **7.3 Resource Persons: -**

#### **SPEAKER'S PROFILES FOR "SOFT SKILL" CERTIFICATE COURSE.**


- (1) Professor Arindam Saha is currently working at Jaipuria Institute of management, Indore. He has done Ph.D on data driven decisions for organisational effectiveness and HR in analytical approach from DAVV Indore. He has 18 years of experience his area of research are organisational structure and design, organisational performance, leadership and HR analytics. earlier he worked with IIM Gurgaon as a faculty for OB and HRM.
- (2) Dr VIVEK SHARMA is a faculty at IMS, DAVV, Indore. His area of expertise is Organisational Behaviour, HRM and Quantitative techniques. He has done FDP from IIM Indore and he has done Ph.D in Management from IMS, DAVV Indore. He has done his Engineering from SGSITS, Indore and he has been teaching at IIMS DAVV Indore since 2007.
- (3) Dr Romy Saini is Associate Professor of Marketing and Associate Dean academics at Jaipuria Institute of management, Indore. Her area of research is retail service quality, customer loyalty and customer engagement. Her area of teaching is marketing. Dr Romy Saini has 17 years of work experience in academic, training and research in the area of marketing, retail and consumers behaviour. She has conducted many training programmes and management development programmes for senior and middle management level executives. She is also recipient of the best paper award at IIM, Indore at 10th ASMIE annual conference.
- (4) Dr Sandeep Atre is co-founder and director of CH Edgemakers, his area of expertise is Emotional and Social intelligence. He has written two books Understanding Emotions Logically and Observing Non-verbal Behavior. He is a noted blogger also and he is counselling psychologist also for emotional and social intelligence. He has about 20 years of work experience and he's an expert trainer also.
- (5) Dr POOJA Singh Kushwaha is an Associate Professor at Jaipur Institute of Management, Indore. She is also Dean and program chair. Her area of research are knowledge management, social networking and database management. Her teaching area is IT and analytics, she has more than 16 years of experience in the field of information systems. She is IBM certified analytics trainer, she has Google certification in the area of analytic and research engine optimisation and digital marketing. she has conducted number of seminars around the country.
- (6) Dr Nitin Mehta is an Associate Professor at Jaipuria Institute of Management, Indore and his research areas include business analytics, time series forecasting and predictive analytics. He has done Ph.D in computer science, from Jiwaji University, Gwalior. His areas of teaching include management information systems, data mining business analytics, business forecasting digital marketing. He has teaching experience of twenty three years.
- (7) Professor Jitun Agarwal is working at Jaipur Institute of management, Indore. His skills and expertise are marketing management, banking marketing, finance, digital payment, financial inclusion and financial literacy. He has six publications to his credit.

# 8.

## Molecular and Computational Biology



## 8.1 Brochure: -



GOVERNMENT HOLKAR (MODEL, AUTOMOMOUS) SCIENCE COLLEGE, INDORE, MP. INDIA  
VALUE ADDED COURSE/ONLINE CERTIFICATE COURSE / ADD ON COURSE  
ON  
"MOLECULAR AND COMPUTATIONAL BIOLOGY"  
ORGANIZED BY  
DEPARTMENT OF BIOTECHNOLOGY & BIOINFORMATICS

This Value added Course/Online Certificate Course / Add On Course introduces the student with the techniques used in Molecular & Computational Biology. The purpose of this course is to acquaint the students with molecular aspect in combination with the tools used in bioinformatics that will enable them to carry out their future endeavours in this field.

Patron  
Dr Suresh T. Silawat  
Additional Director  
Higher Education  
Indore Division & Principal

Convener  
Dr Kiran Billore  
Head of Department  
Department of Biotechnology & Bioinformatics

DATE: : 15<sup>TH</sup> - 28<sup>TH</sup> OCTOBER 2020  
PLATFORM : Google meeting App  
Registration Date : 12<sup>th</sup> October to 14<sup>th</sup> October 2020  
Time : 2:00pm to 4:30 pm

## Instructions

- ☐ No Registration fees.
- ☐ Seats are limited (50) and registration is on the basis of first come first serve.
- ☐ The certificate course contains four modules.
- ☐ Attendance will be taken daily and 90 % attendance is mandatory.
- ☐ Participants should arrange for PC/Laptop for computational Biology Practicals.
- ☐ Assignment/ Quiz will be given daily which is compulsory.
- ☐ Evaluation will be on the basis of grading system and the grades will be mentioned on the certificate.
- ☐ Feedback will be taken the completion of each module.

## **8.2 Syllabus: -**

**Govt. Holakr (Model Autonomous) Science College, Indore**  
**Department of Biotechnology & Bioinformatics**  
**Session: - 2020-21**  
**SYLLABUS FOR ONLINE CERTIFICATE COURSE / Value**  
**Added Course**

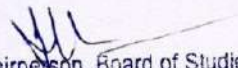
MODULE	TOPIC
<b>MODULE 1</b>  <b>OVERVIEW OF MOLECULAR BIOLOGY</b>	<b>WHAT IS MOLECULAR BIOLOGY, THE GENOME</b>
	<b>DNA STRUCTURE &amp; MODIFICATION</b> DNA as a genetic material, Various experiments related of DNA, Composition of DNA, DNA structure, types of DNA. DNA modification: Methylation and Epigenetic modification and Histone modification: Acetylation and Deacetylation of Histone
	<b>CENTRAL DOGMA, TRANSCRIPTION</b> Basics of transcription, Transcription process, Mechanism of Transcription: initiation, elongation and termination, Role of RNA Polymerase, Synthesis of protein coding mRNA.
	<b>TRANSLATION</b> Definition, Role of translation, Mechanism of translation in prokaryotes and eukaryotes: Initiation, Elongation and termination.
<b>MODULE 2</b>  <b>MEASUREMENT TECHNOLOGY</b>	<b>PCR</b> Introduction of PCR, Methods of PCR: thermal Cycling.
	<b>ELECTROPHORESIS</b> Gel Electrophoresis, Analysis of macromolecules (DNA, RNA and Protein) and their fragments, based on their size and charge.
	<b>DNA SEQUENCING, APPLICATION OF SEQUENCING</b> Introduction of DNA sequencing, its type, methods for DNA sequencing. Its scopes and applications.
<b>MODULE 3</b>  <b>COMPUTATIONAL TECHNOLOGY</b>	<b>FOUNDATION OF COMPUTER</b> Basics of computer: Definition, components of computer, history and foundation of computer and its application. <b>DATA STRUCTURE AND DBMS</b> Data structure, Type of Data structure. Data Base management system: Basics, feature, type of DBMS, Its application.

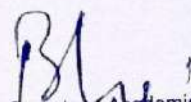


	<b>INTRODUCTION OF BIOINFORMATICS</b> <b>Introduction of Bioinformatics: History, application and the future scopes of the Bioinformatics.</b> <b>BIOLOGICAL DATABASE</b> <b>Role of Biological database, Features of Database, Kind of biological Data, Type of biological database. Applications of the biological database.</b>
	<b>NCBI SEQUENCE RETRIVAL</b> <b>Introduction of NCBI. Explore the NCBI database. Interpretation of the NCBI databaseresult and use of NCBI.</b>
	<b>STRUCTURAL DATABASE PDB</b> <b>3D macromolecular structure database, PDB: Retrieval, download the structure. Application.</b>

<b>MODULE 4</b>  <b>SEQUENCE ANALYSIS</b>	<b>SIMILARITY SEARCH BLAST</b> <b>BLAST introduction, Explore BLAST tool. Interpretation of the BLASTresult and use of the BLAST tool.</b>  <b>MULTIPLE SEQUENCE ALIGNMENT CLUSTAL W</b> <b>Introduction of MSA. Explore CLUSTAL W Tool, Application of MSA.</b>
	<b>3D STRUCTURE PREDICTION SWISSMODEL</b> <b>3D STRUCTURE VIEWER RASMOL</b> <b>3D structure prediction: Basics, Methods, 3D structure prediction Tool: SWISSMODEL, Its application. 3D structure visualization tool Rasmol.</b>

Approved

  
 Chairperson, Board of Studies  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

  
 Member Secretary, Academic Council  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

# 9.

## Renewable Energy and Energy Efficiency & Conservation- Technologies, Application, Approaches, Trends and Policies



## **9.1 Brochure: -**



GOVERNMENT HOLKAR (MODEL, AUTOMOMOUS) SCIENCE COLLEGE, INDORE, MP, INDIA  
VALUE ADDED COURSE/ONLINE CERTIFICATE COURSE / ADD ON COURSE  
ON  
“RENEWABLE ENERGY AND ENERGY EFFICIENCY & CONSERVATION –  
TECHNOLOGIES, APPLICATIONS, APPROACHES, TRENDS AND POLICIES”  
ORGANIZED BY  
DEPARTMENT OF PHYSICS



This Value added Course/Online Certificate Course / Add On Course introduces the student with the techniques used in Renewable Energy and Energy Efficiency . The purpose of this course is to impart knowledge on Renewable Energy, Energy Efficiency and Conservation. After completion of this course student will be to carry out their future endeavours in this field.

Patron

Dr. Suresh T. Silawat

Additional Director

Higher Education

Indore Division & Principal

Convener

Dr. G. D. Gupta

Head of Department

Department of Physics

DATE: :4<sup>TH</sup> -16<sup>TH</sup> Sep. 2020

PLATFORM : Google meeting App

## 9.2 Syllabus: -

**Department of Physics**  
**Government (Model Autonomous) Holkar Science College, Indore, MP, INDIA**  
**CERTIFICATE COURSE**

**ON**

**Renewable Energy and Energy Efficiency & Conservation – technologies, applications, approaches, trends and policies**

**Mode: Online**

**Course Objective:** To impart knowledge on renewable energy, energy efficiency and conservation, related government policies, techno-commercial aspects and its implementation in commercial and industrial application.

**Course Duration: 30 Hours**

Class	Subject	CCE	Min Marks	Term End Exam	Mini marks	Total	Mini. Marks
Certificate Course	Fundamentals of solar energy, solar thermal, PV and its applications	10	4	40	13	50	17
	Practical/Project /Assignment	-	-	-	-	50	17

UNIT	UNIT NAME	CONTENTS	Duration
1	<b>Energy Efficiency and Conservation</b>	1. Types of energy (primary, secondary and final). non-conventional and conventional sources of energy 2. Energy Efficiency and Conservation in buildings, appliances and industry	6 hrs
2		3. Bureau of Energy Efficiency, basics of energy audit, energy transition, energy access and energy security 4. World Energy overview, India energy overview, clean cooling, modern fuel and other related topics Standard and Labeling, Perform Achieve and Trade and other national schemes. Government schemes and policies.	6 hrs
3	<b>Renewable Energy</b>	1. Comparison of India with other countries in its ambition to reduce Green House Gases (GHG) emission and achieving Nationally Determined Contribution (NDC), non-conventional sources of energy 2. Solar thermal and solar Photo voltaic (PV) basics	6 hrs
4		3. Solar water heater, solar flat plate collector, trends and targets of renewable energy (RE) in India, solar-PV and thermal hybrid system 4. Potential of solar PV/thermal in industries and commercial sector. Government schemes and policies	6 hrs
5	<b>Practical/Project/ Assignment</b>	Related with the course content	6 hrs


**Note:** Classes will be held on weekend (Saturday & Sunday) Time from 12:00 to 2:30 PM

*Anant Shukla*  
(Anant Shukla)

# 10.

## Food Manufacturing and Processing

## 10.1 Brochure: -

<p><b>Government Holkar (Model Autonomous) Science College Indore</b></p>  <p><b>Swami Vivekanand career Guidance cell</b></p> <p><b><u>Date: - 08/02/2021 to 09/03/2021</u></b></p>	<p><b>Food Manufacturing and Processing course</b></p> <p>This Value-Added Course the Food Manufacturing and Processing course sponsored by the Vivekanand Career Guidance Cell and organized by the RCVN Noronha Academy. This course, which will be conducted from August 2, 2021, to September 3, 2021, is designed to provide participants with knowledge and skills in the field of food manufacturing and processing.</p> <p><b><u>Key Benefits of the Course:</u></b></p> <ul style="list-style-type: none"> <li>• Participants will gain a comprehensive understanding of food manufacturing and processing techniques, including food safety and quality control, packaging, and labeling.</li> <li>• The course is taught by experienced and knowledgeable instructors, including a renowned Boroher in the field.</li> <li>• Participants will have the opportunity to visit local food manufacturing and processing facilities to gain practical, hands-on experience.</li> <li>• Upon completion of the course, participants will be equipped with the skills and knowledge necessary to succeed in the food manufacturing and processing industry..</li> </ul>	<p><b><u>Objectives of the Course</u></b></p> <p>The objective of the Food Manufacturing and Processing course is to equip participants with the knowledge and skills necessary to succeed in the food manufacturing and processing industry. By the end of the course, participants will have a comprehensive understanding of food manufacturing and processing techniques, including food safety and quality control, packaging, and labeling.</p> <p><b><u>Career Prospects:</u></b> The Food Manufacturing and Processing course offers excellent career prospects in the industry. Graduates may be employed as supervisors, inspectors, technologists, or specialists in packaging and labeling. With the demand for processed foods on the rise, skilled professionals are needed. This course equips participants with the skills and knowledge to succeed in this exciting field..</p> <p><b><u>Overview of the Syllabus</u></b></p> <p>course syllabus covers a wide range of topics, including: Introduction to food manufacturing and processing• Food safety and quality control• Food processing techniques. The course is designed to be interactive and hands-on, with participants encouraged to actively engage in discussions and practical exercises</p>
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## **10.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Swami Vivekanand Career Guidance Cell**  
**Value Added Course**  
**On**  
**“Food Manufacturing and Processing”**  
**Syllabus**

**Module 1: Introduction to Food Manufacturing and Processing:**

- ❖ Introduction to food manufacturing and processing
- ❖ Importance of food safety and quality in food manufacturing
- ❖ Basic principles of food processing and preservation
- ❖ Overview of food industry regulations and standards
- ❖ Food processing equipment and machinery

**Module 2: Food Safety and Quality Management:**

- ❖ Principles of food safety and quality management
- ❖ Food safety hazards and risk assessment
- ❖ HACCP (Hazard Analysis and Critical Control Points) principles
- ❖ Food safety regulations and compliance
- ❖ Quality control and assurance techniques

**Module 3: Food Processing Technologies:**

- ❖ Overview of common food processing technologies
- ❖ Thermal processing methods (pasteurization, sterilization, etc.)
- ❖ Non-thermal processing methods (high pressure processing, irradiation, etc.)
- ❖ Food packaging and preservation techniques
- ❖ Emerging food processing technologies (nanotechnology, biotechnology, etc.)


**Module 4: Product Development and Marketing:**

- ❖ Product development process in the food industry
- ❖ Consumer preferences and market research
- ❖ Marketing strategies and product promotion
- ❖ Packaging design and labelling regulations
- ❖ Product pricing and distribution channels

**Module 5: Food Industry Trends and Challenges:**

- ❖ Current trends and future prospects in the food industry
- ❖ Globalization and food supply chain management
- ❖ Sustainability and environmental concerns in food production
- ❖ Food waste reduction strategies
- ❖ Challenges in food manufacturing and processing (food fraud, workforce management, etc.)

**Approved**

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore


11.

# E-commerce and Online Banking

## 11.1 Brochure: -

Govt. Holkar (Model Autonomous) Science College, Indore

**Date: -**  
**08/02/2021**  
**To**  
**09/03/2021**



**Swami Vivekanand Career Guidance Cell**

### Value Added Course on E-commerce and Online Banking



#### Key Benefits of the Course:

- Learn about the rapidly evolving world of e-commerce and online banking.
- Develop the necessary skills and knowledge to succeed in online businesses and transactions.
- Understand the risks and opportunities associated with online banking and e-commerce.
- Learn from experienced professionals and gain practical insights into the workings of the industry.
- Obtain a certification from a reputable institution that will enhance your resume and boost your career prospects.

#### Objectives of the Course:

The objective of this course is to provide participants with a comprehensive understanding of e-commerce and online banking. The course will cover topics such as online business models, payment gateways, digital marketing, cybersecurity, and online transactions. Participants will also learn about the regulatory and legal aspects of online banking and e-commerce.

#### Career Opportunities:

Upon completion of this course, participants will be equipped to pursue a variety of careers in the e-commerce and online banking industry, including:

- E-commerce business owner
- Digital marketing specialist
- Online banking and payment gateway specialist
- Cybersecurity analyst
- Online transactions manager

#### Brief Syllabus: The course will cover the following topics:

- Introduction to E-commerce and Online Banking
- Online Business Models
- Payment Gateways and Digital Transactions
- Cybersecurity and Fraud Prevention
- Digital Marketing and Branding
- Legal and Regulatory Aspects of Online Banking and E-commerce



## **11.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Swami Vivekanand Career Guidance Cell**  
**Value Added Course**  
**On**  
**“E-Commerce and Online Banking”**  
**Syllabus**

**Module 1: Introduction to E-commerce and Online Banking:**

- ❖ Introduction to e-commerce and online banking
- ❖ History and evolution of e-commerce
- ❖ Types of e-commerce (B2B, B2C, C2C, etc.)
- ❖ Online banking services and features
- ❖ Digital payment systems

**Module 2: E-commerce Website Design and Development:**

- ❖ Website design principles for e-commerce
- ❖ E-commerce platforms and content management systems (CMS)
- ❖ Shopping cart and checkout process design
- ❖ Mobile optimization for e-commerce websites
- ❖ Security and privacy considerations for e-commerce websites

**Module 3: Online Marketing and Sales Strategies:**

- ❖ Overview of digital marketing channels (SEO, SEM, social media, email marketing, etc.)
- ❖ Market research and customer analysis for e-commerce
- ❖ Product pricing and promotion strategies
- ❖ Sales funnel optimization and conversion rate optimization (CRO)
- ❖ Customer relationship management (CRM) for e-commerce

**Module 4: Online Banking and Financial Services:**

- ❖ Types of online banking and financial services (mobile banking, online investment, etc.)
- ❖ Online security and fraud prevention in online banking
- ❖ Credit and debit card processing for e-commerce
- ❖ Online loans and financing options
- ❖ Financial planning and management tools for consumers

**Module 5: E-commerce Legal and Ethical Considerations:**

- ❖ Legal and regulatory frameworks for e-commerce and online banking
- ❖ Consumer protection laws and regulations
- ❖ Intellectual property rights in e-commerce
- ❖ Ethical considerations in online marketing and sales
- ❖ Emerging trends and challenges in e-commerce and online banking.

