GOVT. HOLKAR (MODEL AUTONOMOUS) SCIENCE COLLEGE, INDORE

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

SSR DOCUMENT

2017-18 TO 2021-22

CRITERION –3

Research , Innovations and Extension

Metric No. : 3.3.1

SURESH T SILAWAT

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Document Title:

Indian Knowledge System (IKS)

तमसो मा ज्योतिर्गमय

Sample Text-books drafted by Hindi Granth Academy, Bhopal for colleges under DHE, GoMP as per NEP-2020 reflecting Indian Knowledge System (IKS) as mentioned in the syllabi of the curriculum at Under Graduate Level

स्वराज्य की दिशा

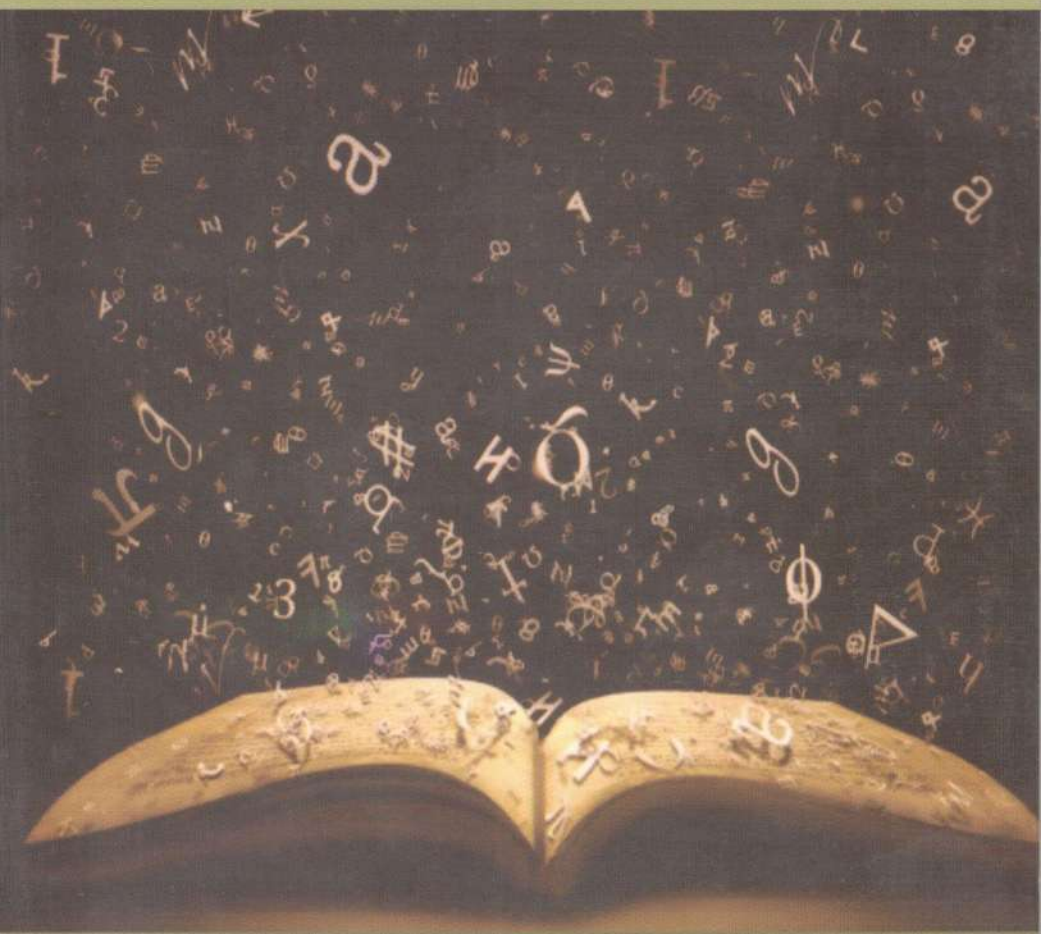
मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

वैज्ञानिक तथा तकनीकी शब्दावली आयोग

मानव संसाधन विकास मंत्रालय (उच्चतर शिक्षा विभाग) भारत सरकार

मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

English Language & Literacy Heritage of India



मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

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मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

भाषा और संस्कृति

सम्पादक
डॉ. राधा वल्लभ शर्मा
डॉ. उमेश कुमार सिंह

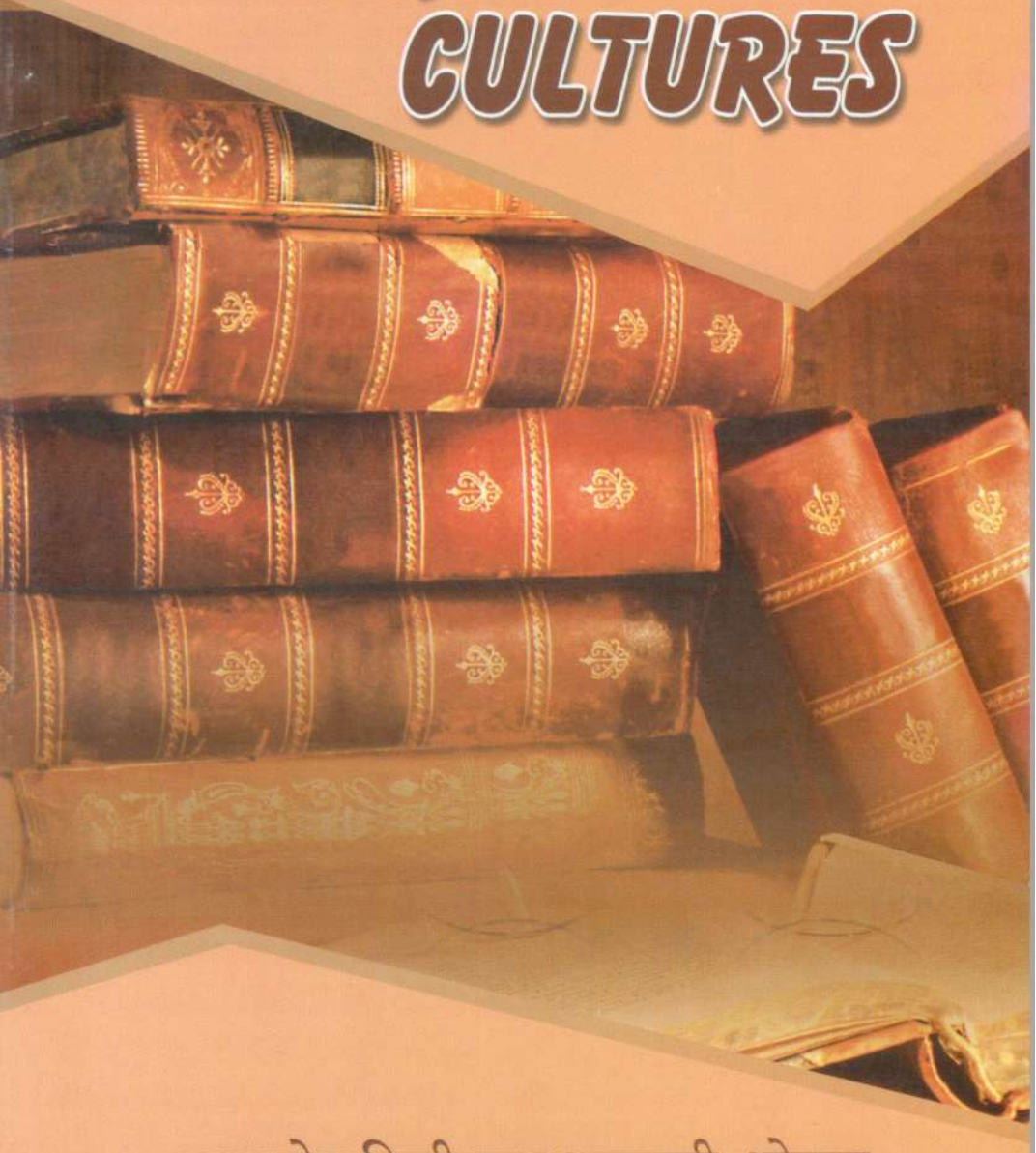
मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

9 789394 032026

वैज्ञानिक तथा तकनीकी शब्दावली आयोग
शिक्षा मंत्रालय, भारत सरकार

मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

ENGLISH ACROSS CULTURES



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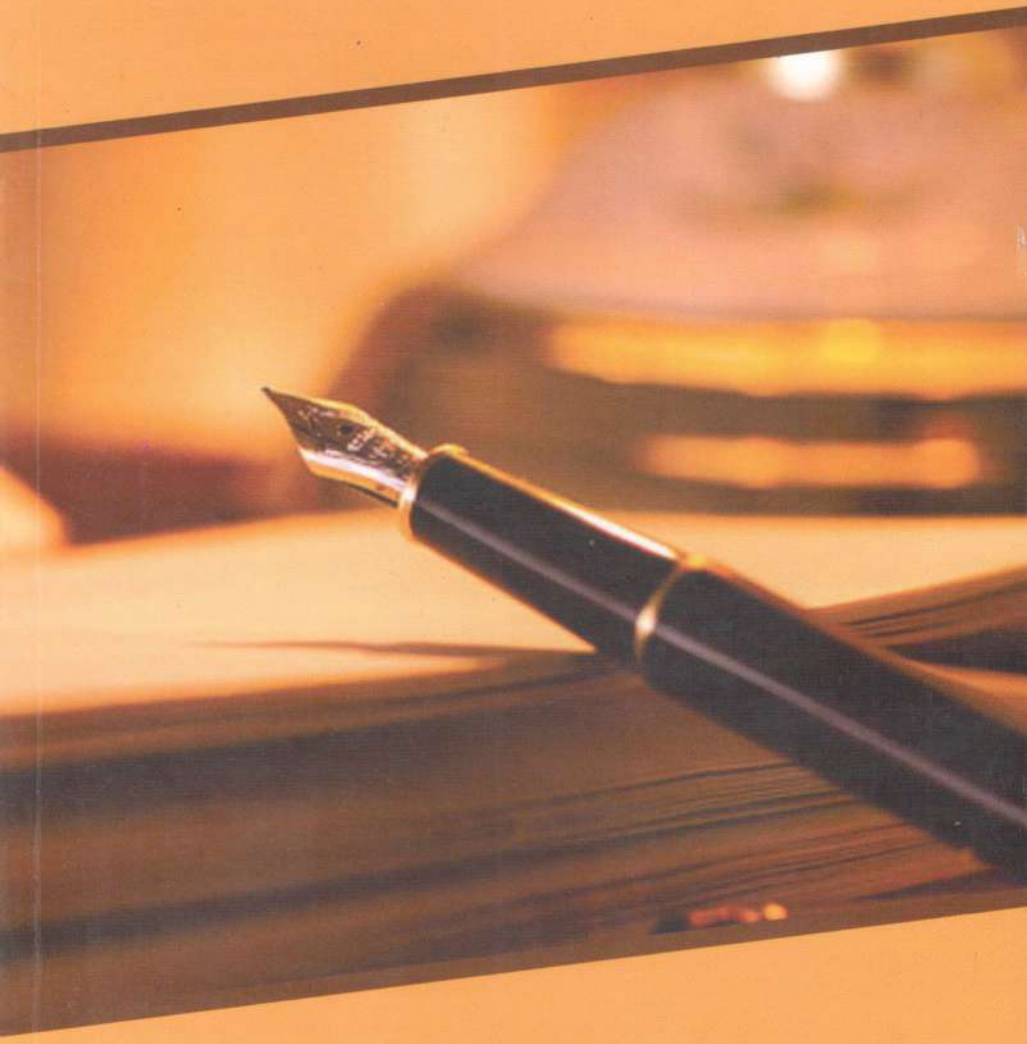
हिन्दी भाषा और नैतिक मूल्य



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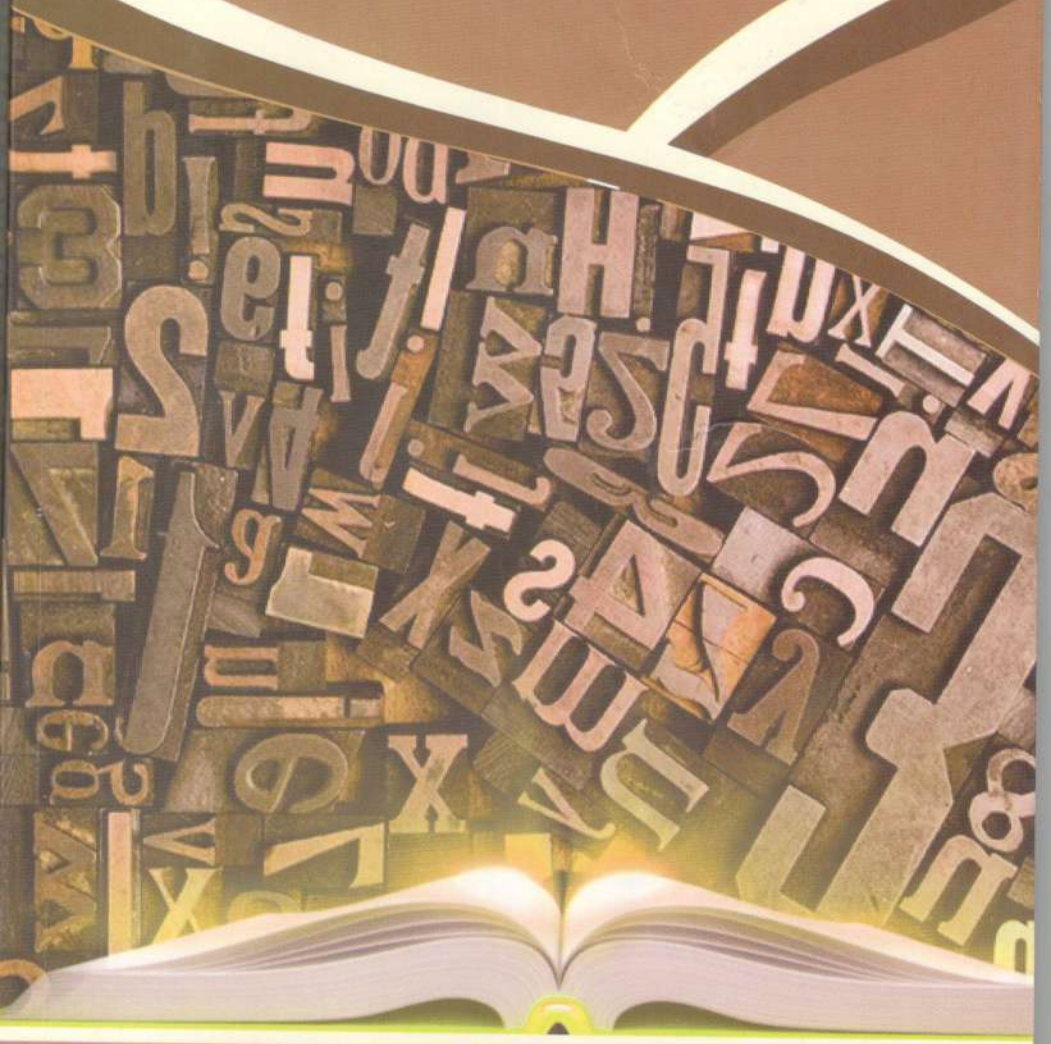
शिक्षा मंत्रालय, भारत सरकार
मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

English Language and Indian Culture



मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

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शिक्षा मंत्रालय, भारत सरकार

मध्यप्रदेश हिन्दी ग्रन्थ अकादमी, भोपाल

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

Department of Botany

Year 2021-22

Class M.Sc. II Sem. Botany

Paper - III

Utilization & Conservation of Plant Resources

UNIT-I	Major Biomes of the world- Tropical, Temperate(Boreal and Seasonal forests, rain) & Seasonal Forests; Grasslands, Deserts; Aquatic Ecosystems(wetlands, Lake ,Pond, River, Stream, Estuarine), Marine-habitats.
UNIT-II	Organization of Resources- utilization of Resources from forest, grassland and aquatic habitat ; Food forage, Fodder, Timber & Non-wood forest products; Threats to quality & quantity of resources due to over exploitation.
UNIT-III	Conservation of resources: Classifications of resources; Principles of conservation; In-situ conservation, sanctuaries, National parks, Biosphere reserves for wildlife conservation; Habitat conservation practices of conservation for forests, ranges, soil and water; Ex-situ conservation- Botanical gardens, field gene banks, seed banks, Cryobank, Microbial repositories and Medicinal plant repositories.
UNIT-IV	Pollution & Climate Change: Air, Water and Soil pollution, Kinds, Sources, Quality parameters, Effects on structure & function of ecosystems; Management of pollution; Bioremediation; Climate changes sources, Trends & role of greenhouse gases, Effect of global warming on climate, Ecosystem processes & Biodiversity; Ozone layer & Ozone hole.
UNIT-V	Resource monitoring: Remote sensing concepts & Tools, Satellite remote sensing basics sensors, Visual & digital interpretation, EMR bands and their applications; Indian remote sensing programme; thematic mapping of resources Application of remote sensing in Ecology & Forestry.GIS

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

Department of Botany

Year 2021-22

Class M.Sc. III Sem. Botany

Paper –III-B

Economic Botany

UNIT-I	Plants, energy and global warming (15) • Introduction to plants, plant resources and their importance to human race and survival (5) • Plants as key solution for major global problems viz. Energy, pollution control, agricultural productivity, global warming, climate change, soil fertility and conservation etc. (10)
UNIT-II	Plants and Industries (15) • Medicinal plants of India, Importance and uses.(3) • Plants as Ayurvedic, Allopathy and Unani medicines (3) • Cottage Industries • Fermentation, Ethyl Alcohol Fermentation (2) • Citric acid Fermentation (2) • Mushroom Cultivation (4)
UNIT-III	Plants and plant products (15) • Vegetables, oil yielding plants, wild edible plants, food crops, spices and condiments, Forage- fodder plants (5) • Fibre yielding plants, textile fibres, cordage fibres, fibres for stuffing (3) • Important timber yielding plants and non-wood forest products (2)
UNIT-IV	Plant products and production (15) • Resin, dye, tannin and gum yielding plants and their applications(2) • Grasses, their economic importance (3), Organic farming (3), Mushroom cultivation (3), Vine production(2), and Beer production(2)
UNIT-V	Soil Biology and Organic farming • Soil: Definition and Composition, mode of origin of soil, formation of soil, factors affecting soil formation. • Soil profile, soil types soil components. • Soil organisms, soil micro organisms, rhizosphere and rhizoplane micro-organisms. • Organic farming, and bio-fertilizers.

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

Department of Botany

Year 2021-22

Class M.Sc. IV Sem. Botany

Paper – IV-B Elective 4

Pollution Ecology

UNIT-I	Pollution: Status and Concerns Classification of contaminants and pollutants. Brief account of major environmental disasters of the past. Indicator concept-biological indicators of pollution.
UNIT-II	Air pollution Sources and causes of air pollution. Effects of air pollution on flora and fauna, materials and structures, soil atmosphere, water bodies and on human health. Transport and dispersion of pollutants.
UNIT-III	Water Pollution Sources and causes of water pollution Status of water pollution in India and M.P. Water harvesting and recharging of water resources-concerns and remedies.
UNIT-IV	Soil pollution and other pollution types Causes and sources of soil pollution. Pesticidal and heavy metal pollution-sources, causes and effects Nuclear, thermal and noise pollution-sources, causes and effects
UNIT-V	Pollution: Monitoring and Control Monitoring systems and analytical methods for air, water and soil pollution. Control and abatement measures for air, water and soil pollution. Brief account of legislation and environmental protection acts in India.

B.Sc. I Semester Chemistry Syllabus
CBCS Annual Pattern
From Academic Year 2021-2022
Paper I (Major)

Part A Introduction			
Program-CERTIFICATE	**Class-B.Sc.**	**Semester-I**	**Session: 2021-2022**
Subject - Chemistry			
Course Code	**S1–CHEM1T**		
Course Title	**Fundamentals of Chemistry (Paper I) (Major)**		
Course Type	Core Course		
Pre-requisite (if any)	To study this course our students must have had the subject Chemistry in class +2 or equivalent.		
Course Learning Outcomes (CLO)	By the end of this course students will learn the following aspects of Chemistry: 1. Ancient Indian chemical techniques. 2. Various theories and principles applied to reveal atomic structure. 3. Significance of quantum numbers. 4. Concepts of periodic Properties of elements. 5. Theories related to chemical bonding. 6. Acid-base concept, pH, buffer. 7. Factors responsible for reactivity of organic molecules. 8. Basics and mechanism of chemical kinetics. 9. Properties of electrolytes.		
Credit Value	4		
Total Marks	Maximum Marks: CCE - 40, Theory Exam (TE) - 60	Minimum Passing Marks:35	

Part B – Content of the course		
Total No. of Lecture-Tutorials-Practical (In hours per week): L-T-P:60-0-30		
Unit	**Topic**	**No. of lectures**
1	**(a)**Chemical techniques in ancient India: General Introduction **(b)**Contribution of ancient Indian scientists in chemistry e.g. metallurgy, dyes, pigments, cosmetics, Ayurveda, Charak Sanhita. **Atomic Structure:** (i)Review of Bohr's theory and its limitations. Atomic spectrum of Hydrogen. Dual nature of particles and wave, de Broglie's equation, Heisenberg's Uncertainty principle and its significance. (ii)Quantum numbers and their significance. Rules for filling electrons in various orbitals, Pauli's Exclusion Principle, Hund's rule of maximum multiplicity, Aufbau principle and its limitations, Variation of orbital energy with atomic number. Electronic configuration of the stability of half-filled and completely filled orbitals, concept of exchange energy. Relative energies of atomic orbitals, Anomalous electronic configurations. ***Keywords/Tags**: Metallurgy, Dyes, Cosmetics, Charak Sanhita Hydrogen spectrum, Hund's rule, Aufbau principle.*	2+4
2	**Elementary idea of the following properties of the elements with reference to s & p-block elements in periodic table.** • Effective nuclear number (EAN), shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table. • Atomic radii (van der Waals) • Ionic and crystal radii. • Covalent radii (octahedral and tetrahedral) Detailed discussion of the following properties of the elements, with reference to s & p-blocks.	6+4

B.Sc. I Semester

Syllabus of Theory Paper

Part A Introduction			
Program: Certificate	Class: B.Sc.	Semester - I	Session:2021-22
Subject : Chemistry			
1	Course Code	**S1-CHEM1G**	
2	Course Title	Chemistry in Everyday Life	
3	Course Type(Core Course/Elective/Generic Elective/Vocational/.....)	Elective	
4	Pre-requisite (if any)	To study this course, a student must have had the subject **science/arts/commerce** in class +2 or equivalent..... **This course can be opted as an elective by the students of following subject: Open for all**	
5	Course Learning outcomes (CLO)	By the end of this course students are expected to- 1. Learn about the chemistry of ancient India. Ancient construction materials and discoveries. 2. Gain information about acids, bases and salts involved in our day to day life. 3. Have an idea of food adulteration, its harmful effects and methods to detect adulteration and the important constituents of our food. 4. Student will be familiar with the chemical nomenclature of the commonly used materials in daily life including toiletries, kitchen and beverages. 5. Have an Elementary idea of disinfectants, pesticides and cleaners.	
6	Credit Value	4	
7	Total Marks	Max.Marks: 40+60	Min.Passing Marks : 35

Part B – Content of the Course		
Total No. of Lectures- Tutorials-Practical (in hours per week):		
Unit	Topics	No. of Lectures
I	**Ancient Chemistry** – Chemistry in Ancient India • Alchemy- construction material in ancient times like pottery, Bricks, Cement, Minerals. • Discovery and Uses of Glass, cosmetics & perfumes, paper & ink. • Metal extraction in ancient time, fiber cloth and dying chemistry in ancient times. **Basic introduction of chemistry:** Elements (up to atomic number 36), atoms, molecules and compounds. **Keywords/Tags:** ancient chemistry, Alchemy, Glass, Metal extraction, Atoms, molecules.	12
II	**Acids, Bases and Salts in Daily Life** – Definition of acids, bases and neutral substances, pH scale. Sources and uses of – • Acids- hydrochloric acid, acetic acid(vinegar), ascorbic acid, carbonic acid, sulfuric acid, tartaric acid, citric acid. • Bases- sodium hydroxide, magnesium hydroxide, calcium hydroxide, ammonia. • Salts- sodium fluoride, sodium chloride, sodium carbonate, sodium bicarbonate, copper sulphate, Alums, calcium carbonate, ammonium chloride. Keywords/Tags : Acids, Bases, Salts, Neutral Substances, pH	12
III	**Major Components of our Food-** Basic idea of vitamins, fats, carbohydrates, proteins and fibers, their function and sources. **Functions and importance:** Vitamin B complex, antioxidants, micronutrients like iron, zinc, calcium **Food Adulteration-** definition, types, harmful effects • Common adulterants and their detection in- milk, ghee, mustard oil, sugar, salt, tea, chili powder, black pepper, turmeric powder, honey. • Harmful effects of food additives- saccharin, monosodium glutamate(Ajinomoto), Sulphur	12

B.Sc. II Semester Chemistry Syllabus
CBCS Annual Pattern
From Academic Year 2021-2022

