PROGRAMME GUIDE

DISTANCE EDUCATION PROGRAMMES

BACHELOR OF COMPUTER APPLICATIONS (BCA)

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DR. C. V. RAMAN UNIVERSITY

INSTITUTE OF OPEN AND DISTANCE EDUCATION (IODE)

KARGI ROAD, KOTA, BILASPUR, CHHATTISGARH

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ABOUT UNIVERSITY

Dr. C. V. Raman University was established on 3 November, 2006, in the district of Bilaspur, Chhattisgarh by the "All India Society for Electronics and Computer Technology" (AISECT), the Sponsoring Body. The University was named after the first Nobel Laureate of the country in the field of science – Dr. C. V. Raman, an Indian physicist efforts influenced in the growth of science in our country. The University's principle goal is to evolve a new cadre of highly skilled technical professionals with deep academic insights and a strong sense of Indian 'Values and ethics', commemorating our forefathers who helped shape this nation.

The Sponsoring Body of the University-All India Society for Electronics and Computer Technology (AISECT) is an ISO 9001:2008 certified organization, established in 1985 and is today's one of The India's most reputed and trusted Education Groups which houses private Universities, Engineering Colleges, Professional Institutions & Education Centers across the country. Till date, AISECT has transformed the lives of over 19 million students and has uplifted the lives of millions of people in the community. AISECT has been lauded for its exceptional work and has won awards from the World Bank, NASSCOM, TiE, Government of India, Government of Madhya Pradesh and several others on account of its commitment to high quality education over the last 28 years. AISECT is also a partner institution with GoI, GoMP and GoCG in their Common Service Centre Program and several other projects of state and national concern.

MAIN OBJECTIVES

- Provide quality higher education and make provisions for research
- Create higher levels of intellectual abilities among our students
- Establish state-of-the-art facilities for education, training and examination, including online training
- Carry out teaching, research and offer comprehensive learning for a bright professional career
- Create centers of excellence for R&D to promote an environment of innovation and research
- Provide consultancy to public organizations and the Industry
- Award and maintain the standard of degrees, diplomas, certificates and other academic distinctions in accordance with the norms laid down by UGC, AICTE, BCI, MCI and other regulatory bodies.

RECOGNITION

- The University is recognized under Section 2(f) of the UGC Act.
- Other recognitions include AICTE, NCTE, BCI and DEB
- It is the first University in the state of Chhattisgarh to be awarded an ISO: 9001-2008 Certification.
- Membership of the Association of Indian Universities (AIU)
- NACC B+

THE FACULTIES OF STUDIES

The University has wide range of faculties which offers the traditional as well as the new era job oriented courses. The main emphasis is on providing a wide choice of courses at different levels. The following faculties currently are in operation in the University:

- Faculty of Arts
- Faculty of Commerce
- Faculty of Management
- Faculty of Science
- Faculty of Engineering
- Faculty of Information Technology
- Faculty of Education
- Faculty of Law

ABOUT INSTITUTE OF OPEN AND DISTANCE EDUCATION (IODE), CVRU

Education determines the quality of our life to a great measure, especially professional life. However, for many, in some circumstances, the path to education is ridden with many obstacles, including location, geographical inflexibility and lack of time. Fortunately, distance education is changing that scenario by providing an effective alternative platform to learn new skills and acquire a degree, such as distance education BCA, without having to attend traditional classes.

We, a UGC/DEB approved distance university (1 may 2009), offer various undergraduate and post-graduate degrees, along with a number of diplomas, which have benefitted many distance learners.

Our distance learning programmes are the shining light that many have been looking for; they unite conventional teaching approaches, including course materials in the form of books, and modern teaching methodologies, which include online access to the course. Our unique approach has made us the centre of distance education in Chhattisgarh, helping scores of professionals to obtain a degree and fly high in their careers.

With our distance learning programmes, we are bringing people into the fold of skilled workforce, which has changed the life of many.

What makes us a distinguished Chhattisgarh distance education university?