**Approved**

*Bh*  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



# 12.

## Animal Husbandry and Poultry, Sericulture and Fisheries

## 12.1 Brochure: -

Govt. Holkar (Model Autonomous) Science  
College, Indore

**Date: -**  
**08/02/2021**  
**To**  
**09/03/2021**



**Swami  
Vivekanand  
Career  
Guidance Cell**

### **Value Added Course on Animal Husbandry and Poultry Sericulture and Fisheries**

**Brief Syllabus: The course will cover the following topics:**

- Introduction to Animal Husbandry, Poultry, Sericulture, and Fisheries
- Breeding and Genetics
- Animal Nutrition and Feed Management
- Disease Control and Management
- Marketing and Value-Added Products
- Aquaculture and Fisheries Management
- Sericulture and Silk Production

#### **Key Benefits of the Course:**

- Gain a comprehensive understanding of animal husbandry, poultry, sericulture, and fisheries.
- Develop the necessary skills and knowledge to excel in the field of animal husbandry and related industries.
- Learn about the latest technologies and practices in the industry and stay ahead of the curve.
- Explore career opportunities in the industry and acquire the confidence to pursue them.
- Learn from experienced professionals and gain practical insights into the workings of the industry.
- Obtain a certification from a reputable institution that will enhance your resume and boost your career prospects.

#### **Objectives of the Course:**

The objective of this course is to provide participants with a comprehensive understanding of animal husbandry, poultry, sericulture, and fisheries. The course will cover topics such as breeding and genetics, nutrition, disease control, management practices, marketing, and value-added products. Participants will also gain an understanding of the challenges and opportunities in the industry and develop the skills and knowledge necessary to succeed in the field.

#### **Career Opportunities:**

Upon completion of this course, participants will be equipped to pursue a variety of careers in animal husbandry and related industries, including:

- Livestock and poultry farm manager
- Sericulture specialist
- Fisheries and aquaculture manager
- Animal health and nutrition consultant
- Value-added product developer



## **12.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore  
Swami Vivekanand Career Guidance Cell  
Value Added Course**

**On  
“Animal Husbandry and Poultry, Sericulture and fisheries”  
Syllabus**

**Module 1: Introduction to Agriculture and Animal Sciences:**

- ❖ Overview of agriculture and animal sciences
- ❖ Key challenges and opportunities in animal husbandry, sericulture, and fisheries
- ❖ Sustainable agriculture practices
- ❖ Animal welfare and ethics

**Module 2: Animal Husbandry and Poultry:**

- ❖ Breeds of farm animals and poultry
- ❖ Animal and poultry production systems
- ❖ Animal nutrition and feed management
- ❖ Animal health and disease management
- ❖ Marketing and business management in animal and poultry production

**Module 3: Sericulture:**

- ❖ Types of silk and their characteristics
- ❖ Silkworm rearing and management
- ❖ Silk production and processing
- ❖ Sericulture and rural development
- ❖ Emerging trends and challenges in sericulture


**Module 4: Fisheries:**

- ❖ Fisheries resources and their utilization
- ❖ Fish biology and aquaculture
- ❖ Fisheries management and regulations
- ❖ Fish processing and preservation
- ❖ Emerging trends and challenges in fisheries

**Module 5: Applied Skills in Animal Sciences:**

- ❖ Practical skills for animal and poultry production
- ❖ Sericulture equipment and machinery
- ❖ Aquaculture systems and practices
- ❖ Quality control and assurance in animal sciences
- ❖ Entrepreneurship and innovation in animal sciences

**Approved**

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

# 13.


## Solar Energy Plant Maintenance and Marketing



### 13.1 Brochure: -

Govt. Holkar (Model Autonomous) Science College, Indore

**Date: -**  
**08/02/2021**  
**To**  
**09/03/2021**




**Swami Vivekanand Career Guidance Cell**

**Value Added Course on Solar Energy Plant Maintenance & Marketing**

**Brief Syllabus: The course will cover the following topics:**

- Introduction to Solar Energy Technology
- Solar Energy Plant Design and Installation
- Solar Energy Plant Maintenance
- Solar Energy Plant Performance Monitoring
- Marketing and Sales Strategies for Solar Energy
- Business Development in the Solar Energy Industry

Key Benefits of the Course:	Objectives of the Course:	Career Opportunities:
<ul style="list-style-type: none"><li>• Gain a comprehensive understanding of solar energy plant maintenance and marketing.</li><li>• Develop the necessary skills and knowledge to maintain and market solar energy plants.</li><li>• Learn about the latest technologies and practices in the industry and stay ahead of the curve.</li><li>• Explore career opportunities in the industry and acquire the confidence to pursue them.</li><li>• Learn from experienced professionals and gain practical insights into the workings of the industry.</li><li>• Obtain a certification from a reputable institution that will enhance your resume and boost your career prospects.</li></ul>	<p>The objective of this course is to provide participants with a comprehensive understanding of solar energy plant maintenance and marketing. The course will cover topics such as solar energy technology, maintenance practices, marketing strategies, and business development. Participants will also gain an understanding of the challenges and opportunities in the industry and develop the skills and knowledge necessary to succeed in the field.</p>	<p>Upon completion of this course, participants will be equipped to pursue a variety of careers in the solar energy industry, including:</p> <ul style="list-style-type: none"><li>• Solar plant maintenance engineer</li><li>• Solar power plant manager</li><li>• Solar energy consultant</li><li>• Solar marketing and sales specialist</li><li>• Solar energy business developer</li></ul>



## **13.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Swami Vivekanand Career Guidance Cell**  
**Value Added Course**  
**On**  
**“Solar Energy plant Maintenance and marketing”**  
**Syllabus**

**Module 1: Introduction to Solar Energy Plant Maintenance:**

- ❖ Overview of solar energy plant maintenance
- ❖ Importance of regular maintenance
- ❖ Basic components of a solar energy plant
- ❖ Common maintenance issues and their solutions

**Module 2: Technical Maintenance of Solar Energy Plants:**

- ❖ PV module maintenance
- ❖ Inverter maintenance
- ❖ Battery maintenance
- ❖ Monitoring and control system maintenance

**Module 3: Preventive Maintenance of Solar Energy Plants:**

- ❖ Inspection and cleaning procedures
- ❖ Preventive maintenance schedules
- ❖ Troubleshooting techniques
- ❖ Safety procedures

**Module 4: Marketing of Solar Energy Plant Maintenance Services:**

- ❖ Market analysis and research
- ❖ Business plan development
- ❖ Marketing strategies and tactics
- ❖ Customer relationship management

**Module 5: Business Operations and Management:**

- ❖ Financial management
- ❖ Human resources management
- ❖ Project management
- ❖ Legal and regulatory compliance

**Approved**

*Bh.*  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

# 14.

## Advance Agricultural Skills



## **14.1 Brochure: -**

Govt. Holkar (Model Autonomous) Science College, Indore

**Date: -  
08/02/2021  
To  
09/03/2021**



**Swami  
Vivekanand  
Career  
Guidance Cell**

### **Value Added Course on Advance Agricultural Skills**

**Brief Syllabus: The course will cover the following topics:**

- Precision Agriculture
- Crop Management
- Soil Health and Fertility Management
- Irrigation Management
- Pest and Disease Management
- Post-Harvest Management

#### **Key Benefits of the Course:**

- Gain a deeper understanding of advanced agricultural skills and techniques.
- Learn about the latest trends and practices in the agriculture industry.
- Develop the necessary skills to improve agricultural productivity and profitability.
- Gain practical experience through hands-on training sessions.
- Enhance your resume and improve your career prospects in the agriculture industry.
- Receive a certification from a reputable institution upon successful completion of the course.

#### **Objectives of the Course:**

The objective of this course is to provide participants with a comprehensive understanding of advanced agricultural skills and techniques. The course will cover topics such as precision agriculture, crop management, soil health, irrigation management, pest management, and post-harvest management. Participants will also gain practical experience through hands-on training sessions and field visits.

#### **Career Opportunities:**

Upon completion of this course, participants will be equipped to pursue a variety of careers in the agriculture industry, including:

- Agricultural specialist
- Agricultural consultant
- Crop production manager
- Agricultural research scientist
- Farm manager





## **14.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Swami Vivekanand Career Guidance Cell**  
**Value Added Course**  
**On**  
**“Advance Agricultural skills”**  
**Syllabus**

**Module 1: Introduction to Advanced Agricultural Skills:**

- ❖ Overview of advanced agricultural practices
- ❖ Importance of sustainable agriculture
- ❖ Basic concepts of precision farming
- ❖ Emerging technologies in agriculture

**Module 2: Soil Management and Fertilizer Use:**

- ❖ Soil sampling and analysis
- ❖ Soil fertility management
- ❖ Nutrient management strategies
- ❖ Organic and inorganic fertilizer use

**Module 3: Crop Management and Production:**

- ❖ Crop selection and planning
- ❖ Seed selection and planting techniques
- ❖ Irrigation management
- ❖ Pest and disease management


**Module 4: Marketing and Business Management:**

- ❖ Market analysis and research
- ❖ Business plan development
- ❖ Marketing strategies and tactics
- ❖ Customer relationship management

**Module 5: Sustainable Agricultural Practices:**

- ❖ Conservation agriculture
- ❖ Agroforestry
- ❖ Integrated crop-livestock systems
- ❖ Climate-smart agriculture

Approved

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

# 15.

## Taxation-IT and GST Returns Filling

## **15.1 Brochure: -**

Govt. Holkar (Model Autonomous) Science  
College, Indore

**Date:**  
**08/02/2021**  
**To**  
**09/03/2021**



**Swami  
Vivekanand  
Career  
Guidance Cell**

### **Value Added Course on Taxation-IT and GST Returns Filing**

**Brief Syllabus: The course will cover  
the following topics:**

- Income Tax laws
- GST laws
- IT returns filing
- GST returns filing
- Taxation compliance



#### **Key Benefits of the Course:**

- Gain a comprehensive understanding of taxation laws, IT, and GST return filing.
- Learn about the latest trends and practices in the taxation industry.
- Develop the necessary skills to manage and file tax returns effectively.
- Enhance your resume and improve your career prospects in the taxation industry.
- Receive a certification from a reputable institution upon successful completion of the course.

#### **Objectives of the Course:**

The objective of this course is to provide participants with a comprehensive understanding of taxation laws, IT, and GST return filing. The course will cover topics such as income tax laws, GST laws, IT returns filing, GST returns filing, and taxation compliance. Participants will also gain practical experience through hands-on training sessions.

#### **Career Opportunities:**

Upon completion of this course, participants will be equipped to pursue a variety of careers in the taxation industry, including:

- Tax consultant
- Tax analyst
- GST consultant
- GST analyst
- Accounting and finance professional



## **15.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Swami Vivekanand Career Guidance Cell**  
**Value Added Course**  
**On**  
**“Taxation-IT and GST returns filling”**  
**Syllabus**

**Module 1: Introduction to Taxation and GST:**

- ❖ Overview of taxation in India
- ❖ Introduction to GST
- ❖ Types of taxes in India
- ❖ GST registration process

**Module 2: GST Returns Filing:**

- ❖ GST return filing procedures
- ❖ Types of GST returns and their due dates
- ❖ GST payment and refund process
- ❖ Common errors and mistakes in GST returns filing

**Module 3: Income Tax Returns Filing:**

- ❖ Introduction to income tax
- ❖ Income tax slab rates and deductions
- ❖ Types of income tax returns and their due dates
- ❖ E-filing of income tax returns

**Module 4: Tax Planning and Compliance:**

- ❖ Tax planning strategies
- ❖ Tax saving investments and deductions
- ❖ Tax compliance and record keeping
- ❖ Tax audits and assessments

**Module 5: Taxation-IT and GST software tools:**

- ❖ Introduction to GST and taxation software tools
- ❖ Features and benefits of GST and taxation software
- ❖ Demonstration of software tools for GST and taxation

**Approved**


*BLW*  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



16.

Weaves, Block  
Printing and Textile  
Manufacturing

## 16.1 Brochure: -

<p><b>Government Holkar (Model Autonomous) Science College Indore</b></p>  <p><b>Swami Vivekanand career Guidance cell</b></p> <p><b>Date: - 08/02/2021 to 09/03/2021</b></p>	<p><b>Weavers, Block Printing, and Textile Manufacturing</b></p> <p>This Value-Added Course course, sponsored by the Vivekanand Career Guidance Cell and organized by the RCVF Noronha Academy, is your ticket to a successful career in the textile industry. This course, conducted from August 2, 2021, to September 3, 2021, is designed to equip participants with the necessary knowledge and skills to succeed in the field of textile manufacturing..</p> <p><b>Key Benefits of the Course:</b></p> <ul style="list-style-type: none"> <li>• Comprehensive instruction and guidance from experienced instructors, including a renowned Borocheer in the field.</li> <li>• A comprehensive understanding of weaving, block printing, and dyeing techniques used in textile manufacturing.</li> <li>• A certificate of completion that acknowledges the skills and knowledge gained throughout the course.</li> </ul> <p>Upon completion of the course, participants will have a wealth of job opportunities available to them. The textile industry is one of the fastest-growing sectors in the world, with a wide range of job opportunities available in areas such as textile design, manufacturing, marketing, and retail.</p>	<p><b>Objectives of the Course</b></p> <p>The objective of the Weavers, Block Printing, and Textile Manufacturing course is to equip participants with the knowledge and skills needed to succeed in the textile industry. This comprehensive course covers weaving, block printing, and dyeing techniques, and provides practical, hands-on experience. Upon completion, participants will be well-prepared to pursue a career in the industry.</p> <p><b>Career Prospects:</b> • Textile Designer• Weaving and Knitting Technologist• Textile Engineer• Quality Control Manager• Production Manager• Sales and Marketing Manager• Retail Manager</p> <p><b>Overview of the Syllabus</b></p> <p>The course syllabus covers a broad range of topics, including:• Introduction to textile manufacturing• Weaving techniques• Block printing techniques• Dyeing techniques• Emerging trends and developments in the textile industry</p> <p>Join us for this exciting and informative course, and take the first step towards a successful career in the textile manufacturing industry. We look forward to welcoming you to the Weavers, Block Printing, and Textile Manufacturing course.</p>
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## **16.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Swami Vivekanand Career Guidance Cell**  
**Value Added Course**  
**On**  
**“Weaves, block printing and textile manufacturing”**  
**Syllabus**

**Module 1: Introduction to Weaves and Textile Manufacturing:**

- ❖ Overview of weaving and textile manufacturing
- ❖ Types of looms and their uses
- ❖ Basic weaving techniques
- ❖ Introduction to textile manufacturing processes

**Module 2: Fabric Printing Techniques:**

- ❖ Overview of block printing
- ❖ Block printing tools and materials
- ❖ Types of fabrics used for printing
- ❖ Printing techniques for different fabrics

**Module 3: Dyeing Techniques:**

- ❖ Overview of fabric dyeing
- ❖ Types of fabric dyes
- ❖ Dyeing techniques for natural and synthetic fabrics
- ❖ Fabric preparation and finishing after dyeing


**Module 4: Textile Design and Trends:**

- ❖ Textile design techniques
- ❖ Trend analysis in the textile industry
- ❖ Sustainable and eco-friendly textile production
- ❖ Market analysis and research for textile products

**Module 5: Business Management and Marketing:**

- ❖ Business plan development for textile manufacturing and printing
- ❖ Marketing strategies and tactics for textile products
- ❖ Supply chain management in textile production
- ❖ Financial management for textile businesses

**Approved**

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

# 17.


## Journalism and Translation Work



## 17.1 Brochure: -

Govt. Holkar (Model Autonomous) Science College, Indore

**Date:**  
**08/02/2021**  
**To**  
**09/03/2021**




**Swami  
Vivekanand  
Career  
Guidance Cell**

**Value Added Course on Journalism & Translation Work**

**Brief Syllabus: The course will cover the following topics:**

- Introduction to journalism
- News writing
- Feature writing
- Reporting
- Editing
- Translation
- Ethics in journalism
- Media law and regulations

Key Benefits of the Course:	Objectives of the Course:	Career Opportunities:
<ul style="list-style-type: none"><li>• Develop skills in journalism and translation work.</li><li>• Gain practical experience in writing, reporting, and translation.</li><li>• Enhance your language skills and ability to communicate effectively.</li><li>• Improve your resume and career prospects in journalism and translation.</li><li>• Receive a certification from a reputable institution upon successful completion of the course.</li></ul>	<p>The objective of this course is to provide participants with practical skills and experience in journalism and translation work. The course will cover topics such as news writing, feature writing, reporting, editing, and translation. Participants will also gain practical experience through hands-on training sessions..</p>	<p>Upon completion of this course, participants will be equipped to pursue a variety of careers in journalism and translation, including:</p> <ul style="list-style-type: none"><li>• Journalist</li><li>• News reporter</li><li>• Copy editor</li><li>• Translator</li><li>• Freelance writer</li></ul>



## **17.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Swami Vivekanand Career Guidance Cell**  
**Value Added Course**  
**On**  
**“Journalism and translation work”**  
**Syllabus**

**Module 1:** Introduction to Journalism and Translation:

- ❖ Overview of Journalism and Translation
- ❖ Similarities and Differences between Journalism and Translation
- ❖ Importance of Journalism and Translation in today's world

**Module 2:** Basic Concepts of Journalism:

- ❖ News Writing and Reporting
- ❖ Interviewing Techniques
- ❖ Ethics and Professional Standards in Journalism
- ❖ Types of Journalism

**Module 3:** Basic Concepts of Translation:

- ❖ Introduction to Translation Theory
- ❖ Translation Process
- ❖ Translation Techniques
- ❖ Translation Ethics and Professional Standards

**Module 4:** Advanced Topics in Journalism and Translation:

- ❖ Investigative Journalism and Translation
- ❖ International Journalism and Translation
- ❖ Media Ethics and Legal Issues
- ❖ Localization and Transcreation

**Module 5:** Case Studies and Practical Applications:

- ❖ Case studies on Journalism and Translation
- ❖ Practical applications of Journalism and Translation
- ❖ Project work and group discussions
- ❖ Guest lectures and workshops by industry professionals

Approved

R/o  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

# 18.

## Tourism and Travel Management



## 18.1 Brochure: -

Govt. Holkar (Model Autonomous) Science College,  
Indore



**Value Added  
Course on  
Tourism and  
Travel  
Management**

**DATE:  
08/02/2021 TO  
09/03/2021**



Swami Vivekanand  
Career Guidance  
Scheme



### Value Added Course on Tourism and Travel Management

<p><b>Key Benefits of the Course:</b></p> <ul style="list-style-type: none"><li>• Gain a comprehensive understanding of the tourism and travel industry and its various components.</li><li>• Develop the necessary skills and knowledge to excel in the field of tourism and travel management.</li><li>• Explore career opportunities in the industry and acquire the confidence to pursue them.</li><li>• Learn from experienced professionals and gain practical insights into the workings of the industry.</li><li>• Obtain a certification from a reputable institution that will enhance your resume and boost your career prospects.</li></ul>	<p><b>Objectives of the Course:</b></p> <p>The objective of this course is to provide participants with a comprehensive understanding of the tourism and travel industry and its various components. The course will cover topics such as tourism trends, travel geography, hospitality management, and tour planning. Participants will also gain an understanding of the challenges and opportunities in the industry and develop the skills and knowledge necessary to succeed in the field.</p>	<p><b>Career Opportunities:</b></p> <p><b>Upon</b> completion of this course, participants will be equipped to pursue a variety of careers in the tourism and travel industry, including:</p> <ul style="list-style-type: none"><li>• Travel agent</li><li>• Tour operator</li><li>• Hospitality manager</li><li>• Tour guide</li><li>• Destination marketing manager</li><li>• Event planner</li></ul>
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## **18.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Swami Vivekanand Career Guidance Cell**  
**Value Added Course**  
**On**  
**“Tourism and Travel Management”**  
**Syllabus**

**Module 1: Introduction to Tourism and Travel Management:**

- ❖ Definition and scope of tourism and travel management
- ❖ History and evolution of tourism industry
- ❖ Types of tourism and travel products
- ❖ Major stakeholders in tourism and travel industry

**Module 2: Destination Management:**

- ❖ Destination marketing and promotion
- ❖ Destination planning and development
- ❖ Destination branding and positioning
- ❖ Sustainable tourism practices

**Module 3: Travel Operations Management:**

- ❖ Tour packaging and pricing
- ❖ Transportation management
- ❖ Accommodation management
- ❖ Tour guiding and customer service


**Module 4: Tourism and Travel Industry Regulations:**

- ❖ Tourism and travel laws and regulations
- ❖ Health and safety regulations
- ❖ Environmental regulations
- ❖ Ethics and corporate social responsibility

**Module 5: Tourism and Travel Business Management:**

- ❖ Business planning and strategy
- ❖ Financial management
- ❖ Human resource management
- ❖ Technology and innovation in tourism and travel industry

**Approved**





  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

2021-2022

1.