(Paper II) (Minor)

Part A Introduction			
Program-CERTIFICATE	**Class-B.Sc.**	**Semester-II**	**Session: 2021-2022**
Subject - Chemistry			
Course Code	**S1–CHEM1T**		
Course Title	**Fundamentals of Chemistry (Paper II) (Minor)**		
Course Type	Core Course		
Pre-requisite (if any)	To study this course our students must have had the subject Chemistry in class +2 or equivalent.		
Course Learning Outcomes (CLO)	By the end of this course students will learn the following aspects of Chemistry: 1. Ancient Indian chemical techniques. 2. Various theories and principles applied to reveal atomic structure. 3. Significance of quantum numbers. 4. Concepts of periodic Properties of elements. 5. Theories related to chemical bonding. 6. Acid-base concept, pH, buffer. 7. Factors responsible for reactivity of organic molecules. 8. Basics and mechanism of chemical kinetics. 9. Properties of electrolytes.		
Credit Value	4		
Total Marks	Maximum Marks: CCE - 40, Theory Exam (TE) - 60	Minimum Passing Marks:35	

Part B – Content of the course		
Total No. of Lecture-Tutorials-Practical (In hours per week): L-T-P:60-0-30		
Unit	**Topic**	**No. of lectures**
1	**(a)**Chemical techniques in ancient India: General Introduction **(b)**Contribution of ancient Indian scientists in chemistry e.g. metallurgy, dyes, pigments, cosmetics, Ayurveda, Charak Sanhita. **Atomic Structure:** (i)Review of Bohr's theory and its limitations. Atomic spectrum of Hydrogen. Dual nature of particles and wave, de Broglie's equation, Heisenberg's Uncertainty principle and its significance. (ii)Quantum numbers and their significance. Rules for filling electrons in various orbitals, Pauli's Exclusion Principle, Hund's rule of maximum multiplicity, Aufbau principle and its limitations, Variation of orbital energy with atomic number. Electronic configuration of the stability of half-filled and completely filled orbitals, concept of exchange energy. Relative energies of atomic orbitals, Anomalous electronic configurations. ***Keywords/Tags**: Metallurgy, Dyes, Cosmetics, Charak Sanhita Hydrogen spectrum, Hund's rule, Aufbau principle.*	2+4
2	**Elementary idea of the following properties of the elements with reference to s & p-block elements in periodic table.** • Effective nuclear number (EAN), shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table. • Atomic radii (van der Waals) • Ionic and crystal radii. • Covalent radii (octahedral and tetrahedral) Detailed discussion of the following properties of the elements, with reference to s & p-blocks.	6+4

B.Sc. II Semester

Syllabus of Theory Paper

Syllabus of Theory Paper

Part A Introduction				
Program-CERTIFICATE		**Class-B.Sc.**	**Semester-II**	**Session: 2021-2022**
Subject - Chemistry				
	Course Code	S1–CHEM1G		
	Course Title	**General Aspects of Chemistry**		
	Course Type	Elective		
	Pre-requisite (if any)	To study this course a students must have had the subject Chemistry in class +2 or equivalent.		
	Course Learning Outcomes (CLO)	By the end of this course students are expected to- 1. Learn about the chemistry of ancient India, ancient medicines, dyes & preservatives. 2. Gain information about-water its analysis and its treatment. Also, about laws & standard to improve quality of water. 3. Have an idea of environment with respect to air & soil. To improve their qualities. 4. Students will be able to maintain the health through the knowledge of blood & knowledge of biological system. 5. The students will be able to prevent common diseases, through the knowledge of this unit.		
	Credit Value	4		
	Total Marks	Maximum Marks: 40+60		Minimum Passing Marks:35

Part B – Content of the course		
Total No. of Lecture-Tutorials-Practical (In hours per week): **L-T-P:**		
Unit	**Topic**	**No. of lectures**
I	**Chemistry in Ancient India –** **Food & Textile –** • Food – Preservatives and edible dyes. • Textile – Dyes: types and applications. Dying process in ancient times • Drug – herbal medicines used in ancient times Haldi, Tulsi, Ginger, Ashwagandha, Amla.	12
II	**Analysis of Water –** • Water – Analysis-Hardness, TDS, DO, BOD, COD; water treatment plant – Potable water & treatment of industrial effluent; water pollution-laws and standards.	12
III	**Analysis of Air & Soil –** • Air – Atmospheric layer, Acid rains, Green House Effect, Global warming, Ozone layer depletion. • Soil – Soil composition, soil pollutants – heavy metals, pesticides.	12
IV	**Clinical Chemistry –** Blood volume, Blood pressure, Blood sugar, Blood group, Haemoglobin. Metals in Biological system – Macro & Micro nutrients, Na^+ / K^+ pump.	12
V	**Common Diseases & Remedies –** Jaundice, Diabetes, Anaemia, Goitre, Ulcer, Arthritis, Endocrine Glands & their secretions.	12

DEPARTMENT OF STATISTICS & ECONOMICS

Part A Introduction				
Program: UG/Certificate		Class: B.Sc.	Semester: II	Session: 2021-2022
Subject: ECONOMICS				
1	Course Code	S2-21-I		
2	Course Title	**Indian & Agricultural Economy**		
3	Course Type (Core Course/Open Elective/Generic Elective/Vocational)	Core Course		
4	Pre-requisite (if any)	-		
5	Course Objectives	This course will help in compressive understanding of Indian economy. To give death knowledge of booking & finance to students. A little understanding of India's foreign trade & various governmental policies & Programs will also be included to make student aware.		
6	Course Learning outcomes (CLO)	After the successful completion of the course students should be able to -		
		1. Develop ideas of the basic features of India economy & its Potential on natural resources.		
		2. Understand agriculture as the foundation of economic growth and development, analysis the Process & Changing nature of agricultural sector and its contribution to whole economy		
		3. Explain industrial Policy before & after independence & Concept of SSI and Cottage industries in India with Various flagship Programs.		
		4. Demonstrate India's Infrastructural growth and understand the structure of India's foreign Trade.		
		5. Grasp the importance of planning undertaken by the government of India have knowledge of various objectives, failures & Achievement's & Introduction of NITI Ayog.		
7	Credit Value	6 Credits		
8	Total Marks	Max. Marks: 40 (CCE) + 60 (End Semester or Theory Exam) External Evaluation = 100 Marks		Min. Passing Marks:35

प्राचार्य
शासकीय संस्कृत महाविद्यालय
इन्दौर (म0 प्र0)

डा: अटल बिहारी वाजपेयी कला एवं वाणिज्य महाविद्यालय इन्दौर.

Part B- Content of the Course

Total No. of Lectures-Tutorials- Practicals (in hours per week): L-T-P: 6-0-0

Paragraph	Topics	No. of Lectures
I	**Introduction** 1. Characteristics of Indian Economy 2. Trends and Sectoral Composition of National Income. 3. Sectoral Distribution of workforce 4. Natural Resource Endowments- Land, Water, Livestock, Forest and Minerals 5. Demographic Features- Population Composition, Size and Growth Rates 6. Problems and Causes of Over- Population and Population Policy	18
	1. भारतीय अर्थव्यवस्था की विशेषताएँ 2. राष्ट्रीय आय की क्षेत्रीय संरचना एवं प्रवृति 3. श्रमशक्ति का क्षेत्रीय वितरण 4. प्राकृतिक संसाधन सम्पदा–भूमि, जल, पशुधन, वन, खनिज 5. जनांकिकीय विशेषताएँ–जनसंख्या की संरचना, आकार एवं वृद्धि दर 6. जनाधिक्य की समस्या एवं जनसंख्या नीति	
II	**Agriculture** 1. Nature, Importance and Characteristics of Indian Agriculture 2. Land Use Pattern and Land Reforms 3. Trends in Agricultural Production and productivity 4. Green Revolution- Objectives, Achievements and Failures 5. Agricultural Finance and Insurance 6. Agriculture Marketing 7. New Technology in Agriculture	18
	कृषि 1. भारतीय कृषि की प्रवृति, महत्व व विशेषताएँ 2. भू उपयोग पद्धति एवं भू–सुधार 3. कृषि उत्पादन एवं उत्पादकता की प्रवृतियां 4. हरित कांति–उद्देश्य, सफलताएं एवं विफलताएं 5. कृषि वित्त एवं बीमा 6. कृषि विपणन 7. कृषि में नवीन तकनीक	
III	**Industry and Infrastructure**	18

डॉ. अरुण [illegible] वाजपेयी
कला एवं वाणिज्य महाविद्यालय इन्दौर

प्राचार्य
शासकीय संस्कृत महाविद्यालय
इन्दौर (म0 प्र0)

	1. Industrial Development of India after Independence 2. New Industrial Policy of 1991 3. Role of Public Sector and Private Sector in Industrialization 4. MSME- Definition, Characteristics and Its Role 5. Problems and Remedies of Small-Scale and Cottage Industries 6. Start-up India, Make in India and Aatm Nirbhar Bharat 7. Infrastructure Composition- Power, Transport and Communication.	
	उद्योग एवं आधारभूत संरचना 1. स्वतंत्रता प्राप्ति के पश्चात् भारत का औद्योगिक विकास 2. नई औद्योगिक नीति 1991 3. औद्योगीकरण में सार्वजनिक व निजी क्षेत्र की भूमिका 4. सूक्ष्म, लघु एवं मध्यम उपक्रम (MSME)- परिभाषा, विशेषताएँ एवं इनकी भूमिका 5. लघु एवं कुटीर उद्योगो की समस्याएं एवं समाधान 6. स्टार्टअप इण्डिया, मेक इन इण्डिया एवं आत्मनिर्भर भारत 7. आधारभूत संरचना–ऊर्जा, परिवहन एवं संचार	
IV	**Foreign Trade and Development** 1. India's Foreign Trade-Importance, Composition and Direction 2. Role of Foreign Direct Investment, Multinational Corporations 3. Disinvestment in India 4. Indian Planning – Objectives, Achievements and Failures 5. NITI Aayog 6. Indian Economic Problems- Poverty, Unemployment and Regional Inequality	18
	विदेशी व्यापार एवं विकास 1. भारत का विदेशी व्यापार–महत्व, दशा व दिशा 2. प्रत्यक्ष विदेशी निवेश व बहुराष्ट्रीय निगमों की भूमिका 3. भारत में विनिवेष 4. भारतीय नियोजन– उद्देश्य, सफलताएं एवं विफलताएं 5. नीति आयोग 6. भारतीय आर्थिक समस्याएं–गरीबी, बेरोजगारी एवं क्षेत्रीय विषमताएं	
V	**Economy of Madhya Pradesh** 1. Salient Features of Madhya Pradesh's Economy 2. Natural Resources of Madhya Pradesh- Land, Forest, Water and Minerals	18

	3. Trends and Regional Disparities in Agriculture Sector of Madhya Pradesh 4. Organic Farming and Poly house in Madhya Pradesh 5. Industrial Development in Madhya Pradesh 6. Infrastructure Development in Madhya Pradesh –Power, Transport and Communication 7. Development of Tourism in Madhya Pradesh 8. Employment oriented Scheme in Madhya Pradesh	
	मध्यप्रदेश की अर्थव्यवस्था 1. मध्यप्रदेश की अर्थव्यवस्था की मुख्य विशेषताएँ 2. मध्यप्रदेश के प्राकृतिक संसाधन–भूमि, जल, वन, खनिज 3. मध्यप्रदेश में कृषि की क्षेत्रीय विषमताएं एवं प्रवृतियाँ 4. मध्यप्रदेश में जैविक खेती एवं पॉलीघर 5. मध्यप्रदेश में औद्योगिक विकास 6. मध्यप्रदेश में आधारभूत संरचना का विकास– ऊर्जा ,परिवहन एवं संचार 7. मध्यप्रदेश में पर्यटन विकास 8. मध्यप्रदेश में रोजगार मूलक योजनाएं	

Keywords/Tags: Sectoral Composition, Human resources of India, Indian Agriculture, Industrialization, Infrastructure, Foreign Direct Investment, Regional Disparities, Organic Farming, Industrial development.

Part C-Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

1. Panagariya, Arvind. (2020)- India Unlimited: Reclaiming the Lost Glory, HarperCollins Publishers
2. Mishra and Puri (2020) - Indian Economy, Himalaya Publishing House, New Delhi.
3. Rudra Dutt and Sundaram – Indian Economy, S. Chand and Company, New Delhi.
4. Hariharan, N.P. (2008) - Lights and Shades of Indian Economy, Vishal Publishing Co., Jalandhar.
5. Uma Kapila (20th Edition) (2009) - Indian Economy since Independence, Academic Foundation, New Delhi.
6. Reserve Bank of India-Annual Reports.
7. Annual Economic Survey, Government of India (Latest).
8. Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (1987)- The Development Process of the Indian Economy, Himalaya Publishing House, Bomabay.
9. Government of India, Planning Commission, 12th Five Year Plan, New Delhi

10. रूद्रदत्त–विकास, गरीबी एवं समता, एवं समता, दीप एंड दीप पब्लिकेशन प्रा. लि., नई दिल्ली
11. जे. पी. मिश्रा– भारतीय अर्थव्यवस्था, साहित्य भवन पब्लिकेशन, आगरा

मध्यप्रदेश का आर्थिक सर्वेक्षण 2020–21 –आर्थिक एवं सांख्यिकी संचालनालय भोपाल मध्यप्रदेश

DEPARTMENT OF STATISTICS & ECONOMICS

Part A Introduction			
Program: UG/Certificate	Class: B.Sc.	Semester: II	Session: 2021-2022

Subject: ECONOMICS			
1	Course Code	S2-21-M	
2	Course Title	Indian Economy	
3	Course Type (Core Course/Open Elective/Generic Elective/Vocational)	Core Course	
4	Pre-requisite (if any)	-	
5	Course Objectives	This course will help in compressive understanding of Indian economy. To give death knowledge of booking & finance to students. A little understanding of India's foreign trade & various governmental policies & Programs will also be included to make student aware.	
6	Course Learning outcomes (CLO)	After the successful completion of the course students should be able to -	
		1. Develop ideas of the basic features of India economy & its Potential on natural resources.	
		2. Understand agriculture as the foundation of economic growth and development, analysis the Process & Changing nature of agricultural sector and its contribution to whole economy	
		3. Explain industrial Policy before & after independence & Concept of SSI and Cottage industries in India with Various flagship Programs.	
		4. Demonstrate India's Infrastructural growth and understand the structure of India's foreign Trade.	
		5. Grasp the importance of planning undertaken by the government of India have knowledge of various objectives, failures & Achievement's & Introduction of NITI Ayog.	
7	Credit Value	6 Credits	
8	Total Marks	Max. Marks: 40 (CCE) + 60 (End Semester or Theory Exam) External Evaluation = 100 Marks	Min. Passing Marks:35

Atul Jain

Vandi Bhargava

प्राचार्य
शासकीय संस्कृत महाविद्यालय
इन्दौर (म0 प्र0)

डा. अटल बिहारी वाजपेयी
कला एवं वाणिज्य महाविद्यालय इन्दौर

Part B- Content of the Course

Total No. of Lectures-Tutorials- Practicals (in hours per week): L-T-P: 6-0-0

Paragraph	Topics	No. of Lectures
I	**Introduction** 1. Characteristics of Indian Economy 2. Trends and Sectoral Composition of National Income. 3. Sectoral Distribution of workforce 4. Natural Resource Endowments- Land, Water, Livestock, Forest and Minerals 5. Demographic Features- Population Composition, Size and Growth Rates 6. Problems and Causes of Over- Population and Population Policy	18
	1. भारतीय अर्थव्यवस्था की विशेषताएँ 2. राष्ट्रीय आय की क्षेत्रीय संरचना एवं प्रवृति 3. श्रमशक्ति का क्षेत्रीय वितरण 4. प्राकृतिक संसाधन सम्पदा–भूमि, जल, पशुधन, वन, खनिज 5. जनांकिकीय विशेषताएँ–जनसंख्या की संरचना, आकार एवं वृद्धि दर 6. जनाधिक्य की समस्या एवं जनसंख्या नीति	
II	**Agriculture** 1. Nature, Importance and Characteristics of Indian Agriculture 2. Land Use Pattern and Land Reforms 3. Trends in Agricultural Production and productivity 4. Green Revolution- Objectives, Achievements and Failures 5. Agricultural Finance and Insurance 6. Agriculture Marketing 7. New Technology in Agriculture	18
	कृषि 1. भारतीय कृषि की प्रवृति, महत्व व विशेषताएँ 2. भू उपयोग पद्धति एवं भू–सुधार 3. कृषि उत्पादन एवं उत्पादकता की प्रवृतियां 4. हरित कांति–उद्देश्य, सफलताएं एवं विफलताएं 5. कृषि वित्त एवं बीमा 6. कृषि विपणन 7. कृषि में नवीन तकनीक	
III	**Industry and Infrastructure**	18

प्राचार्य
शासकीय संस्कृत महाविद्यालय
इन्दौर (म0 प्र0)

डा. अटल बिहारी वाजपेयी
कला एवं वाणिज्य महाविद्यालय इन्दौर

	1. Industrial Development of India after Independence 2. New Industrial Policy of 1991 3. Role of Public Sector and Private Sector in Industrialization 4. MSME- Definition, Characteristics and Its Role 5. Problems and Remedies of Small-Scale and Cottage Industries 6. Start-up India, Make in India and Aatm Nirbhar Bharat 7. Infrastructure Composition- Power, Transport and Communication.	
	उद्योग एवं आधारभूत संरचना 1. स्वतंत्रता प्राप्ति के पश्चात् भारत का औद्योगिक विकास 2. नई औद्योगिक नीति 1991 3. औद्योगीकरण में सार्वजनिक व निजी क्षेत्र की भूमिका 4. सूक्ष्म, लघु एवं मध्यम उपकम (MSME)- परिभाषा, विशेषताएँ एवं इनकी भूमिका 5. लघु एवं कुटीर उद्योगो की समस्याएं एवं समाधान 6. स्टार्टअप इण्डिया, मेक इन इण्डिया एवं आत्मनिर्भर भारत 7. आधारभूत संरचना–ऊर्जा, परिवहन एवं संचार	
IV	**Foreign Trade and Development** 1. India's Foreign Trade-Importance, Composition and Direction 2. Role of Foreign Direct Investment, Multinational Corporations 3. Disinvestment in India 4. Indian Planning – Objectives, Achievements and Failures 5. NITI Aayog 6. Indian Economic Problems- Poverty, Unemployment and Regional Inequality	**18**
	विदेशी व्यापार एवं विकास 1. भारत का विदेशी व्यापार–महत्व,दशा व दिशा 2. प्रत्यक्ष विदेशी निवेश व बहुराष्ट्रीय निगमों की भूमिका 3. भारत में विनिवेष 4. भारतीय नियोजन– उद्देश्य, सफलताएं एवं विफलताएं 5. नीति आयोग 6. भारतीय आर्थिक समस्याएं–गरीबी, बेरोजगारी एवं क्षेत्रीय विषमताएं	
V	**Economy of Madhya Pradesh** 1. Salient Features of Madhya Pradesh's Economy 2. Natural Resources of Madhya Pradesh- Land, Forest, Water and Minerals	**18**

	3. Trends and Regional Disparities in Agriculture Sector of Madhya Pradesh 4. Organic Farming and Polyhouse in Madhya Pradesh 5. Industrial Development in Madhya Pradesh 6. Infrastructure Development in Madhya Pradesh –Power, Transport and Communication 7. Development of Tourism in Madhya Pradesh 8. Employment oriented Scheme in Madhya Pradesh	
	मध्यप्रदेश की अर्थव्यवस्था 1. मध्यप्रदेश की अर्थव्यवस्था की मुख्य विशेषताएँ 2. मध्यप्रदेश के प्राकृतिक संसाधन–भूमि, जल, वन, खनिज 3. मध्यप्रदेश में कृषि की क्षेत्रीय विषमताएं एवं प्रवृतियाँ 4. मध्यप्रदेश में जैविक खेती एवं पॉलीघर 5. मध्यप्रदेश में औद्योगिक विकास 6. मध्यप्रदेश में आधारभूत संरचना का विकास– ऊर्जा ,परिवहन एवं संचार 7. मध्यप्रदेश में पर्यटन विकास 8. मध्यप्रदेश में रोजगार मूलक योजनाएं	

Keywords/Tags: Sectoral Composition, Human resources of India, Indian Agriculture, Industrialization, Infrastructure, Foreign Direct Investment, Regional Disparities, Organic Farming, Industrial development.

Part C-Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

1. Panagariya, Arvind. (2020)- India Unlimited: Reclaiming the Lost Glory, HarperCollins Publishers
2. Mishra and Puri (2020) - Indian Economy, Himalaya Publishing House, New Delhi.
3. Rudra Dutt and Sundaram – Indian Economy, S. Chand and Company, New Delhi.
4. Hariharan, N.P. (2008) - Lights and Shades of Indian Economy, Vishal Publishing Co., Jalandhar.
5. Uma Kapila (20th Edition) (2009) - Indian Economy since Independence, Academic Foundation, New Delhi.
6. Reserve Bank of India-Annual Reports.
7. Annual Economic Survey, Government of India (Latest).
8. Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (1987)- The Development Process of the Indian Economy, Himalaya Publishing House, Bomabay.
9. Government of India, Planning Commission, 12th Five Year Plan, New Delhi
10. रूद्रदत्त–विकास, गरीबी एवं समता, एवं समता, दीप एंड दीप पब्लिकेशन प्रा. लि., नई दिल्ली
11. जे. पी. मिश्रा– भारतीय अर्थव्यवस्था, साहित्य भवन पब्लिकेशन, आगरा

मध्यप्रदेश का आर्थिक सर्वेक्षण 2020–21 –आर्थिक एवं सांख्यिकी संचालनालय भोपाल मध्यप्रदेश

DEPARTMENT OF STATISTICS & ECONOMICS

Part A Introduction				
Program: UG/Certificate		Class: B.Sc.	Semester: II	Session: 2021-2022
Subject: ECONOMICS				
1	Course Code	S2-21-O		
2	Course Title	Basics of Indian Economy		
3	Course Type (Core Course/Open Elective/Generic Elective/Vocational)	Core Course		
4	Pre-requisite (if any)	-		
5	Course Objectives	This course will help in compressive understanding of Indian economy. To give death knowledge of booking & finance to students. A little understanding of India's foreign trade & various governmental policies & Programs will also be included to make student aware.		
6	Course Learning outcomes (CLO)	After the successful completion of the course students should be able to -		
		1. Develop ideas of the basic features of India economy & its Potential on natural resources.		
		2. Understand agriculture as the foundation of economic growth and development, analysis the Process & Changing nature of agricultural sector and its contribution to whole economy		
		3. Explain industrial Policy before & after independence & Concept of SSI and Cottage industries in India with Various flagship Programs.		
		4. Demonstrate India's Infrastructural growth and understand the structure of India's foreign Trade.		
		5. Grasp the importance of planning undertaken by the government of India have knowledge of various objectives, failures & Achievement's & Introduction of NITI Ayog.		
7	Credit Value	4 Credits		
8	Total Marks	Max. Marks: 40 (CCE) + 60 (End Semester or Theory Exam) External Evaluation = 100 Marks	Min. Passing Marks:35	

प्राचार्य
शासकीय संस्कृत महाविद्यालय
इन्दौर (म.प्र.)

डॉ. अटल बिहारी वाजपेयी
कला एवं वाणिज्य महाविद्यालय इन्दौर

Part B- Content of the Course

Total No. of Lectures-Tutorials- Practicals (in hours per week): L-T-P: 4-0-0

Paragraph	Topics	No. of Lectures
I	**Introduction** 1. Characteristics of Indian Economy 2. Trends and Sectoral Composition of National Income. 3. Natural Resource Endowments- Land, Water, Livestock, Forest and Minerals 4. Demographic Features- Population Composition, Size and Growth Rates	12
	परिचय 1. भारतीय अर्थव्यवस्था की विशेषताएँ 2. राष्ट्रीय आय की क्षेत्रीय संरचना एवं प्रवृति 3. प्राकृतिक संसाधन सम्पदा–भूमि,जल,पशुधन,वन,खनिज 4. जनांकिकीय विशेषताएँ–जनसंख्या की संरचना, आकार एवं वृद्धि दर	
II	**Agriculture** 1. Nature, Importance and Characteristics of Indian Agriculture 2. Land Reforms 3. Trends in Agricultural Production and productivity 4. Agricultural Finance and Insurance 5. Agriculture Marketing 6. New Technology in Agriculture	12
	कृषि 1. भारतीय कृषि की प्रवृति, महत्व व विशेषताएँ 2. भू–सुधार 3. कृषि उत्पादन एवं उत्पादकता की प्रवृतियां 4. कृषि वित्त एवं बीमा 5. कृषि विपणन 6. कृषि में नवीन तकनीक	
III	**Industry and Infrastructure** 1. Industrial Development of India after Independence 2. New Industrial Policy of 1991 3. Role of Public Sector and Private Sector in Industrialization	12

प्राचार्य
शासकीय संस्कृत महाविद्यालय
इन्दौर (म.प्र.)