- Reaching various far-flung regions of the state through information technology
- Providing professional education, need- and knowledge-based
- Setting new national standards in distance education

IMPORTANT ACHIEVEMENTS

- AN ISO 9001: 2008 Certified University
- NIRF Ranking Under Top 200 University
- World Education Award
- Largest Network for Learning Support System.
- Declaration of Term end result Time to Time.
- Best in Skill Development Award 2015
- Best University in Open Distance and online Award 2017

ACADEMIC PROGRAMMES OFFERED BY THE UNIVERSITY IN OPEN AND DISTANCE LEARNING MODE

The University offers through the Institute of Open and Distance Education (IODE) both short term and long term programmes leading to Certificates, Diploma and Degrees, which are conventional as well as innovative. Most of these programmes have been developed after an initial survey of the demand for such Programmes in the job market. They are launched with a view to fulfil the learner's need for skill and employability.

- Certification,
- Improvement of skills,
- Acquisition of professional qualifications,
- Continuing education and professional development at work place,
- Self-enrichment,
- Diversification and updation of knowledge, and
- Empowerment.

PROMINENT FEATURES OF THE OPEN AND DISTANCE EDUCATION AT CVRU

The open and distance education at the Dr. C. V. Raman University has certain unique features such as

- Individual study - flexible in terms of place, pace and duration of study.

- Use of latest information and communication technologies.
- Modular approach to programmes.
- Cost-effective programmes.
- Socially and academically relevant programmes based on students need
- Convergence of open and conventional education systems.
- Take higher-education to the unreached sections of the society through the use of information technology.
- Provide need and knowledge-based professional education.
- Set the national standards for Distance Education.

ABOUT PROGRAMME

(A). MISSION, VISION and PROGRAMME OBJECTIVES:

MISSION

The mission of BCA programme is to provide increasing knowledge in the field of information technology and allied sectors. This programme is to distribute knowledge of computers and communication technology along with its applications across the learners, so they can serve as IT technical's, computer professionals and software developers to provide quality services in multinational organizations with reliability in the field of information technology. The main goal of the programme is to update all kind of new information related to IT field and provide it to the open and distance learner so they can go and cope up with modern technologies in IT sector.

VISION

The vision of BCA programme is to skill based computer programme for the learner of the ruler and tribal areas to enhance their skill to establish themselves in society, so that every part of the country will be able to use and participate in digital India.

OBJECTIVES

The objectives of programme related to the skill development of learners over the trends of information technology so they can secure their future and cope up with new technology. Following are the key objectives of this programme:

- To provide complete knowledge of computer and its application to the learners.
- To develop study skills among the learners so as to help them to cope with courses available in this programme.
- To develop opportunities to learner through provide proper training and lab programs so they can able to work everywhere with computer.

- To provide necessary practical exposure of self study methods so as equip learners with knowledge acquire abilities.
- To develop positive attitude into the learners and motivate them by exploring new ideas and knowledge and update their experience with new programs with the help of new domain of IT fields.
- To provide well acquired knowledge to the learners of tribal areas and their development in the fields of IT and trends.
- To meet the demands of multinational organization form the IT fields.
- To offer degree and certification programmes to the learners, this will open the furthest future opportunities for them.

(B). RELEVANCE of THE PROGRAMME MISSION and GOALS:

Dr. C. V. Raman University aims to provide high standard of liberal education to its students, catering to their intellectual growth, personality development & nurtures them to be responsible adults committed to high ethical standards through various courses offered from different fields like commerce & management, science, arts, etc in regular mode as well as Open & Distance Learning mode.

BCA programme is a UGC approved 3 years full time graduate degree programme of 120 credits divided in 6 semesters (20 credits in each semester). The BCA programme at Dr. C. V. Raman University aims to prepare students for choosing various verticals of information technology field. It provides various platforms in the field of software industries and also in the academic areas.