# Organic Farming

## 1.1 Brochure: -

<p>Govt. Holkar (Model Autonomous) Science College, Indore</p>		
	<p><b>ORGANIC FARMING Value Added Course ( Deptt of Botany)</b></p>	
<p>Value Added Course on Organic Farming" conducted by The Department of Botany from 12/4/22 to 29/4/22.</p>		
	<p>Don't miss this opportunity to learn about organic farming techniques and practices. Register today for the "Value Added Course on Organic Farming" conducted by the Department of Botany.</p>	<p><b>"WE ARE READY TO RE- GREEN FOR THE FUTURE OF OUR EARTH"</b></p>
<p><b>Key Benefits of the Course</b> :</p> <ul style="list-style-type: none"><li>• Learn about organic farming techniques and practices.</li><li>• Gain practical knowledge on how to grow crops organically.</li><li>• Understand the importance of organic farming for the environment and health.</li><li>• Explore the economic benefits of organic farming.</li><li>• Receive a certification from a reputable institution upon successful completion of the course.</li></ul>	<p><b>Objectives of the Course</b></p> <p>The objective of this course is to provide participants with knowledge and skills in organic farming. The course will cover topics such as organic farming techniques, soil management, pest management, and crop rotation. Participants will also gain practical experience through hands-on training sessions.</p>	<p><b>Career Opportunities:</b></p> <p>Upon completion of this course, participants will be equipped to pursue a variety of careers in organic farming, including:</p> <ul style="list-style-type: none"><li>• Organic farmer</li><li>• Farm manager</li><li>• Soil scientist</li><li>• Agricultural consultant</li></ul> 



## 1.2 Permission: -

वनस्पतिशास्त्र विभाग, शा0 होलकर विज्ञान महाविद्यालय, इन्दौर, (म0प्र0)

क्रमांक 355B/वनस्पतिशास्त्र/2022

दिनांक: 06/04/2022

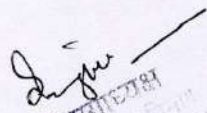
प्रति,

प्राचार्य महोदय,  
शास0 होलकर विज्ञान महा0,  
इन्दौर, (म0प्र0)

विषय :- 60 Hours Value added Course करारने की अनुमति विषयक।

महोदय,

उपरोक्त विषयान्तर्गत अनुरोध है, कि महाविद्यालय के वनस्पतिशास्त्र विभाग द्वारा विद्यार्थियों हेतु 60 Hours का Value added Course "Organic Farming" दिनांक 12/04/2022 से 29/04/2022 तक विभाग में आयोजित किया जाना प्रस्तावित हैं।

  
डॉ. सन्दीप इकबाल  
विभागाध्यक्ष  
वनस्पतिशास्त्र विभाग  
शा. होलकर विज्ञान महा. इन्दौर

### **1.3 Notice: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Botany**  
**Value Added Course**  
**60 Hours Training Program**  
**On**  
**“Organic Farming”**

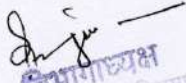
Value added courses are the types of courses which help a particular individual to develop their skills in their chosen field of the study. The Value-Added Courses aim to provide additional learner centric graded skill oriented technical training, with the primary objective of improving the employability skills of students. It is important for all institutions to supplement the curriculum to make students better prepared to meet industry demands as well as develop their own interests and aptitudes. Organic farming and Vermi-composting may be defined as the sum of the activities performed for Eco- friendly farming and to minimize the uses of pesticide and chemical.

**Eligibility:** As per course requirement: 10+2/Graduation

**Prerequisites:** As per course requirement: Basic knowledge of farming and medicinal plants.

**Course Fee:** 500/-

**Course Duration information:** 60 hrs

  
विभागाध्यक्ष  
वनस्पति पाठ्य विभाग  
शा. होलकर विज्ञान महा. इन्दौर

## **1.4 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Botany**  
**Value Added Course**  
**On**  
**Organic Farming**  
**Syllabus**

**Course Outcome:** Standardized Organic Farming and Vermi-composting, Generation of knowledge towards cultivation practices will reduce the dependence on pesticides and chemicals, thereby conserving the soil fertility. Knowledge regarding medicinal property and uses of eco-friendly tech. that conserve soil fertility and human health in our daily life. Student of Botany can start own business and become entrepreneur.

**Module 1 (12 hours):** Introduction and Importance of Organic Farming: -

- Overview of Organic Farming
- Importance of Organic Farming
- Benefits of Organic Farming over Conventional Farming
- Comparison of Organic and Conventional Farming
- Principles of Organic Farming
- Standards and Certification in Organic Farming
- Market Potential and Demand for Organic Products

**Module 2 (12 hours):** Various Methods of Organic Farming in India: -

- Organic Farming Methods - Crop Rotation, Green Manure, Companion Planting, Mulching, Intercropping, Biological Pest Control, etc.
- Advantages and Disadvantages of Different Organic Farming Methods
- Application of Organic Farming Methods in India
- Organic Farming Case Studies

**Module 3 (12 hours):** Introduction and Importance of Vermi-composting: -

- Overview of Vermi-composting
- Importance of Vermi-composting
- Advantages of Vermi-composting over Conventional Composting
- Comparison of Vermi-composting and Conventional Composting
- Vermi-composting Process
- Types of Worms Used in Vermi-composting

**Module 4 (12 hours):** Economics of Vermi-composting and Organic Farming: -

- Cost-Benefit Analysis of Organic Farming
- Market Potential for Organic Products



- Pricing and Marketing Strategies for Organic Products
- Profitability Analysis of Vermi-composting
- Sources of Funding for Organic Farming and Vermi-composting

**Module 5 (12 hours): Hands-on Training and Practical Implementation: -**

- Setting up an Organic Farm
- Planning and Execution of Vermi-composting
- Soil Management Techniques
- Crop Management Techniques
- Harvesting and Post-Harvest Techniques
- Quality Control Measures
- Hands-on Training in Organic Farming Techniques and Vermi-composting

*K. Shivani*  
 Coordinator, Board of Studies  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

*[Signature]*  
 Chairperson, Board of Studies  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

Approved

*[Signature]*  
 Member Secretary, Academic Council  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore






2.

# Mushroom Cultivation

## 2.1 Brochure: -

**Govt. Holkar (Model Autonomous) Science College, Indore**

Department of Botany



**Topic**

# Mushroom Cultivation & Its Marketing


**Value Added Course on "Mushroom Cultivation & Its Marketing"**

**Conducted by Department of Botany from 09/04/2022 to 29/04/2022**

**Brief Syllabus:**  
The course will cover the following topics:

- Introduction to mushroom cultivation and its benefits
- Mushroom varieties and their nutritional and medicinal properties
- Mushroom spawn production
- Substrate preparation for mushroom cultivation
- Methods of cultivation of edible and medicinal mushrooms
- Harvesting, processing, and packaging of mushrooms
- Marketing and promotion of mushroom products
- Value addition to mushroom products

<b>Key Benefits:</b>	<b>Career Opportunities:</b>	<b>Objective:</b>
<ul style="list-style-type: none"><li>• Participants will gain practical knowledge about mushroom cultivation techniques and marketing strategies.</li><li>• They will learn about the nutritional and medicinal benefits of mushrooms and their role in sustainable agriculture.</li><li>• They will get hands-on experience in mushroom cultivation.</li><li>• Participants will develop skills in packaging, labelling, and marketing of mushrooms.</li><li>• They will receive a certificate of participation from the Govt Holkar (Model Autonomous) Science College, Indore.</li></ul>	<ul style="list-style-type: none"><li>• Mushroom Cultivation Entrepreneur</li><li>• Mushroom Marketing Manager</li><li>• Mushroom Farm Manager</li><li>• Mushroom Product Development Manager</li><li>• Researcher in Mushroom Cultivation</li></ul>	<p>The course is designed to provide participants with a comprehensive understanding of mushroom cultivation and marketing. The objective of this course is to equip participants with practical skills and knowledge to start their own mushroom cultivation business and develop marketing strategies for it.</p>



## **2.2 Permission: -**

वनस्पतिशास्त्र विभाग, शा0 होलकर विज्ञान महाविद्यालय, इन्दौर,(म0प्र0)

क्रमांक 355A/वनस्पतिशास्त्र/2022

दिनांक: 06/04/2022

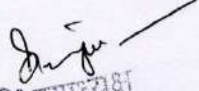
प्रति,

प्राचार्य महोदय,  
शास0 होलकर विज्ञान महा0,  
इन्दौर,(म0प्र0)

विषय :- 60 Hours Value added Course कराने की अनुमति विषयक।

महोदय,

उपरोक्त विषयान्तर्गत अनुरोध है, कि महाविद्यालय के वनस्पतिशास्त्र विभाग द्वारा विद्यार्थियों हेतु 60 Hours का Value added Course “Mushroom Cultivation and its Marketing” दिनांक 09/04/2022 से 29/04/2022 तक विभाग में आयोजित किया जाना प्रस्तावित है।

  
डॉ. राजेंद्रा ईकवाल  
वनस्पतिशास्त्र विभाग  
शास0 होलकर विज्ञान महा. इन्दौर



### **2.3 Notice: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Botany**  
**Value Added Course**  
**60 Hours Training Program**  
**On**

**“Mushroom Cultivation and its Marketing”**

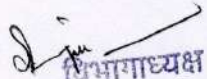
Value added courses are the types of courses which help a particular individual to develop their skills in their chosen field of the study. The Value-Added Courses aim to provide additional learner centric graded skill oriented technical training, with the primary objective of improving the employability skills of students. It is important for all institutions to supplement the curriculum to make students better prepared to meet industry demands as well as develop their own interests and aptitudes. Mushroom Cultivation and its Business may be defined as the sum of the activities performed for the successful production of Edible Mushrooms and marketing of Mushrooms in various hospitality industry and medicinal uses, etc.

**Eligibility:** As per course requirement: 10+2/Graduation

**Prerequisites:** As per course requirement: Basic knowledge of farming and medicinal plants.

**Course Fee:** 500/-

**Course Duration information:** 60 hrs

  
विभागाध्यक्ष  
वनस्पति शास्त्र विभाग  
शा. होलकर विज्ञान महा. इन्दौर



## **2.4 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Botany**  
**Value Added Course on Mushroom Cultivation and its**  
**Marketing**  
**Syllabus**

**Course Outcome:** Standardized Mushroom cultivation practices and its business, will reduce the dependence on collection of raw material from wild to meet the market demand, thereby conserving the biodiversity. Knowledge regarding medicinal property and uses of medicinal mushrooms in our daily life. Student of Botany can start own business and become entrepreneur.

**Module 1 (12 hours):** Introduction and Importance of Mushroom Cultivation:

- Introduction to Mushroom Cultivation
- History and Evolution of Mushroom Cultivation
- Nutritional and Medicinal Value of Mushrooms
- Importance of Mushroom Cultivation
- Global and Indian Market for Mushrooms
- Challenges and Opportunities in Mushroom Cultivation

**Module 2 (12 hours):** Varieties of Cultivated Mushroom in India:

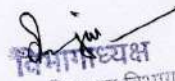
- Introduction to Different Mushroom Varieties
- Oyster Mushrooms
- Button Mushrooms
- Shiitake Mushrooms
- Reishi Mushrooms
- Other Popular Mushroom Varieties in India
- Characteristics and Requirements of Different Mushroom Varieties

**Module 3 (12 hours):** Methods of Mushroom Cultivation:

- Basic Concepts of Mushroom Cultivation
- Spawn Production
- Substrate Preparation
- Sterilization Techniques
- Inoculation Techniques
- Casing and Spawning
- Environmental Management
- Harvesting and Post-Harvest Management

**Module 4 (12 hours):** Business and Economics of Mushroom Cultivation:

- Market Analysis and Demand Estimation
- Cost-Benefit Analysis of Mushroom Cultivation
- Pricing Strategies and Marketing Techniques
- Business Plan Development
- Government Schemes and Subsidies for Mushroom Cultivation

  
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- Risk Assessment and Management
- Integration of Mushroom Cultivation with Other Farming Systems

**Module 5 (12 hours): Hands-on Training and Practical Demonstration:**

- Site Selection and Preparation
- Spawn Production
- Substrate Preparation
- Sterilization Techniques
- Inoculation Techniques
- Environmental Management
- Casing and Spawning
- Harvesting and Post-Harvest Management
- Quality Control and Assurance
- Value-Added Product Development
- Demonstration of Mushroom Cultivation Techniques

*Dubey*  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

*[Signature]*  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

**Approved**




*BL*  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

3.

# Application of Tools & Techniques in Biology

### **3.1 Brochure: -**

	<p><b>GOVT. HOLKAR (MODEL, AUTONOMOUS) SCIENCE COLLEGE, INDORE (M.P.)</b> (Affiliated to Devi Ahilya Vishwavidhalaya, Indore)</p>	
	<p>30 HRS. VALUE ADDED COURSE ON <b><u>APPLICATION OF TOOLS AND TECHNIQUE IN BIOLOGY</u></b> ORGANIZED BY ZOOLOGY &amp; FISHERIES DEPARTMENT</p>	
<p>Patron Dr. Suresh T. Silawat Additional Director, Higher education Indore division &amp; Principal Gov. Holkar Science College, Indore.</p>	<p>Date :- 04 May to 14 May 2022 Platform :- Google meet App Time :- 11:00 to 2:00 PM</p> <p><input type="checkbox"/> Attendance will be taken daily. <input type="checkbox"/> Quiz will be given daily which is compulsory. <input type="checkbox"/> Feedback will be taken after the completion of course.</p> <p><b>Head :-</b> Dr. Rekha Sharma <b>Convenor:-</b> Dr. Preeti Khullar <b>Co-Convenor:-</b> Dr. Ravindra Pal Ahirwal <b>Organising Team:-</b> Mrs. Shanti Patidar and Dr. Priya Gaur</p>	



### 3.2 Syllabus: -

Govt. Holkar Science College Indore (M.P.)  
**SYLLABUS**  
**Department of Zoology & Fisheries**  
30 Hrs Value Added Course on  
**"Application of Tools and Techniques in Biology"**

Date	Modules	Name of Instrument
04-05-2022	Module : 1	Microtome
		Autoclave
05-05-2022		Centrifuge and their types
06-05-2022		Laminar Air Flow
07-05-2022	Module: 2	Colorimeter and Spectrophotometer
09-05-2022		Electrophoresis
10-05-2022		Fluorescent Microscope and Phase contrast Microscope Haemocytometer
11-05-2022	Module: 3	Microscope
		Electron Microscope
12-05-2022		Microtome
13-05-2022	Module: 4	PCR pH meter
		Modern Fish Farming Technology
14-05-2022		Fishing Methods Valedictory – Dr. N. Dagaonkar

Approved

*Rsharny*  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

*Rsharny*  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

### **3.3 resource Persons: -**

Govt. Holkar Science College Indore (M.P.)  
**Department of Zoology & Fisheries**  
30 Hrs Value Added Course on  
**"Application of Tools and Techniques in Biology"**

**C V of speakers of 30 hours Value Added Course on "Application of Tools and Techniques in Biology" from 4 May to 14 May 2022**

**Name** Dr. Anis Siddhiqui  
**Qualification** Ph.D. Zoology  
**Delivered Topic** Microtome  
**Current Position** Retd. Professor, Govt. Girls P.G. College Indore (M.P.)  
**Designation** Retd. Professor  
**Teaching Experience** 43  
**Research guide status** Yes  
**Published Research Paper** 32  
**Expertise** Fish and Fisheries

**Name** **Dr. Priya Gaur**  
**Qualification** Ph.D. Zoology  
**Current Position** Department of Zoology, Govt. Holkar Science College Indore (M.P.)  
**Delivered Topic** Autoclave  
**Designation** Guest Faculty  
**Teaching Experience** 3  
**Research guide status** No  
**Published Research Paper** 13  
**Expertise** Ecology, Ornithology and Development Biology

**Name** **Dr. Alka Dubey**  
**Qualification** Ph.D. Zoology  
**Current Position** Department of Zoology, Govt. Holkar Science College Indore (M.P.)  
**Delivered Topic** Centrifuge and their types  
**Designation** Guest Faculty  
**Teaching Experience** 20  
**Research guide status** No  
**Published Research Paper** 5  
**Expertise** Limnology and cell biology

<b>Name</b>	<b>Dr. Ruchi Shrivle</b>
Qualification	Ph.D. Zoology
Current Position	Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Delivered Topic	Laminar Air Flow
Designation	Guest Faculty
Teaching Experience	16
Research guide status	No
Published Research Paper	3
Expertise	Fisheries

<b>Name</b>	<b>Mrs. Shanti Patidar</b>
Qualification	M.Phil. Biochemistry
Current Position	Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Delivered Topic	Colorimeter and Spectrophotometer
Designation	Guest Faculty
Teaching Experience	9
Research guide status	No
Published Research Paper	3
Expertise	Biochemistry, Physiology and Cell biology

<b>Name</b>	<b>Dr. Anjali Kumar</b>
Qualification	Ph.D. Zoology
Current Position	Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Delivered Topic	Laboratory safety
Designation	Professor
Teaching Experience	35
Research guide status	No
Published Research Paper	0
Expertise	Taxonomy



<b>Name</b>	<b>Dr. Pramila S</b>
Qualification	Ph.D. Zoology Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Current Position	
Delivered Topic	Electrophoresis
Designation	Guest Faculty
Teaching Experience	20
Research guide status	No
Published Research Paper	3
Expertise	Fisheries

<b>Name</b>	<b>Dr. Ram Prajapati</b>
Qualification	Ph.D. Zoology Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Current Position	
Delivered Topic	Fluorescent Microscope and Phase contrast Microscope
Designation	Associate Professor
Teaching Experience	28
Research guide status	Yes
Published Research Paper	35
Expertise	Physiology