डा. अटल बिहारी वाजपेयी
कला एवं वाणिज्य महाविद्यालय इन्दौर

	4. MSME- Definition, Characteristics and Its Role 5. Problems and Remedies of Small-Scale and Cottage Industries 6. Start-up India, Make in India and Aatm Nirbhar Bharat	
	उद्योग एवं आधारभूत संरचना 1. स्वतंत्रता प्राप्ति के पश्चात भारत का औद्योगिक विकास 2. नई औद्योगिक नीति 1991 3. औद्योगीकरण में सार्वजनिक व निजी क्षेत्र की भूमिका 4. सूक्ष्म,लघु एवं मध्यम उपकम (MSME)- परिभाषा, विशेषताएँ एवं इनकी भूमिका 5. लघु एवं कुटीर उद्योगो की समस्याएं एवं समाधान 6. स्टार्टअप इण्डिया,मेक इन इण्डिया एवं आत्मनिर्भर भारत	
IV	**Foreign Trade and Development** 1. India's Foreign Trade-Importance, Composition and Direction 2. Role of Foreign Direct Investment, Multinational Corporations 3. NITI Aayog 4. Indian Economic Problems- Poverty, Unemployment and Regional Inequality	12
	विदेशी व्यापार एवं विकास 1. भारत का विदेशी व्यापार–महत्व,दशा व दिशा 2. प्रत्यक्ष विदेशी निवेश व बहुराष्ट्रीय निगमों की भूमिका 3. नीति आयोग 4. भारतीय आर्थिक समस्याएं–गरीबी, बेरोजगारी एवं क्षेत्रीय विषमताएं	
V	**Economy of Madhya Pradesh** 1. Salient Features of Madhya Pradesh's Economy 2. Organic Farming and Polyhouse in Madhya Pradesh 3. Industrial Development in Madhya Pradesh 4. Infrastructure Development in Madhya Pradesh –Power, Transport and Communication 5. Development of Tourism in Madhya Pradesh 6. Employment oriented Scheme in Madhya Pradesh	12
	मध्यप्रदेश की अर्थव्यवस्था 1. मध्यप्रदेश की अर्थव्यवस्था की मुख्य विशेषताएँ 2. मध्यप्रदेश में जैविक खेती एवं पॉलीघर 3. मध्यप्रदेश में औद्योगिक विकास 4. मध्यप्रदेश में आधारभूत संरचना का विकास– ऊर्जा ,परिवहन एवं संचार 5. मध्यप्रदेश में पर्यटन विकास	

प्राचार्य
शासकीय संस्कृत महाविद्यालय
इन्दौर (म0 प्र0)

DEPARTMENT OF ECONOMICS

Class: B. Sc. II Year
Subject: Economics
Title of Paper: Macro Economics

Marks: 40+ (CCE) 10 = 50
Paper: Theory -I
Code of the Paper: C221-I

Part A : Introduction for code-C221-I	
Pre-requisite (if any)	-
Course Objectives	This course is designed to discuss the preliminary concepts associated with the determination & measurement of aggregate macroeconomics variables like savings, investments, GDP, inflation, money and balance of payment. This course will Provided an overall idea about national economic policies & its implication.
	After the successful completion of the course students should be able to
Course Learning Outcomes	1. Calculate National Income and demonstrate Circular flow of income.
	2. Compare and contrast the circumstances under which it makes sense to apply the Keynsian theory of employment.
	3. Describe working of multiplier and interpret the meaning of MEC and MEI.
	4. Grade different measures of money supply and illustrate various versions of quantity theory of money.
	5. Identify types of banks, interpret credit creation process of commercial banks.

Part B: Content of the Course	
As per HE Syllabus	
Particulars/ विवरण	
Unit I	Concept of Macro Economics, Inter-relation between Micro and Macro Economics, Macro Variables - Stock and Flow, Circular Flow of Income, Concept of National Income- Gross National Product (G.N.P.) and Gross Domestic Product (G.D.P.), National Income Accounting, Interrelation between National Income and Economic Welfare.
इकाई–1	समष्टि अर्थशास्त्र की अवधारणा – समष्टि और व्यष्टि अर्थशास्त्र के मध्य अंर्तसंबंध । समष्टि चर– स्टॉक और प्रवाह, आय का चक्रीय प्रवाह, राष्ट्रीय आय की अवधारणा, सकल राष्ट्रीय उत्पाद(जी.एन.पी.), सकल घरेलू उत्पाद(जी.डी.पी.) की अवधारणा , राष्ट्रीय आय लेखांकन. राष्ट्रीय आय एवं आर्थिक कल्याण के मध्य अंर्तसंबंध ।

Govt. Holkar (Model Autonomous)
Science College, Indore (M.P.)
Department of Industrial Fish and Fisheries
B.Sc. Syllabus (2021-22)

PART A: Introduction (Theory)			
Program: UG/Certificate	Class:B.Sc.	Semester-II	Session: 2021-22

Subject: **Fisheries**

1.	Course Code		
2.	Course Title	Anatomy and Biology of Finfish	
3.	Course Type (Core Course/Open Elective/ Generic Elective/ Vocational	Core Course	
4.	Pre-Requisite (if any)	To study this course a student must have had the subject biology & Agriculture in class 12th	
5.	Course Learning Outcomes(CLO)	After completion of the course, students will obtain knowledge about: - 1. Brief historical background of fisheries in context of India and Indian culture. 2. Anatomical features of finfish. 3. Functions of important internal organs and their role in integumentary, skeletal, digestive, respiratory, circulatory, nervous, urinogenital and reproductive system. 4. Fecundity, growth and age determination. 5. Parental care in fishes.	
6.	Credit Value	4 credits	
7.	Total Marks	Max.Marks: 40 (CCE) + 60 (End Semester or (Theory Exam) External Evaluation Total = 100 Marks	Min. Passing Marks: 35

PART B: Content of the Course

Total No. of Lectures-Tutorials-Practicals (in hours per week): L-T-P (4-0-0)

Total No. of Lectures---60---L

Paragraph	Topics	No. of Lectures
1	**Anatomy and biology of finfish:** ✣ **Historical background & fishery science** • Historical background of fishery science • Importance of fishery sciences. ✣ **Internal anatomy of fin fish** • Introduction to anatomy • Functions of different internal organs. • Positions of different organs. ✣ **Integument of fish** • Structure and function of skin or integument. • Histology of integument. ✣ **Scales of fishes** • Development of placoid scales. • Structure of placoid scales. • Structure of non placoid scales. **Keywords:** Fishery, integument sacci, placoid.	12
2	**Locomotion, skeletal system & digestive system** ✣ **Locomotion**	12

(Dr.Lata Bhattarcharya) Subject Expert

(Dr.Ruchira Choudhary) Subject Expert

(Dr. Kirti Tiwari) VC Member

(Dr. Pratima Khatri) Industrial Member

(Dr. Rekha Sharma) Chairman & Head

(Mr. Mohit Rathore) Student representative

Govt. Holkar (Model autonomous) Science College, Indore
Department Of Industrial Fish and Fisheries
Year 2021- 2022
Class – B.Sc III rd Year

Title of the Paper (Course) – Limnology and Fish Productivity
Code C313-2

Course Objectives: To gain in depth of knowledge about various limnological parameter of different water resources and their fish production.

Course Outcomes
CO1 Limnology- definition, history and scope.
CO2 Primary productivity of fish pond.
CO3 Reservoir fisheries.
CO4 Lentic and lotic fisheries resource of India.
CO5 Aquatic pollution causes and types.

Unit-1
i) Limnology – Definition, historical development and scope.
ii) Lakes their origin and classification.
iii) Types of Ponds.
iv) Physical parameters of water.
v) Chemical parameters of water.

Unit-2
i) Primary productivity of Fish pond and their relation to Fish culture.
ii) Plankton and its role in fish culture.
iii) Aquatic weeds and their control.
iv) Ecological classification of aquatic fauna higher aquatic plants and their significance.
v) Aquatic macrophytes.

Unit-3
i). Methods of water quality testing BOD and COD.
ii) Sewage – Definition, composition and its treatment.
iii) Reservoir Fisheries.
iv) Freshwater Ecosystem.
v) Azolla and Aquaculture.

Unit-4
i) Various morphometric parameters and zonation of sea and lake.
ii) Lentic Fisheries resources of India.
iii) Lotic fishery resources of India.
iv) Role of oxygen in freshwater.
v) Larvivorous fishes and their relation to public health.

Unit-5
i) Aquatic pollution causes and types.
ii) Common effect of aquatic pollution on fish fauna and flora.
iii) Predatory Fishes.
iv) Fish production in pond and its management.
v) Indian cultivable fishes and their crop potential in India.

(Dr.Lata Bhattarcharya)	(Dr.Ruchira Choudhary)	(Dr. Kirti Tiwari)	(Dr. Pratima Khatri)	(Dr. Rekha Sharma)	(Mr. Mohit Ratho
Subject Expert	Subject Expert	VC Member	Industrial Member	Chairman & Head	Student repres

Part B : Content of the Course	
Total Number of Lecture Hours/ Week :4	
Unit	Topic
Unit I	☛ **Unit-I : Aquafarm Engineering** 1) Definition, history and scope of Aquaculture. 2) Selection of site, designing, layout and construction of aquafarms, soil properties, types of ponds, orientation, shape, size and depth of ponds, design of embankments, water supply and drainage system- open channels, inlet structures, drainage and sluices. 3) Design and construction of hatcheries – carp hatcheries, prawn hatcheries, catfish hatcheries; physical, biological and mechanical filters. 4) Aeration – principles, requirements, types and designs of aeration equipment. 5) Aquaculture apparatus – pumps, (types, design and selection of pumps), automatic feeders, demand feeders and weed control apparatus.
Unit II	☛ **Unit-II : Pond Management** 1) Preparation and management of nursery, rearing and stocking ponds. 2) Types of Aquatic weeds, algal blooms, insects, predatory and weed fishes and their control. 3) Fertilizers – types, (organic, inorganic and biofertilizers) doses and methods of their application. 4) Feeding strategies and growth monitoring. 5) Physic-chemical parameters and their importance in relation to fish health monitoring.
Unit III	☛ **Unit-III : Freshwater Aquaculture** 1) Culturable species of fish and shellfish. Identification of different developmental stages of finfish and shellfish of commercially important species. 2) Methods of carp culture – history, present status and global scenario. Status of carp culture in India. 3) Methods of catfish culture – present status, global scenario and problems and prospects of catfish culture, culture of Magur and Singhi in India. 4) Methods of coldwater fish culture – present status and global scenario of coldwater fish culture, culture of trout and mahaseer in India. 5) Methods of prawn culture – present status and global scenario of *Macrobrachium rosenbergii* and *M. malcolmsonii* culture.
Unit -IV	☛ **Unit-IV : Mariculture** 1) Brackishwater culture in India, culturable species of finfish and shellfish and their seed production.

(Dr.Lata Bhattarcharya) Subject Expert | (Dr.Ruchira Choudhary) Subject Expert | (Dr. Kirti Tiwari) VC Member | (Dr. Pratima Khatri) Industrial Member | (Dr. Rekha Sharma) Chairman & Head | (Mr. Mohit Rathore) Student representative

	2) Mariculture in India, culturable species of finfish and shellfish and their seed production. 3) Extensive, modified extensive, semi-intensive, intensive and super-intensive shrimp culture. 4) Fish culture in Lagoons (Pulicat and Chilka) and backwaters. 5) Propagation of seaweeds of commercial importance. (*Glasilaria, Sargasum,* red algae etc.)
Unit -V	☞ **Unit-V :Aquaculture System** 1) Culture System – mono, poly and composite; semi-intensive, intensive, super-intensive, cage, pen and raceway cultures. 2) Integrated fish culture – trapa/paddy/cattle/poultry/duck/piggery-cum-fish culture etc. and their role in the development of rural economy. 3) Sewage – fed – fish culture – quality of sewage, sewage treatment, fish species, culture methods and constraints. 4) Pearl culture – pearl forming species (Oysters and mussels), nature and artificial pearl formation. 5) Design and construction of cages, pens, flow-through and recirculatory systems.

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Part B : Content of the Course	
Total Number of Lecture Hours/ Week :4	
Unit	Topic
Unit I	☛ **Unit-I : Inland Fisheries Resources** 1) Inland fisheries resource of India and scope for their exploitation and production. 2) River systems – Major river systems (Ganga, Brahamputra,Indus, Narmada, Tapti, East and West coast rivers) and their fisheries. 3) Lakes – Origin, classification, distribution, ecology and fisheries with special reference to Upper and Lower lakes, Dal lake and Bhimtal. 4) Reservoirs – Large, medium and small reservoirs of India (Govind Sagar, Hirakund, Mettur, Rehand and Nagarjuna Sagar), their ecology and fisheries. Fish ways, fish passes and fish ladders, measures to increase the production of reservoirs. 5) Recent advancements in reservoir management and present status of reservoirs of M.P. (Newly constructed Reservoirs of Narmada,Gandhi Sagar, Tawa, Bargi, Halali).
Unit II	☛ **Unit-II : Brackishwater Fisheries Resources** 1) Brackishwater resources of India and scope for their exploitation and production. 2) Brackishwater lakes (Chilka and Pulicat), their ecological characteristics (soil, water and biota) and fisheries. Impact of Aquatic pollutions on fish health and fisheries with special reference to Ganga and Narmada rivers and Chilka lake. 3) Estuaries – Origin, distribution and classification, scope for exploitation and production. 4) Fisheries of estuaries – Hoogly-Matlah, Godavari, Krishna, Adyar and Vellar. 5) Backwater fisheries with special reference to Kerala.
Unit III	☛ **Unit-III : Marine Fisheries Resources** 1) Marine fisheries resources, scope for their exploitation and production. 2) Coastal capture fisheries – inshore and offshore fisheries of Indian ocean, Exclusive Economic Zone (EEZ). 3) Fisheries of important finfishes – Sardine, Indian mackerel, Bombay duck, Tuna, Pomfret, Perches and Mullets. 4) Fisheries of important shellfishes – Shrimps (white & tiger), Lobsters, Crabs and Molluscs (Pearl oysters and edible oysters). 5) Fisheries of minor groups of fishes – Eels, catfishes, silver bellies, ribbon fishes, seer fishes, elasmobranches and soles.
Unit -IV	☛ **Unit-IV : Coldwater Fisheries Resources and Remote Sensing** 1) Important coldwater fishes of India (indigenous and exotic) and their distribution. 2) Mahaseer and trout fisheries and their importance.

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	3) Remote sensing – Concepts and principles, Remote sensing sensors. Optical methods. 4) Satellite measurements of temperature (via. Thermal I.R.), Visual interpretation of remotely sensed data and interpretation of microwave measurements (geographic currents, waves and surface winds).
Unit -V	☛ **Unit-V : Fisheries resource Management and Conservation** 1) Anthropogenic activities and their effects on fisheries. 2) Threatened and endangered fish species of India. 3) Measures for management and conservation. 4) Laws for safeguarding biodiversity and management.

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Part B : Content of the Course	
Total Number of Lecture Hours/ Week :4	
Unit	Topic
Unit I	**Unit – I** 1. Definition and scope of economics in relation to fisheries. 2. Law of equimarginal returns, production, economics of composite, integrated, intensive and semi- intensive culture systems. 3. Role of economics in the study of resource and environmental problems. 4. Economics of fish hatcheries and grow-out.
Unit II	**Unit – II** 1. Law of demand and supply, price determination, price rise causes, consequences and remedies. 2. Markets – definition, functions, structure of fish markets in India. 3. Problems of fish marketing in India, export of fish and fishery products, trends and problems, role of MPEDA in export of fish and fishery products. 4. Economics of fish farm and it's management. 5. Fish seed industry – production and marketing of fish and shell fish seed (spawn, fry, fingerling and PL- 20) in India.
Unit III	**Unit – III** 1. Administration – fishery administration at the centre and states. its functions and organizational set up. 2. Fisheries legislation of Government of India and different state, Historical background and present status of legislation. 3. Exclusive Economic Zone (EEZ) and Coastal Regulation Zone (CRZ), their effect in fishery economy. 4. Financial assistance – Financial assistance available to the fishery sector from government, commercial bank. 5. NABARD, Its structure and functions in relation to fisheries economics, co-operatives and other institutional organizations.
Unit -IV	**Unit – IV** 1. Historical perspective, concept, philosophy, principles and objectives of extension. collection of fads situation analysis and problem identification. 2. Importance of extension programme and characteristics of a good programme. 3. Participation of organizations and involvement of people in programme planning. 4. Leadership and team work in extension.

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Unit -V	**Unit – V** 1. Training strategy in transfer of technology in Aquaculture, role of farmer, extension and research linkage. 2. Concept and function of communicator and his/her importance in extension work. 3. Communication models and channels in extension education and problem of communication – types and nature. 4. Role and effect of communication channels in extension education and problem of communication – types and nature.

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Second Semester Syllabus for B.Sc. I Year Forensic Science Course (Major)

Part A- Introduction				
Program: Certificate		Class: B.Sc.	Semester: II	Session: 2021-22
Subject: Forensic Science				
1.	Course Code	S2-FOSC1T		
2.	Course Title	Introduction to Forensic Science and Criminalistics		
3.	Course Type: (Core Course/Elective/Generic elective/Vocational)	Core Course		
4.	Pre-requisite (if any)	To Study this course, Student must be from Math/Biology/Science background in 12th Class.		
5.	Course Learning Outcomes (CLO)	**Learning Objectives: After studying this paper the students will know the following:** a. The Explanation of Organizational setup of Forensic Science laboratories in India. b. The methods of securing, searching, and documenting crime scenes. c. To recognize the Importance of physical evidence in criminal investigations. d. The technique of collecting, packaging and labeling and forwarding different types of physical and trace evidence at crime scenes. e. After the successfully completing the course, student will be able to join forensic science laboratory, police service, private detective or security agency or start his/her own investigative agency.		
	Credit Value	4		
	Total Marks	**Max. Marks:40 (CCE) + 60 (End Semester or (Theory Exam) External Evaluation Total = 100 Marks**		Min. passing marks:35

Part B- Content of the Course

Total no. of lectures-Tutorials- Practical's (in hours per week): L-T-P (4-0-0)

Total Lectures: 60

Paragraph	Topics	No. of lectures
I	**Forensic Science:** Forensic Science in India: History, Organizational setup of Forensic Science laboratories, Hierarchical set up of CFSL, State FSL, GEQDs, Fingerprint bureaus, LNJPNNICFS, Directorate of forensic science, Mobile Forensic laboratories, Police services at Forensic laboratories, qualifications, Duties and Code of conduct of Forensic Scientists at Forensic Science laboratory. **Keywords:** Forensic Science, CFSL, FSL, Organization, Mobile forensic laboratories, Fingerprint Bureaus.	12
II	**Search and Seizures:** Section 42, 43, 44, 45, 50, 53, 57 and 58 of Criminal Procedure Code. **Physical Evidence:** Definition, Classification of Physical evidences- on the basis of class, nature and size. Different Search methods for physical evidences. Collection, Preservation, Packaging, Labeling, Sealing and Forwarding of Physical evidences, Chain of custody.	12

Second Semester Syllabus for B.Sc. I Year Forensic Science Course (Minor)

Part A- Introduction			
Program: Certificate	**Class: B.Sc.**	**Semester: II**	**Session: 2021-22**
Subject: Forensic Science			

1.	Course Code	S2-FOSC2T	
2.	Course Title	Criminal Investigation and Law	
3.	Course Type: (Core Course/Elective/Generic elective/Vocational)	Core Course	
4.	Pre-requisite (if any)	To study this course, student must be from Math's/Biology/Science background in 12th Class.	
5.	Course Learning Outcomes (CLO)	Learning Objectives: After studying this paper the students will know the following: a) The element of crime and its types. b) The Recognize Police organization setup at national and state level. c) The Explanation of Crime scene management protocol and its importance in criminal justice system d) The Uses of Different law followed in criminal investigation. e) After the successfully completing the course, student will be able to join police service, private detective or security agency or start his/her own investigative agency.	
	Credit Value	4	
	Total Marks	**Max. Marks:40 (CCE) + 60 (End Semester or (Theory Exam) External Evaluation Total = 100 Marks**	**Min. passing marks:35**

Part B- Content of the Course

Total no. of lectures-Tutorials- Practical's (in hours per week): L-T-P (4-0-0)

Total Lectures: 60

Paragraph	Topics	No. of lectures
I	**Crime:** Elements, Nature, Causes and Consequences of crime. Definition, Aims and Scope of crime. Deviant behavior. Hate crimes. Organized crimes and public disorder. Domestic violence and Workplace violence. Victimology. Juvenile delinquency, social change and crime, psychological disorders and criminality. Situational crime prevention. **Keywords:** Crime, Violence, Deviant behavior, Juvenile delinquency, psychological disorders	12
II	**Police Organizations and FIR:** **State Police Forces:** State armed Police forces, home guards, Traffic police, CID, STF, Community policing. **Central Armed Police Forces**- BSF, CRPF, CISF, ITBP, NSG, Assam Rifle. **Investigation:** FIR, Case diary, Interrogation of suspects, Interview of witnesses, Cognizable and Non-cognizable offences, Compoundable and Non-compoundable Offences, Police custody & Judicial custody, Bailable and non-bailable offences, procedure of filing charge sheet.	12

	Keywords: Police organizations, Central and State Police, CBI, NIA, RAW, CID, FIR, Case Diary, Police Custody, Bailable and Non-Bailable Offenses	
III	**Scene of Crime:** Introduction to Crime scene, Classifications of Crime scenes securing and isolating the crime scene, Role of the First responding officer, Crime scene communication, Legal implications for crime scene searches, Plan of action, Note taking, Crime scene search and Photography, Types of cameras, Number of photographs, Admissibility of photographs, Videography of the crime scene. **Keywords:** Scene, Searching methods, Photography, Videography	12
IV	**Indian Penal Code (1860):** **Pertaining to Offences against persons**- Sections 121A, 299, 300, 302, 304A, 304B, 307, 309, 319, 320, 324, 326, 351, 354, 359, 362, Sections 375, 376 & 377 and their amendments. **IPC (1860)**: Pertaining to Offences against property sections- 378, 383, 390, 391, 405, 415, 420, 441, 463, 497, 498A, 499, 503, 511. **Keywords:** IPC Sections, Offence against persons, Offences against property.	12
V	**Criminal Procedure Code and Indian Evidence Act:** **Criminal Procedure Code (1973):** Introduction and general idea of sections: 291-93, 154, 155, 156, 157, 158, 159, 160, 161, 162, 172, 173, 174, 175 and 176 **Indian Evidence Act (1872)**- Evidence and rules of relevancy in brief. Expert witness, Cross Examination and Re-examination of Witnesses. Sections- 32, 41, 45, 46, 47, 57, 58,60,73,114(A) 135, 136, 137, 138, 141. **Keywords:** Criminal Procedure Code, Indian Evidence Act, Expert Witness, Cross examination.	12

Part C- Learning Resources

Textbooks, References Books, Other resources

Suggested readings:

1. Ahuja R. (2001). Criminology. India: Rawat Pub.
2. Aitken C.G.G. & Stoney D.A. (1991). The use of statistics in Forensic Science. England: Ellis Hardwood Limited
3. Bowen R.T. (2016). Ethics and the practice of Forensic Science. USA: CRC Press.
4. Burke R.H. (2013). An Introduction to Criminological Theory 4th edition UK: Routledge.
5. Horsewell J. (2016). The practice of crime Scene Investigation. USA: CRC Press.
6. Indian Penal Code, Criminal Procedure Code, Indian Evidence Act.
7. James S.H. & Nordby J.J(2003). Forensic Science: an introduction to scientific and investigive techniques. USA: CRC Press.