(C). NATURE OF PROSPECTIVES:

This program is specifically designed to cater the need of students who are not able to study through regular mode. Working Professional, Housewives, Students from rural area, Students who do not wish to prefer regular courses due to various reasons & students who cannot afford costly regular courses are target group learners. For pursuing BCA, learners have to clear their higher secondary (12^{th} class) exam in any stream.

(D). APPROPRIATENESS of PROGRAMME TO BE CONDUCT IN OPEN AND DISTANCE LEARNING MODE TO ACQUIRE SPECIFIC SKILLS AND COMPETENCE:

Our wide learning goals are intended to enhance student learning in the following areas namely communication, ethical reasoning, analytical skills, information

technology, global outlook, critical thinking, and understanding of legal systems. Upon completion of the BCA programme, learners will:

- Demonstrate professionalism, self-awareness, leadership, and effective communication skills.
- Understand ethical issues and dilemmas that businesses often face.
- Apply knowledge and skills to solve business problems.
- Understand the concepts of information technology (IT) and how IT can improve organizational performance.
- Demonstrate a global perspective and an awareness of how cultural differences impact businesses.
- Possess the skills required to integrate concepts from various disciplines to identify and develop business strategies.
- Possess the skills required to work and lead effectively in a team-based environment.

(E). EXPECTED OUTCOME

"At the end of the programme expected outcomes"

- To acquired a general knowledge, principles and mechanisms of Computer.
- To prepare the learners for employability.
- To acquired a basic knowledge of Subjects.
- To acquire techniques relevant of subjects taught.

PROGRAMME DELIVERY MODE

The methodology of instruction in the distance learning mode in the university is different from that of the conventional regular programs. The system adopted for this more learner oriented and the learner is an active participant in the pedagogical process. Most of the instructions are imparted through distance education methodology and face to face mode as per requirement. The programme delivery methodology used in the distance learning mode follows a multimedia approach for instructions, which compromises:

- **Self Instructional Written Material:** The printed study material (written in self instructional style) for both theory and practical components of the programs is supplied to the learners in batches for every course.

- **Audio-Visual Material Aids:** The learning package contains audio and video CDs which have been produced/adopted by the University for Better Clarification and enhancement for understanding of the course material given to the learners. A video programme is normally of 25-30 minutes duration. The video cassettes are screened at the leaner support centre during specific sessions which are duly notified for the benefit of the learners.
- **Counseling Sessions:** Normally counseling sessions are held as per schedule drawn by the IODE DR. C. V. RAMAN UNIVERSITY. These are mostly held outside the regular working hours of the learner support centre.
- **Teleconferences:** Live teleconferencing sessions are conducted via Internet/ satellite through interactive Video Conferencing facility (available at some places) from the University studios, the schedule of which is made available at the learner support centre.
- **Industrial Training/Practical/Project work:** Some programmes have industrial training/practical/ project component also. Practical are held at designated institutions for which schedule is provided by the learner support centre. Attendance at practical is compulsory. For Project Work, comprehensive project guide, in the form of booklet, is provided to the student along with the study material.
- The printed study materials will be dispatched periodically to the enrolled students for each paper of study. These materials will be as guide for the students for effective learning. The assignment for internal assessment shall also be dispatched along with the study material. Online modules are also available for some courses. These are in progress and as and when available, these will be available on the website of the students for registered candidates.
- The counseling sessions will be of 30 days duration for a course in a year. The actual schedule and place of contact program shall be announced and communicated to students in – time.

EVALUTION SYSTEM

The system of evaluation in open and distance learning system has a multi-tier system of evaluation.

1. Self-assessment exercise within each unit of study.
2. Continuous evaluation mainly through assignments which are tutor-marked practical assignment and seminar/workshop/extended

3. The term-end examinations.
4. Project work.

The evaluation of learners depends upon various instructional activities undertaken by them. A learner has to write assignment responses compulsorily before taking term-end examination from time to time to complete an academic programme. A learner has to submit TMA responses to the learner support centre established by IODE Dr. C. V. Raman University. A learner should keep duplicate copies of assignments responses of TMA that may be required to be produced at Student Evaluation Division on demand. Term-end examination will be conducted at various examination centre approved by institute of open and distance education Dr. C. V. Raman university spread all over the Chhattisgarh. The weightage for Term End Examination will be 70% and weightage for Internal Assessment will be 30 % for this programme.