<b>Name</b>	<b>Dr. Ravindra Pal Ahirwal</b>
Qualification	Ph.D. Zoology Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Current Position	
Delivered Topic	Haemocytometer
Designation	Assistant Professor
Teaching Experience	13
Research guide status	Yes
Published Research Paper	5
Expertise	Environmental Biology

(समस्त विद्यापीठ/कॉलेज/यूनिवर्सिटी)  
गवर्नमेंट ऑफ मध्य प्रदेश  
DEPARTMENT OF HIGHER EDUCATION





**Name** Dr. Amita Dagaonkar  
**Qualification** Ph.D. Zoology  
**Current Position** Department of Zoology, Govt. Holkar Science College Indore (M.P.)  
**Delivered Topic** Microscope  
**Designation** Professor  
**Teaching Experience** 37  
**Research guide status** No  
**Published Research Paper** 10  
**Expertise** Limnology

**Name** Dr. Vipul Keerti Sharma  
**Qualification** Ph.D. Zoology  
**Current Position** Department of Zoology, Govt. Holkar Science College Indore (M.P.)  
**Delivered Topic** Electron Microscope  
**Designation** Professor  
**Teaching Experience** 25  
**Research guide status** Yes  
**Published Research Paper** 60  
**Expertise** Environmental Biology

**Name** Dr. Preeti Khullar  
**Qualification** Ph.D. Zoology  
**Current Position** Department of Zoology, Govt. Holkar Science College Indore (M.P.)  
**Delivered Topic** Microtome  
**Designation** Professor  
**Teaching Experience** 36  
**Research guide status** No  
**Published Research Paper** 0  
**Expertise** Fish and Fisheries

<b>Name</b>	<b>Dr. Renu Jain</b>
Qualification	Ph.D. Zoology
Current Position	Department of Zoology, Govt. Holkar Science College Indc (M.P.)
Delivered Topic	Waterbath
Designation	Assistant Professor
Teaching Experience	36
Research guide status	Yes
Published Research Paper	5
Expertise	Fish and Fisheries

<b>Name</b>	<b>Dr. Kiran Billore</b>
Qualification	Ph.D. Zoology
Current Position	Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Delivered Topic	PCR
Designation	Pofessor and Head Biotechnology
Teaching Experience	39
Research guide status	Yes
Published Research Paper	10
Expertise	Fish and Fisheries

<b>Name</b>	<b>Dr. Rekha Sharma</b>
Qualification	Ph.D. Zoology
Current Position	Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Delivered Topic	pH meter
Designation	Chairman and Prof. Head of Zoology
Teaching Experience	38
Research guide status	Yes
Published Research Paper	33
Expertise	Limnology, Fish and Fisheries and

<b>Name</b>	<b>Mr. Rohit Mishra</b>
Qualification	M.Phil. Aquaculture
Delivered Topic	Modern Fish Farming Technology
Current Position	Entrepreneur (Co-Founder : Oceana Aquaculture Bhopal (M.P.)
Designation	Owner of Oceana Aquaculture
Teaching Experience	0
Research guide status	No
Published Research Paper	Nil
Expertise	Aquaculture

<b>Name</b>	<b>Mr. Rohit Verma</b>
Qualification	M.FSc. Fisheries
Current Position	Department of Zoology, Govt. Holkar Science College Indore (M.P.)
Delivered Topic	Fishing Methods
Designation	Guest Faculty
Teaching Experience	8
Research guide status	No
Published Research Paper	5
Expertise	Fisheries

<b>Name</b>	<b>Dr. N. Dagaonkar</b>
Qualification	Ph.D. Physics
Current Position	Department of Physics, Govt. Holkar Science College Indore (M.P.)
Delivered Topic	Microscopes
Designation	Professor
Teaching Experience	40
Research guide status	Yes
Published Research Paper	19+3
Expertise	X Ray Spectroscopy and Statistical Methods

4.

## Role of Investigating Officer in Crime Scene



## 4.1 Brochure: -



**GOVT. HOLKAR [MODEL, AUTONOMOUS] SCIENCE COLLEGE, INDORE, M. P.**

**Grade 'A' Accredited by 'NAAC'**

**Department of Forensic Science**

**Value Added Course on "ROLE OF INVESTIGATING OFFICER IN CRIME SCENE"**  
(Session: 2021-22)

**Date: 02.01.2022 to 17.01.2022**



**Patron**  
Dr. Suresh T. Silawat  
Principal, Govt. Holkar Science College & Additional Director, Higher Education, Indore Division M. P.



**Head**  
Dr. Geetha Sarasan  
Department of Forensic Science, Govt. Holkar Science College, Indore, M. P.



**Resource Person**  
Mrs. Suchita Pandey  
Scientific Officer  
Police Training Campus, Indore, M.P.

**Organizing Secretaries**



**Prof. Harshita Sonkar**  
Department of Forensic Science, Govt. Holkar Science College, Indore M. P.



**Prof. Ruchi Sonowane**  
Department of Forensic Science, Govt. Holkar Science College, Indore M. P.

**Members of Organizing Committee**



**Prof. Ritu Bharti**  
Department of Forensic Science, Govt. Holkar Science College, Indore, (M. P.)



**Prof. Satish Rai**  
Department of Forensic Science, Govt. Holkar Science College, Indore, (M. P.)

**Technical Assistant: Mr. Magan Bhawar**  
Link For Registration: <https://forms.gle/RSiZ3FWxYJJpY6Ez9>

235

#### 4.2 Permission: -

शा. होलकर (आदर्श,स्वशासी) विज्ञान महाविद्यालय, इन्दौर (म.प्र.)

फॉरेंसिक विज्ञान विभाग

प्रति,

प्राचार्य महोदय,

शा. होलकर विज्ञान महाविद्यालय,

इन्दौर (म.प्र.)।

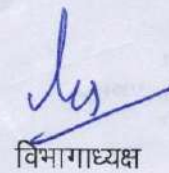
विषय:- Value added course करवाने की स्वीकृति विषयक।

महोदय,

विनम्र निवेदन है कि फॉरेंसिक विज्ञान विभाग द्वारा विषय सम्बन्धि 15 दिवसीय Value added course "ROLE OF INVESTIGATION OFFICER IN CRIME SCENE" दिनांक 2.01.2022 से 17.01.2022 तक प्रस्तावित है। कृपया स्वीकृति प्रदान करने की कृपा करें।

नेक के लिए भी इसका उल्लेख किया जाना है।

धन्यवाद।

  
विभागाध्यक्ष


Forensic Science Department  
Govt. Holkar Science College  
Indore (M.P.)



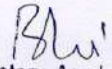
### 4.3 Syllabus: -

**Govt. Holkar (Model, Autonomous) Science College Indore, (M.P)**  
**Department of Forensic Science**  
**Session-2021-22**  
**Value Added Course on Role of Investigating Officer in**  
**Crime Scene**  
**Syllabus**

1.	Course Code – VACFS-2
2.	Value Added Course Title - Role of Investigating Officer at Crime Scene
3.	Course Outcomes – after study of this course students will come to - 1. Know about basic organizational structure of forensic laboratory 2. Illustrate basic classification of physical evidence 3. Recognize importance of Crime Scene Management 4. Describe various steps of crime scene management. 5. Interpret importance of chain of custody at scene of crime.
<b>Unit</b>	<b>Topics</b>
<b>I</b>	<b>Forensic Science:</b> Definition, History of forensic science, Organizational setup of Forensic Science laboratories, GEQDs, Fingerprint bureaus, DFS, Mobile Forensic laboratories. qualifications, Duties of Forensic Scientist at Forensic Science laboratory & SOC <b>Keywords:</b> Forensic Science, CFSL, FSL Organization, Fingerprint Bureaus.
<b>II</b>	<b>Physical Evidence:</b> Definition, Classification of Physical evidence, Different Search methods for physical evidences, Collection, Preservation, Packaging, Labeling, Sealing and Forwarding of Physical evidences, Chain of custody. <b>Keywords:</b> Search and seizure, Physical evidences, Chain of custody.
<b>III</b>	<b>Searching, Collection, Packing, Labeling and Forwarding of Biological Evidences from Scene of Crime:</b> Blood, Semen, Saliva, Bite marks, Vomit, Tears, Nails, Hair & Fiber, Botanical materials etc. <b>Keywords:</b> Biological evidences, Blood, Semen, Saliva, Hair and Fiber
<b>IV</b>	<b>Searching, Collection, Packing, Labeling and Forwarding of Chemical and Toxicological Evidences from Scene of Crime:</b> Cement, Mortar & Concrete, Explosive, Arson evidence, Wood, Petroleum products, Drugs and poisons, Viscera for toxicological analysis etc. <b>Keywords:</b> Chemical evidences, Cement, Explosives, Drugs and Poison.
<b>V</b>	<b>Searching, Collection, Packing, Labeling and Forwarding of Evidences related to Physics and Other impression from Scene of Crime:</b> Soil, Glass, Tool marks, Skid marks and Tire marks on various surfaces, Digital evidences, Fingerprints, Footprints, Documents, Weapon, Firearms etc. <b>Keywords:</b> Physical evidences, Soil, Glass, Impressions, Tool marks.

  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

Approved

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

# 5.

## Application of Statistics in Biosciences



## 5.1 Brochure: -

**Govt. Holkar (Model, Autonomous) Science College, Indore,**  
**M.P [INDIA]**  
Grade "A" Accredited by NAAC



**DEPARTMENT OF BIOCHEMISTRY**



**Patron**  
**Dr. Suresh T. Silawat**  
Additional Director, Higher Education, Indore Division & Principal Govt. Holkar Science College, Indore

**Co-ordinator**  
**Dr. Angurbala Bafna**  
Associate Professor and Head  
Department of Biochemistry  
Govt. Holkar Science College, Indore

**Convenor:**  
**Prof. Tasneem Rangwala**  
(9826525394)

**Co-Convenor:**  
**Prof. Sheetal Uikey**  
(7013447507)

**Organising Secretary:**  
**Prof. Deepak Choudhary**  
(9630700490)

**Official Mail:**  
[biochem780@gmail.com](mailto:biochem780@gmail.com)

**Certificate course on**  
**"Applications of Statistics in Biosciences"**  
(Only for students and research scholar)

**Date:** 04<sup>th</sup> – 14<sup>th</sup> October 2021

**Platform:** Google Meeting App

**Last date for Appling:** 30<sup>th</sup> September 2021 till 5.00 PM

**Time :** 2:00 PM – 5.00 PM

**Registration fees :** 200/-

Pay the Admission fee (Rs. 200/-) online (NEFT/UPI) in the account:

**Account Name** :: PRINCIPAL HOLKAR SCIENCE COLLEGE

**Account Number** :: 31777055014

**Bank & Branch** :: STATE BANK OF INDIA, HOLKAR SCIENCE COLLEGE, A. B. ROAD, INDORE-452017

**IFSC** :: SBIN0030467

**Note :** **Kindly save the receipt of payment for the registration e- certificate will be given to qualified participants.**

**Registration link:** <https://forms.gle/ocykxcRRKBXbZTCn7>

This program empowers the participants to explore use of MS- Excel for calculating different statistical parameters and also build their capability to represent data in various ways. This will help in efficient research presentation. Knowledge of statistics will enable researchers to conduct research and also to present their results and conclusion in reader's friendly way.

- ❖ Attendance will be taken daily and 80% attendance is mandatory.
- ❖ 1:30 hrs theory + 1:30 hrs practice session in MS-Excel.
- ❖ Candidates should have their own laptop/PC for practice session.
- ❖ Quiz will be given daily and are compulsory.
- ❖ One final quiz on completion of course.
- ❖ Minimum 40% score is mandatory to get certificate.

## 5.2 Permission: -

**Govt. Holkar Science College Indore (M.P.)**  
**Department of Biochemistry**

Date - 07/09/2021

To,  
Principal

Govt. Holkar Science College,  
Indore (M.P.)

Subject: - Online Certificate course on "Applications of Statistics in Biosciences."

Respected Sir,

Regarding above subject, Biochemistry Department is proposing 10 Days Online Certificate course on "Applications of Statistics in Biosciences" from 6<sup>th</sup> - 18<sup>th</sup> October 2021. This certificate course will include all the four quadrants essential for creating MOOCs i.e. E-text, video lecture, suggested reading and quiz, so this course should be considered as MOOCs.

**The Details of the course are mentioned below.**

- |  |   |   |
|--|---|---|
| 1. Name of Online Certificate Course     | - | "Applications of Statistics in Biosciences"   |
| 2. Duration                              | - | 10 Days (1 × 3 hrs i.e. 30 hrs)   |
| 3. Course Content                        | - | As per syllabus approved by Board of Studies.                                       |
| 4. Mode                                  | - | On line mode Google meet online platform.   |
| 5. Registration fee                      | - | 200/- (No Loss no Profit)   |
| 6. Remuneration of guest Resource person | - | As per Government norms.  |
| 7. Subject Expert                        | - | Faculty of department and guest subject expert as resource person.                  |
| 8. Eligibility Criteria                  | - | Under graduate  |
| 9. No. of Seats                          | - | 50  |
| 10. Eligibility to get c- certificate    | - | On the basis of performance of participants through online MCQ test and Assignment. |
| 11. Grade                                | - | As per College exam pattern.  |
| 12. Expenditure                          | - | Depend on the registration fee collected.   |

Kindly grant us permission to organize the above certificate course and oblige.

7es  
Deep  
प्रचार्य  
शा. होलकर विज्ञान महाविद्यालय  
इन्दौर

HOD  
HEAD  
Department of Biochemistry  
Department of Biochemistry  
Holkar Science College, Indore

### **5.3 Syllabus: -**

**Department of Biochemistry**  
**Online Certificate Course**  
**“Application of Statistics in Biosciences”**

Duration: 12 Days (30 hrs)

Each session - 02:30 hrs

This course will help in efficient research presentation. Knowledge of statistics will enable researchers to conduct research and also to present their results and conclusion in reader's friendly way. This program empowers the participants to explore use of MS- Excel for calculating different statistical parameters and also build their capability to represent data in various ways.

- 1: Introduction and importance of statistics in Biosciences.
- 2: Graphical representation of ungrouped data- Line, Bar, Pie, Pictogram
- 3: Graphical representation of grouped data- Frequency Curve, Cumulative frequency, Histogram
- 4: Measures of Central tendency (Special reference to mean)
- 5: Measures of Dispersion (Special reference to SD)
- 6: Standard error
- 7: Correlation (Simple Correlation)
- 8: Regression equation
- 9: Normal Distribution Curve and critical region
- 10: Test of significance
- 11: Hypothesis and type of error

Dr. A. Bafna

Prof. R.S. Maheshwari

Prof. R.S. Gupta

Dr. Purnima Dey Sarkar

Prof. A.R. Batham

Mr. Rohan Gupta

Prof. Tasneem Rangwala

Prof. Sheetal Ukey

Prof. Deepak Choudhary

Mrs. Rajshree Kabra



# Department of Biochemistry

## Online Certificate Course

### “Application of Statistics in Biosciences”

12: t-test

13: ANOVA (Analysis of Variance)

**Note:**

- Candidate should have their own laptop/PC for practice session.
- 1:30 hrs theory + 1:00 hrs practice session in MS-Excel.
- Assignment and quiz will be given daily.
- One final quiz on completion of course.
- Minimum 40% score is mandatory to get certificate.
- Feedback from candidates will be taken daily.

Dr. A. Bafna

Prof. R.S. Maheshwari

Prof. R.S. Gupta

Dr. Purnima Dey Sarkar

Prof. A.R. Batham

Mr. Rohan Gupta

Prof. Tasneem Rangwala

Prof. Sheetal Uikey

Prof. Deepak Choudhary

Mrs. Rajshree Kabra



6.

# Human Impact on Air Environment

## **6.1 Brochure: -**

**Value Added Course  
10 Days Training Project  
On  
“Human Impact on Air Environment”**



**Organized By :  
Department of Microbiology,  
Govt. Holkar Science College, Indore  
Dated: 01 December 2021 to 11 December 2021**

**Patron: Dr. Suresh T. Silawat,  
Additional Director, Indore-Division &  
Principal,  
Govt. Holkar Science College, Indore**

**Convenor: Dr. Sanjay Vyas  
Prof. & Head, Department of Microbiology**

**Venue  
Department of Microbiology,  
Govt. Holkar Science, College,**

**Registration: No Fee**

### **Committee**

**Patron:** Dr. Suresh T. Silawat, Additional Director,  
Indore-Division & Principal,  
Govt. Holkar Science College, Indore

**Convenor:** Dr. Sanjay Vyas, Prof. & Head,  
Govt. Holkar Science College, Indore

**Organizing Secretaries:** Dr. Deepti Khare ,  
Prof. Anuja Sharma

**Committee Members:** Dr. Radhika Waghmare  
Prof. Nidhi Kibe  
Mrs. Ranjeeta Prajapati  
Mr. Dileep Jacob  
Mrs. Neha Sharma

**Speakers:** Day 01 – Dr. Sanjay Vyas  
Day 02 – Prof. Anuja Sharma  
Day 03 – Dr. Deepti Khare

## 6.2 Permission: -

सूक्ष्मजैविकी विभाग, शा० होलकर विज्ञान महाविद्यालय,  
इन्दौर, (म०प्र०)

क्रमांक ...../सूक्ष्मजैविकी/2021

दिनांक: 29/11/2021

प्रति,

प्राचार्य महोदय,  
शास० होलकर विज्ञान महा०,  
इन्दौर, (म०प्र०)

विषय :- 10 दिवसीय ट्रेनिंग प्रोजेक्ट कराने की अनुमति विषयक।

महोदय,

उपरोक्त विषयान्तर्गत अनुरोध है, कि महाविद्यालय के सूक्ष्मजैविकी विभाग द्वारा विद्यार्थियों हेतु दस दिवसीय **Training Project "Human Impact on Air Environment"** दिनांक 01/12/2021 से 11/12/2021 तक विभाग में आयोजित किया जाना प्रस्तावित है।

कृपया **NAAC Visit** को दृष्टिगत रखते हुये उक्त ट्रेनिंग प्रोजेक्ट को करवाने की अनुमति प्रदान करने का कष्ट करें।

डॉ. संजय व्यास  
विभागाध्यक्ष  
सूक्ष्मजैविकी विभाग

Yes  
  
30 (11/21)





### **6.3 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department of Microbiology**  
**Session: 2021-22**  
**Syllabus For Value Added Course**  
**Title: Human Impact on Air Environment**

Unit	Topics
1	Aerobiology: - Definition, branches of aero microbiology, history of aero- microbiology, composition of air, microorganism present in air. Air environments.
2	Aeroallergens, infection transfer, Droplet nuclei & aerosol.
3	Assessment of air quality-History, air quality, air pollutants, effects on biodiversity, air pollution control, methods of air quality of assessment.
4	Bacterial, fungal and viral diseases transmitted through air and their preventive measures.

**Approved**

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

7.

