



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

Department of Computer Science

Semester-VI

B.C.A.

2018-21 Academic Year Onwards



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

Department of Computer Science

BCA PART VI Semester – Scheme : 2018-21 and Onwards

Course of studies for the BCA – VI Semester

BCA – VI Sem Course

SCHEME OF MARKS

Course	Theory Max. Marks		Practical Max. Marks	Max. Marks	Min. Marks
	Internal	External			
BCA – 601 Computer Graphics and Multimedia	15	85	--	100	5 + 28
BCA -602 Computer Oriented Numerical Methods	15	85	--	100	5 + 28
BCA -603 Microprocessor & Assembly Language Programming	15	85	--	100	5 + 28
BCA -604 Principals and Practices of Management	15	85	--	100	5 + 28
BCA -605 Project	--	--	50	50	17
BCA -606 Practical (Computer Graphics)	--	--	50	50	17
BCA -607 Practical (CONUM using C Language)	--	---	50	50	17
BCA – 608 Practical(Microprocessor & Assembly Language Programming)			50	50	17
Total Marks	60	340	200	600	--

[Handwritten signatures and initials in blue ink, including a date '25/07/18' and various scribbles.]



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

Department of Computer Science

Semester-VI

BCA - 601 : COMPUTER GRAPHICS & MULTIMEDIA

Min. Marks: 28

Max. Marks: 85

UNIT - I

Pixel, frame, buffer, application of computer graphics, Raster Graphics fundamentals.

Display Devices- Random Scan, Raster Scan Monitors, Color CRT Monitor, DUST and Plasma Panel.

UNIT - II

Graphics Primitives : Algorithms for line Generation, circle generation, polygon generation and polygon filling algorithm, Anti aliasing 2D Transformation : Translation, Scaling, Rotation, Reflection, homogeneous Coordinates.

UNIT - III

3-D Transformation : Translation, Scaling, Rotation, windowing & clipping windows, view port, line clipping, polygon clipping, windows & view port transformation.

Display file, Segment table, Segment creation, deletion, rename,

UNIT - IV

Multimedia :

Text - Font, Faces, animating Text, Hyper Text.

Sound : MIDI, Digital audio basics, auto file formats, audio editing, MCI-multimedia control interface.

Image - Bitmap, Vector drawing, color palate, concept of 3D Modeling, Image file formats (BMP, JPG)

Animation : principle of animation, cell animation, kinematics, morphing.

UNIT - V

Video - Broadcast video standards (NTSC, PAL), Integrating computer and television, video capture board, video, colour, shooting and editing video, recording formats 9S-VHS) video hardware resolution, video compression (JPEG, MPEG), Hard copy devices: Printers & plotters, Input devices : mouse, Trackball, Light pen, Scanner, Digital Camera.

TEXT BOOK:

Computer Graphics : Donald Hearn and M. Pauline Baker, Prentice Hall India

REFERENCE BOOKS :

1. Multimedia Making it Works, 3rd Edition, Tay Vatighan, Tata Mc-Graw-Hill New Dehli.

Handwritten signatures and dates:

25/07/18



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

Department of Computer Science

Semester-VI

BCA – 602 COMPUTER ORIENTED NUMERICAL METHODS (USING “C” LANGUAGE)

Min. Marks: 28

Max. Marks: 85

UNIT – I

NUMERICAL COMPUTATIONS :

Computer Arithmetic : Floating Point Number Operations, Normalization and their consequences.

Iterative Methods : Bisection Methods, False Position Methods, Newton Raphson

Method, Secant Method, Graffes Root Squaring Method, Convergence of Solution

UNIT – II

Simultaneous Liner Equation : Solution of Simultaneous Liner Equation – Gauss Elimination Method,

Gauss – Seidal Method, Gauss – Jordan Elimination Method, Triangularization Method & Pivoting

Condensation, III Conditioned Equation & Refinement of solution

Curve Fitting : Curve Fitting Method, Least Curve Fitting, Non Linear Curve Fitting.

UNIT-III

Difference Operators And Interpolation : - Definition Of Forward, Backward, Shifting, Divided,

Difference Central and Averaging Operators and their Relationships. Newton's Forward Interpolation

Formula, Newton's backward Interpolation Formula Newton's divided Interpolation Formula.

Lagrange's Interpolation Formula.