Suggestive Digital Platforms Web Links:

Suggested Equivalent Online Course:

1. http://14.139.95/CEC/index.php/search_result
2. BSF- https://bsf.gov.in
3. CRPF- https://crpf.gov.in
4. CBI- https://cbi.gov.in/en-us/contact-Us
5. IB- https://www.nibindia.in/welcome
6. NIA- https://www.nia.gov.in
7. MP Police- https://www.mppolice.gov.in

Part D- Assessment and Evaluation

Internal Assessment: Continuous Comprehensive Evaluation (CCE): **40 Marks**	**External Evaluation (Theory Exam):** End Semester Exam: **60 Marks** **Time: 2 hours**

	1. Concept and theories of Isostasy. 2. Continental drift and Sea floor spreading and evidences. 3. Concept of plate tectonics, tectonic plates and types, and plate boundaries. 4. Mid-oceanic ridges, trenches and island arcs.	
3	**Geomorphic Processes:** 1. Earthquakes- causes, effects and distribution. Seismic Zones of India. 2. Volcanoes: types and landforms. Volcanic zones of India. 3. Fundamental concepts of geomorphology. 4. Types of rock weathering. 5. Soil formation, soil profile and types of soil.	12
4	**Geological Works:** 1. Geological works of river, and its landforms. 2. Drainage system. Introduction to wetlands. 3. Geological works of groundwater, and karsts topography. 4. Geological works of wind and its landforms. Introduction to desert.	12
5	**1. Geological works:** 1.1. Geological works of glacier, and its landforms. 1.2. Geological works of ocean, and coastal landforms. **2. Introduction to Structures:** 2.1. Unconformity: Definition and types. Overlap and Off lap. 2.2. Brief introduction to fold, fault and joint.	12

PART C: Learning Resources

Textbooks, Reference Books, Other Resources

Suggested Readings

Text books: At least Five

1. घोष, मुकुल; भौतिक भूविज्ञान. मध्यप्रदेश हिन्दी ग्रंथ अकादमी, भोपाल
2. तिवारी जे पी एवं सिंह, बी.के; भौतिक भूविज्ञान. मध्यप्रदेश हिन्दी ग्रंथ अकादमी, भोपाल
3. दुबे वी.एस. एवं मिश्र, प्रभाशंकर; भूविज्ञान एक परिचय, मध्यप्रदेश हिन्दी ग्रंथ अकादमी, भोपाल
4. तिवारी, दीपक राज; भूगतिकी एवं भूआकृतिविज्ञान, मध्यप्रदेश हिन्दी ग्रंथ अकादमी, भोपाल
5. राठौर, बी.एस. एवं तिगनाथ संजय; संरचनात्मक भूविज्ञान. मध्यप्रदेश हिन्दी ग्रंथ अकादमी, भोपाल, 3rd 20
6. Mahapatra, G.B. Text Book of Physical Geology, CBS, India, 2018
7. Mathur, S.M., Physical Geology of India, NBT India, 1991
8. Mukerjee, P.K., Text Book of Geology. World Press Private Ltd, 2013
9. Billing, M.P., Structural Geology. Pearson Education, India, 3Rd Ed., Reprint, 2016 Ebook:
10. Jain Sreepat, Fundamentals of physical Geology. Springer India, 2013

Reference Book: At least Five

1. Holmes, A. Doris L Holmes Edit., Principles of Physical Geology, Van Nostrand Reinhold, 1978.
2. Thornbury, W.D., Principles of Geomorphology. New Age International, 2nd Edition, 1969.
3. Miller, William J., Physical Geology: An Introduction. D Van Nostrand Co.,5th Ed ., 1949
4. सिंह, सविंदर; भूआकृति विज्ञान. प्रवालिका प्रकाशन प्रयाग

DEPARTMENT OF GEOLOGY

Class: B. Sc. III Year

Subject: Geology

Title of Paper: Paleontology and Stratigaphy

Marks: 40+ (CCE) 10 = 50

Paper: Theory -I

Code of the Paper: C311-I

Part A : Introduction for code-C311-I	
Pre-requisite (if any)	-
Course Objectives	To impart knowledge of the concepts in stratigraphy, correlation, and paleontology would enable the students to understand the changes that occurred in the history of the earth and relate them to their field observations and also, in understanding the framework of the stratigraphy of India
Course Learning Outcomes	1. The student will gain knowledge about fossils and fossilisation and able to identify morphology of various groups of invertibrate fossils and plant fossils. 2. Students will gain knowledge about the importance of fossils in establishing age of rock units, stratigraphic correlation and its application in hydrcarbon exploration. 3. Ability to understand diverse geology of India with standard geological time scale and enable to understand the framework of the stratigraphy of India 4. Be able to decipher the geological history of an area from a geological map. Understand the age and significance of depositional sequences. 5. Students will gain knowledge about economic mineral deposits and fossil content associated with various stratigraphic units of India.

Part B: Content of the Course

As per HE Syllabus

	Particulars/ विवरण
Unit-I	1. Introduction to Palaeontology. 2. Essential conditions for fossilization and Modes of fossilization. 3. Geological uses of fossils, Index fossils and their importance. 4. Morphology and Geological history of Graptolites, Foraminifera and Trilobites.
इकाई-I	1. जीवाश्म विज्ञान का परिचय। 2. जीवाश्मन की आवश्यक परिस्थितियाँ एवं जीवाश्मन की विधियाँ। 3. जीवाश्मों के भूवैज्ञानिक उपयोग, सूचक जीवाश्म एवं उनका महत्व। 4. ग्रेप्टोलाइट्स, फोरामिनिफेरा एवं ट्राइलोबाइट्स की आकारिकी एवं भूवैज्ञानिक इतिहास।
Unit-II	Morphology and Geological history of following: 1. Echinoids.

	3. Tertiary rocks of Assam: Stratigraphy, Geographic distribution and Economic importance. 4. Siwalik Group: Stratigraphy, Geographic distribution and Vertebrate fossils. 5. Study of Important Stratigraphic Monuments and Fossil Parks of India.
इकाई-V	1. बाघ संस्तर एवं लमेटासंस्तरः संस्तरविज्ञान, भौगोलिक वितरण एवं जीवाश्म अंश । 2. डेक्कन ट्रेप : संस्तरविज्ञान, भौगोलिक वितरण एवंआयु । 3. असम के तृतीय महायुग शैलें: संस्तरविज्ञान, भौगोलिक वितरण एवं आर्थिक महत्व । 4. शिवालिक समूहः संस्तरविज्ञान, भौगोलिक वितरण एवं कशेरूकीय जीवाश्म । 5. भारत के महत्वपूर्ण संस्तरविज्ञानीय स्मारक एवं जीवाश्म उद्यानों का अध्ययन ।

Part C :-Learning Resources

Text Book , Reference Books, Other resources

Suggested Readings:

- जीवाश्म विज्ञान एवं संस्तर विज्ञानः अंबिका प्रसाद अग्रवाल एवं डी.के. देवलिया
- भारत वर्ष का भूविज्ञानः अंबिका प्रसाद अग्रवाल
- जीवाश्म विज्ञानः आर.पी. मिश्रा
- अकशेरूकी एवं कशेरूकी जीवाश्म विज्ञानः दीपक राज तिवारी
- प्रायोगिक भूविज्ञान भाग तीनः डी.सी. गुप्ता, व्ही.एल. पुनवटकर एवं आर.एस. रघुवंशी
- An Introduction to Invertebrate Paleontology:P.C. Jain and M.S. Ananthraman
- Historical Geology of India: Ravindra Kumar
- Introduction to Palaeontology: A.N. Davis
- Invertebrate Palaeontology: H. Woods
- Geology of India: R. Vaidhyanadhan and M. Ramakrishna [Vol. 1 & 2]

Part D :Assessment and Evaluation

As per HE Syllabus

Suggested Continuous Evaluation Methods:

Maximum Marks: 50

Continuous Comprehensive Evaluation (CCE): 10

College Exam: 40

Internal Assessment: Continuous Comprehensive Evaluation (CCE): 10	Class Test	05
	Assignment/ Presentation	05
	Total	**10**
External Assessment: College Exam Section: 40 Time: **3.00 Hours**	Section (A): Multiple Choice Questions	05 x 01 = 05
	Section (B): Long Questions (200 words each)	05 x 07 = 35
	Total	**40**

DEPARTMENT OF GEOLOGY

Class: B. Sc. III Year
Subject: Geology
Title of Paper: Earth Resources and Applied Geology

Marks: 40+ (CCE) 10 = 50
Paper: Theory -II
Code of the Paper: C311-II

Part A : Introduction for code-C311-II	
Pre-requisite (if any)	To study the course, the student must have passed B. Sc. I Year.
Course Objectives	To give knowledge of occurrence and distribution of economic minerals. This will also make students to learn about the basics of geology for mineral exploration, mining and engineering projects.
Course Learning Outcomes	1. The student will gain knowledge about earth resources and primary and secondary processes of mineral formation
	2. Gain knowledge about origin, mode of occurrence,grade and specification of ores and industrial minerals of India. Be able to understand Geology and associated mineral wealth of our country and state.
	3. Ability to understand geology and othervarious aspects of fossil fuels and atomic mineral deposits of the India. Also gain knowledge about mineral economics
	4. Gain knowledge of the applied aspects of Geology in the field of prospecting, exploration and exploitation of minerals and learns about mineral beneficiation.
	5. Student will gain preliminary knowledge about groundwater geology. Be able to understand importance of geological investigations in civil engineering projects and application of GIS and remote sensing in geological studies.

Part B: Content of the Course	
As per HE Syllabus	
Particulars/ विवरण	
Unit-I	1. Introduction to Economic Geology, Classification of Mineral Deposits,Geological Thermometers. 2. Magmatic concentration Process. 3. Hydrothermal Process. 4. Oxidation and Supergene Sulphide Enrichment Processes. 5. Mechanical concentration Process.
इकाई-I	1. आर्थिक भूविज्ञान का परिचय, खनिज निक्षेपोंका वर्गीकरण, भूवैज्ञानिक तापमापी । 2. मैग्मीय सान्द्रणप्रक्रम । 3. उष्णजलीय प्रक्रम । 4. ऑक्सीकरण एवं ऊर्ध्वजनित सल्फाइड समृद्धिप्रक्रम । 5. बलकृत सान्द्रणप्रक्रम ।

उच्चशिक्षा विभाग, मध्यप्रदेश शासन
स्नातक कक्षाओं के लिये वार्षिक–परीक्षा पद्धति अनुसार पाठ्यक्रम
केन्द्रीय अध्ययन मण्डल द्वारा अनुशंसित तथा मध्य प्रदेश के राज्यपाल द्वारा अनुमोदित
सत्र 2021 – 22 से प्रभावशील
Department of Higher Education, Govt. of Madhya Pradesh
Under Graduate Year-wise Syllabus
As Recommended by Central Board of Studies and Approved by the Governor of Madhya Pradesh
w.e.f. Session 2021– 22
बी. एससी. भाग– 3 / B. Sc. Part - 3
भूविज्ञान / GEOLOGY
प्रायोगिक कार्य / Practical Work
अधिकतम अंक / Maximum Marks : 50

I - जीवाश्म विज्ञान एवं संस्तर विज्ञान / Palaeontology and Stratigraphy:

1. निम्नलिखित जीवाश्मों का अध्ययन :
न्यूमूलाइटिस, केल्सियोला, जैफरेंटिस, माइक्रेस्टर, हेमिएस्टर, सिडेरिस, प्रॉडक्टस, टेरेब्रेटुला, रिंकोनेल्ला, स्पिरिफर, ग्रैफिया, पेक्टेन, वीनस, कार्डिटा, आर्का, ट्राइगोनिया, सेरिथियम, कोनस, फाइसा, म्यूरेक्स, नाटिका, साइप्रिया, ट्रोकस, ट्यूरिटेला, बेलेमनाइट्स, आर्थोसिरेस, नॉटिलस, गोनियाटाइट्स, सिरेटाइट्स,एकेन्थोसिरस, पेरिसफिंक्टिस, केलेमीन, पैराडॉक्साइड्स, फेकॉप्स, मोनोग्रेप्टस एवंडाइप्लोग्रेप्टस।
ग्लॉसप्टेरिस, गंगामॉप्टेरिस, वर्टीब्रेरिया, साइजोन्यूरा, टीलोफिलम।
2. भारत के रेखा–मानचित्र में संस्तर विज्ञान की विभिन्न इकाईयों को दर्शाना।
3. लाक्षणिक गुणधर्मों के आधार पर शैलों की संस्तर विज्ञानी पहचान तथा कालानुक्रम।
4. भारत के रेखा–मानचित्र में संस्तर विज्ञानीय स्मारक एवं जीवाश्म उद्यानों का अंकन एवं अध्ययन।

1. Study of the following fossils:
Nummulites, Calceola, Zaphrentis, Micraster, Hemiaster, Cidaris, Productus, Terebratula, Rhynchonella, Spirifer, Gryphaea, Pecten,Venus, Cardita, Arca, Trigonia, Cerithium, Conus, Physa, Murex, Natica, Cyprea,Trochus, Turritella,Belemnites, Orthoceras, Nautilus, Goniatites, Ceratites, Acanthoceras, Perisphinctes,Calymene, Paradoxides, Phacops, Monograptus and Diplograptus.
Glossopteris, Gangamopteris, Vertebraria, Schizoneura and Ptilophyllum.
2. Distribution of Important Stratigraphic Units in Outline Map of India.
3. Stratigraphic Identification and Sequencing of Rocks on the basis of their diagnostic characteristics.
4. Study and Marking of Stratigraphic Monuments and Fossil Parks in Outline Map of India.

II - भूसंसाधन एवं व्यावहारिक भूविज्ञान / Earth Resources and Applied Geology :

1. निम्नलिखित आर्थिक खनिजों के भौतिक गुण, रासायनिक संघटन, प्राप्ति अवस्था, वितरण एवं उपयोग:
मैग्नेटाइट, हेमेटाइट, लिमोनाइट, गोएथाइट, सिडेराइट, पाइराइट, इल्मेनाइट, पायरोलुसाइट, सिलोमिलेन,ब्राउनाइट, क्रोमाइट, चेल्कोपायराइट, कोवेलाइट, बोर्नाइट, मैलेकाइट, एज्यूराइट, क्यूप्राइट, गैलेना, स्फेलेराइट, केसिटेराइट, वुल्फ्रेमाइट, मॉलिब्डेनाइट, स्टिब्नाइट,ऑर्पिमेन्ट, रिअलगार,बॉक्साइट, ऐपेटाइट, एस्बेस्टॉस, बेराइट,केल्साइट, चाइनाक्ले, कोरंडम, फ्लुओराइट, ग्रेफाइट, जिप्सम, गार्नेट, कायनाइट, लेपिडोलाइट, मस्कोवाइट, क्वार्ट्ज, सिलिमेनाइट, टाल्क, मेग्नेसाइट, वोलास्टोनाइट एवं फायरक्ले।
2. भारत के रेखा–मानचित्र में आर्थिक खनिजों का वितरण।
3. महत्वपूर्ण शैलों के भौमजलीय गुणोंका अध्ययन।
4. भौम–जलस्तर मानचित्रों का बनाना तथा उनकी विवेचना।
5. परिष्कृत उत्पादों में कच्चेमाल के रूप में उपयोग में लाए गए खनिजों की पहचान।
6. हवाई छायाचित्रों एवं उपग्रह से प्राप्त छवियों की अवलोकन द्वारा विवेचना।

1. Physical properties, Chemical composition, Mode of Occurrence, Distribution and Uses of following Economic Minerals:
   Magnetite, Hematite, Limonite, Goethite, Siderite, Pyrite, Ilmenite, Pyrolusite, Psilomelane, Braunite, Chromite, Chalcopyrite, Covellite, Bornite, Malachite, Azurite, Cuprite, Galena, Sphalerite, Cassiterite, Wolframite, Molybdenite, Stibnite, Orpiment, Realgar, Bauxite, Apatite, Asbestos, Barite, Calcite, Chinaclay, Corundum, Fluorite, Graphite, Gypsum, Garnet, Kyanite, Lepidolite, Muscovite, Quartz, Sillimanite, Talc, Magnesite, Wollastonite and Fireclay.
2. Distribution of Economic minerals in Outline Map of India.
3. Study of Hydrological Properties of Important rocks.
4. Preparation and Interpretation of Water table maps.
5. Identification of Raw materials and minerals as various Finished products.
6. Visual Interpretation of Aerial Photographs and Satellite images.

इकाई - 3	1. भ्रंश आकारिकी । सर्पण और अलगाव । 2. भ्रंशों का ज्यामितिक एवं जननिक वर्गीकरण । 3. स्थलक्षेत्र तथा भूवैज्ञानिक मानचित्र में भ्रंशों की पहचान । 4. दृश्याशों पर भ्रंशों के प्रभाव । 5. भ्रंशन क्रियाविधि की आरम्भिक अवधारणा ।
Unit - 3	1. Fault morphology. Slip and Separation. 2. Geometric and Genetic classification of Faults. 3. Recognition of Faults in the Field and on Geological maps. 4. Effect of Faults on Outcrops. 5. Elementary idea of Mechanics of Faulting.
इकाई - 4	1. संधि की आकारिकी । संधि का ज्यामितिक एवं जननिक वर्गीकरण । 2. पत्रण : पारिभाषिक शब्दावली, प्रकार, उत्पत्ति एवं वृहत संरचनाओं से संबंध । 3. रेखण : पारिभाषिक शब्दावली, प्रकार, उत्पत्ति एवं वृहत संरचनाओं से संबंध । 4. संरचनात्मक प्रतीक ।
Unit - 4	1. Joint morphology. Geometric and Genetic classification of Joints. 2. Foliation : Terminology, kinds, origin and relation to major structures. 3. Lineation : Terminology, kinds, origin and relation to major structures. 4. Structural Symbols.
इकाई - 5	1. विषमविन्यास के प्रकार । 2. पुरान्तःशायी तथा नवान्तःशायी । अतिव्यापन तथा अपव्यापन । 3. स्थल क्षेत्रों व भूवैज्ञानिक मानचित्रों मे विषमविन्यास की पहचान । 4. विवर्तनिकी की आरंभिक अवधारणा । प्रायद्वीपीय भारत, सिंधु गंगा के मैदान तथा प्रायद्वीपीय भारत का विवर्तनिकी विन्यास ।
Unit - 5	1. Types of unconformity. 2. Outlier and Inlier. Overlap (Onlap) and Offlap. 3. Recognition of Unconformity in the Field and on the Geological maps 4. Elementary concept of Tectonics. Tectonic framework of Peninsular India. Indo – Gangetic Plains and Extra–Peninsular India.

Suggested Readings :

सरंचनात्मक भूविज्ञान – एक परिचय : बी. एस. राठौर एवं संजय तिगनाथ
सरंचनात्मक भूविज्ञान : डी. के. श्रीवास्तव
प्रायोगिक भूविज्ञान (भाग–2) : आर. पी. मांजरेकर

Structural Geology : Billings, M. P.
Theory of Structural Geology : Gokhale, N. W.
Exercises on Geological Maps and Dip-Strike : Gokhale, N. W.
Outlines of Structural Geology : Hills, E. S.
Structural Geology : Hobbs, Means and Williams
Geological Maps : Chiplonkar, G. W. and Powar, K. B.
Structural Geology : Twiss and Moore.

28/11/2020

उच्च शिक्षा विभाग, मध्य प्रदेश शासन
स्नातक कक्षाओं के लिये वार्षिक–परीक्षा पद्धति अनुसार पाठ्यक्रम
केन्द्रीय अध्ययन मण्डल द्वारा अनुशंसित तथा मध्य प्रदेश के राज्यपाल द्वारा अनुमोदित
सत्र 2020 – 21 से प्रभावशील

Department of Higher Education, Govt. of Madhya Pradesh
Under Graduate Year-wise Syllabus
As Recommended by Central Board of Studies and Approved by the Governor of Madhya Pradesh
w.e.f. Session 2020 – 21

बी. एससी. भाग– 3 / B. Sc. Part - 3
भूविज्ञान / GEOLOGY
प्रायोगिक कार्य / Practical Work
अधिकतम अंक / Maximum Marks : 50

I - जीवाश्मविज्ञान एवं संस्तरविज्ञान / Palaeontology and Stratigraphy :

1. निम्नलिखित जीवाश्मों का अध्ययन :
न्यूमूलाइटिस, कैल्सियोला, जैफरेंटिस, माइक्रेस्टर, हेमिएस्टर, सिडेरिस, प्रॉडक्टस, टेरेब्रेटुला, रिंकोनेल्ला, स्पिरिफर, ग्रैफिया, पेक्टेन, वीनस, कार्डिटा, आर्का, ट्राइगोनिया, सेरिथियम, कोनस, फाइसा, म्यूरेक्स, नाटिका, साइप्रिया, ट्रोकस, टर्यूरिटेला, बेलेमनाइट्स, आर्थोसिरेस, नॉटिलस, गोनियाटाइट्स, सिरेटाइट्स,एकेन्थोसिरस, पेरिसफिंक्टिस, केलेमीन, पैराडॉक्साइड्स, फेकॉप्स, मोनोग्रेप्टस एवडाइप्लोग्रेप्टस ।
ग्लॉसप्टेरिस, गंगामॉप्टेरिस, वर्टीब्रेरिया, साइजोन्यूरा, टीलोफिलम ।
2. भारत के रेखा–मानचित्र में संस्तरविज्ञान की विभिन्न इकाईयों को दर्शाना ।
3. लाक्षणिक गुणधर्मों के आधार पर शैलों की संस्तरविज्ञानी पहचान तथा कालानुक्रम ।
4. भारत के रेखा–मानचित्र में संस्तरविज्ञानीय स्मारक एवं जीवाश्म उद्यानों का अंकन एवं अध्ययन ।

1. Study of the following fossils :
Nummulites, Calceola, Zaphrentis, Micraster, Hemiaster, Cidaris, Productus, Terebratula, Rhynchonella, Spirifer, Gryphaea, Pecten, Venus, Cardita, Arca, Trigonia, Cerithium, Conus, Physa, Murex, Natica, Cyprea, Trochus, Turritella, Belemnites, Orthoceras, Nautilus, Goniatites, Ceratites, Acanthoceras, Perisphinctes, Calymene, Paradoxides, Phacops, Monograptus and Diplograptus.
Glossopteris, Gangamopteris, Vertebraria, Schizoneura and Ptilophyllum.
2. Distribution of Important Stratigraphic Units in Outline Map of India.
3. Stratigraphic Identification and Sequencing of Rocks on the basis of their diagnostic characteristics.
4. Study and Marking of Stratigraphic Monuments and Fossil Parks in Outline Map of India.

II - भूसाधन एवं व्यावहारिक भूविज्ञान / Earth Resources and Applied Geology :

1. निम्नलिखित आर्थिक खनिजों के भौतिक गुण, रासायनिक संघटन, प्राप्ति अवस्था, वितरण एवं उपयोग :
मैग्नेटाइट, हेमेटाइट, लिमोनाइट, गोएथाइट, सिडेराइट, पाइराइट, इल्मेनाइट, पायरोलुसाइट, सिलोमिलेन, ब्राउनाइट, क्रोमाइट, चेल्कोपायराइट, कोवेलाइट, बोर्नाइट, मैलेकाइट, एज्यूराइट, क्यूप्राइट, गैलेना, स्फेलेराइट, केसिटेराइट, वुल्फ्रेमाइट, मॉलिब्डेनाइट, स्टिब्नाइट, ऑर्पिमेन्ट,

DEPARTMENT OF GEOLOGY

B.Sc. I Semester (Geology)

Marks: 75+ 25 = 100

Credit: 2

Subject – I (Major)

Paper: Practical- I

Title of Paper: Physical Geology

Code of the Paper: C111-1P

Part A : Introduction for Code- C111-1P	
Pre-requisite (if any)	This Practical course is related to theory course Paper-I
Course Objectives	This course enables the students to appreciate the dynamic nature of the Earth processes. This course will also impart knowledge of various geomorphic processes operation on the earth and their effects on the land surface.
Course Learning Outcomes	1. Students will acquire a solid base of knowledge of Geomorphic features with help of models, maps and photographs.
	2. They will get numbering of topographic maps on various scales.
	3. Student interprets various geomorphic landforms and drainage patterns on topographic maps.
	4. Student will gain basics knowledge about mountain ranges, lakes and rivers on the outline map of India.
	5. Student will plot seismic observatories on the outline map of India and they also plot epicenter and magnitudes of Major earthquakes of India.