# An Introduction to Drugs & Medicine

## **7.1 Brochure: -**



**Govt, Holkar (Model, Autonomous ) Science College, Indore , M.P.**

### **An Introduction to Drugs & Medicines**

**( A value added course offered by the department of Pharmaceutical Chemistry )**

**Course Code-**

**Duration -** 30 hrs.

**Offered to-** Students of all streams UG

**Mode** Online (LMS platform)

**Learning Objectives:** The course is intended

1. To familiarise the student about various dosage forms, components, categories and label of Medicines.
2. To sensitise the student about the buying, using, storing and side effects of Medicines
3. To gain insights about various stages of drug development and about current therapies.
4. To understand the concepts of traditional medicines, standards for medicines and regulation of medicines.
5. To gain the skill in extraction, evaluation and labelling of medicines.

#### **Course Content**

Know your Medicine: What are Medicines? Food/ Nutrition vs Medicine.

Using Medicines (Dosage Forms): Buying and storing medicines at home.

Drugs or Medicine Discovery: Some historical perspectives of drug discovery.

Herbal, Ayurvedic and Siddha Medicines: Basic concepts.

Standards, Quality and Regulation of Medicines: Basic concepts of quality with respect to medicinal products.

#### **Course Planners**

1. Dr. M. K. Dwivedi , HOD, Dept. of Pharmaceutical Chemistry
2. Dr. Rashmi Agarwal, Prof. , Pharmaceutical chemistry



## **7.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department Of Pharmaceutical Chemistry**  
**Value Added Course on An Introduction to Drugs and Medicines**  
**Syllabus**

**Learning Objectives:** The course is intended;

1. To familiarise the student about various dosage forms, components, categories and label of Medicines.
2. To sensitise the students about the buying, using, storing and side effects of Medicines.
3. To gain insights about various stages of drug development and about current therapies.
4. To understand the concepts of traditional medicines, standards for medicines and regulation of medicines.
5. To gain the skill in extraction, evaluation and labelling of medicines.

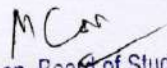
**Course Outcomes:** Upon completion of the course, the student will be able to;

1. Explain the various dosage forms, components, categories and labelling of Medicines.
2. Gain awareness about buying, using, storing and side effects of Medicines.
3. Understand about various stages of drug development and about current therapies.
4. Appreciate the concepts of traditional medicines, standards for medicines and regulation of medicines.
5. Extract, evaluate and label the medicines.

### **Theory (18 Hours)**

#### **Unit-I**

Know your Medicine: What are Medicines? Food/ Nutrition vs Medicine. Brief description of some common Dosage forms of Medicines: Tablets, Capsules, Liquids, Suspensions, Injectables, Non-oral dosage forms etc. Components of a Medicine (Dosage form). Generic and Branded medicines. Therapeutic, Prophylactic and Nutritional supplement dosage forms. Dosage strength and how to read the label of Medicines. Idea of Batch, Manufacturing and Expiry Dates.

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore



## **Unit-II**

Using Medicines (Dosage Forms): Buying and storing medicines at home. Concept of Dosage frequencies and its variation. Reasons for before or after food dose. Do's and Don'ts with special dosage forms (enteric or extended release etc). Handling sterile dosage forms and the relevant precautions. Antibiotics, and their responsible use. Concepts of adverse effects and its reporting. Do's and Don'ts on Medicines for chronic conditions such as Diabetes, Hypertension etc.

## **Unit-III**

Drugs or Medicine Discovery: Some historical perspectives of drug discovery examples such as Aspirin, Penicillin, Quinine, etc. Natural drugs to Modern drugs. Outline of modern drug discovery process. Safety evaluation and Efficacy Evaluation etc. Some modern advances such as Gene Therapy, Stem cell therapy etc.

## **UNIT-IV**

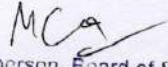
Herbal, Ayurvedic and Siddha Medicines: Basic concepts. Common Traditional Remedies and Illustrative examples of popular plant drugs used in the above systems of medicines, their therapeutic constituents and uses. Awareness about problems or quality issues associated with marketed herbal products and their reliability.

## **UNIT-V**

Standards, Quality and Regulation of Medicines: Basic concepts of quality with respect to medicinal products and how it is ensured. Pharmacopoeias and Standards associated with medicine manufacture. Outline of structure and functions of Drug Control and other relevant Bodies such as NPPA, Scope and purpose of Drugs and Cosmetic Act etc.

### **Practicals: (12 Hours)**

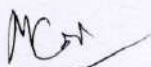
1. Preparation of labels for pharmaceutical dosage forms
2. Extraction of crude drugs
3. Evaluation of dosage forms
4. Evaluation of crude drugs.

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

**References:**

1. Allen, (2018), Ansel's Pharmaceutical Dosage Forms and Drug Delivery
2. System, Wolters Kluwer India Pvt. Ltd.
3. Mohantha G P, (2017), Textbook of Clinical Research, PharmaMed
4. Press/BSP Books
5. Wallis T E, (2005), Textbook of Pharmacognosy, CBS
6. Indian Pharmacopieia
7. Central Drugs Standard Control Organization (CDSCO):  
<https://cdsco.gov.in/opencms/opencms/en/Home/>

Approved



Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore



Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

8.

# Basic Programming with Python

## 8.1 Brochure: -

**Government Holkar (Model, Autonomous) Science College, Indore (M.P.), India**

**Certificate Course On Basic Programming with Python**

Organised By  
*Department of Electronics*

**Course Features**

Duration	165
Start Date	17/01/2022
End Date	30/06/2022
Reg. Start Date	04/01/2022
Reg. End Date	29/01/2022
Certificate	YES
Open Access	NO
Registration Link	<a href="#">Start Course</a>

**CODE : ELEX2102**

Python is a popular programming language. It was created by Guido van Rossum, and released in 1991. It has a simple syntax similar to the English language. It has syntax that allows developers to write



## 8.2 Permission: -

इलेक्ट्रॉनिक्स विभाग, शासकीय (आदर्श, स्वशासी) होलकर विज्ञान महाविद्यालय, इन्दौर (म.प्र.)  
क्रमांक.....

प्रति,

इन्दौर, दिनांक 24/02/2022

प्राचार्य,

शासकीय होलकर विज्ञान महाविद्यालय,

इन्दौर (म.प्र.)

विषय : इलेक्ट्रॉनिक्स विभाग द्वारा सर्टिफिकेशन कोर्स करने बाबत प्रस्ताव।  
महोदय,

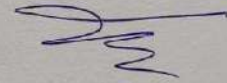
इलेक्ट्रॉनिक्स विभाग द्वारा Python विषय पर 6 माह के सर्टिफिकेट कोर्स आयोजित करने का प्रस्ताव निम्नानुसार प्रस्तुत है -

1. कोर्स का नाम - Certificate Course on Basic Programming with Python
2. अवधि - 60:00 घंटे
3. कोर्स प्रारंभ करने की तिथि - 26 फरवरी 2022 से प्रारंभ
4. कोर्स के विषय पाठ्यक्रम - इलेक्ट्रॉनिक्स विषय के अध्ययन मण्डल (बोर्ड ऑफ स्टडी) द्वारा सर्टिफिकेट कोर्स हेतु अनुमोदित पाठ्यक्रम (सलग्न)
5. रिसर्चर्स पर्सन (विषय विशेषज्ञों की जानकारी) इन्दौर शहर में Python के क्षेत्र में कार्यरत कम्पनी के इंजीनियरों को आमंत्रित किया जाएगा।
6. विषय विशेषज्ञों को मानदेय नियमानुसार राशि रु 1000 प्रति व्याख्यान (90 मिनट) के दर से देय होगा।
7. कोर्स के लिए अर्हता - कक्षा 12वीं एवं किसी भी विषय में बी.एस.सी. उत्तीर्ण या अध्ययनरत विद्यार्थी इस कोर्स के लिए अर्ह है।
8. कोर्स फीस एवं परीक्षा शुल्क - रु 1000 + 200/- प्रति अभ्यर्थी
9. संभावित प्रतिभागियों की संख्या - 50
10. फीस द्वारा प्राप्त होने वाली संभावित आय - रु 60,000/-
11. महाविद्यालय से प्राप्त Seed money - नहीं
12. कुल संभावित आय रु - 60,000/-
13. कुल आय रु - 60,000/-

14. विषय विशेषज्ञों के मानदेय पर संभावित कुल व्यय रू - 40,000/-
15. परीक्षा शुल्क - 10,000/-
16. स्टेशनरी, कम्प्यूटर स्टेशनरी, फोटो कॉपी एवं अन्य स्टेशनरी आदि पर व्यय-5000/-
17. अन्य विविध व्यय एवं आकस्मिक व्यय - 5000/-
18. कुल संभावित व्यय रू. - 60,000/-

इस सर्टिफिकेट कोर्स के लिए नियमित कक्षाएँ प्रतिदिन प्रातः 12:00 से 3:00PM तक इलेक्ट्रॉनिक्स विभाग में आयोजित की जाएंगी। इस कोर्स के लिए परीक्षा विभाग द्वारा परीक्षा आयोजित की जावेगी जिसके अन्तर्गत सैद्धांतिक एवं प्रयोगिक परीक्षा आयोजन होगा। सफल अभ्यर्थियों को सर्टिफिकेट प्रदान किए जावेगे।

कृपया इस कोर्स को आयोजित करने हेतु अनुमति विभाग को प्रदान करने का कष्ट करें।



डॉ. नेतराम कौरव  
विभागाध्यक्ष  
इलेक्ट्रॉनिक्स विभाग

संलग्न:-

1. अध्ययन मण्डल के सदस्यों द्वारा अनुमोदित पाठ्यक्रम की प्रतिलिपी।

Yes  
Deep



### 8.3 Syllabus: -


**Govt. Holkar (Model, Autonomous) Science College, Indore**  
**Department of Electronics**  
**Syllabus Session 2021-22**


Title of Certificate Course:	Basic Programming with Python
Course Code	PYTH
Credit	4

Part A : Introduction		
1	Certificate Course Description	This course provides an introduction to programming and the Python language. Students are introduced to core programming concepts like data structures, conditionals, loops, variables, and functions. This course includes an overview of the various tools available for writing and running Python, and gets students coding quickly. It also provides hands-on coding exercises using commonly used data structures, writing custom functions, and reading and writing to files. This course may be more robust than some other introductory python courses, as it delves deeper into certain essential programming topics.
2	Pre-requisite (if any)	10+2 with Science
3	Course Objective	The course is designed to provide Basic knowledge of Python. Python programming is intended for software engineers, system analysts, program managers and user support personnel who wish to learn the Python programming language.
4	Course Learning Outcomes	<ul style="list-style-type: none"> <li>• Making Software easily right out of the box.</li> <li>• Experience with an interpreted Language.</li> <li>• To build software for real needs.</li> <li>• Prior Introduction to testing software</li> </ul>
Module	Topics	No. of Hrs
1	<b>Introduction:</b> History of Python, Need of Python Programming, Python and PyCharm Installation, Running Python Scripts, Variables, Assignment, Keywords, Input-Output. Data Structures Lists– Operations, Slicing, Methods; Tuples, Sets; Dictionaries, Sequences.	6
2	<b>Types, Operators, and Expressions:</b> Types – Integers, Strings, Booleans; Operators- Arithmetic Operators, Comparison (Relational) Operators, Assignment Operators, Logical Operators, Bitwise Operators, Membership Operators, Identity Operators, Expressions and order of evaluations Control Flow- if, if-elif-else, for, while, break, continue, pass.	6
3	<b>Functions:</b> Defining Functions, Calling Functions, Passing Arguments, Keyword Arguments, Default Arguments, Variable-length arguments, Anonymous Functions, Fruitful Functions (Function Returning Values), Scope of the Variables in a Function- Global and	6

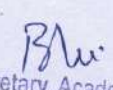
SESSION 2021 - 22

	Local Variables, Recursion, decorators. Modules: Creating modules, import statements, from. The import statement, namespacing, Python packages, Introduction to PIP, Installing Packages via PIP, Using Python Packages.				
4	<b>Built in Functions:</b> Files- read, write, open, close, readline, readlines, writelines, seek, tell etc. Date and Time, audio related function, lambda, F-string and string formatting, enumerate, If <code>__name__ == '__main__'</code> usage & necessity, join, map, filter, reduce, Built in Modules like Time, OS,.	6			
5	<b>Object:</b> Oriented Programming OOP in Python: Classes, 'self-variable', Methods, Constructor Method, Inheritance, Overriding Methods, Data hiding, and Overloading.	6			
Hands-on/Field work	Practical/Project	30			
Part C – Learning Resources					
Text books, Reference Books, Other Resources					
Part D- Assessment and Evaluation					
Title	CCE	Min. Marks	Term Exam	Min. Marks	Total
Theory	10	4	40	14	50
Practical/Project	--	--	50	17	50

  
 Coordinator, Board of Studies  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

  
 Chairperson, Board of Studies  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

**Approved**

  
 Member Secretary, Academic Council  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

SESSION 2021 - 22



# 9.

## Robotics

## 9.1 Brochure: -

The screenshot displays the website of Government Holkar (Model, Autonomous) Science College, Indore (M.P.), India. The page features a navigation bar with links to HOME, ABOUT US, COURSES, CLASSES, WEBINARS / CONFERENCES, MY CITATION, SCANNER, and CONTACT. The main content area highlights a "Certificate Course on Robotics" organized by the Department of Electronics. A sidebar titled "Course Features" lists details such as Duration (168), Start Date (17/01/2022), End Date (30/06/2022), and a registration link. The course code ELEX2103 is displayed, along with a "Start Course" button. The footer includes a brief definition of robotics.

**Government Holkar (Model, Autonomous) Science College, Indore (M.P.), India**

**Certificate Course on Robotics**

Organised By  
**Department of Electronics**

**Course Features**

Duration	168
Start Date	17/01/2022
End Date	30/06/2022
Reg. Start Date	04/01/2022
Reg. End Date	20/01/2022
Certificate	YES
Open Access	NO
Registration Link	<a href="#">Registration Link</a>

**CODE : ELEX2103** [Start Course](#)

Robotics is the intersection of science, engineering and technology that produces machines, called robots, that substitute for (or replicate) human actions. In future, robots will be found performing tasks that

## 9.2 Permission: -

इलेक्ट्रॉनिक्स विभाग, शासकीय (आदर्श, स्वशासी) होलकर विज्ञान महाविद्यालय, इन्दौर (म.प्र.)

क्रमांक.....

इन्दौर, दिनांक .....

प्रति,

प्राचार्य,

शासकीय होलकर विज्ञान महाविद्यालय,

इन्दौर (म.प्र.)

विषय : इलेक्ट्रॉनिक्स विभाग द्वारा सर्टिफिकेशन कोर्स करने बाबत प्रस्ताव।

महोदय,

इलेक्ट्रॉनिक्स विभाग द्वारा Robotics विषय पर 6 माह के सर्टिफिकेट कोर्स आयोजित करने का प्रस्ताव निम्नानुसार प्रस्तुत है -

1. कोर्स का नाम - Certification Course on Robotics
2. अवधि - 60:00 घंटे
3. कोर्स प्रारंभ करने की तिथि - 26 फरवरी 2022 से प्रारंभ
4. कोर्स के विषय पाठ्यक्रम - इलेक्ट्रॉनिक्स विषय के अध्ययन मण्डल (बोर्ड ऑफ स्टडी) द्वारा सर्टिफिकेट कोर्स हेतु अनुमोदित पाठ्यक्रम (सलग्न)
5. रिसर्स पर्सन (विषय विशेषज्ञों की जानकारी) इन्दौर शहर में Robotics के क्षेत्र में कार्यरत कम्पनी के इंजीनियरों को आमंत्रित किया जाएगा।
6. विषय विशेषज्ञों को मानदेय नियमानुसार राशि रु 1000 प्रति व्याख्यान (90 मिनिट) के दर से देय होगा।
7. कोर्स के लिए अर्हता - कक्षा 12वीं एवं किसी भी विषय में बी.एस.सी. उत्तीर्ण या अध्ययनरत विद्यार्थी इस कोर्स के लिए अर्ह है।
8. कोर्स फीस एवं परीक्षा शुल्क - रु 1000 + 200/- प्रति अभ्यर्थी
9. संभावित प्रतिभागियों की संख्या - 20
10. फीस द्वारा प्राप्त होने वाली संभावित आय - रु 24,000/-
11. महाविद्यालय से प्राप्त Seed money - नहीं
12. कुल संभावित आय रु - 24,000/-
13. कुल आय रु - 24,000/-

14. विषय विशेषज्ञों के मानदेय पर संभावित कुल व्यय रु - 16,000/-
15. परीक्षा शुल्क - 4000/-
16. स्टेशनरी, कम्प्यूटर स्टेशनरी, फोटो कॉपी एवं अन्य स्टेशनरी आदि पर व्यय-1000/-
17. अन्य विविध व्यय एवं आकस्मिक व्यय - 3000/-
18. कुल संभावित व्यय रु. - 24,000/-

इस सर्टिफिकेट कोर्स के लिए नियमित कक्षाएँ प्रतिदिन प्रातः 9:00 से 12:00 तक इलेक्ट्रॉनिक्स विभाग में आयोजित की जावेंगी। इस कोर्स के लिए परीक्षा विभाग द्वारा परीक्षा आयोजित की जावेगी जिसके अन्तर्गत सैद्धांतिक एवं प्रयोगिक परीक्षा आयोजन होगा। सफल अभ्यर्थियों को सर्टिफिकेट प्रदान किए जावेंगे।

कृपया इस कोर्स को आयोजित करने हेतु अनुमति विभाग को प्रदान करने का कष्ट करें।



डॉ. नेतराम कौरव  
विभागाध्यक्ष  
इलेक्ट्रॉनिक्स विभाग

संलग्न:-

1. आयुक्त उच्चशिक्षा द्वारा अनुमोदित सर्टिफिकेट कोर्स अनुमति पत्र
2. अध्ययन मण्डल के सदस्यों द्वारा अनुमोदित पाठ्यक्रम की प्रतिलिपी।

Yes  




### 9.3 Syllabus: -

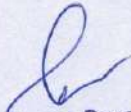
**Govt. Holkar (Model, Autonomous) Science College, Indore**  
**Department of Electronics**  
**Syllabus Session 2021-22**


Title of Certificate Course:	Robotics
Course Code	RX02
Credit	4

Part A : Introduction		
1	Certificate Course Description	Develop and implement an embedded system (hardware and software) necessary to control a typical robot Acquire and process data from typical sensors used in robotics Control typical actuators used in robotics.
2	Pre-requisite (if any)	10+2 with Science
3	Course Objective	This course is especially designed to bridge that gap by providing an opportunity to the students, so that they can write embedded C/C++ programs to interface different types of input/output devices with the Microcontroller to do different projects. Now robotics is an emerging field of technology. In many sectors in our industry, robots are replacing humans very rapidly. That is why in this course students will also get some insight of robotics.
4	Course Learning Outcomes	1. Understand the importance of embedded systems and robotics in our daily life. 2. Identify different embedded devices. 3. Identify different components of embedded systems and robotics. 4. Interfaced different input/output devices with a microcontroller. 5. Design mechanical structure of a robot.
Module	Topics	No. of Hrs
1	<b>Introduction:</b> Embedded system, components, advantages, application, Arduino and Its History, popularity, capabilities of arduino, real world applications Introduction to Arduino IDE, Familiarizing with Arduino Development Board, Understanding Arduino Sketch, Compile and Upload sketches in Arduino	6
2	<b>Arduino Programming Concepts:</b> Arduino data types, Variables and Constants, Operators, Control Statements If, If-else, nested if-else, Loop- while, for, break, continue, Functions, basic programming of arduino.	6
3	<b>Arduino Online Simulator:</b> Introduction of Arduino Online Simulator, Benefits of Online Simulator, operate Online Simulator, Integration and working of Online simulator with Arduino	6

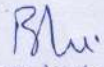
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	Development Board.				
4	<b>Input Interfacing:</b> Sensors: InfraRed, UltraSonic, Thermistor (LM35), LDR, Clap, Switch.	6			
5	<b>Output Interfacing:</b> LED, LCD, Relay, Motors- DC, Stepper, Bluetooth.	6			
Hands-on/Field work	Practical/Project	30			
Part C – Learning Resources					
Text books, Reference Books, Other Resources					
Reference books:					
1. Arduino Robotics by John David Warren					
2. Arduino Workshop: A Hands-On Introduction with 65 Projects, 1st Edition.					
3. Arduino Programming: The Ultimate Guide For Making The Best Of Your Arduino Programming Projects, Kindle Edition					
Part D- Assessment and Evaluation					
Title	CCE	Min. Marks	Term Exam	Min. Marks	Total
Theory	10	4	40	14	50
Practical/Project	--	--	50	17	50

  
 Coordinator, Board of Studies  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

  
 Chairperson, Board of Studies  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

Approved

  
 Member Secretary, Academic Council  
 Govt. Holkar (Model Autonomous)  
 Science College, Indore

SESSION 2021 - 22

# 10.

## Fabrication and Maintenance of Laboratory Equipment

## 10.1 Brochure: -

The screenshot displays the website of Government Holkar (Model, Autonomous) Science College, Indore (M.P.), India. The page features a navigation bar with links to HOME, ABOUT US, COURSES, CLASSES, WEBINARS / CONFERENCES, MY CITATION, SCANNER, and CONTACT. The main content area highlights a 'Certificate Course on Fabrication and Maintenance of Laboratory Equipment' organized by the Department of Electronics. The course is identified by the code ELEX2101. A 'Course Features' table provides details on the course duration, start and end dates, and registration information. The course is described as a hands-on program for developing electronic products and testing circuits.