TERM-END EXAMINATION AND PAYMENT OF EXAMINATION FEE

The University conducts Term-end Examination in semester system and held in the month of Nov/Dec and May/June every year. Students will be permitted to appear in term-end examination subject to the conditions that:

1. Registration for the courses, in which they appeared is valid,
2. Minimum Time to pursue these courses is elapsed.
3. Submission of required number of assignment in respective courses by the due date.

Students can also submit on-line examination form as per guidelines through website at www.cvru.ac.in. Examination fee is required to be paid online payment gateway as per the fee table.

Please do all correspondence regarding the course admission and other detail at the following address:

The Director

Institute of Open and Distance Education (IODE)

Dr. C. V. Raman University

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Phone: 07753-253851, 8827920016, 8827920019

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LEARNER SUPPORT DESK:

Phone: 07753-253872, 07753-253873, 8359050061

Email: cvrussd@gmail.com

BACHELOR OF COMPUTER APPLICATIONS (BCA)

SCHEME OF EXAMINATION

Duration : 36 Months Eligibility : 10+2 in any Subject

Course Code	Name of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments	
				Max	Min	Max	Min	Max	Min
Semester-I									
1BCA1	Fundamentals of Computers & Information Technology	3	100	70	23	-	-	30	10
1BCA2	Windows & MS Office	4	150	70	23	50	17	30	10
1BCA3	Programming in C	4	150	70	23	50	17	30	10
1BCA4	Discrete Mathematics	3	100	70	23	-	-	30	10
1BCA5	Communicative English	2	100	70	23	-	-	30	10
Total aggregate required to pass		**16**	**600**	**350**	**126**	**100**	**36**	**150**	**54**
Semester-II									
2BCA1	Digital Computer Organization	3	100	70	23	-	-	30	10
2BCA2	Object Oriented Programming with C++	4	150	70	23	50	17	30	10
2BCA3	Operating Systems	4	100	70	23	-	-	30	10
2BCA4	Internet Programming (HTML, DHTML & JavaScript)	3	150	70	23	50	17	30	10
2BCA5	Environmental Study	2	100	70	23	-	-	30	10
Total aggregate required to pass		**16**	**600**	**350**	**126**	**100**	**36**	**150**	**54**
Semester-III									
3BCA1	Data Base Management System	4	100	70	23	-	-	30	10
3BCA2	Data Structure with C++	4	100	70	23	-	-	30	10
3BCA3	Computer Communication & Networks	3	150	70	23	50	17	30	10
3BCA4	Programming with JAVA	3	150	70	23	50	17	30	10
3BCA5	Principal of Management	2	100	70	23	-	-	30	10
Total aggregate required to pass		**16**	**600**	**350**	**126**	**100**	**36**	**150**	**54**
Semester-IV									
4BCA1	Linux Operating System — Operations & Management	3	150	70	23	50	17	30	10
4BCA2	Software Engineering	3	100	70	23	-	-	30	10
4BCA3	Computer Architecture & Assembly Language Programming	3	100	70	23	-	-	30	10
4BCA4	RDBMS Practice with Oracle / MS SQL Server Express Edition	3	100	70	23	-	-	30	10
4BCA5	Programming with Visual Basic .NET	4	150	70	23	50	17	30	10
Total aggregate required to pass		**16**	**600**	**350**	**126**	**100**	**36**	**150**	**54**
Semester-V									
5BCA1	Computer Graphics	4	150	70	23	50	17	30	10
5BCA2	Software testing & Project Management	4	100	70	23	-	-	30	10
5BCA3	Multimedia Systems	3	150	70	23	50	17	30	10
5BCA4	Management Information System	2	100	70	23	-	-	30	10
5BCA5	Data Warehousing & Mining	3	100	70	23	-	-	30	10
Total aggregate required to pass		**16**	**600**	**350**	**126**	**100**	**36**	**150**	**54**
Semester-VI									
6BCA1	Web Development through Open Source Technologies (PHP, MySql)	3	150	70	23	50	17	30	10
6BCA2	Information Technology Trends	3	100	70	23	-	-	30	10
6BCA3	Project***		400	-	-	400	132	-	-
Total aggregate required to pass			**650**	**140**	**50**	**450**	**162**	**60**	**22**