Part B :Content of the Course

As per HE Syllabus

Total numbers of lectures (in hours per week): 2 hours per week

Total Lectures: 60 hours

Unit	Topic	No. of Lectures
Unit-I	Study of Geomorphic features from models, maps and photographs.	6
इकाई-I	भू–आकृतिक रचनाओं का मॉडलों, मानचित्र और छायाचित्र में अध्ययन।	
Unit-II	Numbering of topographic maps (survey of India Toposheet) on various Scales	6
इकाई-II	विभिन्न मापक पर स्थलाकृतिक मानचित्रों (सर्वे ऑफ इंडिया, टॉपोशिट) की क्रम–संख्या एवं विवरण का अध्ययन।	
Unit-III	Interpretation of various geomorphic landforms and drainage pattern on topographic maps.	6
इकाई-III	स्थलाकृतिक मानचित्र पर विभिन्न भू–आकृतिक स्थलाकृतियों और अपवाह तंत्र की व्याख्या।	
Unit-IV	Plotting of major mountain ranges, lakes and rivers on the outline map of India.	6
इकाई-IV	भारत के रेखा मानचित्र पर प्रमुख पर्वत – श्रृंखलाओं, झीलों और नदियों को दर्शाना।	
Unit-V	Plotting of seismic observatories on the outline map of India. Plotting of epicenters and magnitudes of major earthquakes of India.	6
इकाई-V	भारत के रेखा मानचित्र पर भूकंपीय वेधशालाओं को दर्शाना।	

Part B: Content of the Course

Total No. of Lectures (in hours per week): Total Lectures: 90 hours 3 hours per week		
Unit	**Topics**	**No. of Lectures**
1	1. I Historical background: 1.1.1 Development of Indian Mathematics: Later Classical Period (500 -1250). 1.1.2 A brief biography of Varahamihira and Aryabhata. 1.2 Rank of a Matrix. 1.3 Echelon and Normal form of a matrix. 1.4 Characteristic equations of a matrix. 1.4.1 Eigen-values. 1.4.2 Eigen-vectors.	**15**
2	2.1 Cayley Hamilton theorem. 2.2 Application of Cayley Hamilton theorem to find the inverse of a matrix. 2.3 Application of matrix to solve a system of linear equations. 2.4 Theorems on consistency and inconsistency of a system of linear equations. 2.5 Solving linear equations up to three unknowns.	**18**
3	3.1 Scalar and Vector products of three and four vectors. 3.2 Reciprocal vectors. 3.3 Vector differentiation. 3.3.1 Rules of differentiation. 3.3.2 Derivatives of Triple Products. 3.4 Gradient, Divergence and Curl. 3.5 Directional derivatives. 3.6 Vector identities. 3.7 Vector Equations.	**18**
4	4. I Vector Integration 4.2 Gauss theorem (without proof) and problems based on it. 4.3 Green theorem (without proof) and problems based on it. 4.4 Stoke theorem (without proof) and problems based on it.	**15**

Part B : Content of the Course

Total No. of Lectures-60 Lectures-Tutorials-Practical (in hours per week): **L-T-P: 4-0-0**		
Unit	**Topics**	**No. of Lectures**
1	I . I Historical background: 1.1 . I Development of Indian Mathematics: Ancient and Early Classical Period (till 500 CE) I.1 .2 A brief biography of Bhaskaracharya (with special reference to Lilavati) and Madhava 1.2 Successive differentiation 1.2.1 Leibnitz theorem 1.2.2 Maclaurin's series expansion 1.2.3 Taylor's series expansion 1.3 Partial Differentiation 1.3.1 Partial derivatives of higher order 1.3.2 Euler's theorem on homogeneous functions 1.4 Asymptotes 1.4.1 Asymptotes of algebraic curves 1.4.2 Condition for Existence of Asymptotes 1.4.3 Parallel Asymptotes I .4.4 Asymptotes of polar curves	**18**
2	2. I Curvature 2. I . I Formula for radius of Curvature 2.1.2 Curvature at origin 2.1.3 Centre of Curvature 2.2 Concavity and Convexity 2.2.1 Concavity and Convexity of curves 2.2.2 Point of Inflexion 2.2.3 Singular point 2.2.4 Multiple points 2.3 Tracing of curves 2.3.1 Curves represented by Cartesian equation 2.3.2 Curves represented by Polar equation	**18**

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

Department of Microbiology

Syllabus Session 2021-2022

Part A: Introduction for code B.Sc. First Year

Program: Certificate	Class – B.Sc.	Semester I (Paper I)	Session 2021-22

Subject- Microbiology

1.	Course code	C115-I	
2	Course Title	General Microbiology and Cell Structure	
3	Course Type	Core course	Major
4	Pre-requisite (if any)	To study this course a student must have the subject Biology in class 12th	
5	Course Objectives	To study and learn about the basics of microbiology, types of microorganism and structures of prokaryotic & Eukaryotic cell.	
	Course Learning outcomes	After completing this course in Microbiology, a student shall have understanding of -	
		1 Indian traditional knowledge and historical background of Microbiology.	
		2 Structure and transmission of Viruses.	
		3 Cell structures and cell organization of bacteria.	
		4 Different kinds of unicellular prokaryotic and eukaryotic microorganisms based on specific characteristics.	
		5 General characteristics of important Eubacteria.	
6	Credit value	Theory - 4	
7	Total marks	Marks: 75 + (CCE) 25 = 100	Min. Passing marks = 33

Part B: Content of the Course

Total No. of Lectures-60 Lectures-Tutorials-Practical (in hours per week): **L-T-P: 4-0-0**		
Unit	**Topics**	**No. of Lectures**
1	**The Microbial World** 1.1 Indian traditional knowledge and global historical background of Microbiology. 1.2 Theory of Biogenesis, Germ theory of disease, Fermentation. 1.3 Significance of microbiology- (a) Branches of microbiology (b)Thrust area of microbiology- Genetic engineering and Biotechnology. 1.4 Contribution of following scientists in the field of microbiology- Louis Pasteur, Robert Koch, Edward Jenner, Alexander Fleming, Joseph Lister, Serge N. Winogradsky, Martinus Willem Beijerink, Dmitrii Ivanowsky, Wendell M. Stanley and Hans Christian Gram. **Key words:** *History of Microbiology, Renowned microbiologists, Genetic Engineering, Biotechnology*	15
2	**Acellular and Prokaryotic Microorganisms** 2.1 Virus — General characters of following viruses — Bacteriophage (T4 and X phage), Plant viruses (TMV), Prions and Viroids. 2.2 Whittaker's System of Five Kingdom Classification: Monera, Protista, Fungi, Plantae and Animalia. 2.3 Carl Woese's Three Domain System of Classification: Archaea, Eubacteria, and Eukaryotes. 2.4 Bacteria -Study of *Spirochete, Rickettsia, Chlamydia, Mycoplasma* and Actinomycetes. 2.5 Cyanobacteria —Study of *Anabaena* and *Spirulina.* **Key words:** *Prokaryotes, Whittaker, Carl Woese, Bacteria, Cyanobacteria*	15
3	**Eukaryotic Microorganisms** 3.1 Basic knowledge of Eukaryotic organisms and their evolutionary pattern. 3.2 Fungi — Study of *Saccharomyces cerevisiae, Mucor, Aspergillus, Rhizopus* and *Penicillium* . 3.3 Protozoa — Study of *Euglena, Trypanosoma, Leishmania, Amoeba, Entamoeba* and *Plasmodium.* **Key words:** *Eukaryotes, Fungi, Protozoa*	15
4	**Introduction to Microbial Cell Structure** 4.1 Study of Bacteria - Size, shape and arrangement of bacterial cells.	15

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

Department of Microbiology

Syllabus Session 2021-2022

Part A: Introduction for code B.Sc. First Year

Program: Certificate	Class – B.Sc.	Semester II	Session 2021-22

Subject- Microbiology

1.	Course code	T-115-II
2	Course Title	General Microbiology and Cell Structure
3	Course Type	Minor
4	Pre-requisite (if any)	To study this course a student must have the subject Biology in class 12th
5	Course Objectives	To study and learn about the basics of microbiology, types of microorganism and structures of prokaryotic & Eukaryotic cell.
	Course Learning outcomes	After completing this course in Microbiology, a student shall have understanding of - 1 Indian traditional knowledge and historical background of Microbiology. 2 Structure and transmission of Viruses. 3 Cell structures and cell organization of bacteria. 4 Different kinds of unicellular prokaryotic and eukaryotic microorganisms based on specific characteristics. 5 General characteristics of important Eubacteria.
6	Credit value	Theory - 4
7	Total marks	Marks: 75 + (CCE) 25 = 100 — Min. Passing marks = 33

Part B: Content of the Course

Total No. of Lectures-60 Lectures-Tutorials-Practical (in hours per week): **L-T-P: 4-0-0**		
Unit	**Topics**	**No. of Lectures**
1	**The Microbial World** 1.1 Indian traditional knowledge and global historical background of Microbiology. 1.2 Theory of Biogenesis, Germ theory of disease, Fermentation. 1.3 Significance of microbiology- (a) Branches of microbiology (b)Thrust area of microbiology- Genetic engineering and Biotechnology. 1.4 Contribution of following scientists in the field of microbiology- Louis Pasteur, Robert Koch, Edward Jenner, Alexander Fleming, Joseph Lister, Serge N. Winogradsky, Martinus Willem Beijerink, Dmitrii Ivanowsky, Wendell M. Stanley and Hans Christian Gram. **Key words:** *History of Microbiology, Renowned microbiologists, Genetic Engineering, Biotechnology*	15
2	**Acellular and Prokaryotic Microorganisms** 2.1 Virus — General characters of following viruses — Bacteriophage (T4 and X phage), Plant viruses (TMV), Prions and Viroids. 2.2 Whittaker's System of Five Kingdom Classification: Monera, Protista, Fungi, Plantae and Animalia. 2.3 Carl Woese's Three Domain System of Classification: Archaea, Eubacteria, and Eukaryotes. 2.4 Bacteria -Study of *Spirochete, Rickettsia, Chlamydia, Mycoplasma* and Actinomycetes. 2.5 Cyanobacteria —Study of *Anabaena* and *Spirulina*. **Key words:** *Prokaryotes, Whittaker, Carl Woese, Bacteria, Cyanobacteria*	15
3	**Eukaryotic Microorganisms** 3.1 Basic knowledge of Eukaryotic organisms and their evolutionary pattern. 3.2 Fungi — Study of *Saccharomyces cerevisiae, Mucor, Aspergillus, Rhizopus* and *Penicillium* . 3.3 Protozoa — Study of *Euglena, Trypanosoma, Leishmania, Amoeba, Entamoeba* and *Plasmodium*. **Key words:** *Eukaryotes, Fungi, Protozoa*	15
4	**Introduction to Microbial Cell Structure** 4.1 Study of Bacteria - Size, shape and arrangement of bacterial cells.	15

First Year Theory Paper-I (Semester I)

Part-A: Introduction				
Program: Certificate course		**Class**: B.Sc. I Sem	**Year**: 2021	**Session**: 2021 – 2022
Subject: Pharmaceutical Chemistry				
1.	**Course Code**			
2.	**Course Title**	**Pharmaceutical Inorganic Chemistry (Paper-I)**		
3.	**Course Type**	Subject I (Major)		
4.	**Pre-requisite (If any)**	To study this course, a student must have had the subject Chemistry in 12th class.		
5.	**Course Learning Outcomes**	The course would enable the students to develop the concept of pharmaceutical inorganic compounds and their application in daily life. This will provide a foundation for various applied fields in pharmaceutical chemistry. The students will be able to: - •Describe about preparation and properties of gastrointestinal and topical agents. • Explain the preparation, properties, identification and assay of dental products. • Describe role of physiological ions, physiological acid base balance and electrolytes.		
6.	**Credit Value**	Theory-4		
7.	**Total Marks**	Max. Marks: 25 + 75	Min. Passing Marks: 33	

Part-B: Content of the Course		
Total numbers of Lectures (in hours per week): 2 hours per week **Total Lectures: 60 hours; L – T – P: 4 – 0 – 0**		
Units	**Topics**	**No. of Lectures**
I	**Historical background & Pharmaceutical Inorganic Chemistry** **1. Historical background:** 1.1 A brief historical background of pharmaceutical inorganic chemistry in the context of India and Indian culture 1.2 A brief biography of Prof. R. N. Chopra. **2. Pharmaceutical Inorganic Chemistry** **2.1 Preparation and properties of Gastrointestinal agents**	12

25/5/21 29/10/21

First Year Open Elective : Pharmaceutical Chemistry

Part-A: Introduction

Program: course Certificate

Class: B.Sc. II Semester

Year: 2021

Session: 2021 -2022

Subject: Pharmaceutical Chemistry

Course Code	
Course Title	**Basic Concepts of Pharmaceutical Chemistry**
Course Type	Elective
Pre-requisite (If any)	To study this course, a student must have had the subject Chemistry in 12th class.
Course Learning Outcomes	The course would enable the students to develop the basic concept of pharmaceutical chemistry and their application in daily life. This will provide a foundation for various applied fields in pharmaceutical chemistry. The students will be able to • Describe the basic concept about pharmaceutical chemistry. • Explain the activities of pharmaceutical compounds. • Demonstrate the concept of drug metabolism and pharmacokinetics in human body.
Credit Value	4
Total Marks	Max. Marks: 25 + 75 Min. Passing Marks: 33

Part-B: Content of the Course

Total numbers of Lectures (in hours per week): 2 hours per week Total Lectures: 60 hours; L-T-P: 4-0-0

Units	Topics	No. of Lectures
I	**1. Basic Concepts of Pharmaceutical Chemistry**	10
	1.1 History of pharmacy in India	
	1.2 Importance of chemistry in pharmacy	
	1.3 Important aspects of pharmaceutical chemistry	
	1.4 History of pharmacopeia	
	1.5 Monograph	
	1.6 Literature collection	
	1.7 Data handling and expression of analytical results- documentation and record keeping	
	Key Word: Pharmaceutical chemistry, pharmacopeia, monograph, pharmacy, data handling.	

29/X/21

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

DEPARTMENT OF PHYSICS

SYLLABUS 2021-22

Class : B.Sc First Semester Subject: PHYSICS

Part B - Content of the Course		
Total numbers of Lectures (in hours): 60		
Unit	Topics	Number of Lectures
I	**Historical background & Laws of thermodynamics** **1. Historical background:** 1.1. A brief historical background of thermodynamics and statistical Physics in the context of India and Indian culture, Contribution of S. N. Bose in statistical Physics. **2. Laws of thermodynamics:** 2.1. Thermodynamical system and thermodynamical coordinates, Thermal equilibrium, Zeroth law of thermodynamics, The concept of path function and point function, Work done by and on the system. 2.2. First law of thermodynamics, Internal energy as a state function, Reversible and irreversible change, Heat engine and its efficiency, Carnot's cycle, Carnot's engine and its efficiency, Carnot's theorem, Otto engine, Otto cycle, diesel engine. 2.3. Second law of thermodynamics, Statement of Kelvin-Plank and Clapeyron, Absolute scale of temperature: Zero of absolute scale, Size of degree, Identity of a perfect gas scale and absolute scale. **Keywords/Tags:** Thermodynamics, Internal energy, Heat engine, Absolute scale.	12
II	**Entropy** 1. Concept of entropy, Clausius theorem, Entropy as a point function, Change in entropy in reversible and irreversible processes. 2. Change in entropy of an ideal gas, Change in entropy when two liquids at different temperatures are mixed (or two bodies at different temperatures are kept in contact). 3. Principle of increase of Entropy, Change in entropy of the universe in an irreversible process, Disorder and heat death of universe. 4. Physical significance of Entropy, Temperature - entropy (T - S) diagram, third law of thermodynamics. **Keywords/Tags:** Reversible process, Entropy, Ideal gas.	12
III	**Thermodynamic potentials and kinetic theory of gases** **1. Thermodynamic potential and its application:** 1.1. Thermodynamic potentials, Thermal equilibrium, Internal energy, Helmholtz free energy, Enthalpy and Gibbs free energy.	12

डॉ. जी.डी. गुप्ता (सहायक) | डॉ. संजय दीक्षित विषय विशेषज्ञ (अधिकार 03) | डॉ. के.एल.जाट विषय विशेषज्ञ (अधिकार 03) | डॉ. मधुवेन्द्र कोरल विषय विशेषज्ञ (अधिकार 04) | श्री दीपेश जरोलीया अध्यक्षपति (अधिकार 05)

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

DEPARTMENT OF PHYSICS

SYLLABUS 2021-22

Class : B.Sc First Semester **Subject: PHYSICS**

	1. Indistinguishability of particles and its consequences, Maxwell - Boltzmann statistics (Classical statistics): Maxwell- Boltzmann distribution law of velocity and speed, Maxwell – Boltzmann statistics and its distribution law. 2. Quantum statistics: Bose-Einstein statistics and distribution law, Derivation of Planck's radiation law from B-E statistics, Rayleigh – Jeans law, Wein's displacement law and Stefan's law. 3. Fermi – Dirac statistics and its distribution law, Explanation of free electron theory, Fermi level and Fermi energy. 4. Comparison between the Maxwell – Boltzmann, Bose-Einstein and Fermi – Dirac statistics. **Keywords/Tags:** Indistinguishability, Velocity distribution, Fermi level.	

डॉ.जी.डी.गुप्ता (समन्वयक) | डॉ.संजय दीक्षित विषय विशेषज्ञ (कडिका 03) | डॉ.के.एल.जाट विषय विशेषज्ञ (कडिका 05) | डॉ.यतेन्द्र सोयल विषय विशेषज्ञ (कडिका 04) | श्री शैलेष कासलीवाल सहायक (कडिका 05)

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

DEPARTMENT OF PHYSICS

SYLLABUS 2021-22

Class : B.Sc First Semester

Subject: PHYSICS

Part B - Content of the Course Total number of Lectures (in hours): 60		
Unit	Topics	Number of Lectures
I	**Historical background and Mathematical Physics** 1. **Historical background:** 1.1. A brief historical background of mathematics and mechanics in the context of India and Indian culture. 1.2. A brief biography of Varahamihira and Vikram Sarabhai with their major contribution to science and society.	12
	2. **Mathematical Physics:** 2.1. Scalar and vector fields, Gradient of a scalar field and its physical significance. 2.2. Vector integral: line integral, surface integral and volume integral, Divergence of a vector field and its physical significance, Gauss divergence theorem. 2.3. Curl of a vector field and its physical significance, Stokes and Green's theorem, Numerical problems based on the above topics. **Keywords/Tags:** Scalar field, Vector field, Vector integral, Gradient, Divergence, Curl.	
II	**Mechanics of Rigid and deformable bodies** 1. **Rigid body mechanics:** 1.1. System of particles and concept of Rigid body, Torque, centre of mass : position of the centre of mass, Motion of the centre of mass, Conservation of linear & angular momentum with examples, Single stage and multistage rocket. 1.2. Rotatory motion and concept of moment of inertia, Theorems on moment of inertia: theorem of addition, theorem of perpendicular axis, theorem of parallel axis, Calculation of moment of inertia of rectangular lamina, disc, solid cylinder, solid sphere. 2. **Mechanics of deformable bodies:** 2.1. Hook's law, Young's modulus, Bulk modulus, Modulus of rigidity and Poisson's ratio, Relationship between various elastic moduli. 2.2. Possible values of Poisson's ratio, Finding Poisson's ratio of rubber in the laboratory, Torsion of a cylinder, Strain energy of twisted cylinder. 2.3. Finding the modulus of rigidity of the material of a wire by Barton's method, Torsional pendulum and Maxwell's needle, Searl's method to find Y, η and σ of the material	12

डॉ.संजय दीक्षित
विषय विशेषज्ञ
(अधिकार 03)

डॉ.के.एल.जाट
विषय विशेषज्ञ
(अधिकार 03)

डॉ.मधुरेन्द्र सोनल
विषय विशेषज्ञ
(अधिकार 04)

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

DEPARTMENT OF PHYSICS

SYLLABUS 2021-22

Class : B.Sc First Semester

Subject: PHYSICS

Max. Marks (CCE + Ext. Ass.) 40+ 60 = 100

Mini. Passing Marks: 35

Credit : 4

Paper: Open Elective (Generic) Physics-III

Title of Paper: 0

Code of the Paper: G117-III (II)

Part - A

Introduction for Code - G117-III (II)

SUBJECT : PHYSICS

1	Pre-requisite (if any)	Open for all.
2	Course Objectives	To study of Non-Conventional energy source
3	Course Learning Outcomes	At the end of the course student will be able to achieve 1. A good understanding of various non- conventional energy resources. 2. Knowledge about non- conventional energy harvesting technology. 3. The knowledge about the availability of non- conventional energy resources in India. 4. A good understanding of the solar energy and the appliances based on solar energy. 5. A non-conventional energy harvesting technical skill that will be helpful for employment.

डॉ.जी.डी.गुप्ता (सदस्य) | डॉ.संजय दीक्षित विषय विशेषज्ञ (सदस्य 03) | डॉ.के.एल.जाट विषय विशेषज्ञ (सदस्य 03) | डॉ.मधुरेन्द्र सोमल विषय विशेषज्ञ (सदस्य 04) | श्री दीपेश जगदीशिया (सदस्य 05)

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

DEPARTMENT OF PHYSICS

SYLLABUS 2021-22

Class : B.Sc First Semester **Subject: PHYSICS**

Part B - Content of the Course		
Total numbers of Lectures (in hours): 45		
Unit	**Topics**	**Number of Lectures**
I	**Introduction non-conventional energy sources-I** 1. Classification of energy resources, Consumption trend of primary energy resources, importance of non- conventional energy resources. 2. Energy chain, Common form of energy, limitation of non conventional energy resources. **Keywords Tags**: Energy resources, Energy chain,	9
II	**Introduction non-conventional energy sources-II** 1. Salient features of non-conventional energy resources, Environmental aspects of energy. 2. World energy status, Energy scenario in India. **Keywords Tags:** Non conventional energy.	9
III	**Solar energy:** 1. The sun as a source of energy, solar radiation at the Earth's surface. 2. Photo-thermal applications: Solar collectors, Solar drying, Solar cooker (box type), Solar distillation, Solar water heating systems, Solar thermo- mechanical system **Keywords/Tags**: Solar radiation, Photo-thermal	9
IV	**Photovoltaic System:** Photovoltaic principle, Basic photovoltaic system for power generation. **Solar Cell:** Types of Solar cells, Concentrator cells, Sun-tracking systems, Limitations and environmental aspects of solar cell. **Keywords/Tags**: Photovoltaic.	9
V	**Photovoltaic applications:** Solar Cell Panels, Solar light, Sola pump, Solar power plants, Solar cell in transportation, Solar refrigeration and air conditioning. **Keywords/Tags**: Solar cells.	9

डॉ.संजय दीक्षित
विषय विशेषज्ञ
(अधिकार 03)

डॉ.मनुरेन्द्र सोनगरा
विषय विशेषज्ञ
(अधिकार 04)

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

DEPARTMENT OF PHYSICS

SYLLABUS 2021-22

Class : B.Sc II Semester

Subject: PHYSICS

Part B - Content of the Course		
Total number of Lectures (in hours): 60		
Unit	Topics	Number of Lectures
I	**Historical background and Mathematical Physics** **1. Historical background:** **1.1.** A brief historical background of mathematics and mechanics in the context of India and Indian culture. **1.2.** A brief biography of Varahamihira and Vikram Sarabhai with their major contribution to science and society. **2. Mathematical Physics:** **2.1.** Scalar and vector fields, Gradient of a scalar field and its physical significance. **2.2.** Vector integral: line integral, surface integral and volume integral, Divergence of a vector field and its physical significance, Gauss divergence theorem. **2.3.** Curl of a vector field and its physical significance, Stokes and Green's theorem, Numerical problems based on the above topics. **Keywords/Tags:** Scalar field, Vector field, Vector integral, Gradient, Divergence, Curl.	12
II	**Mechanics of Rigid and deformable bodies** **1. Rigid body mechanics:** **1.1.** System of particles and concept of Rigid body, Torque, centre of mass : position of the centre of mass, Motion of the centre of mass, Conservation of linear & angular momentum with examples, Single stage and multistage rocket. **1.2.** Rotatory motion and concept of moment of inertia, Theorems on moment of inertia: theorem of addition, theorem of perpendicular axis, theorem of parallel axis, Calculation of moment of inertia of rectangular lamina, disc, solid cylinder, solid sphere. **2. Mechanics of deformable bodies:** **2.1.** Hook's law, Young's modulus, Bulk modulus, Modulus of rigidity and Poisson's ratio, Relationship between various elastic moduli. **2.2.** Possible values of Poisson's ratio, Finding Poisson's ratio of rubber in the laboratory, Torsion of a cylinder, Strain energy of twisted cylinder. **2.3.** Finding the modulus of rigidity of the material of a wire by Barton's method, Torsional pendulum and Maxwell's needle, Searl's method to find Y, η and σ of the material	12

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

DEPARTMENT OF PHYSICS

SYLLABUS 2021-22

Class : B.Sc II Semester

Subject: PHYSICS

Part B - Content of the Course Total numbers of Lectures (in hours): 60		
Unit	Topics	Number of Lectures
I	**Historical background & Laws of thermodynamics** **1. Historical background:** 1.1. A brief historical background of thermodynamics and statistical Physics in the context of India and Indian culture, Contribution of S. N. Bose in statistical Physics. **2. Laws of thermodynamics:** 2.1. Thermodynamical system and thermodynamical coordinates, Thermal equilibrium, Zeroth law of thermodynamics, The concept of path function and point function, Work done by and on the system. 2.2. First law of thermodynamics, Internal energy as a state function, Reversible and irreversible change, Heat engine and its efficiency, Carnot's cycle, Carnot's engine and its efficiency, Carnot's theorem, Otto engine, Otto cycle, diesel engine. 2.3. Second law of thermodynamics, Statement of Kelvin-Plank and Clapeyron, Absolute scale of temperature: Zero of absolute scale, Size of degree, Identity of a perfect gas scale and absolute scale. **Keywords/Tags:** Thermodynamics, Internal energy, Heat engine, Absolute scale.	12
II	**Entropy** 1. Concept of entropy, Clausius theorem, Entropy as a point function, Change in entropy in reversible and irreversible processes. 2. Change in entropy of an ideal gas, Change in entropy when two liquids at different temperatures are mixed (or two bodies at different temperatures are kept in contact). 3. Principle of increase of Entropy, Change in entropy of the universe in an irreversible process, Disorder and heat death of universe. 4. Physical significance of Entropy, Temperature - entropy (T - S) diagram, third law of thermodynamics. **Keywords/Tags:** Reversible process, Entropy, Ideal gas.	12
III	**Thermodynamic potentials and kinetic theory of gases** **1. Thermodynamic potential and its application:** 1.1. Thermodynamic potentials, Thermal equilibrium, Internal energy, Helmholtz free energy, Enthalpy and Gibbs free energy.	12

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

DEPARTMENT OF PHYSICS

SYLLABUS 2021-22

Class : B.Sc II Semester Subject: PHYSICS

Part – B(Theory)