**Government Holkar (Model, Autonomous) Science College, Indore (M.P.), India**

**Certificate Course on Fabrication and Maintenance of Laboratory Equipment**

**Organised By**  
**Department of Electronics**

**Course Features**

Feature	Value
Duration	168
Start Date	17/01/2022
End Date	30/06/2022
Reg. Start Date	04/01/2022
Reg. End Date	20/01/2022
Certificate	YES
Open Access	NO
Registration Link	<a href="#">Registration Link</a>

**Certificate Course on Fabrication and Maintenance of Laboratory Equipment** CODE : ELEX2101 [Start Course](#)

Fabrication and maintenance of laboratory equipment is one the most emerging field of equipment industry and laboratory education. If you want to develop your own electronic product, then you're going to need a way to test, program, and debug the electronics. In this course you will learn some hands on tools in order to be able to test, create, design and analyze electronics circuits. This course is surely going to enhance your skills in hardware field.



## 10.2 Permission: -

इलेक्ट्रॉनिक्स विभाग, शासकीय (आदर्श, स्वशासी) होलकर विज्ञान महाविद्यालय, इन्दौर (म.प्र.)  
क्रमांक..... इन्दौर, दिनांक .....

प्रति,

प्राचार्य,

शासकीय होलकर विज्ञान महाविद्यालय,

इन्दौर (म.प्र.)

विषय : इलेक्ट्रॉनिक्स विभाग द्वारा सर्टिफिकेशन कोर्स करने बाबत प्रस्ताव।  
महोदय,


इलेक्ट्रॉनिक्स विभाग द्वारा Fabrication and Maintenance of Laboratory Equipment विषय पर 6 माह के सर्टिफिकेट कोर्स आयोजित करने का प्रस्ताव निम्नानुसार प्रस्तुत है -

1. कोर्स का नाम - Certificate Course on Fabrication and Maintenance of Laboratory Equipment
2. अवधि - 60:00 घंटे
3. कोर्स प्रारंभ करने की तिथि - 26 फरवरी 2022 से प्रारंभ
4. कोर्स के विषय पाठ्यक्रम - इलेक्ट्रॉनिक्स विषय के अध्ययन मण्डल (बोर्ड ऑफ स्टडी) द्वारा सर्टिफिकेट कोर्स हेतु अनुमोदित पाठ्यक्रम (सलग्न)
5. रिसोर्स पर्सन (विषय विशेषज्ञों की जानकारी) इन्दौर शहर में Fabrication and Maintenance of Laboratory Equipment के क्षेत्र में कार्यरत कम्पनी के इंजीनियरों को आमंत्रित किया जाएगा।
6. विषय विशेषज्ञों को मानदेय नियमानुसार राशि रु 1000 प्रति व्याख्यान (90 मिनट) के दर से देय होगा। स्थानीय विशेषज्ञों को 200 रु वाहन भत्ता प्रदान किया जावेगा। इन्दौर से बाहर के विशेषज्ञों को एसी थर्ड श्रेणी का किराया एवं मध्यप्रदेश शासन के नियमानुसार डीए देय होगा।
7. कोर्स के लिए अर्हता - कक्षा 12वीं एवं किसी भी विषय में बी.एस.सी. उत्तीर्ण या अध्ययनरत विद्यार्थी इस कोर्स के लिए अर्ह है।
8. कोर्स फीस एवं परीक्षा शुल्क - रु 1000 + 200/- प्रति अभ्यर्थी

9. संभावित प्रतिभागियों की संख्या - 20
10. फीस द्वारा प्राप्त होने वाली संभावित आय - रु 24,000/-
11. महाविद्यालय से प्राप्त Seed money - नहीं
12. कुल संभावित आय रु - 24,000/-
13. कुल आय रु - 24,000/-
14. विषय विशेषज्ञों के मानदेय, पर संभावित कुल व्यय रु - 16,000/-
15. परीक्षा शुल्क - 4000/-
16. स्टेशनरी, कम्प्यूटर स्टेशनरी, फोटो कॉपी एवं अन्य स्टेशनरी आदि पर व्यय-1000/-
17. अन्य विविध व्यय एवं आकस्मिक व्यय - 3000/-
18. कुल संभावित व्यय रु. - 24,000/-

इस सर्टिफिकेट कोर्स के लिए नियमित कक्षाएँ प्रतिदिन प्रातः 11:30 से 2:30PM तक इलेक्ट्रॉनिक्स विभाग में आयोजित की जाएंगी। इस कोर्स के लिए परीक्षा विभाग द्वारा परीक्षा आयोजित की जावेगी जिसके अन्तर्गत सैद्धांतिक एवं प्रयोगिक परीक्षा आयोजन होगा। सफल अभ्यर्थियों को सर्टिफिकेट प्रदान किए जावेगे।

कृप्या इस कोर्स को आयोजित करने हेतु अनुमति विभाग को प्रदान करने का कष्ट करें।

  
डॉ. नेतराम कौरव  
विभागाध्यक्ष  
इलेक्ट्रॉनिक्स विभाग

संलग्न:-

1. आयुक्त उच्चशिक्षा द्वारा अनुमोदित सर्टिफिकेट कोर्स अनुमति पत्र
2. अध्ययन मण्डल के सदस्यों द्वारा अनुमोदित पाठ्यक्रम की प्रतिलिपी।

Yes  


(2)

### 10.3 Syllabus: -

**Govt. Holkar (Model, Autonomous) Science College, Indore**  
**Department of Electronics**  
**Syllabus Session 2021-22**

Title of Certificate Course:	Fabrication and Maintenance of Laboratory Equipment
Course Code	FMLE
Credit	4

Part A : Introduction		
1	Certificate Course Description	The Objectives of providing services and training in electronic product design, testing & repairs. Electronic instrument repair and maintenance.
2	Pre-requisite (if any)	10+2 with Science
3	Course Objective	Student will learn how to maintain and fabricate the electronic Devices for Industrial and Academics purpose and enhance the practical knowledge of various electronic Instruments.
4	Course Learning Outcomes	<ul style="list-style-type: none"> <li>• To study the steady state behavior and transient behaviour of various circuits.</li> <li>• To gain practical knowledge about soldering and its various techniques.</li> <li>• To study reasons for failures in various components , techniques for failure detection and troubleshooting.</li> <li>• To introduce students to the use of various electronic/electrical instruments their construction, applications, principles of operation.</li> <li>• To gain knowledge about the various types of semiconductor diodes.</li> </ul>
Module	Topics	No. of Hrs
1	<b>Methods of Soldering:</b> Introduction of soldering process, Classification of soldering techniques, Different soldering techniques: Soft Soldering, Hard Soldering; Silver and Braze soldering, Required tools for Soldering: soldering iron, soldering flux, soldering paste, soldering Steps, Soldering tips.	06
2	<b>PCB Designing:</b> Layout of PCB, PCB Packages, Track, Pads, Vias, Polygons on PCB, Component placement and design, Etching, Drilling, Soldering, Component mounting . <b>Designing of Various Circuits:</b> PCB designing Practice: PCB designing of Basic and Analog Electronic circuits, PCB design of power supplies, Testing and Troubleshooting of various Electronic circuits.	06
3	<b>Maintenance Management and Troubleshooting:</b> Objectives of Maintenance Management, service and maintenance laboratory, Maintenance policy, Concept of Warranty and Guarantee, equipment service option, Troubleshooting process, Fault finding tools and	06

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	instruments, Troubleshooting techniques and measures, Software installation Procedures and policies.	
4	<b>Measuring Instruments:</b> Measuring methods in series and parallel connections, DC Voltmeter and AC Voltmeter, Digital Voltmeter. <b>Multimeters:</b> Analog Multimeter: resistance, voltage and current measurement. Digital multimeter: voltage, current and resistance measurement. Calibration of analog and digital multimeters.	06
5	<b>Fabrication and Maintenance of Semiconductor Kits:</b> Zener Diode, PN Junction Diode, Field Effect Transistor (FET), Silicon Controlled Rectifier (SCR), Solar Cell, Light Emitting Diode (LED), Bipolar Junction Transistor (BJT), Digital IC Trainer, Charging Discharging of Capacitor,	06
Hands-on/Field work	Practical/Project	30

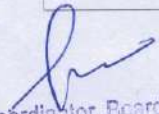
#### Part C – Learning Resources

##### Text books, Reference Books, Other Resources

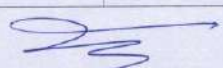
1. Malvino Albert & Bates David J, "Electronic Principles", TMH Publication, 7<sup>th</sup> Edition, July 2017.
2. Boylested Robert L. & Nashelsky Louis, "Electronics Devices and Circuits", Pearson Pub. January 2015, 11<sup>th</sup> edition.
3. Mehta V.K. & Mehta Rohit, "Principles of Electronics", S. Chand, February 2014, 12<sup>th</sup> Edition.
4. Thareja B.L., "Basic Electronics Solid State", S. Chand, December 2006.
5. Sedha R.S. "A text book of Electronics Devices and Circuits", S. Chand, Revised Edition, December 2010.
6. <https://www.nielit.gov.in/Aurangabad.content.certificate-course-printed-circuit-board-design-analysis-and-manufacturing-technique>

#### Part D- Assessment and Evaluation

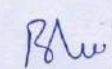
Title	CCE	Min. Marks	Term Exam	Min. Marks	Total
Theory	10	4	40	14	50
Practical/Project	--	--	50	17	50

  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

**Approved**

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

SESSION 2021 - 22

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore



# 11.

## Nursery Management

## **11.1 Brochure: -**

### **Government Holkar (Model, Autonomous) Science College, Indore (M.P.)**

(NAAC Accredited "A" Grade College)



Course Code – Horti-Nursery 1

Certificate course -Value addition courses on Nursery management

Organised by department of seed technology and horticulture

Date:-16/08/2022 -31/08/2022

Time:- 1.00-3.00 pm

#### **Organised committee:-**

**Dr. Sanjay vyas**

**Dr kamla shivani**

**Mr. Dharmendra Jat**

**Mr.Govind Jat**

**Mr. Ashok Jat**

**Mr. kanhaiyalal Sanodiya**

#### **Technical support:-**

**Shri Rajesh Nagar**

## **11.2 Syllabus: -**

### **Syllabus**

#### **Value addition courses :- Nursery management**

- I. Nursery definition, type, importance
- II. Plant propagation- Need and potentialities for plant multiplication, plant sexual and asexual methods of propagation, advantages and disadvantages.
- III. Need and potentialities for plant multiplication, sexual and asexual methods of propagation, advantages and disadvantages.
- IV. Methods and techniques of cutting, layering, grafting and budding physiological & bio chemical basis of rooting, factors influencing rooting of cuttings and layering, graft incompatibility and propagation through specialized organs, corm, runners, suckers.
- V. Seed dormancy (scarification & stratification) internal and external factors, nursery techniques, apomixes – mono-embryony, polyembryony, chimera & bud sport.
- VI. Propagation Structures: Mist chamber, humidifiers, greenhouses, glasshouses, cold frames, hot beds, poly-houses, nursery (tools and implements).
- VII. Preparation of nursery beds and sowing of seeds.
- VIII. Raising of rootstock. Seed treatments for breaking dormancy and inducing vigorous seedling growth. Hardening plants in the nursery.
- IX. Use of growth regulators in seed and vegetative propagation
- X. Media for propagation of plants in nursery beds, pot and mist chamber.
- XI. Use of different types of nursery tools and implements for general nursery.
- XII. Insect/pest/disease control in nursery.
- XIII. Use of different types of nursery tools and implements for general nursery
- XIV. Maintenance of nursery records. Nursery registration act.
- XV. Cost of establishment of a mist chamber, greenhouse, glasshouse, polyhouse and their management.

# 12.

## Professional Ethics



## 12.1 Brochure: -

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Madhya Pradesh**  
**(Accredited Grade "A" By NAAC)**

**Certificate Course**  
**On**  
**Professional Ethics and Moral Values**



**Organized By : Department of English**

**:: Resource Persons ::**

1. Dr. Suvarna Tanwani
2. Dr. Tausheeh Abbassi
3. Dr. Kanta Mulchandani
4. Prof. Rajni Mishra

**Syllabus /Course Highlights**

- ❖ Ethics in human Behaviour
- ❖ Emotional Intelligence
- ❖ Human Values
- ❖ Aptitude
- ❖ Contribution of Moral Thinkers and Philosophers From India.
- ❖ Moral Values and Character Building.
- ❖ Case Study – I
- ❖ Case Study - II

**Duration: 30 Hours**  
**16-05-2022**  
**To**  
**31-05-2022**

**Goal :**  
***To Enhance Ethical Values***

**Dr. Indu Tiwari**  
**HOD. English**

**Dr. Suvarna Tanwani**  
**Convener**

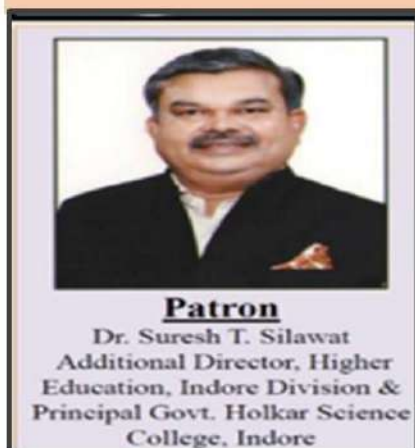
**Dr. Suresh T. Silawat**  
**Principal**

# 13. Aurdino

### 13.1 Brochure: -



## Govt. Holkar (Model. Autonomous) Science College, Indore DEPARTMENT OF PHYSICS



### **Patron**

Dr. Suresh T. Silawat  
Additional Director, Higher  
Education, Indore Division &  
Principal Govt. Holkar Science  
College, Indore

### *Certificate course on Arduino*

Date 30/08/2022 2

Mode: Blended



Coordinator  
Dr. G.D. Gupta  
Professor & HoD  
Physics

Convenor  
Dr. Nagesh Dagaonkar  
Professor Physics

Co-Convenor  
Dr. Bhavna Chouresia

### *Certificate course on Arduino*

Govt. Holkar (Model. Autonomous) Science College, Indore  
DEPARTMENT OF PHYSICS

#### • Module 1

Prof Vivek Anand  
GGITS Jabalpur

#### Module 2

Dr. Saurabh Sahu  
GGITS Jabalpur

#### Module 3

Prof Deepak Chhimwal  
Govt Polytech. Raisen

#### Module 4

DR Utsav Malviya  
NIET

<https://meet.google.com/ngp-xaie-viq>

## **13.2 Syllabus: -**

### **Govt. Holkar (Model Autonomous) Science College, Indore Department of Physics. Certificate Course in Arduino Syllabus**

**Course Out Comes:** After completing this course, Student be able to;

- Explain all the core hardware components of Arduino UNO and their working.
- Know how to design circuits using Arduino and other electronic components
- Design electrical circuits using Tinker CAD
- Interface sensors such as Temperature Sensors, Proximity Sensors with Arduino and build some simple projects.
- 5Learn how to interface Servo motors and LCD with Arduino which is the basis for building robots using Arduino.
- Building some real-world projects.