Evaluation Scheme

1. 33% in each theory, practical, project, dissertation & internal assessment but the total aggregate for passing is 36%.
2. Total project work carrying 400 marks has to be done under the guidance of a Project supervisor. Learners have to prepare project report under the guidance of project guide allotted by the university. Viva-voce will be conducted in the presence of an external examiner. The distribution of 400 marks are as – Marks given by the external Examiner is out of 300 (200 on Report + 100 on Viva & Presentation), Marks given by the Internal examiner is out of 100 (70 on Project Report + 30 on Viva & Presentation).

Detailed Syllabus, List of Practical & Reference Book

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- First Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - FUNDAMENTALS OF COMPUTERS & INFORMATION TECHNOLOGY **Assig. Max. M: 30 Min. M: 10**

COURSE CODE: 1BCA1, CREDIT:-3

UNIT-I

Know the Computer - Introduction, What does computer stand for?, Strengths of computers, Limitations of computers, Fundamental uses of computers, Development of computers, Types of Computers, Generations of Computers

Personal Computer - Introduction, Personal computer, Uses of personal computers, Components of personal computers, Evolution of PCs, Developments of processors, Architecture of Pentium IV, Configuration of PC

Boolean Algebra and Logic Gates - Introduction, Boolean Algebra, Binary Valued Quantities, And Operator, OR Operator, NOT Operator, Basic Postulates of Boolean Algebra, Theorems of Boolean Algebra, De Morgan's Theorems, Reducing Boolean Expression by their Simplifications, Proving the Equations of Boolean Expressions By Truth Table, Principle of Duality, Standard Forms, Basic Logic Gates, Use of Logic Gates in Circuits, Karnaugh Maps

Number System - Introduction, Digital and Analog Operations, Binary Data, Binary Number System, Decimal Number System, Octal Number System, Hexadecimal Number System, Fractional Conversion, Coding System

UNIT-II

Data Representation and Binary Arithmetic - Introduction, Bits, Nibbles, Bytes and Words, Data Representation, Coding system, Binary Arithmetic, Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division, Character Representation, Checking the Result of Binary Arithmetic

Input Devices - Introduction, Input Device, Typing Input Devices, Pointing Input Devices, Scanning Input Devices, Audio Visual Input Devices

Output Devices - Introduction, Output Devices, Soft Copy Vs Hard Copy Output, Monitor, Printers, Plotter , Electrostatic Technique, Special Purpose Output Equipments

Central Processing Unit - Introduction, What is Central Processing Unit, Arithmetic And Logic Unit, Control Unit, Registers, Instruction set, Processor Speed

Storage Devices - Introduction, Storage and its needs, Brain Vs Memory, Storage Evaluation Units, Data Access Methods, Primary Storage, Secondary Storage, Hard Disk Operations, Floppy Disk Drives, Winchester Disk, Optical Disk, VCD, CD-R, CD-RW, DVD, Zip Drive, Flash Drives, Blue Ray Disk, Memory Card, Driving Naming Conventions In a PC

UNIT-III

Basics of Software- Introduction, What Does Software Stand For ?, Needs of software, Types of software, Open Source Software, Integrated Development Environment

Operating System - Introduction, Operating System, Why an Operating System, Functions of Operating System, The Booting Process, Types of Reboot, Booting From Different Operating System, Types of Operating System, Some Prominent Operating Systems