Part B Content of the course

Total Number of Lectures (In Hours) :45

Unit	Topics	Number of Lectures
I	**Biomass Energy:** 1. Biomass resources, Biomass conversion technology, Biogas generation. 2. List of factors affecting bio-digestion, Working of biogas plant (with block diagram), Biogas from plant waste. 3. Methods of obtaining energy from Biomass, Thermal gasification of biomass 4. Biomass energy programme in India, Biodiesel production from non-edible oil seeds. Keywords/Tags: Biogas, Biomass, Thermal gasification, Bio-digestion.	9
II	**Wind energy-I** 1. Concept of Wind, Origin of winds, Wind climate, Wind profile, Limitations of extracted power from a wind turbine, 2. Wind resources map and site identification, Land requirement. 3. Wind turbine setting, Wind turbine aerodynamics. Keywords/Tags: Wind energy, Wind climate	9
III	**Wind energy-II** 1. Wind turbine type: Upwind and downwind turbine, Blade count, Constant and variable speed wind turbine, Onshore and offshore wind turbine. 2. Wind turbine rotor, working of wind turbine, Drag principle, Lift principle. 3. Effect of wind turbine on environment, Wind energy storage, Wind energy program in India. Keywords/Tags: Wind turbine.	9
IV	**Geothermal and Ocean energy** 1. Geothermal energy: Origin and distribution of geothermal energy, Types of geothermal resources, Analysis of geothermal resources. 2. Exploration and development of geothermal energy. 3. Advantages and disadvantages of geothermal energy, Possibilities and limitations. Keywords/Tags: Geothermal energy.	9
V	**Ocean energy:** 1. Tidal energy, Origin and nature of tidal energy, Environmental impact, Energy and power in waves, Advantage and disadvantage of wave energy. 2. Ocean Thermal Energy, Ocean Thermal conservation Technology (OTEC), Environmental impact Keywords/Tags: Ocean energy, Tidal energy, OTEC	9

डॉ.जी.बी.गुप्ता (अधिकार 01) | डॉ.संजय दीक्षित विषय विशेषज्ञ (अधिकार 03) | डॉ.के.एल.जाट विषय विशेषज्ञ (अधिकार 03) | डॉ.मधुबेन्द्र चौधरी विषय विशेषज्ञ (अधिकार 04) | श्री शैलेष नागवंशी (अधिकार 05)

I	**1. Introduction to Statistics** 1.1 Historical background of Statistics development in India 1.2 Definition, scope importance and limitations of Statistics. 1.3 Population: Finite, infinite, homogeneous and heterogeneous 1.4 Concept of sample, random sample and non-random sample 1.5 Brief description of census and sample surveys. **2. Data** 2.1 Primary and secondary data. Methods of collection of Primary data and sources of secondary data 2.2 Qualitative and quantitative data, cross sectional and time-series data, discrete and continuous data 2.3 Preparation and characteristics of a good questionnaire 2.4 Outliers **3. Frequency Distributions** 3.1 Discrete frequency distributions 3.2 Continuous frequency distributions 3.3 Inclusive and exclusive frequency distributions **4. Classification of data** 4.1 Meaning and definition of classification 4.2 Types of classification 4.3 Criteria for ideal classification **5. Presentation of data** 5.1 Tabulation: Parts of a table, Rules for construction of tables, types of tables 5.2 Diagrammatic presentation: Line diagram. Bar diagram. Multiple and sub divided bar diagram, Pie diagram, Area diagram and Pictograph 5.3 Stem and leaf diagram 5.4 Graphical presentation: Histogram, Frequency polygon, Frequency curve and cumulative frequency curve (ogive) **6. Scales of measurement**: nominal, ordinal, interval and ratio	12
	1 सांख्यिकी का परिचय 1.1 सांख्यिकी की ऐतिहासिक पृष्टभूमि और भारत में इसका विकास 1.2 सांख्यिकी की परिभाषा, क्षेत्र , महत्व तथा सीमाए 1.3 समग्र : परिमित, अपरिमित, समांग तथा असमांग	

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Kunika

Kanti Bhagat

Part B- Content of the Course		
Total No. of Lectures-Tutorials-Practicals (in hours per week): L-T-P: 4-0-0		
Paragraph	Topics	No. of Lectures
I	**Probability and its applications** **1.Elements of probability** 1.1 History of Probability and Indian context 1.2 Random experiment, trials, outcomes, sample points, sample space. 1.3 Events, exhaustive events, favorable events, equally likely events, mutually exclusive events, independent events. 1.4 Mathematical and Statistical definitions of probability with their limitations. 1.5 Axiomatic approach to probability **2. Laws of Probability** 2.1Addition law of probability 2.2 Conditional probability 2.3 Multiplication law of probability 2.4 Total probability theorem 2.5 Bayes theorem	12
	प्रायिकता एवं उसके अनुप्रयोग 1- प्रायिकता के अवयव 1-1 प्रायिकताका इतिहास एवं भारतीय संदर्भ में विकास 1-2 यादृच्छिक प्रयोग, अभिप्रयोग, आगत, परिणाम, प्रतिदर्श बिंदु, समष्टि प्रतिदर्श 1-3 घटनायें, संपूर्ण, निःशेष घटनायें, अनुकूल घटनायें, समसम्भावी घटनायें, परस्पर अपवर्जी घटनायें, स्वतंत्र घटनायें 1-4 प्रायिकता की गणितीय एवं सांख्यिकीय परिभाषायें एवं उनकी सीमाएं 1-5 प्रायिकता का अभिगृहितीय अनुगमन 2- प्रायिकता के नियम 2-1 प्रायिकता का योग नियम	

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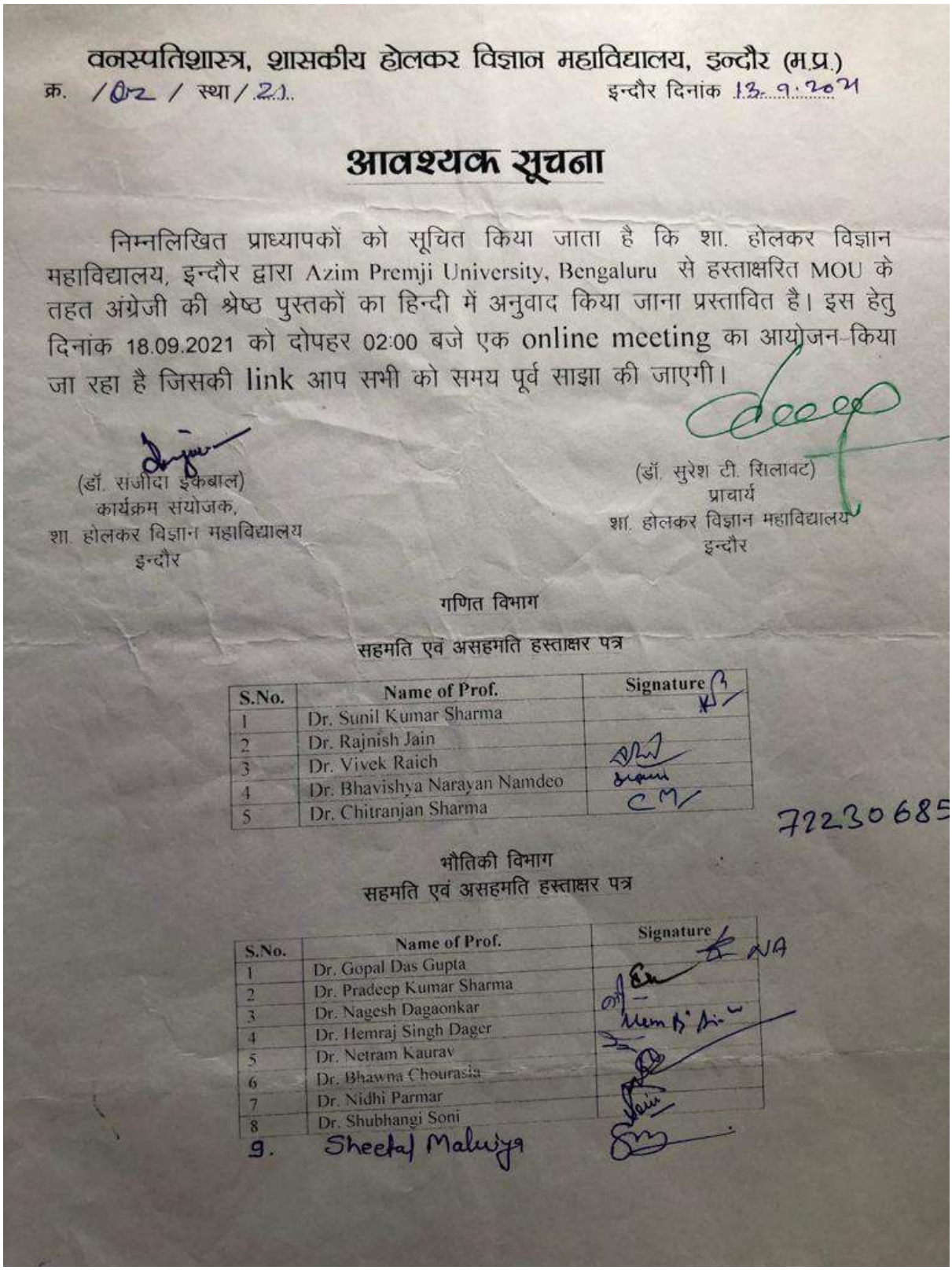
Azim Premji University, Bengaluru, India (Online meeting organized for Translation work of Physics books from English to Hindi)



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

क्र. /02 / स्था / 21. इन्दौर दिनांक 13.9.2021

आवश्यक सूचना

निम्नलिखित प्राध्यापकों को सूचित किया जाता है कि शा. होलकर विज्ञान महाविद्यालय, इन्दौर द्वारा Azim Premji University, Bengaluru से हस्ताक्षरित MOU के तहत अंग्रेजी की श्रेष्ठ पुस्तकों का हिन्दी में अनुवाद किया जाना प्रस्तावित है। इस हेतु दिनांक 18.09.2021 को दोपहर 02:00 बजे एक online meeting का आयोजन किया जा रहा है जिसकी link आप सभी को समय पूर्व साझा की जाएगी।

(डॉ. संजीदा इकबाल)
कार्यक्रम संयोजक,
शा. होलकर विज्ञान महाविद्यालय
इन्दौर

(डॉ. सुरेश टी. सिलावट)
प्राचार्य
शा. होलकर विज्ञान महाविद्यालय
इन्दौर

गणित विभाग

सहमति एवं असहमति हस्ताक्षर पत्र

S.No.	Name of Prof.	Signature
1	Dr. Sunil Kumar Sharma	
2	Dr. Rajnish Jain	
3	Dr. Vivek Raich	
4	Dr. Bhavishya Narayan Namdeo	
5	Dr. Chitranjan Sharma	

72230685

भौतिकी विभाग

सहमति एवं असहमति हस्ताक्षर पत्र

S.No.	Name of Prof.	Signature
1	Dr. Gopal Das Gupta	NA
2	Dr. Pradeep Kumar Sharma	
3	Dr. Nagesh Dagaonkar	
4	Dr. Hemraj Singh Dager	
5	Dr. Netram Kaurav	
6	Dr. Bhawna Chourasia	
7	Dr. Nidhi Parmar	
8	Dr. Shubhangi Soni	
9.	Sheetal Malviya	

Azim Premji University, Bengaluru, India (Meeting for translation work by Team of translation initiative)

हिन्दी भाषा विभाग, शासकीय होलकर (आदर्श, स्वशासी) विज्ञान महाविद्यालय, इन्दौर
हिन्दी दिवस – रिपोर्ट

शासकीय होलकर विज्ञान महाविद्यालय में हिन्दी विभाग द्वारा **दिनांक 14/09/2022** को हिन्दी दिवस का आयोजन एकेडमिक भवन के कक्ष क्रमांक 07 में किया गया। जिसके प्रमुख वक्ता वरिष्ठ प्राध्यापक व लघुकथाकार डॉ. योगेन्द्रनाथ शुक्ल थे। कार्यक्रम का शुभारंभ माँ सरस्वती का पूजन व दीप प्रज्वलित कर किया गया। कार्यक्रम का संचालन बीएससी प्रथम वर्ष की छात्रा कु. मितुल चक्रवती ने किया व विभागाध्यक्ष डॉ. मनोरमा अग्रवाल द्वारा स्वागत किया गया। मुख्य वक्ता डॉ. योगेन्द्रनाथ जी ने हिन्दी की ऐतिहासिक यात्रा का वर्णन करते हुए कहा कि कैसे हिन्दी भाषा ने देश को आजादी दिलाने में अपनी भूमिका निभाई, हिन्दी की महत्ता बताते हुए उन्होंने कहा कि भाषा आत्मा से परमात्मा को जोड़ती है। वरिष्ठ प्राध्यापक प्रो. विजय चौरे सर ने हिन्दी वर्णमाला की सुन्दर व्याख्या कर बताया कि हिन्दी की लिपि कितनी वैज्ञानिक है। डॉ. अमिय पहारे जी ने हिन्दी की सार्थकता पर प्रकाश डाला। विद्यार्थियों ने भी हिन्दी की कवितायें प्रस्तुत कर हिन्दी के प्रति अपना सम्मान प्रकट किया। कार्यक्रम की संयोजक डॉ. मनोरमा अग्रवाल ने बताया कि हिन्दी हमारी माँ है, उसे हमें प्रतिदिन सम्मान देना होगा तभी हिन्दी दिवस मनाने की सार्थकता हैं।

हिन्दी दिवस कार्यक्रम की अध्यक्षता महाविद्यालय परिवार के सरंक्षक प्राचार्य डॉ. सुरेश टी. सिलावट जी ने विद्यार्थियों को संबोधित कर कहा कि हमें जीवन का लक्ष्य निर्धारित कर निरन्तर आगे बढ़ना हैं।

कार्यक्रम के अंत मे डॉ. आराधना कौरव ने सभी का आभार व्यक्त किया।

डॉ. मनोरमा अग्रवाल
विभागाध्यक्ष, हिन्दी विभाग

विचार क्रान्ति अभियान

ॐ भूर्भुवः स्वः तत्सवितुर्वरेण्यं भर्गोदेवस्य धीमहि धियो यो नः प्रचोदयात्

भारतीय संस्कृति ज्ञान परीक्षा

तत्वावधान – गायत्री तीर्थ, शांतिकुंज, हरिद्वार (उत्तरांचल)

परीक्षा कार्यालय – गायत्री शक्तिपीठ केशरबाग रोड़, गायत्री नगर, इन्दौर (म.प्र.) फोन : 0731-4088095

प्रशस्ति पत्र

भारतीय संस्कृति को विश्व–संस्कृति का पर्याय माना गया है। सभ्यता का विकास इसी के गर्भ से हुआ जिसने ज्ञान की अनेकानेक विधाओं को जन्म देकर समस्त विश्व को अपने अनुदानों से सिक्त किया।

भारतीय संस्कृति अगले दिनों समस्त विश्व की एक समन्वित संस्कृति होगी और इसका निर्धारण इसी के सिद्धांतों एवं प्रचलनों के आधार पर होगा।

युवा इस विश्व व्यापी भारतीय संस्कृति को अपनाकर श्रेष्ठ संस्कारवान जीवन जिएं और दुसरों के लिए प्रेरणा स्त्रोत बनें ।

राष्ट्र की भावी पीढ़ी को सांस्कृतिक, नैतिक, बौद्धिक व राष्ट्रीय मूल्यों से जोड़ने के अपने भागीरथ प्रयासों को निरंतर गति प्रदान करने में तथा विचार क्रांति अभियान को सफल बनाने में पूर्ण सहयोग के लिये आपको एवं विद्यालय परिवार को साधुवाद तथा भविष्य में ऐसा ही सहयोग प्रदान करते रहेंगे। यही अपेक्षा है।

भारतीय संस्कृति ज्ञान परीक्षा वर्ष 2019 में आपके निष्ठापूर्ण सहयोग के लिये हमारी हार्दिक शुभकामनाएँ ।

भारतीय संस्कृति ज्ञान परीक्षा
शान्तिकुंज, हरिद्वार

प्रतिष्ठा में

प्राचार्य/ प्रधानाध्यापक

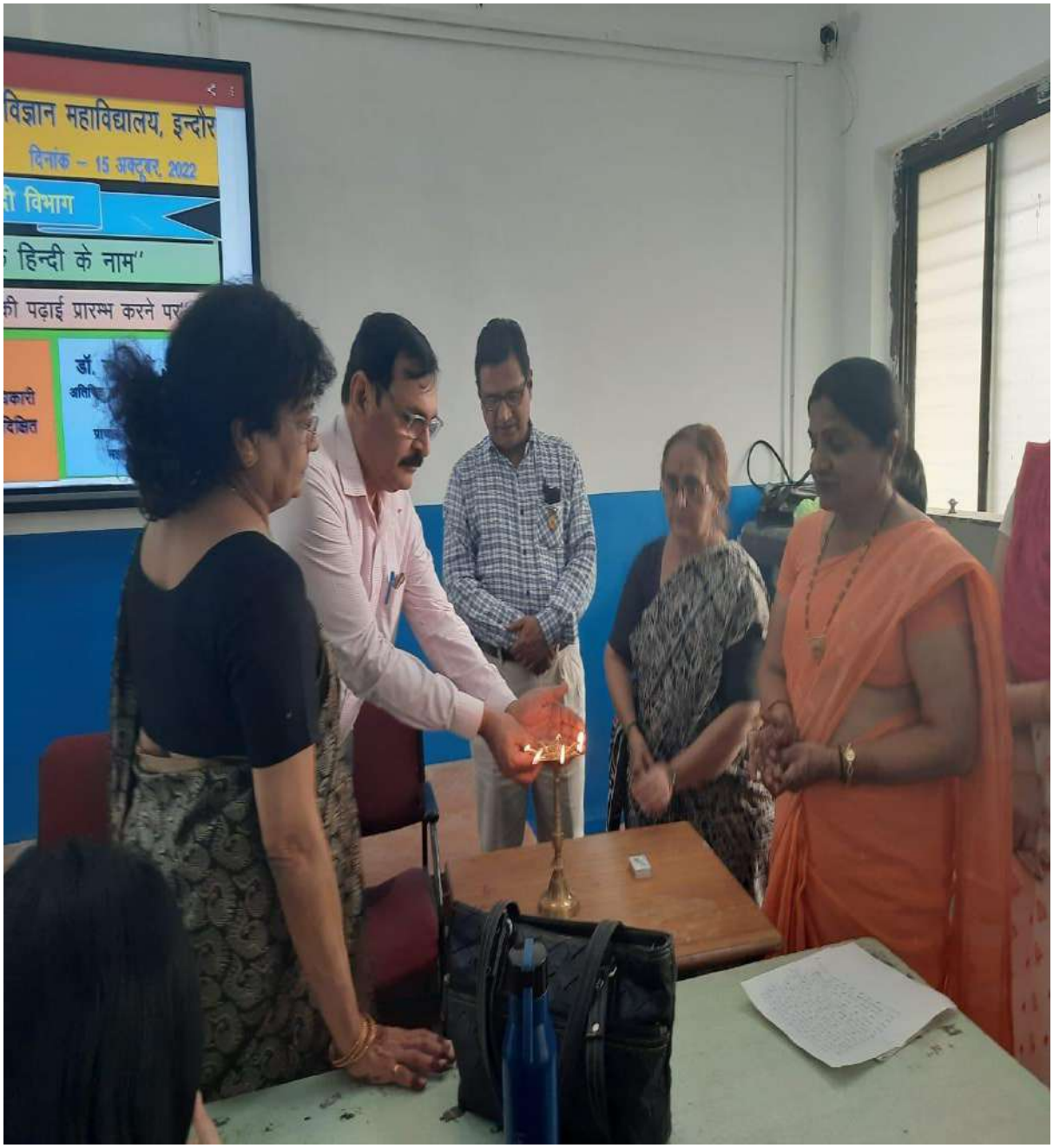
होलकर विज्ञान महाविद्यालय
इन्दौर

जिला संयोजक

हिन्दी विभाग, शासकीय होलकर (आदर्श, स्वशासी) विज्ञान महाविद्यालय, इन्दौर

रिपोर्ट

शासकीय होलकर विज्ञान महाविद्यालय के हिन्दी विभाग द्वारा **दिनांक 15/10/2022** को एक कार्यक्रम ''एक दीपक हिन्दी के नाम'' आयोजित किया गया। कार्यक्रम की अध्यक्षता डॉ. विवेक रैच द्वारा की गई एवं मंच पर उपस्थित सभी वरिष्ठ प्राध्यापको द्वारा दीप प्रज्जवलित कर कार्यक्रम की प्रभारी एवं हिन्दी विभागाध्यक्ष डॉ. मनोरमा अग्रवाल द्वारा कार्यक्रम का शुभारंभ किया गया। कार्यक्रम के अध्यक्ष डॉ. विवेक रैच ने सभी को संबोधित किया। तथा डॉ. अमिय पहारे जी ने विद्यार्थियों को मेडिकल की पढ़ाई हिन्दी भाषा में करने के लाभ से अवगत कराया। डॉ. आराधना कौरव ने कार्यक्रम में उपस्थित सभी का आभार व्यक्त किया।



कार्यक्रम प्रभारी

डॉ. मनोरमा अग्रवाल
विभागाध्यक्ष हिन्दी

प्राचार्य

डॉ. सुरेश टी. सिलावट
शा. होलकर विज्ञान महाविद्यालय, इन्दौर

fgUnh Hkk’kk foHkkx] “kkldh; gksydj ¼vkn”kZ] LOk”kklh½ foKku egkfo|ky;] bUnkSj

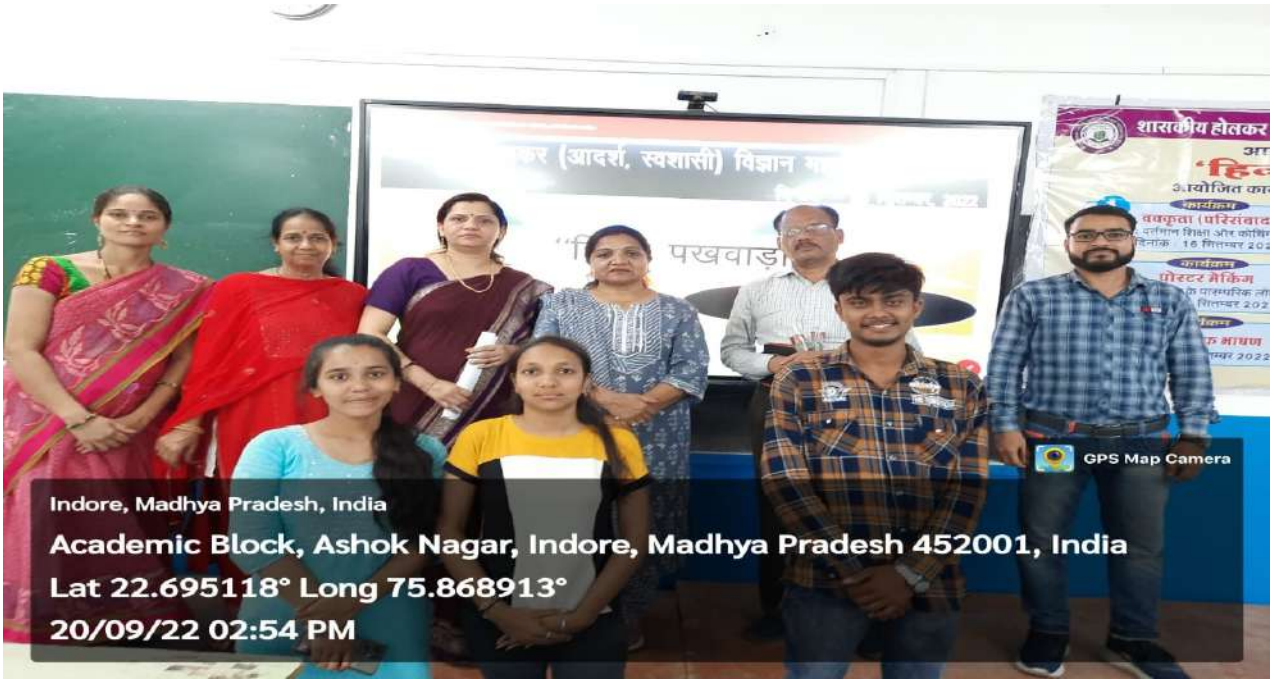
ik¡p fnolh; fgUnh i[kokM+k & fjiksVZ

“kkldh; gksydj foKku egkfo|ky; esa fgUnh foHkkx }kjk fgUnh i[kokM+k ,dsMfed Hkou ds d{k dzekad 03 esa fnukad 16 ls 21 flrEcj 2022 rd vk;ksftr fd;k x;kA fnukad 16 flrEcj 2022 dks od`rrk ¼ifjlaokn½ izfr;ksfxrk j[kh xbZA ftldk fo’k; Fkk & ^orZeku f”k{kk vkSj dksfpax laLFkku* dk;Zdze dk lapkyu fgUnh foHkkx dh foHkkxk/;{k MkW- euksjek vxzoky us fd;k blesa fo|kfFkZ;ksa us cM+s mRlkg ls Hkkx ysdj viuh