#### **Module 1:**

**Introduction to Arduino and understanding the hardware:** Introduction to Arduino and Understanding what is Arduino UNO Different varieties in Arduino an outline on the architecture Digital Pins in the Arduino What is PWM? Difference between Analog and Digital Signals Analog Input Pins Flowchart on Analog Data Flow in the Arduino Duty Cycle Marked Pins Other Components in the board

#### **Module 2:**

**The Simulator and Basic Circuits :**Download the Arduino IDE Getting Started with the Arduino IDE Building a simple circuit using Bread board Using a pushbutton in our circuit The Light Dependent Resistor Arduino Circuits Blinking of an LED in Arduino Connecting an external LED to the Arduino Serial Monitor in Arduino Connecting three-terminal components – Potential Reading Analog Inputs Converting Analog Values into Digital Values LED Fading using PWM Connecting an RGB LED with the Arduino Flowing Lights! - A fun experiment Sounding a buzzer Sounding a buzzer Controlling an LED through Serial Communication

#### **Module 3:**

**An Interfacing Sensors and Actuators with Arduino and Building Projects** Interfacing a Passive Infrared Sensor Trespassers alarm using PIR Sensor D Info Interfacing a servo motor Interfacing a servo motor Interfacing a Temperature Sensor (TMP36) Temperature Controlled DC Motor Interfacing an IR Remote Control and IR Receiver Interfacing an Ultrasonic sensor and a simple project

#### **Module 4:**

**Assembly programming through Arduino Outline:** Write an assembly program to display a digit on seven segment display Arduino - Assembly code reference Arduino ATmega328 Pin mapping Connection circuit details Installing AVRA and AVRDUDE assembler How to connect and check the port number of Arduino Assembly program to glow the dot LED on the seven segment display Assembly program to display digit two on the seven segment display Assembly program to display digit five on the seven segment display using decoder. How to save the file, assemble and upload to the Arduino

#### **Module 5:**

**Digital Logic Design with Arduino Outline:** Write an assembly to verify the logical AND operation Use the m328Pdef.inc file that is available in the code files link of this tut Explanation

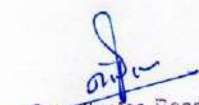



of the Source code for logical AND operation Save the file and generate the. Hex file Upload the code to the Arduino Displaying the output on the Seven segment display Replace the program with or to perform logical OR operation Replace the program with xor to perform logical XOR operation Implement and verify the below combinational logics:

**Mixing Assembly and C programming Outline** Combining Assembly and C programming  
Explanation of the circuit connections Live setup of the connection Assembly routine program which initialises and sets pin 13 of Arduino as output Call that Assembly routine in AVR-GCC program to blink the Dot LED of the Seven Segment display Use the Makefile that is available in the code files link of this tutorial. Explanation of the Source code of the subroutine and main program Save the file and generate the hex file Upload the code to the Arduino Display the output on the Seven segment display

❖ Final Quiz

Approved

  
Coordinator, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

14.

# Analytical aspects of Chemistry for Industry

## 14.1 Brochure: -

### Govt. Holkar (Autonomous, Model) Science College, Indore (M.P.)

**Dr. Anamika Jain**  
HOD, Department of Chemistry



**Dr. M.K. Dwivedi**  
HOD, Department of Pharmaceutical  
Chemistry

**Registration Link :**

<https://forms.gle/eMUL7hfk4FLnMBEb7>

**Online Certificate Course on**  
"Analytical Aspects of Chemistry for Industries"



**Organized by :**

Department of Chemistry  
&  
Department of Pharmaceutical Chemistry

**Duration :**

07/12/2021 to 23/12/2021

**Time :**

2:30 pm to 4:30 pm



Patron

**Dr. Suresh T. Silawat**  
Additional Director, Indore Division &  
Principal, Govt. Holkar Science College, Indore  
[M.P.]

**Organizing Committee**

Dr. Aparna Gandhe  
Dr. Neelima Pradhan  
Dr. Sandeep Gohar  
Dr. Ashok Barua  
Dr. Pushpa Makwane  
Dr. Rashmi Agrawal

**Contact Details:**

Dr. Aparna Gandhe - 9424841995  
Dr. M.K. Dwivedi - 9131770504  
Dr. Ashok Barua - 9329437018

## 14.2 Resource Persons: -

14-12-2021	2:30 to 3:30 pm	Microwave Spectroscopy	<b>Dr. Kalpana Singh</b> Professor of Chemistry, Govt. Madhav Science College, Ujjain [M.P.]
	3.30 to 4.30 pm	E.S.R.	<b>Dr. A.P. Mishra</b> Professor of Chemistry, Dr. H.S. Gaur Univ. Sagar, [M.P.]
15-12-2021	2:30 to 3:30 pm	Raman Spectroscopy	<b>Dr. B.T. Rao</b> Sr. Scientific Officer RRCAT, Indore [M.P.]
	3.30 to 4.30 pm	NMR	
16-12-2021	2:30 to 3:30 pm	Solid Waste Management	<b>Dr. Neeraj Jain</b> Senior Scientist CBRI, Roorkee, Uttaranchal
	3.30 to 4.30 pm	Good Laboratory Practices	<b>Dr. Preeti Jain</b> Professor of Chemistry, Medicaps Univ. Indore [M.P.]
17-12-2021	2.30 pm to 3:30 pm	Restructuring the NOYX-OLS adenovirus by using spike protein genom from SARS-Cov-2 and MERS-Cov. : of possible implication in analysis breast cancer treatment	<b>Dr. H. Parmar</b> Associate Professor, Biotechnology DAVV, Indore [M.P.]
	3.30 to 4.30 pm	Colorimetric Analysis	<b>Dr. Anil Bajpai</b> Professor, Chemistry Govt. Science College, Jabalpur [M.P.]
18-12-2021	2.30 pm to 3:30 pm	XRF	<b>Dr. M.K. Tiwari</b> Senior Scientific Officer RRCAT, Indore
	3.30 to 4.30 pm	Application of Instrumentation in Pharmaceutical Industries	<b>Dr. Sanjay Jain</b> Dean Pharmacy Medicaps University, Indore
20-12-2021	2.30 to 4.30 pm	Atomic Absorption Spectroscopy (AAS)	<b>Mr. Subodh Thakur</b> Analyst, Elite Analytics, Indore
21-12-2021	2.30 to 4:30 pm	Mass Spectroscopy, conjoint spectra analysis	<b>Dr. Rashmi Saxena</b> Retired Professor, Chemistry Govt. Science College, Jabalpur [M.P.]



22-12-2021	2.30 to 3.15 pm	XRD	<b>Dr. Netram Kaurav</b> Professor, Physics Govt. Holkar Science College, Indore [M.P.]
	3.15 to 4:30pm	Chromatographic Techniques	<b>Dr. Dhananjay Dwivedi</b> Professor, Chemistry P.M.B. Gujarati Science College, Indore [M.P.]
23-12-2021	2.30 to 3:30 pm	Job opportunities in pharmaceutical industries after covid- A paradigm shift	<b>Dr. Ritesh Mishra</b> Head, Analytical Lab. Medilux Pihampur [M.P.]
	3:30 to 4:30 pm	Test	
	4:30 onwards	Valedictory Function	

### **14.3 Syllabus: -**

**Govt. Holkar (Autonomous, Model) Science College, Indore [M.P.]**

***A Certificate Course on  
"Analytical Aspects of Chemistry for Industries"***

**Conducted by: Department of Chemistry & Department of Pharmaceutical Chemistry**

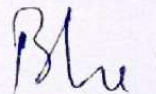
1.
  - a) Safety in analytical Lab.
  - b) Cleaning & Calibration of Glass wares.
  - c) Handling of Reagents
  - d) Notebook maintenance
  - e) Preparation of solution and calculations.
2. Errors in analysis: Error, accuracy and precision, Types of errors, methods of expressing precision significant figures.
3. Qualitative & Quantitative Analysis:
  - a) Mixture Analysis in inorganic and organic chemistry.
  - b) Volumetric analysis, terms in volumetric analysis, Types of volumetric analysis acid-base, redox, non-aqueous, complexometric, precipitation titration and their applications.
  - c) Gravimetric analysis: experimental techniques: precipitation, filtration, washing; ignition, drying, weighing, applications of gravimetric analysis.
3. Chromatographic techniques: basic principle, operational techniques of paper, Thin layer, Column and gas chromatography.
4.
  - a) Conductometric measurements: Introduction, instrumentation, types of conductometric titration and applications.
  - b) Potentiometric Titration. Principle, Instrumentation & applications.
5.
  - a) Nephelometry and Turbidimetry- Introduction, principle, instrumentation, and applications.
  - b) Colorimetric Analysis-Introduction, principle, instrumentation and pharmaceutical applications.
  - c) Flame Photometry- Introduction, principle, instrumentation and their applications in pharmaceutical chemistry.
  - d) Hardness, Friability and Disintegration time of tablets.

6. Solvent extraction: Introduction, principle, techniques, types of solvent extraction and applications.
7. Spectroscopic methods of Analysis: IR, UV, Visible, NMR.  
Principle, instrumentation & applications.
8. Solid Waste management.
9. a) Polymers: Rubber, Paint, Nylon, Fiber, dyes etc.
10. Food Adulteration: Common Methods of Testing and effects of adulterants on health.
11. Common Diseases & Pandemic:
12. a) Analysis of water sample ; B.O.D., C.O.D., D.O.  
b) Drug Analysis  
c) Soil analysis



Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

Approved



Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

15.

# Fundamental of GIS using Open-Source Software



## **16.1 Brochure: -**

**Online Certificate Course on**  
**Fundamentals of GIS using Open Source Software**  
**Organized by**  
**Department of Geology & Geography,**  
**Govt. Holkar (Model, Autonomous) Science College, Indore**  
**From 13<sup>th</sup> - 25<sup>th</sup> Sept. 2021**

**About the course:**  
This certificate course is aimed at learning of fundamental concepts of Geographical Information System using by both theory and intensive practical sessions using open source geospatial software QGIS. After completing this course participant will learn 1) Basics of GIS, 2) GIS Data creation, 3) Map preparation, 4) Data exploration, query, spatial analysis and 5) Basics of web-based GIS.

**Who can join:**  
This course is for the students/professionals who are computer savvy and strongly willing to learn geospatial technology and fulfill any of the following requirements:

- M.Sc./ M.Tech. in Geology or M.A./ M.Sc. in Geography or
- Research Scholars or
- Working Professionals of Geology and Geography.

*Mandatory- The participant must be comfortable and efficient in using computers and he/she must have a laptop/Desktop with internet facility.*

**Number of seats:**  
The total number of seats is 30.

**Award of certificate:**  
After successful completion of course the certificate will be provided to only those

- 1) Who complete the daily assignment within stipulated time; &
- 2) Who have attendance 80% or above.

If somebody is absent for two consecutive days then he/she will not be able to continue the course. Based on the assessment the grades will be given and mentioned in the certificate.

**Online class timings:**  
Every day from 2.30 PM to 5.00 PM. There will be no class on Sunday.

**Course Fee:** Rs. 400/-. Link for online payment will be sent to the shortlisted candidates.

**How to apply:**  
Application is online and the last date is 29<sup>th</sup> August 2021.  
Link for online application - <https://forms.gle/xHjm6ZDvQ5gRUhW38>

**Required Documents (scanned copy):**

- For students a copy of self-attested mark sheet of M.A./ M.Sc./M. Tech. Final.
- For Research Scholars a copy of Ph. D. Registration Letter.
- For employees any proof of their employment viz. ID Card or Letter from the Head of the organization/ department/ division etc.

**Course Coordinator:**  
Dr. Shallesh Chaure  
Contact No.: 9893035078; email : [geologyhsc@gmail.com](mailto:geologyhsc@gmail.com)

**Dr. Vishnu Gadgil**  
Head, Dept. of Geology  
Mob No.9425384421

**Dr. Suresh Silawat**  
Principal  
Govt. Holkar Science College, Indore

## **16.2 Resource Person: -**

### **Certificate Course on Fundamentals of GIS Using Open Source Software**

#### **Names of resource persons -**

- 1) Prof. Biplab Biswas, Dept of Geography, University of Birbhan, WB
- 2) Prof. Seema Jalan, Dept of Geography, Mohanlal Sukhadiya University, Udaipur, Raj.
- 3) Prof. Monika Kannan, Dept of Geography, Sohpiya Girls College, Ajmer, Raj
- 4) Dr. Shailesh Chaure, Dept of Geology, Govt. Holkar Science College, Indore

## **16.3 Syllabus: -**

1.6

**Department of Geology, Govt. Holkar (Modal, Autonomous) Science College, Indore**  
**Certificate Course on Fundamental of GIS using Open source Software**  
**Syllabus**

This certificate course is designed for general orientation and basic awareness about the rapidly emerging geospatial technology. The course is aimed at learning of fundamental concepts of Geographical Information System using by both theory and intensive practical sessions using open source geospatial software mainly QGIS and SAGA (System for Automated Geoscientific Analyses).

**Fundamentals of GIS-** Introduction of Geographical Information system, GIS data types and Applications of GIS and Introduction to open source GIS software.

**Basics of map projection** – Map scale and common types of map projections

**Georeferencing** – Georeferencing scanned maps, SOI topographical maps and satellite imagery.

**Digitization** – Digitization of point, line and polygons features, editing features, adding style to the features.

**Data collecting from other sources** – How to digitize features from google Earth and open then in GIS software. Collecting and importing data from GPS.

**Map preparation** – Symbolology, labelling and map composition.

**Data Exploration** – How to view existing data and see attribute tables and features information

**Working with tables** – Importing external data from MS Excel and CSV files and joining tables

**Data Query** – Attribute based query and spatial query.

**Spatial analysis** – Basics of spatial analysis and common functions used in spatial analysis, decision making using multi criteria analysis.

**Watershed delineation** – Delineation of watershed from SOI topographical maps by manual digitization and automatic delineation of watershed from DEM.

**Introduction of Web-GIS** – Basics of web-GIS, characteristics advantages and open source tools for Web-GIS.

*[Handwritten signatures and dates]*  
7/3/2020

16.

# Synthesis and Characterization of Materials



## 17.1 Brochure: -

The screenshot displays the website of Government Holkar (Model, Autonomous) Science College, Indore (M.P.), India. The main banner features the college's logo and the text: "Department of Physics, Govt. Holkar (Model, Autonomous) Science College, Indore (MP)". Below this, the course title "Certificate Course on Synthesis and Characterization of Materials" is prominently displayed. The brochure mentions "Subject Experts from UGC-DARE, CSIR, Indore and Indian Institute of Technology, Indore". It includes several images: a molecular model, a laboratory setup with a furnace, a person working at a computer, and a microscopic view of a material. A "Course Features" table is provided on the right, and a "Start Course" button is at the bottom right.

Course Features	
Duration	93
Start Date	01/03/2023
End Date	01/06/2023
Reg. Start Date	30/02/2023
Reg. End Date	23/02/2023
Certificate	YES
Open Access	YES
Registration Link	<a href="#">Link</a>

**CODE : PHYS2201** [Start Course](#)

This certificate course comprises the fundamental principles of different classes of synthesis of materials and characterization techniques. The course discusses characterization techniques used for chemical and structural analysis of materials, including metals, ceramics, polymers, composites, and semiconductors. The topics include important synthesis routes, spectroscopic, microscopic and other methods for materials characterization.

## 17.2 Resources Persons: -



Department of Physics, Govt. Holkar (Model,  
Autonomous) Science College, Indore (MP)

### **Certificate Course on Synthesis and Characterization of Materials**

TIME 2:30 PM, ROOM NO 27 AND  
ONLINE GMEET

L01: 20th April: Photoelectron spectroscopy (X-ray  
Photoelectron Spectroscopy)

L02: 21st April: Photoelectron spectroscopy (valence band  
spectroscopy) and Auger electron spectroscopy

L03: 22nd April: Indus synchrotron source and resonant  
photoemission spectroscopy

L04: 25th April: Thin films and their applications

L05: 26th April: Nucleation and growth

L06: 27th April: Parameters controlling thin films  
(substrate, temperature, pressure etc)

L07: 28th April: Techniques for growing thin films

L08: 29th April: Pulsed Laser Deposition

**Speaker**

**Dr. Ram J. Choudhary**

Scientist-G

UGC-DAE Consortium for Scientific

Research, University Campus,

Khandwa Road, Indore (M.P.)

452001





Department of Physics, Govt. Holkar (Model,  
Autonomous) Science College, Indore (MP)

## Certificate Course on Synthesis and Characterization of Materials

TIME 2:30 PM, ROOM NO 27 AND  
ONLINE GMEET

1. Introduction to Nanomaterials  
(Monday, 09/05/2022)
2. Nanomaterials growth mechanism -1  
(Tuesday, 10/05/2022)
3. Nanomaterials growth mechanism -2  
(Wednesday, 11/05/2022)
4. FESEM and EDS  
(Thursday, 12/05/2022)
5. TEM, HRTEM and SAED  
(Friday, 13/05/2022)
6. SPM (AFM and STM)  
(Saturday, 14/05/2022)

### Speaker

- **Dr Rupesh S. Devan**

- Associate Professor
- Indian Institute of Technology  
Indore







Department of Physics, Govt. Holkar (Model,  
Autonomous) Science College, Indore (MP)

## Certificate Course on Synthesis and Characterization of Materials

TIME 2:00 PM, ROOM NO 27 AND  
ONLINE GMEET

### SCM - Syllabus: Synthesis and Characterization of Materials

- Bulk Materials Synthesis (Bulk or Solids in Polycrystalline & single-crystalline form)
  - 1. Solid-State or Ceramic Method [Total Lecture-2: 04/05/2022]
  - Special Gas Atmosphere (Ar, O<sub>2</sub>, H<sub>2</sub>, N, etc.)
  - Special Evacuated tubes Atmosphere (Quartz, Glass, Ta, Pt, etc.)
  - 2. Bulk single-crystal Methods (Flux, OFZ, Bridgman, etc.) [Total Lecture-2 : 05/05/2022]
  - Phase-diagram
  - Different growth methods
  - 3. Particle Size Reduction Methods [Total Lecture-1 : 05/05/2022]
  - Sol-gel
  - combustion
- Structural & Elemental Techniques: X-ray diffraction & EDS [Total Lecture-2 : 06/05/2022]
  - Phase Analysis
  - Texture Analysis
  - Stress Analysis & Particles Size Analysis
  - Determining elemental composition of solids from EDS [Total Lecture-1 : 07/05/2022]
- Summary & X-ray refinement for determining crystal structures of solids (LeBail/Rietveld)

QMA-EPG, UGC-DAE CSR Indore

**Speaker**

**Arvind Kumar Yogi**

Scientist-D

UGC-DAE Consortium for Scientific

Research, University Campus,

Khandwa Road, Indore (M.P.)