UNIT – IV

Numerical Differentiation : Numerical Differentiation using Newton's Forward Interpolation Formula,

Newton's Backward Interpolation Formula Newton's divided Interpolation Formula.

Numerical Integration : General Quadrature Formula, Newton- Cote's Formula, Trapezoidal Rule,

Simpson's one Third Rule, Simpson's Three Eight Rule.

UNIT – V

Numerical Solutions of Ordinary Differential Equations : Euler's Method , Euler's

Modifies Method. Tailor's Series Method, Picard's Method, Runga Kutta Second

Order and Fourth order Method.

TEXT BOOK:

V. Rajaraman, Computer Oriented Numerical Methods, Prentice Hall, India.

REFERENCE BOOKS:

1. S. S. Sastry, Introductory Methods of Numerical Analysis. M. K. Jain, S.R.K. Iyengar & R. K. Jain, Numerical Methods for Scientific and Engineering Computation.

2. H. C. Saxena, Finite Differences and Numerical Analysis.

3. Modes A., Numerical Analysis for Computer Science.

4. Numerical Analysis by gupta and malik . (TEXT)

5. Numerical Analysis by Shastri

6. Computer based Numerical Algorithm by Krishnamurthy.

①

②

③

④

⑤

⑥

A

A

A

⑦

marks

25/05/18



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

Department of Computer Science

Semester-VI

BCA – 603: MICROPROCESSOR & ASSEMBLY LANGUAGE PROGRAMMING

Min. Marks: 28

Max. Marks: 85

UNIT - I

Microprocessor Architecture: Architecture & Programming of 8085, Organization of CPU, Various Addressing modes.

UNIT – II

Programming: Assembly Language Programming, Instruction and data flow, Instruction set of 8085.

UNIT -III

Interfacing memory and I/O devices: Memory interfacing, various Schemes, Address space partitioning, interfacing Technique with various I/O Devices, latches and Tristate Buffer.

UNIT – IV

Interfacing Devices & Peripheral Subsystems: Programmable Peripheral 8155 & 8255, their features, programming and applications, keyboard controller 8279.

UNIT – V

APPLICATION: Microcontrollers. Architecture of 8051 micro-controller, Comparison of microprocessor of different series

TEXT BOOK:

Microprocessor Architecture Programming and Application with 8085, Willey Eastern Limited By R.S Gaonkar

REFERENCE BOOKS :

1. Microprocessor Family 8086/8088: Liu & Gibson
2. Introduction to microprocessor Software , Hardware & Programming , PHI. By L. A. Laventhal.

[Handwritten signatures and initials in blue ink, including a date stamp '25/09/18']



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

Department of Computer Science

Semester-VI

BCA – 604 PRINCIPLES AND PRACTICES OF MANAGEMENT

Min. Marks: 28

Max. Marks: 85

UNIT – I

The Nature of Management : Definition and role of management , Functions of Manager, Scientific Management, Human Relations school of Management, Contingency Theory of Management.

UNIT –II

Planning : Nature and Purpose of Planning, Components of Planning, objective of Business Management by Objectives, Forecasting, Decision Making, Policy Formulation and Strategies.

UNIT –III

Organizing : Nature of Purpose of Organizing, Departmentation, Span of management, Delegation of Authority, Line and Staff Relationships.

UNIT –IV

Directing Process: Principles of Direction, Problems in Human Relation, Strategies for Establishing Healthy Human Relations.

UNIT – V

Control : Meaning and Process of Control, Control Techniques.

TEXT BOOK:

Principles of Management : Harold Koontz, O'Donnel and Heinz Welhrich New York: McGraw Hill Book Co

REFERENCE BOOKS:

1. Stoner, Freeman and Gilbert Jr., "Management", PHI, 6th Ed.
2. Organization and Management Concepts : R.D. Agarwal, New Dehli, Tata McGraw Hill. 1995
3. Robbins and Coulter, "Management", PHI, 8th Ed.
4. Robbins S. P. and Decenzo David, "A. - Fundamentals of Management: Essential Concepts and Applications", Pearson Education, 5th Ed.
5. Hillier Frederick S. and Hillier Mark S. - Introduction to Management Science: A Modeling and Case Studies Approach with Spreadsheets, Tata McGraw Hill, 2nd Ed., 2008.

[Handwritten signatures and initials in blue ink, including a date '25/01/18' and the name 'Anand']