Hkkxhnkjh lqfuf”pr dh dk;Zdze ds fu.kkZ;d MkW- js[kk “kekZ] izks- jtuh feJk o MkW- vkjk/kuk dkSjo FkhA bl izfr;ksfxrk esa izFke LFkku iquhr feJk ch-,l-lh- r`rh; o’kZ] f}rh; LFkku ij jtuh”k f=ikBh ch-,l-lh- f}rh; o’kZ] o r`rh; LFkku ij J)k dq”kokg ch-,l-lh- f}rh; o’kZ dh fo|kFkhZ jghaA vkHkkj izks- js[kk lksuh us fn;k rFkk fu.kkZ;dksa us Hkh fo|kfFkZ;ksa dks mn~cks/ku fn;kA

fnukad 17 flrEcj 2022 dks fuca/k ys[ku izfr;ksfxrk j[kh xbZ ftldk fo’k; FkkA ^^fgUnh Hkkjrh; laLd`fr dh vkRek gSA** blesa 48 fo|kfFkZ;ksa us Hkkx fy;kA blds fu.kkZ;d MkW- fdj.k flBksys vaxzsth foHkkx rFkk MkW- vkjk/kuk dkSjo fgUnh foHkkx FkhA blesa izFke LFkku izhfr jkagxMkys ch-,l-lh- M8 dh Nk=k] f}rh; LFkku ij vfHk’ksd feJk ch-,l-lh- r`rh; o’kZ M9 dk Nk= rFkk r`rh; LFkku ij d:.kk dq”kokg ch-,l-lh- r`rh; o’kZ M8 dh Nk=k jghA

fnukad 19 flrEcj 2022 dks iksLVj esfdax izfr;ksfxrk ftldk fo'k; Fkk & ekyok ds ikjEifjd yksdu`R; ftlesa 17 fo|kfFkZ;ksa us Hkkx fy;kA bl izfr;ksfxrk ds fu.kkZ;d MkW- fdj.k fcYykSjs] MkW- fp=k j.kfnos xf.kr foHkkx o Jherh izfrHkk etwenkj FkhA blesa izFke LFkku dq- lk{kh ljukxj ch-,l-lh- r`rh; o'kZ] f}rh; LFkku ij dq- jkf/kdk jktiwr f}rh; o'kZ o r`rh; LFkku ij dq- izhfr jkgxaMkys r`rh; o'kZ dh Nk=k jghaA



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fnukad 21 flrEcj 2022 dks fgUnh foHkkx }kjk rkRdkfyd Hkk'k.k izfr;ksfxrk dk vk;kstu fd;kA ftlesa yxHkx 16 fo|kfFkZ;ksa us Hkkx fy;kA dk;Zdze dk lapkyu MkW- euksjek vxzoky foHkkxk/;{k us fd;kA blds fu.kkZ;d Fks& MkW- fdly; iapksyh rFkk MkW- fp=k j.kfnosA izfr;ksfxrk esa izFke LFkku ij dq- nsos"kh "kekZ ch-,l-lh- r`rh; o'kZ] f}rh; LFkku ij vfHk'ksd feJk ch-,l-lh- r`rh; o'kZ rFkk r`rh; LFkku ij vfHk'ksd f=ikBh jgsA fu.kkZ;d MkW- fdly; iapksyh us fo|kfFkZ;ksa dks lacksf/kr dj izfr;ksfxrk esa lQy gksus ds lw= crk;s vkHkkj MkW- vkjk/kuk dkSjo us fd;kA

bl izdkj fgUnh i[kokMs+ ds vUrxZr ik¡p fnolh; izfr;ksfxrk;sa lEiUu gqbZA

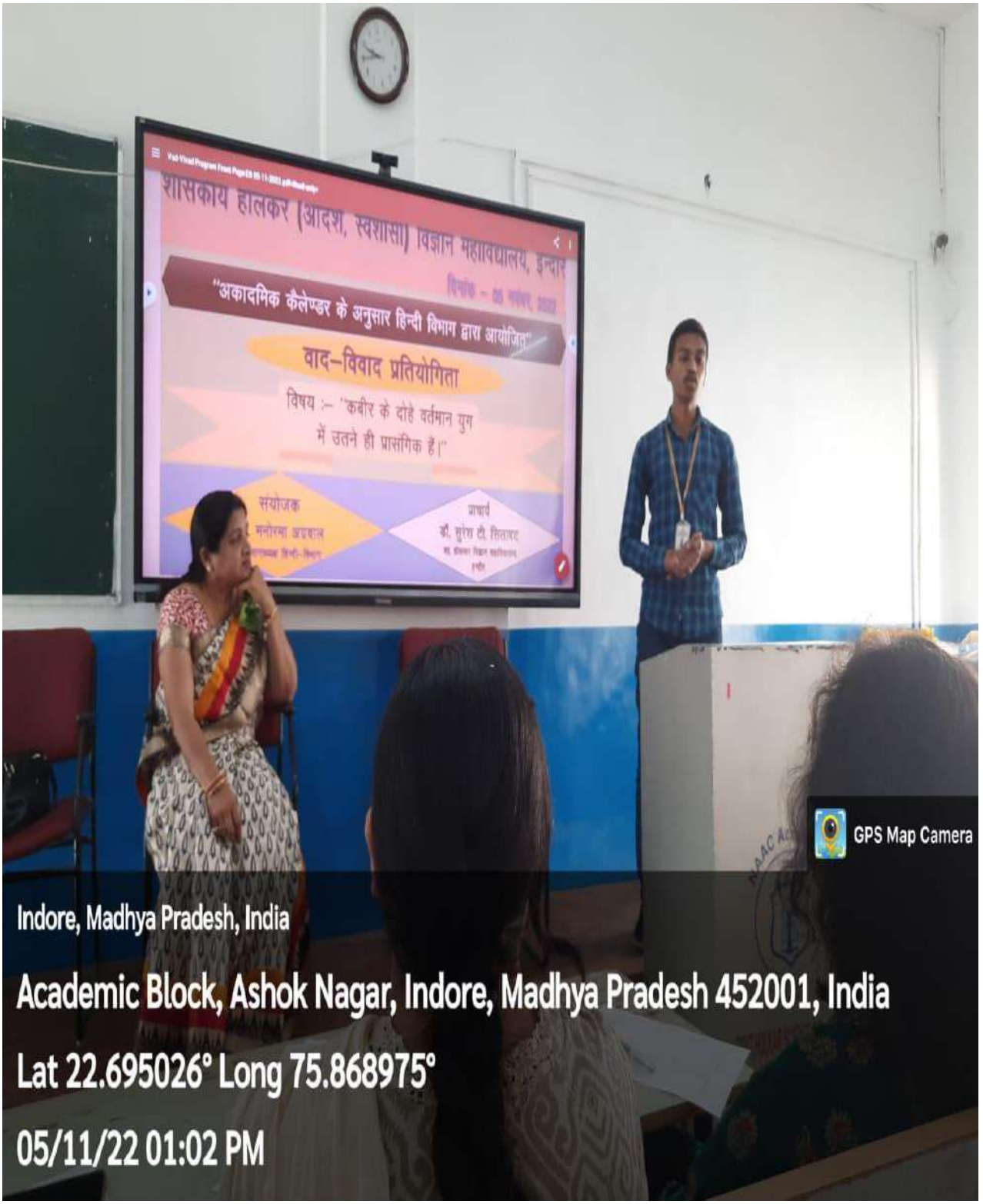
la;kstd	izkpk;Z
MkW- euksjek vxzoky flykoV foHkkxk/;{k] fgUnh foHkkx egkfo|ky;] bUnkSj	MkW- lqjs”k Vh- “kk- gksydj foKku

fgUnh Hkk'kk foHkkx] "kkldh; gksydj ¼vkn"kZ] LOk"kkklh½ foKku egkfo|ky;] bUnkSj

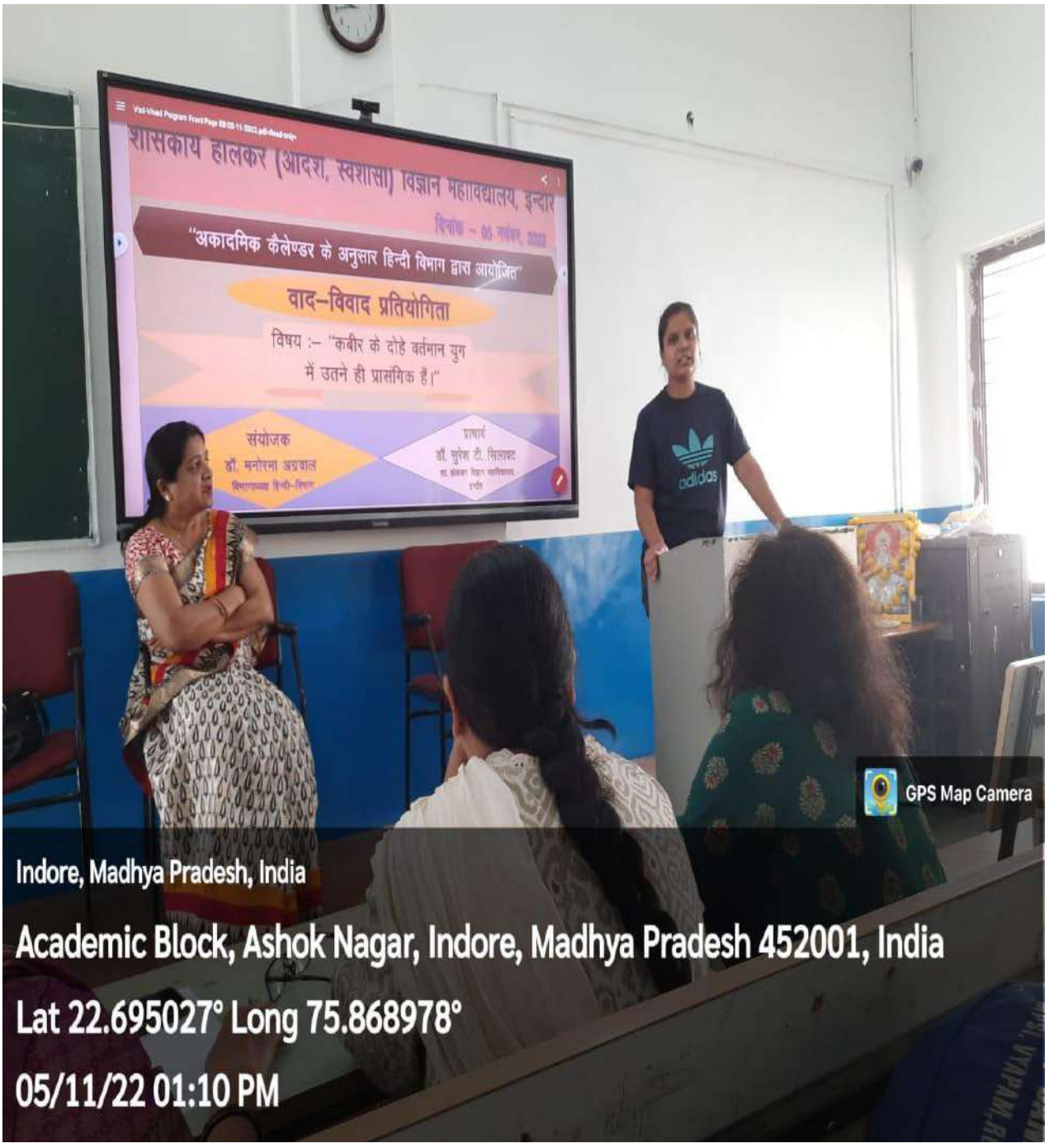
vdknfed dyS.Mj ds vuqlkj okn&fookn izfr;ksfxrk & fjiksVZ

"kkldh; gksydj foKku egkfo|ky; esa fgUnh foHkkx }kjk **fnukad 05@11@2022** dks **vdknfed dyS.Mj ds vuqlkj** okn&fookn izfr;ksfxrk dk vk;kstu ,dsMfed Hkou ds d{k dzekad 02 esa fd;k x;kA ftldk fo'k; Fkk& ^^dchj ds nksgs orZeku ;qx es mrus gh izklafxd gSA** dk;Zdze ds v/;{k izkpk;Z MkW- lqjs"k Vh- flykoV lj us dk;Zdze dk "kqHkkjaHk

fd;kA eap ij mifLFkr lnL;ksa us ek¡ ljLorh dks ekY;kiZ.k dj nhi izTTkofyr fd;kA dk;Zdze dk lapkyu foHkkxk/;{k MkW- euksjek vxzoky us fd;kA vkt ds fu.kkZ;d MkW- fofurk [kjs] MkW- izfeyk lk/kkS o MkW vkjk/kuk dkSjo FkhA



izfr;ksfxrk ds i{k esa izFke LFkku dq- fjadh yksoa”kh ch,llh r`rh; o’kZ] f}rh; LFkku dq- ifjf/k vxzoky ,e,llh r`rh; lsesLVj rFkk r`rh; LFkku f”koe ;kno ch,llh izFke o’kZ jgsA



foi{k esa f”koe iaokj ch,llh r`rh; o’kZ izFke ij jgsA

vkHkkj MkW- ,drk xk;dokM+ us O;Dr fd;kA

la;kstd	izkpk;Z
MkW- euksjek vxzoky flykoV foHkkxk/;{k] fgUnh egkfo|ky;] bUnkSj	MkW- lqjs”k Vh- “kk- gksydj foKku

fgUnh Hkk'kk foHkkx] "kkldh; gksydj ¼vkn"kZ] Lo"kklh½ foKku egkfo|ky;] bUnkSj

EXTENSION AND OUTREACH PROGRAM

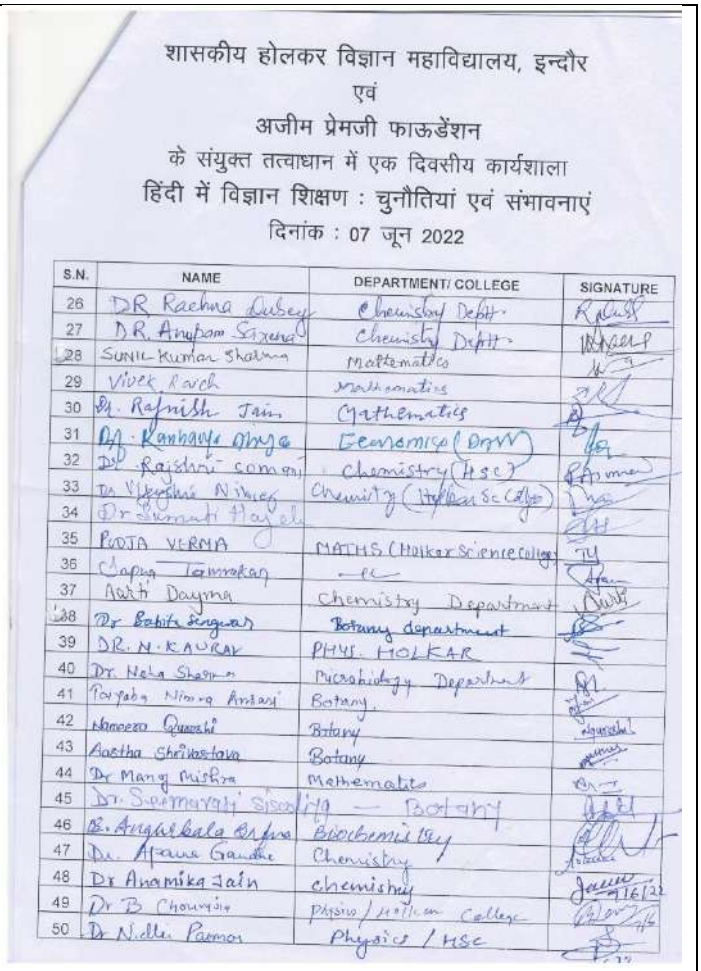
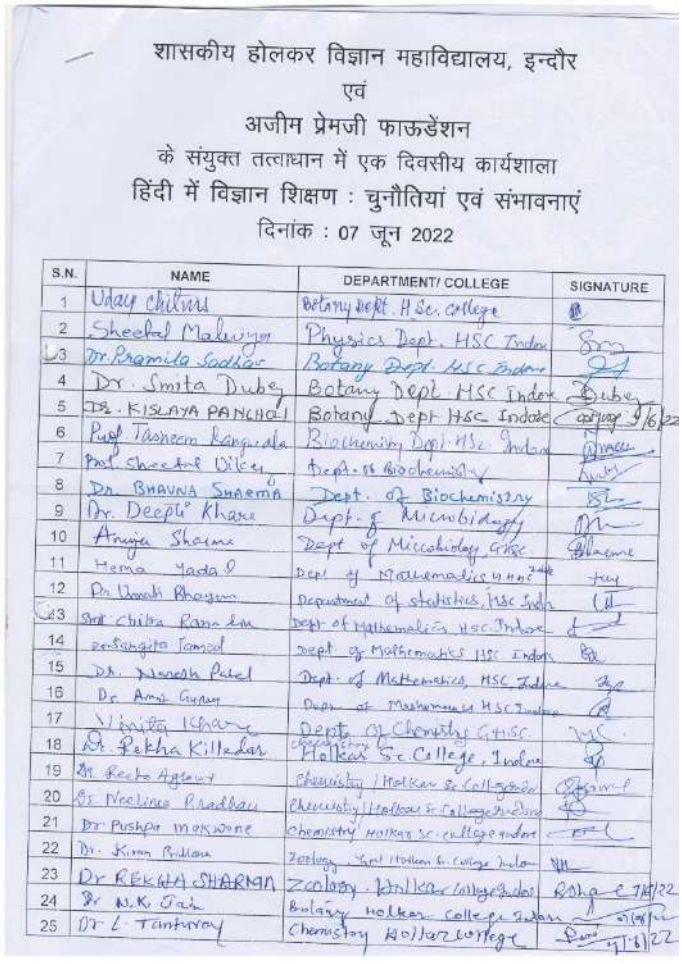
S.No	Component/Activities	Details
1	Name of the Department / Unit / Agency:	हिंदी विभाग
2	Name of the Activity:	राष्ट्रीय वेबिनार: राष्ट्रीय नइे शिक्षा नीति मे भाषा और संस्कृति का स्थान
3	Name of the Scheme:	राष्ट्रीय नइे शिक्षा नीति मे भाषा और सस्कृति का स्थान
4	Date and Year of the Activity:	28@07@2021
5	Number of Students Participated in the activity:	152
6	Report of the Activity (in 100 words):	हिन्दी विभाग द्वारा एक दिवसीय ऑनलाइन वेबीनार का आयोजन दिनांक 28 जुलाई 2021 को किया गया, जिसका विषय था:-"राष्ट्रीय षिक्षा नीति में भाषा और 'संस्कृति का स्थान।" कार्यक्रम का शुभारंभ प्राचार्य डॉ. सुरेष सिलावट जी की अध्यक्षता में किया। प्राचार्य जी ने अपनें उद्बोधन में इन पंक्तियों से किया - विद्यार्थी करें अपने सपने को साकार नई षिक्षा नीति का यही आधार वेबीनार के प्रथम वक्ता डॉ. दयाषंकर त्रिपाठी सरदार पटेल वि.वि. आंनद ;गुजरातद्ध से हमारे बीच उपस्थित थें। उन्होंने "नई षिक्षा नीति और हिन्दी का भविष्य विषय पर अपना वक्तव्य दिया। उन्होंने बताया कि ज्ञान के परिदृष्य में पूरा विष्व तेजी से परिवर्तन के दौर से गुजर रहा हैं। इसी संदर्भ में राष्ट्रीय षिक्षा नीति का विजन उसका उद्देष्य तथा भाषा और संस्कृति का स्थान हैं। जैसे अनेक मुद्दो पर चर्चा की। द्वितीय वक्ता के रूप में चेतना महाविद्यालय औरंगाबाद महाराष्ट्र से डॉ. विषाला शर्मा विभागाध्यक्ष ;हिन्दी उपस्थित थी। उन्होंने राष्ट्रीय षिक्षा नीति और मातृभाषा विषय पर अपने विचार प्रस्तुत कियें। उन्होंने बताया कि, भाषा किसी भी समाज का अभिन्न अंग होती है- मातृभाषा के प्रति सम्मान एवं अनुराग समाज की सांस्कृतिक पहचान का प्रतीक है। कार्यक्रम का संचालन हिन्दी की विभागाध्यक्ष डॉ. मनोरमा अग्रवाल ने किया। उन्होंने बताया कि मातृभाषा जहाँ एक ओर अभिव्यक्ति के गूढतम विचारों को समझने का सहज माध्यम हैं, वहीं दूसरी ओर उसमें सृजनषीलता की अपार संभावनाऐं

		निहित होती है। अतिथियों का आभार डॉ. आराधना कौरव ने व्यक्त किया।
`	Photo of Activity:	राष्ट्रीय वेबिनाररू राष्ट्रीय नई शिक्षा नीति में भाषा और संस्कृति का स्थान 
8.	Poster of Activity	
9	List of Participants	Enclosed

Activity In charge

EXTENSION AND OUTREACH PROGRAM

S. No	Component/Activities	Details
1	Name of the Department / Unit / Agency:	Microbiology & Botany
2	Name of the Activity:	Science Teaching In Hindi Challenges And Opportunities
3	Name of the Scheme:	SEMINAR
4	Date and Year of the Activity:	07th June, 2022
5	Number of Students Participated in the activity:	53
6	Report of the Activity (in 100 words):	One day Seminar was organized by Department of Microbiology & Department of Botany, Govt. Holkar Science College, Indore with the collaboration of Azim Premji Foundation to introduce the Science teaching in Hindi language. The keynote speakers of the event were Dr. Arvind Gupte, Mr. Falguni Sarangi, Dr. Kishore Panwar & Dr. Ashok Sharma. All the faculty members of Microbiology and Botany were attended the seminar. Dr. Suresh T Silawat gave his blessings and the Head, Department of Microbiology & Botany Dr. Sanjay Vyas introduce the Seminar. Vote of thanks delivered by Dr. Sanjeeda Iqbal.
7	Poster of Activity	

8	List of Participants	 

शासकीय होलकर विज्ञान महाविद्यालय, इन्दौर
एवं
अजीम प्रेमजी फाऊडेंशन
के संयुक्त तत्वाधान में एक दिवसीय कार्यशाला
हिंदी में विज्ञान शिक्षण : चुनौतियां एवं संभावनाएं
दिनांक : 07 जून 2022

S.N.	NAME	DEPARTMENT/ COLLEGE	SIGNATURE
26	DR Rachna Dubey	Chemistry Deptt.	
27	DR. Anupam Saxena	Chemistry Deptt.	
28	SUNIL Kumar Sharma	Mathematics	
29	Vivek Rawat	Mathematics	
30	Dr. Rajnish Jain	Mathematics	
31	Dr. Kanhaiya Ahuja	Economics (DAVV)	
32	Dr. Rajshri somani	Chemistry (HSC)	
33	Dr Vijayshri Nimje	Chemistry (Holkar Sc College)	
34	Dr Sumati Hajela		
35	POOJA VERMA	MATHS (Holkar Science College)	
36	Sapna Tamrakar	-do-	
37	Arti Dayma	Chemistry Department	
38	Dr Babita Singwal	Botany department	
39	DR. N. KAURAV	PHYS. HOLKAR	
40	Dr. Neha Sharma	Microbiology Department	
41	Rayaba Nimra Ansari	Botany.	
42	Nasreen Qureshi	Botany	
43	Aastha Shrivastava	Botany	
44	Dr Manju Mishra	Mathematics	
45	Dr. Saraswati Sisodiya	Botany	
46	Dr. Anjali Bala Bajpai	Biochemistry	
47	Dr. Aparna Gandhe	Chemistry	
48	Dr Anamika Jain	chemistry	7/6/22
49	Dr B Chouhan	Physics / Holkar College	
50	Dr Nidhi Parmar	Physics / HSC	

शासकीय होलकर विज्ञान महाविद्यालय, इन्दौर
एवं
अजीम प्रेमजी फाऊडेंशन
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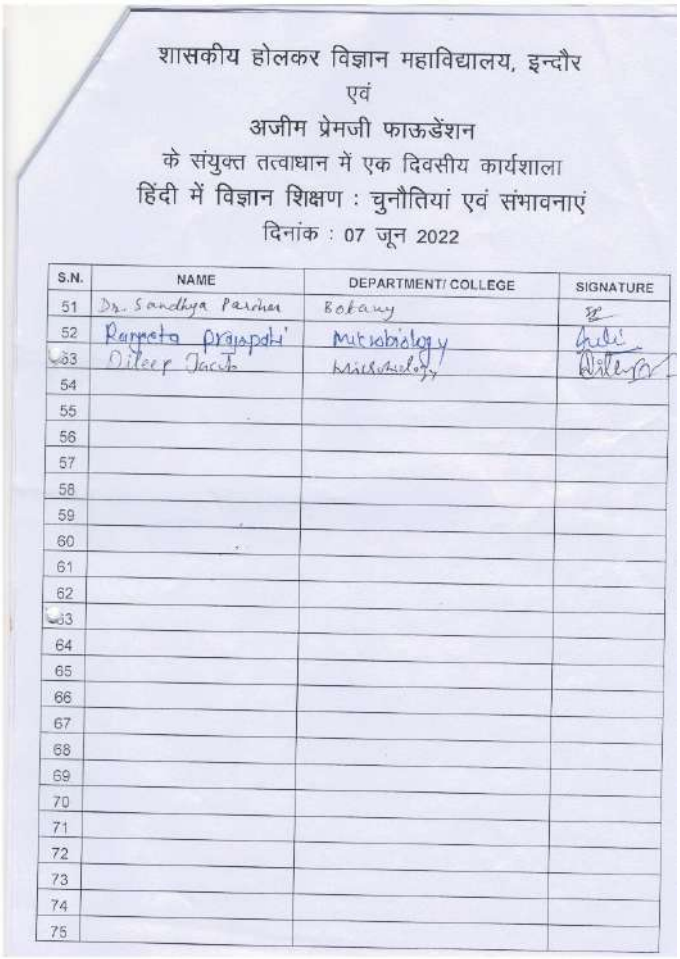
दिनांक : 07 जून 2022