452001





### 17.3 Syllabus: -

**Govt. Holkar (Model, Autonomous) Science College, Indore**  
**Department of Physics**  
**Syllabus Session 2021-22**

<b>Title of Certificate Course:</b>	<b>Synthesis and Characterization of Materials</b>
<b>Course Code</b>	<b>SCM</b>
<b>Credit:</b>	<b>4</b>

<b>Part A: Introduction</b>		
1	Certificate Course Description:	This certificate course comprises the fundamental principles of different classes of synthesis of materials and characterization techniques. The course discusses characterization techniques used for chemical and structural analysis of materials, including metals, ceramics, polymers, composites, and semiconductors. The topics include important synthesis routes, spectroscopic, microscopic and other methods for materials characterization.
2	Pre-requisite (if any)	B. Sc degree with physics/chemistry/applied physics/materials science as one of the subject.
3	Course Objectives	<ul style="list-style-type: none"> <li>To introduce the materials characterization techniques to the students</li> <li>Help the students to understand the instrumentation aspects</li> <li>To provide a detailed understanding of data interpretation</li> <li>To provide hands on experience of the characterization techniques</li> </ul>
	Course Learning Outcomes	<ul style="list-style-type: none"> <li>Students will learn the sample preparation methods and sample handling</li> <li>Students will acquire the ability to analyse the data obtained from the techniques</li> <li>The student will be able to identify the ideal method of analysis to draw the required information</li> <li>Student will be able to plan their research proposals for higher studies.</li> <li>Students will be able to design, modify, write their research methodology.</li> </ul>

<b>Part B-Content of the Course</b> भाग ब - पाठ्यक्रम की विषयवस्तु		
<b>Total No. of Lectures-Tutorials-Practical: 60 hours</b> व्याख्यानो- ट्यूटोरियल -प्रायोगिक कक्षाओं की कुल संख्या: 60 घंटे		
Module	Topics	No. of hours
<b>Synthesis techniques</b>	<b>Bulk Materials Synthesis</b> -solid state reaction method, sol-gel method and combustion synthesis  <b>Nanoparticles Synthesis</b> – top-down and bottom-up approaches.  <b>Thin Films synthesis</b> - nucleation and growth kinetics, basic modes of thin film growth, stages of film growth and mechanisms, dip coating, spin	<b>15</b>

	coating, sputtering, plus laser deposition, chemical vapor deposition techniques.				
<b>Characterization Techniques</b>	<b>Structural Techniques:</b> X-ray diffraction <b>Spectroscopic methods-</b> UV-visible, Infrared and Raman <b>Electron spectroscopies</b> - X-ray photoelectron spectroscopy, Auger electron spectroscopy <b>Electron microscopy-</b> EDS, scanning electron microscopy, field emission scanning electron microscope, transmission electron microscope. <b>Scanning Probe Microscopies:</b> atomic force microscope and scanning tunneling microscope. <b>Others-</b> LCR meter and physical properties measurements system.	<b>15</b>			
<b>Hands-on/Fieldwork</b>	Project/Internship	<b>30</b>			
<b>Part C-Learning Resources</b> भाग स - अनुशंसित अध्ययन संसाधन					
<b>Text Books, Reference Books, Other resources</b> पाठ्य पुस्तकें, संदर्भ पुस्तकें, अन्य संसाधन					
1. Y. Leng, Materials Characterisation: Introduction to Microscopic and Spectroscopic Methods, John Wiley & Sons (Asia), 2008. 2. S. Zhang, Lin Li, A. Kumar, Materials Characterisation Techniques, CRC press, 2008. 3. R.M. Silverstein, Spectrometric identification of organic compounds, 7th ed., John Wiley and Sons, 2007. 4. C.R. Brundle, C.A. Evans, S. Wilson, Encyclopedia of Materials Characterisation, Butter worth Heineman, 1992. 5. K. J. Klabunde and R.M. Richards (Eds.), Nanoscale Materials in Chemistry, 2nd Edn., John Wiley & Sons, 2009. 6. T. Pradeep, Nano: The Essentials, McGraw-Hill (India) Pvt Limited, 2008. 7. Bharat Bhushan, (Ed.), Handbook of Nanotechnology, Springer, 2007. 8. Cao, G., Nanostructures and Nanomaterials Synthesis, Properties, and Applications, Imperial College Press, 2004.					
<b>Part D- Assessment and Evaluation</b> भाग द - अनुशंसित मूल्यांकन विधियां					
<b>Title</b>	<b>CCE</b>	<b>Min. Marks</b>	<b>Ter end Exam</b>	<b>Min. Marks</b>	<b>Total</b>
Theory	10	4	40	14	50
Project/Internship	--	--	50	17	50

17.

# French Language Course

## 17.1 Brochure: -



### **GOVT. HOLKAR (MODEL, AUTONOMOUS) SCIENCE COLLEGE, INDORE (M.P.)**

**Department of English is organising  
an online Certificate Course in French Language  
commencing From 12th October 2021.**

#### ***OBJECTIVE OF THE COURSE -***

To develop the academic and personal strength of each student, using a Student centered, comprehensive approach with a focus on oral and written French language proficiency in a strong conversational curriculum.



**Dr. Suresh T. Silawat**  
Patron & Principal  
Addl. Director Higher Education, Indore



**Dr. Indu Tiwari**  
Prof. & Head  
Department of English



**Mrs. Madhuri Mehta**  
Subject Expert



**Dr. Kanta Mulchandani**  
Convenor  
Associate Prof. English

#### **Organising Committee :**

Dr. Suwarna Tanwani, Prof.  
Dr. Prerna Ojha, Prof.  
Dr. Tausheeh Abbasi, Prof.  
Prof. Rajni Mishra, Assistant Prof.  
Dr. Kiran Siple. Assistant Prof.

#### **Programme :**

#### ***Inauguration***

Date : 12-10-2021  
Time : 2:30 pm



## **17.2 Syllabus: -**

Government Holkar (Model Autonomous) Science College, Indore  
Department of English

SESSION PLAN & SYLLBUS FOR CERTIFICATE COURSE

SUBJECT: French Course

FACULTY: MADHURI MEHTA

---

LECTURE NO.	TOPICS COVERED
1.	Introduction and greetings
2.	Articles definite and indefinite
3.	Numbers cardinal
4.	Ordinal Numbers
5.	Months and Days of the week
6.	Date writing
7.	Date writing
8.	Introduction to groups of verbs and persons
9.	1 <sup>st</sup> group verbs
10.	1 <sup>st</sup> group verbs
11.	Sentences of 1 <sup>st</sup> group verbs
12.	Irregular verbs and sentences
13.	Internal test
14.	Translation of sentences
15.	Interrogative sentences
16.	Framing questions
17.	Framing Questions
18.	2 <sup>nd</sup> group verbs
19.	2 <sup>nd</sup> group verbs
20.	Sentences on 2 <sup>nd</sup> group
21.	Plural forms
22.	3 <sup>rd</sup> group verbs
23.	3 <sup>rd</sup> group verbs
24.	Sentences on 're' verbs
25.	Translation of sentences in French
26.	Translation of sentences in English
27.	Possessive adjectives
28.	Possessive adjectives

- |     |   |
|-----|---|
| 29. | Sentences on possessive adjectives      |
| 30. | Adjectives                              |
| 31. | Sentences on adjectives                 |
| 32. | Professions and exercise on professions |
| 33. | Partitive articles                      |
| 34. | Contracted articles                     |
| 35. | Nationalities                           |
| 36. | Prepositions and exercises              |
| 37. | Votre fiche d'identité                  |
| 38. | Introduction of oneself                 |
| 39. | Time showing                            |
| 40. | Past tense                              |
| 41. | Past tense                              |
| 42. | Future tense                            |
| 43. | Internals                               |
| 44. | Assignment and presentation             |
| 45. | Revision and presentation               |
- 

  
HOD

Department of English

Head  
Department of English  
Govt. Holkar Science College,  
Indore (M.P.)

18.

## Nursery Management of Medicinal Plants

## **18.1 Brochure: -**

**Value Added Course  
10 Days Training Program  
On  
“Nursery Management of Medicinal plants”**



**Organized By:  
Department of Botany,  
Govt. Holkar Science College, Indore  
Dated: 03 December 2021 to 13 December 2021**

**Patron: Dr. Suresh T. Silawat,  
Additional Director, Indore-Division & Principal,  
Govt. Holkar Science College, Indore**

**Convenor: Dr. Priti Chaturvedi  
Prof., Department of Botany**

**Venue  
Department of Botany,  
Govt. Holkar Science, College,**



## **18.2 Syllabus: -**

**Govt. Holkar (Model Autonomous) Science College, Indore**  
**Department Of Botany**  
**Value Added / Certificate Course on Nursery Management of**  
**Medicinal Plants**

### **Syllabus**

**Course Outcome:** Standardized nursery practices and agrotechnology. Generation of knowledge towards cultivation practices will reduce the dependence on collection of raw material from wild to meet the market demand, thereby conserving the biodiversity. Knowledge regarding medicinal property and uses of medicinal plants in our daily life. Student of Botany can start own business and become entrepreneur.

**Module 1: Introduction to Medicinal Plant Nursery Management:**

- **Fundamentals of Cultivation:** Students will learn about the basic principles of growing medicinal plants in a nursery setting, including soil requirements, watering, sunlight, and temperature control.
- **General Management:** Students will learn about different management practices involved in nursery management of medicinal plants, such as propagation techniques, pest and disease management, and pruning.
- **General Introduction:** Students will be introduced to the different medicinal plants that can be grown in a nursery and their uses.
- **Habit and Habitat:** Students will learn about the natural habitats and growth patterns of medicinal plants, and how to create similar conditions in a nursery setting.

**Module 2: Characteristics and Uses of Medicinal Plants in Nursery Management:**

- **Important Characters:** Students will learn how to identify different medicinal plants based on their physical characteristics, such as leaf shape, color, texture, and odor.
- **Flowering and Fruiting Season:** Students will learn about the timing of flowering and fruiting of different medicinal plants, and how it relates to their growth and propagation in a nursery.
- **Useful Parts and Time of Collection:** Students will learn about the different parts of medicinal plants that are used in herbal remedies, such as roots, leaves, flowers, and seeds. They will also learn about the optimal time for harvesting these parts.
- **Substitutes and Adulterants:** Students will learn about the different plant species that can be used as substitutes for medicinal plants and how to avoid adulteration in the nursery setting.

**Module 3: Propagation Techniques for Medicinal Plants in Nursery Management:**

- **Seed Propagation:** Students will learn about the different seed propagation techniques for medicinal plants, including direct seeding and seedling transplanting.
- **Vegetative Propagation:** Students will learn about the different vegetative propagation techniques, such as cuttings, layering, and division.

- Tissue Culture Propagation: Students will be introduced to the concept of tissue culture and how it can be used for mass propagation of medicinal plants in a nursery setting.

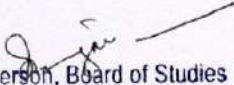
**Module 4: Nursery Design and Management:**

- Nursery Design: Students will learn about the different factors to consider when designing a medicinal plant nursery, such as location, layout, and infrastructure.
- Inventory Management: Students will learn about inventory management techniques, such as record keeping, stocktaking, and forecasting.
- Marketing and Sales: Students will be introduced to marketing strategies for medicinal plants in a nursery setting, including branding, packaging, and distribution.

**Module 5: Certification and Quality Control in Medicinal Plant Nursery Management:**

- Certification: Students will learn about the different certification programs available for medicinal plant nurseries, such as organic certification and Fair-Trade certification.
- Quality Control: Students will learn about the different quality control measures for medicinal plants, such as testing for purity, potency, and safety.
- Compliance: Students will be introduced to different compliance requirements for medicinal plant nurseries, such as environmental regulations and labor laws.

Approved

  
Chairperson, Board of Studies  
Govt. Holkar (Model Autonomous)  
Science College, Indore

  
Member Secretary, Academic Council  
Govt. Holkar (Model Autonomous)  
Science College, Indore

19.

# Web Development Certificate Course



## 19.1 Permission: -

प्रति,

प्राचार्य महोदय,

शा. होलकर विज्ञान महाविद्यालय,

इन्दौर, (म. प्र.)

विषय: कम्प्यूटर विज्ञान विभाग द्वारा ऑनलाइन / ऑफलाइन सर्टिफिकेट कोर्स आयोजित करने के प्रस्ताव की अनुमति बाबद्।

महोदय,

कम्प्यूटर विज्ञान विभाग द्वारा स्नातक एवं स्नातकोत्तर विद्यार्थियों के लिए दिनांक 1/10/2021 से दस दिवसीय, कम्प्यूटर से संबंधित Job Oriented (रोजगारोन्मुखी) ऑनलाइन/ऑफलाइन सर्टिफिकेट कोर्स आयोजित करने के लिए इस प्रस्ताव को स्वीकृति प्रदान करने का कष्ट करे। इस कोर्स हेतु कम्प्यूटर विज्ञान विषय के अध्ययन मंडल द्वारा सिलेबस को अनुमोदित कर पारित किया गया है। सर्टिफिकेट कोर्स की विस्तृत जानकारी निम्नानुसार है।

1. Name of Certificate course: **Web Development**
2. Duration: **30 Hours (Approximate 15 days) @ 2hours daily**
3. Course content: **As per Syllabus approved by Board of studies of concerned subject.(Attached)**
4. Mode: **Blended mode**
5. Registration Fees: **1200/- + 300/-(exam fees)**
6. Remuneration of guest resource person: **To be decided by department on No profit No loss basis**
7. Resource Person: **Faculty of department and/or guest subject expert as resource person**
8. Eligibility Criteria for course: **12<sup>th</sup> pass**



9. Number of seats: 30 according to guidelines 80% seats are reserved for students of Holkar Science College and 20% for other candidates

10. Selection of candidates: Selection on merit basis (Marks of last exam passed)

11. Eligibility to get e-Certificate: On the basis of performance of participants through online /offline MCQ test or any other online mode of assessment.

12. Grade: As per college exam pattern (O, A+, A, B+, B, C, P, F)

13. Expenditure: To be decided by the department

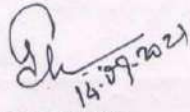
14. Patron: Dr.Suresh T.Silawat

15. Course Coordinator: Dr. Pradeep Kumar Sharma

16. Course Co-Coordinator: Aarti Shrivastava, Sarita Sharma, Priyanka Agiwal

Attachment: Syllabus of Certificate Course

कृपया विभाग द्वारा सर्टिफिकेट कोर्स करवाने हेतु अनुमति प्रदान करे।

  
14.09.2021

विभागाध्यक्ष

(कम्प्यूटर विज्ञान विभाग)

शा. होलकर विज्ञान महाविद्यालय,

इन्दौर (म.प्र.)

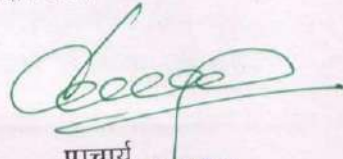
**Dr. Pradeep Sharma**

Professor, Head,

Department of Computer Science

Govt. Holkar Science College,

INDORE (M.P.)



प्राचार्य

**PRINCIPAL**

शा. होलकर विज्ञान महाविद्यालय,

इन्दौर (म.प्र.)

**Holkar Science College,**  
Indore (M.P.)

## **19.2 Syllabus: -**

### **Govt. Holkar Science College, Indore(M.P.)**

#### **Syllabus for Certification Course**

**Year: 2021 -22**

### **Web Development**

#### **Overview:**

HTML and CSS go hand in hand for developing flexible, attractive, and user-friendly websites. HTML (Hyper Text Markup Language) is used to show content on the page whereas CSS (Cascading Style Sheet ) is used for presenting the page. HTML describes the structure of a Website semantically along with presentation cues, making it a mark-up language, rather than a programming language. JavaScript is the globally used client-side scripting languages for the web. Most browsers support the language by default, so you can get started using JavaScript and HTML with a simple text editor and browser for testing .

#### **Course Objective:**

- Learn HTML , CSS & JavaScript and be able to get job.

#### **Pre-requisite / Target Audience:**

- Any XII pass who has knowledge of basics of computers.

#### **Note:**

- One hour for each module will be provided to each student.
- After the completion of certification course, students are supposed to appear in the exam conducted by department of examination, Govt. Holkar Science College, Indore(M.P.).

#### **PART 1**

##### **Module 1: Web Programming Introduction**

- Architecture of a website
- Different technologies in making the website
- Web Development Introduction

##### **Module 2: HTML-Introduction**

- History of HTML
- What you need to do to get going and make your first HTML page
- What are HTML Tags and Attributes?
- HTML Tag vs. Element
- HTML Attributes

##### **Module 3: HTML-Basic Formatting Tags and HTML-Grouping Using Div Span**

- HTML Basic Tags
- HTML Formatting Tags

- HTML Color Coding
- Div and Span Tags for Grouping

#### Module 4: HTML-Lists

- Unordered Lists
- Ordered Lists
- Definition list

#### Module 5: HTML-Images

- Image and Image Mapping

#### Module 6: HTML-Hyperlink

- URL - Uniform Resource Locator
- URL Encoding

#### Module 7: HTML-Table

- <table>
- <th>
- <tr>
- <td>
- <caption>
- <thead>
- <tbody>
- <tfoot>
- <colgroup>
- <col>

#### Module 8: HTML-Iframe

- Using Iframe as the Target

#### Module 9: HTML-Form

- <input>
- <textarea>
- <button>
- <select>
- <label> etc.

#### Module 10: HTML-Headers

- Title
- Base
- Link
- Styles
- Script
- Meta

#### Module 11: Test for Part 1

Handwritten notes and signatures at the bottom of the page, including the word "Carolyn" and various initials and marks.

Gr

- Benefits of CSS
- CSS Versions History
- CSS Syntax
- External Style Sheet using `< link >`
- Multiple Style Sheets
- Value Lengths and Percentages

- CSS Syntax
- single Style Sheets
- Multiple Style Sheets
- Value Lengths and Percentages

- ID Selectors
- Class Selectors
- Grouping Selectors
- Universal Selector
- Descendant / Child Selectors
- Attribute Selectors
- CSS - Pseudo Classes

- background-image
- background-repeat
- background-position
- CSS Cursor

- color
- background-color
- text-decoration
- text-align
- vertical-align
- text-indent
- text-transform
- white space
- letter-spacing
- word-spacing
- line-height
- font-family
- font-size
- font-style
- font-variant
- font-weight

Handwritten notes and signatures on lined paper:

- Top left: "n" and "g" (partially visible).
- Top center: A large checkmark.
- Top right: "D" and "D" (partially visible).
- Middle left: "h" and "y" (partially visible).
- Middle center: "E" (partially visible).
- Middle right: "G" and "Guth" (partially visible).
- Bottom left: "Canada" (partially visible).
- Bottom center: "D" and "D" (partially visible).
- Bottom right: "base" (partially visible).



#### Module 6: CSS2-Lists Tables

- list-style-type
- list-style-position
- list-style-image
- list-style
- CSS Tables
  - border
  - width & height
  - text-align
  - vertical-align
  - padding
  - color

#### Module 7: CSS2-Box Model

- Borders & Outline
- Margin & Padding
- Height and width
- CSS Dimensions

#### Module 8: CSS2-Display Positioning

- CSS Visibility
- CSS Display
- CSS Scrollbars
- CSS Positioning
  - Static Positioning
  - Fixed Positioning
  - Relative Positioning
  - Absolute Positioning
- CSS Layers with Z-Index

#### Module 9: CSS Floats

- The float Property
- The clear Property
- The clear fix Hack

#### Module 10: Test for Part 2

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## PART 3

### Module 1: Introduction

- JavaScript Introduction

### Module 2: Language Syntax

- Variable declaration
- Operators
- Control Statements
- Error Handling
- Understanding arrays
- Function Declaration

### Module 3: Built In Functions

- Built In Functions
- Standard Date and Time Functions

### Module 4: HTML Forms

- HTML Document object Model
- Working with HTML form and its elements

### Module 5: HTML DOM

- HTML form and its elements
- Other HTML Document object Model
- Working with Document Object Model

### Module 6: Cookies

- Working with cookies

### Module 7: Working with Objects and Classes

- Working with Objects
- Call method in JavaScript
- Inheritance in JavaScript using prototype

### Module 8: Database Connectivity

- Using MS-Access
- Using MySQL
- Using Oracle

### Module 9: Test for Part 3

*Handwritten notes and signatures:*

- Top right: *En*
- Below Module 8: *Using MS-Access*, *Using MySQL*, *Using Oracle*
- Below Module 9: *Test for Part 3*
- Bottom left: *Carola*
- Bottom center: *Shu*
- Bottom right: *Imran*, *Sach*