S.N.	NAME	DEPARTMENT/ COLLEGE	SIGNATURE
1	Uday Chitnis	Botany Dept. H Sc. College	
2	Sheetal Malviya	Physics Dept. HSC Indore	
3	Dr. Pramila Sodhar	Botany Dept. HSC Indore	
4	Dr. Smita Dubey	Botany Dept. HSC Indore	Dubey
5	Dr. KISLAYA PANCHAL	Botany Dept. HSC Indore	7/6/22
6	Prof Tasneem Kanjwala	Biochemistry Dept. HSC Indore	
7	Prof. Sheetal Dikey	Dept. of Biochemistry	
8	Dr. BHAVNA SHARMA	Dept. of Biochemistry	
9	Dr. Deepti Khare	Dept. of Microbiology	
10	Anuja Sharma	Dept of Microbiology, HSC	
11	Hema Yadav	Dept of Mathematics H HSC	
12	Dr Vivek Bhargava	Department of statistics, HSC Indore	
13	Smt chitra Ramteke	Dept. of Mathematics, HSC Indore	
14	Sangita Tomar	Dept of Mathematics HSC Indore	
15	Dr. Naresh Patel	Dept. of Mathematics, HSC Indore	
16	Dr Amit Gupta	Dept of Mathematics HSC Indore	
17	Vinita Ishwar	Dept. Of Chemistry GHSC	
18	Dr Rekha Killedar	Holkar Sc College, Indore	
19	Dr Rekha Agrawal	Chemistry / Holkar Sc College Indore	
20	Dr Neelima Pradhan	Chemistry / Holkar Sc College Indore	
21	Dr Pushpa Makwane	Chemistry Holkar Sc. college Indore	
22	Dr. Kiran Bilthare	Zoology Govt Holkar Sc. College Indore	
23	Dr REKHA SHARMA	Zoology Holkar College Indore	7/6/22
24	Dr N.K. Jain	Botany Holkar college Indore	
25	Dr L Tantuway	Chemistry Holkar college	7.6.22



शासकीय होलकर विज्ञान महाविद्यालय, इन्दौर
एवं
अजीम प्रेमजी फाऊंडेशन
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हिंदी में विज्ञान शिक्षण : चुनौतियां एवं संभावनाएं
दिनांक : 07 जून 2022

S.N.	NAME	DEPARTMENT/ COLLEGE	SIGNATURE
51	Dr. Sandhya Parihar	Botany	
52	Rupeta Prajapati	Microbiology	
53	Dileep Jacob	Microbiology	
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Dr. Sanjay Vyas
Prof. & Head
Dept. of Microbiology

हिन्दी भाषा विभाग, शा. होलकर (आदर्श, स्वशासी) विज्ञान महाविद्यालय, इन्दौर

(Showcasing our enriched local and Indian languages by Students)

शासकीय होलकर विज्ञान महाविद्यालय प्रदेश में ही नहीं, देश में भी अपनी एक अलग पहचान बनाये हुए हैं। जहॉ प्रदेश के विभिन्न भागों से यहां विद्यार्थी आते हैं। हिन्दी भाषा के अतिरिक्त अन्य भाषा–भाषी विद्यार्थी भी यहां अध्ययनरत है। विज्ञान महाविद्यालय होने के कारण यहां साहित्य विषय का अध्यापन नहीं होता फिर भी हिन्दी विभाग हमेशा प्रयत्नरत रहता है, कि हिन्दी के अतिरिक्त अन्य भाषाओं से भी विद्यार्थी परिचित हो तथा हमारी भाषा समृद्ध हो इसलिए विभाग प्रदेश की अन्य लोकभाषाओं से भी विद्यार्थियों को परिचित कराने व विद्यार्थियों की सृजन क्षमता को बढ़ाने के लिए लोकभाषायें हो चाहे अन्य भाषायें विद्याथियों से अपनी भाषा व बोली में रचनायें मंगवाकर अन्य विद्यार्थियों से चर्चा करते हैं। इस प्रकार अन्य विद्यार्थियों को भी इससे लाभ होता हैं, वे हिन्दी के साथ–साथ अन्य भाषाओं से भी परिचित होते है, तथा उनका ज्ञान बढता हैं। तथा भाषा भी समृद्ध होती हैं। इसलिए हिन्दी विभाग द्वारा दिनांक 25/08/2022 को भी इस प्रकार का एक आयोजन किया जिसमें अनेक विद्यार्थियों ने अपनी मातृभाषा में अपनी रचनायें प्रस्तुत की। भाग लेने वाले विद्यार्थियों के नाम इस प्रकार है–

क्र.	विद्यार्थीयों के नाम	कक्षा	रचना का नाम	भाषा
1.	मोना जाधव	बीएससी तृतीय वर्ष, B-13	छठ गीत	भोजपूरी लोकगीत
2.	मोना जाधव	बीएससी तृतीय वर्ष, B-13	गणगौर गीत	निमाड़ी लोकगीत
3.	खुशी पाण्डेय	बीएससी तृतीय सेमेस्टर, (द्वितीय वर्ष) B-10	ऊँ कार स्वरूपा.....	मराठी
4.	शीदरा रैहमान	बीएससी तृतीय सेमेस्टर, B-10	दिन कुछ ऐसे गुजरता हैं.....	उर्दू
5.	सादाफ नाज़	बीएससी तृतीय सेमेस्टर, B-10	मंजिल से आगे बड़कर मंजिल तलाश कर....	उर्दू
6.	दर्षिता नेहलानी	बीएससी तृतीय सेमेस्टर, B-10	जपुजी साहिब जी....	पंजाबी
7.	लोकेश साहू	M-9	गलियन–गलियन फिरे मनहारिन.....	बुन्देली कविता

8.	आशुतोष पाटीदार	–	गणपति ऐसी सुमर गणपति.....	मालवी
9.	मानसी रक्षा	बीएससी तृतीय वर्ष, M-9	सीधी सादी, कसी लुगायां हैं,.....	मलवी
10.	कपिल सिंह ठाकुर	बीएससी तृतीय वर्ष, M-9	मथुरा मे जन्में नंद के कुमार खुल गई बेड़ी.....	बुन्देली
11.	यश पाटीदार	B-6, Microbiology	भाड़ा ना मकान मा	गुजराती गीत
12.	कृति दीक्षित	बीएससी तृतीय वर्ष, B-6	माय मक नई भाव मूंग की दाल	निमाड़ी गीत लोकगीत
13.	रजत तोमर	बीएससी तृतीय वर्ष, M-5	पम्– पम मोटर बाजी...	मालवी गीत
14.	मनसी रक्षा	बीएससी तृतीय वर्ष, M-9	कहावतें एवं पहेली	बघेली
15.	कपिल सिंह ठाकुर	बीएससी तृतीय वर्ष, M-9	पहेली	निमाड़ी
16.	जगदीप लोधी	बीएससी तृतीय वर्ष, M-7	जन्म दइयो विधाता बुंदेलखण्ड में	बुंदेलखण्ड़ी गीत

डॉ. मनोरमा अग्रवाल
विभागाध्यक्ष, हिन्दी विभाग

लोकगीत- भोजपुरी भाषा

छठ गीत

उठा हे सुरुज देव भइले भिनु अरवा
अरघ केरे बिरवा पुजन केरे बिरवा हो...
परती पुकारे देव हुनु करअ जोरवा
अरघ केरे बिरवा पुजन केरे बिरवा हो...
घूरिया घियाअ सही रही के उपाअ हो
मनवा में दर्शन के लागल बा आस हो
बाझीन पुकारे देव हुनु करअ जोरवा
अरघ केरे बिरवा पुजन केरे बिरवा हो...
दीनानाअ दीनहीन के रऊए गोसाई
महिमा पानेला जग करेला सब हुहाई
निर्धन पुकारे देव हुनु करअ जोरवा
अरघ केरे बिरवा ~~हे~~ पुजन केरे बिरवा हो...

नाम :- मोना जाधव
Section :- B-13
Mo. 9179941759

लोकगीत-निमाड़ी भाषा

गणगौर गीत

i] रणुबाई का आँगणा म लिमड़ो हो__।
वहाँ बड़ी कपिला गाय हो सहेली__।
चल सखी देखण जांवा__①
पारो नी खाय माता पाणी नी पेअ वो।
देअव सवा घड़ो दुध ओ सहेली__।
चल सखी देखण ज्यांवा__①

दुधवार म्हारी रणुबाई न्हाव
मली मली धत लम्बा केश ओ सहेली।
चल सखी देखण ज्यांवा__①

ii] घाटी चढ़ीन हाँऊ हारी ओ चन्द्या
कजी भरी लाऊ जमना को पाणी__
घर म्हारो दूर घाघर म्हारी भारी
घाटी चढ़ीन हाँऊ हारी ओ चन्द्या
कजी भरी लाऊ जमना को पाणी__
पियर को बेड़ो चढ़ाउती टीकी
जयण की पारी हाँऊ पाड़ी ओ चन्द्या
घोड़ा बड़ी न धनीयर जी भासा__②
रणुबाई करअ सांगार ओ चन्द्या
कजी भरी लाऊ जमना को पाणी__

mo. 9179994799

नाम :- मोना ध्याद्या
section- B-13

Class :- BSC III Sem
(Second Year)

Experiment
Name .....

Name - Ankushi Pandey
Sec :- B10 (Micro).

इंग्रजी - मराठी
Language - Marathi

ॐ कार स्वरूपा, सद्गुरु समर्था ।
अनाथाच्या नाथा, तुज नमो ।
तुज नमो, तुज नमो, तुज नमो ॥१॥

नमो मायबापा, गुरुकृपाघना ।
तोडी या बंधना मायामोहा ।
मोहोजाळ माझे कोण नीरशील ।
तुजविण दयाळा सद्गुरुराया ॥२॥

एका जनार्दनी गुरु परब्रह्म ।
तयाचे पैनाम सदामुखी ॥३॥

Teacher's Signature .....

Name:- Sidra Rehman Date 24/8/22

Expt. No. ..... B. Sc. III Sem Page No. .....

Sec:- B 10 / Sub:- Microbiology

دن کچھ ایسے گزارتا ہے کوئی
جیسے احسان اتارتا ہے کوئی

دل میں کچھ یوں سنبھالتا ہوں غم
جیسے زیور سنبھالتا ہے کوئی

آئینہ دیکھ کر تسلی ہوئی
ہم کو اس گھر میں جانتا ہے کوئی

پیڑ پر پک گیا ہے پھل شاید
پھر سے پتھر اچھالتا ہے کوئی

دیر سے گونجتے ہیں سناٹے
جیسے ہم کو پکارتا ہے کوئی

گلزار صاحب

रचना का हिंदी अनुवाद

दिन कुछ ऐसे गुजरता है कोई।
जैसे एहसास उतरता है कोई

दिल में कुछ यूं संभालता हूं गम
जैसे जेवर संभालता है कोई

आईना देखकर तसल्ली हुई।
हम को इस घर में जानता है कोई

Teacher's Signature .....

Experiment

Name .....

पेड़ पर पक गए हैं फल रसदार
फिर से पत्थर उछालता है कोई
दूर से गुजरता है सन्नाटा
जैसे हम को पुकारता है कोई।

Teacher's Signature .....

Name:- Sadaf Naaz , Section - B10 Date 24/08/20

Expt. No. ..... BSC III Sem Page No. .....

علامہ اقبال

منزل سے آگے بڑھ کر منزل تلاش کر
مل جائے تجھ کو دریا تو سمندر تلاش کر

ہر شیشہ ٹوٹ جاتا ہے پتھر کی چوٹ سے
پتھر ہی ٹوٹ جائے وہ شیشہ تلاش کر

مسجدوں سے تیرے کیا ہوا صدیاں گزر گئیں
دنیا تیری بدل دے وہ سجدہ تلاش کر

خودی کو کر بلند اتنا کہ ہر تقدیر سے پہلے
خدا بندے سے خود پوچھے بتا تیری رضا کیا

علامہ اقبال

Teacher's Signature .....

Experiment

Name .....

रचना का हिंदी अनुवाद

मंजिले से आगे बढ़ कर मंजिल तलाश कर

मंजिल से आगे बढ़कर मंजिल तलाश कर
मिल जाए तुझ को दरिया समंदर तलाश कर
हर शीशा टूट जाता है पत्थर की चोट से
पत्थर टूट जाए वो शीशा तलाश कर
सजदो से तेरे क्या हुआ सदियां गुजर गयी!
दुनिया तेरी बदल दे वो सजदा तलाश कर

खुदी को कर बुलंद इतना कि हर तकदीर से पहले
खुदा बंदे से खुद पूछे बता तेरी रजा क्या है।

अल्लामा इकबाल

Teacher's Signature .....

Name :- Darshita Nehlani Date .....

Expt. No. ..... Sec. :- BSc 3rd sem B10 (Micro) Page No. .....

Language :- Punjabi (Gurmukhi)

जपुजी साहिब जी

ੴ

ਸਤਿ ਨਾਮੁ ਕਰਤਾ ਪੁਰਖੁ
ਨਿਰਭਉ ਨਿਰਵੈਰੁ
ਅਕਾਲ ਮੂਰਤਿ ਅਜੂਨੀ ਸੈਭੰ
ਗੁਰ ਪ੍ਰਸਾਦਿ ॥

॥ ਜਪੁ ॥

ਆਦਿ ਸਚੁ ਜੁਗਾਦਿ ਸਚੁ ॥
ਹੈ ਭੀ ਸਚੁ ਨਾਨਕ ਹੋਸੀ ਭੀ ਸਚੁ ॥

੧॥

ਸੋਚੈ ਸੋਚਿ ਨ ਹੋਵਈ ਜੇ ਸੋਚੀ ਲਖ ਵਾਰ ॥
ਚੁਪੈ ਚੁਪ ਨ ਹੋਵਈ
ਜੇ ਲਾਇ ਰਹਾ ਲਿਵਤਾਰ ॥
ਭੁਖਿਆ ਭੁਖ ਨ ਉਤਰੀ ਜੇ ਬੰਨਾ ਪੁਰੀਆ ਭਾਰ ॥
ਸਹਸ ਸਿਆਣਪਾ ਲਖ ਹੋਹਿ ਤ ਇਕ ਨ ਚਲੈ ਨਾਲਿ ॥
ਕਿਵ ਸਚਿਆਰਾ ਹੋਈਐ ਕਿਵ ਕੂੜੈ ਤੁਟੈ ਪਾਲਿ ॥
ਹੁਕਮਿ ਰਜਾਈ ਚਲਣਾ ਨਾਨਕ ਲਿਖਿਆ ਨਾਲਿ ॥੧॥

Vijayalaxmi

Teacher's Signature .....

नाम - लोकेश साहू
कक्षा - m9
मो. - 9630128625

राजहंस
Date
Page

बुन्देली कविता

गलियन - गलियन फिरे मनहारिन
ले लियो कोऊ ललन को खिलौना
अपने महल से यशोदा रानी बोली
दे जाओ तुम ललन को खिलौना। गलियन.....

आओ मनहारिन, बैठो आंगन मे

अर्थ

प्रथम पंक्ति मे गलियन - गलियन अर्थात् गली - गली में घूम रही मनहारिन यहा मनहारिन अर्थात् बच्चो के खिलौने बेचने आई महिला से है
पंक्तिओ मे बताया गया है कि बच्चो के खिलौने बेचने आई महिला गली - गली मे घूम कर बोल रही है कि बच्चो के खिलौने ले लो एक घर से महिला बोली कि दे जाओ बच्चो के खिलौने। फिर मनहारिन को यशोदा को अपने आंगन मे बुलाया और बैठाया।

मालवी

गणपति

ऐजी सुमर गणपति को ध्यान
म्हारा गरबा मे वेगा आवजोजी
साथे तम रिद्धि-सिद्धि लावजोजी
म्हारा गरबा मे वेगा आवजोजी
कंकुना पगल्या पधार जो
म्हारा गरबा में वेगा आवजो

अर्थ = गणपति जी का ध्यान
मेरे गरबे मे जल्दी पधारना
साथ साथ मे रिद्धि-सिद्धि कोभी लाना
मेरे गरबे मे जल्दी पधारना
आपके शुभ चरणों को आना
मेरे गरबे मे जल्दी पधारना

नाम = आशुतोष पाटीदार
Mo: 9981487348.

Date: / / Page no:

मगही :

* कहावतें :

(1) आँधर के आगे रोबें, आपन दीदा खोबें'
(2) आँखी न कान कजरउटा नौ दे'
(3) नाम लखेसुर मुँह कुकुर कस
(4) सेत का चंदन, घिस मोरे नंदन
(5) भागमानी कर हर भूत जोतें।

* पहेली :

(1) आरिया भा लोलरिया झाँके ?
(2) उज्जर कुकरी का हरियर पूंछ ?
(3) जाबे ता जाबे, दइके जाबे ?
(4) होएकुन लइका उलग-बुलग के पार बाँधे।
(5) येंह गउना कइ कइसन रीति,
आधी उत्ती, आधी सीधी ?

नाम - मोनसी रक्षा।
B.S.C - III
सेन्सान (Mg)

Date : Page :

बुन्देली :—

मथुरा मे जन्मे नंद के कुमार ..
खुल गई बेड़ी खुल गये किवाड़
पहरुआ सो गये द्वार ।
मथुरा मे जन्मे नंद के कुमार ...
गरजे औ बरसे घटा घनघोर ले के
वासुदेव चले गोकुल के द्वार ।

हिन्दी :—

मथुरा में नंद के पुत्र श्री कृष्ण का जन्म हुआ तब वासुदेव जी को बंधी बेड़िया और काल कोठरी के दरवाजे स्वत: खुल गये, जो पहरेदार पहरा दे रहे थे वे सभी सो गये। बादल गरजते हुए बहुत तीव्रता से बरस रहे थे उस समय वासुदेव नंद के गाँव गोकुल (नंद के घर) श्री कृष्ण को छोड़ने आये

नाम — कपिल सिंह ठाकुर

B.Sc. III Year

Sec — M9

Gujrati Geet (Folk geet)

{ झाड़ा ना मकान मा }

{ 26/08/22 }

॥ हे रया ना राना राजीया , सुर नर मुनीवर समेत
हे लाजी हाथ म् , चैत नर तू चैत ॥

हे अड़धु रे आखयु थारू टीवी म गई नी थारू
अड़धु म्यू फोन मा

ऐ जी मन मा तो गीतड़ा फीलम ना वागे
धारा केहवा ना मन मा

तू तो दर्शन मांगे दूकान मा , जीव सीड़ ने फरे
छे मुमान मा , गुमान मा .

धारे रेवू रे झाड़ा ना मकान मा

ए वाला समझी लेजे तु आसान मा , आसाम मा
थारे रेवू रे झाड़ा ना मकान मा .

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दिनांक - 27/08/2022

- नाम - कृति दीक्षित
- कक्षा - बी. ए.सी तृतीय वर्ष (III rd) year
- विभाग - B6
- मोबाइल नं. - 7772045219

भाषा - निमाड़ी

- निमाड़ी मध्यप्रदेश के निमाड़ क्षेत्र की बोली है।
- निमाड़ी बोलने वाले जिले हैं - बड़वानी, खंडवा, धार, पूर्वी निमाड़, पश्चिमी निमाड़ एवम् हरदा जिले के कुछ भाग तथा कई गाँव ऐसे हैं जिनमे निमाड़ी बोली जाती है।

निमाड़ी गीत (लोकगीत) [माय मक नई भाव मूंग की दाल

→ माय मक नई भाव मूंग की दाल पातलई x2
ओ भाभी मक नई भाव मूंग की दाल पातलई ||
माय मक नई भाव मूंग की दाल पातलई

अरे हव खई खई न हुई गई सावली x2
अरे हव खई खई न हुई गई सावली

मम्मी मक हो, पप्पा मक नई भाव मुंग की दाल पातलई
माय मक नई भाव मूंग की दाल पातलई

सासु डराव मक, ससरो डराव x2
अरे ननद डराव खंडवा वाली
माय मक नई भाव मूंग की दाल पातलई
मम्मी मक हो, पप्पा मक नई भाव मूंग की दाल पातलई

खेत में लइजाम मक ,मेर-मेर दबड़ाव x2
मेर मेर दबड़ाव , मक . मेर-मेर दबड़ाव ।
अरे म्हारा पैर न म भरई गई साँवली x2
माय मक नई भाव मूंग की दाल पातली
पप्पा मक नई भाव मूंग की दाल पातलई ॥

मालवी गीत

पम- पम मोटर बाजी,
गाँव अईग्यो कई।
छम- छम घुंघरा बाज्या,
लाड़ी अईगी कई।
रेशम को झूलो लाग्यो,
नानो बईग्यो कई।
नवा घर में चिमनी लागी,
धुंआरा बइग्या कई।
थप- थप रोटा थेपे,
घी कोनि कई।
खट- खट खाड़ा बाज्या
माड़साब आईग्या कई।
माथो पकड़ी ने क्यों बैठ्यो,
भड़्यो कोनि कई।

Ranjeet
रंजीत तोमर 115
बी. एस. सी. फायनल

कसी लुगाया है —. Date: / / Page No.:

मालवी :-

सीधी सादी, कसी लुगायां है
भोली भाली, कसी लुगायां है
जनम की मां, करम की अन्नपूर्णा
भूखी तरसी, कसी लुगायां है
गूंगी-गेली, वखत की मारी है
खूंटे बांधी, कसी लुगाया है
फांसी-फन्दो, तोल न तिट्टूं
लाय लागी, कसी लुगाया है।

अर्थ — महिलाएं कैसी है —

हिन्दी :—

सीधी साधी, कैसी महिलाएं है,
भोली भाली महिलाएँ है।
जनम से मां, करमा कर्मों से अन्नपूर्णा है,
~~अ~~ भूखी रहती है, तरसती है।
~~न~~ एक दम मौन रही है महिलाएं।
~~एक स गाय की तरह है~~
खूंटे से बंधी गाय के समान है।
वक्त की ~~कमी~~ का अभाव है। (Poor time)
~~परेशान स है~~ कीचन में व्यस्त रहती है,
परेशान है महिलाएं।

Name - Mansi Rakesh
Section - M.A.
B.Sc ~~III~~ 4th year

कपिल सिंह ठाकुर Kapil Thakur

BSC III m 9

निमाड़ी में पहेली को प्रहेली एवं बुझौवल भी कहते हैं।

निमाड़ी पहेली-

1. अत्तिस नाडा बत्तीस नाड़ा,
डोगर गड़ दरवाजो।

2. अल्लो सो मनीराम, अल्ली बड़ी प्रूंछ,
अन गयो मनीराम, पकड़ लाओ प्रूंछ।

3. एक गड़ू बत्तिस लाडू

4. एक छोरी राम रखड लोट

5. गायक चलती जाय, दूद पड़तो जाय।

लोकोक्ति :-

1. देनों न भूदो लड़नों।
2. करी लियो सो काम, लिये सो राम
3. एक तवा की रोटी, कोई छोटी कोई मोटी
4. दया को भूल धरम पाप को भूल भरम।
5. एक बेटी माया नेकी।

मुहावरे :-

1. आग बचणू।
2. कान उमटनों।
3. मन म रखनो।
4. कलेजा खाणो।
5. कम्मर तोड़नों।

बुंदेलखण्डी गीत

Date: / / Page no:

जन्म दइयो विधाता बुंदेलखण्ड में

ऐसी माटी ना भारत के खण्ड-खण्ड में
जन्म दइयो विधाता बुंदेलखण्ड में
दिवस नाम ओरछा में वास करे रघुवर
और हरदौल महैर की माई जता शंकर
छीर सागर की गहराई भीम कुण्ड में
जन्म दइयो विधाता बुंदेलखण्ड में
चित्रकूट तूयो भूमि पावन पुनिता
और वर्षों तक रमें रहें राम और सीता
देव लालचत रहें आवे को येई खण्ड में
जन्म दइयो विधाता बुंदेलखण्ड में
छत्रसाल वीर लक्ष्मीबाई सी माटी और
मस्तल महाराजा मरदन सिंह आला कथा त्यारी
न्यारी शक्ति है कुण्डेश्वर के येई कुण्ड में
जन्म दइयो विधाता ~~कुण्ड~~ बुंदेलखण्ड में
जन्म दइयो विधाता बुंदेलखण्ड में।

Nirvaniya

नाम जगदीप लोधी
पिता - मुन्नालाल लोधी
कक्षा - B.Sc. IIIrd year
वर्ष - M-7
मो० नं० - 7804029556