Disk Operating System - Introduction, What is DOS?, Functions of DOS, Versions of DOS, DOS Commands , Important Internal Commands of DOS, Important External Commands of dos, Executable Vs Non-Executable Files In Dos

Programming Languages , Introduction, Data, information And Knowledge, Characteristics of Information, Comparison between human language and , Computer Language, What is a program?, What is a Programming language?, Programming development cycle, Algorithm, Program Flowcharts, Pseudo code, Programming approaches, Programming Paradigms, Types of Programming Language, Third Generation Language, Fourth Generation Language

UNIT-IV

Computer Virus - Introduction, Virus, History, Mechanism of virus, How A Virus Spreads , How is virus named, A few Prominent Viruses, Types of Computer Virus, Related Concepts :, Anti Virus Programs, Norton Anti - Virus (NAV), Execution of Norton Anti-Virus

Communication and IT - Introduction, Computer Network, Communication Process, Communication Types, Transmission Media, Wireless Media, Communication Channels/Media, Modem, Characteristics of a Modem, Types of Modem

Networks - Introduction, Internet Vs Intranet, Types of Network, Topology, Types of Connectivity, Network Devices

UNIT-V

Internet - Introduction, What is Internet actually ?, Growth of Internet, Owner of the Internet, Internet Service Provider, Anatomy of Internet, ARPANET and Internet history of the World Wide Web, Services Available on Internet (Internet Tools), Basic internet terminologies, net etiquette, Application of internet

Management Information System - Introduction, Information System, Management Information System (MIS), Fields of Information System, Elements Of MIS, Objectives Of MIS, Characteristics of MIS, Impact Of MIS, Designing An MIS, Placement Of MIS, Views Of MIS, Pitfalls In Designing an MIS, Advantages of MIS, Disadvantages of MIS

Applications of Computers and Information Technology - Introduction, Business And Computer, E-Mail, E-Commerce, Project management, Computers in Personnel Administration, Accounting, Computers in Cost and Budget Control, Marketing, Manufacturing, Materials management, Banking, Insurance And Stock broking, Purchasing, Computers in warehousing

READINGS: SELF LEARNING MATERIAL

FURTHER READING:-

1. COMPUTER FUNDAMENTAL: - PRADEEP K SINHA
2. ESSENTIALS OF INFORMATION TECHNOLOGY: - A.MANSOOR
3. FUNDAMENTALS OF COMPUTERS:-V.RAJARAMAN
4. COMPUTERS FUNDAMENTAL AND INFORMATION TECHNOLOGY:-RAMESH BANGIA

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SEMESTER- First Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - Windows & MS Office **Assig. Max. M: 30 Min. M: 10**

COURSE CODE: 1BCA2, CREDIT:-4 **Practical Max.M: 50 Min. M: 17**

UNIT-I

Know the Windows XP - Introduction, What is Windows XP ?, Evolution of Windows Operating System, Features of Windows XP, What's New in Windows XP, Windows and Its Elements.

Accessories And Other Tools - Introduction, The Calculator , Using THE Calculator, The Character Map, Using Outlook Express, The Address Book, The Paint, The Notepad, The WordPad, The NetMeeting, The Internet Explorer, The Windows Media Player, The MS-DOS , The Control Panel , The Windows Picture and Fax Viewer, The HyperTerminal, The Windows Messenger, Using Windows Movie Maker.

Managing Files and Folders - Introduction, Viewing files and folders, Arranging files and folders, Creating a new folder, Creating a file using short-cut.

Customizing Your Computer - Introduction, customizing Your Desktop, Changing the Start menu style, Setting a screen saver, Reversing your mouse buttons, Changing the appearance of your mouse pointer, Adding a new font to your computer, Logging off from the computer, Adding or Removing Programs, Hiding and displaying quick launch bar.

Microsoft Office XP Suite With Other Office Suites - Introduction, Different office suites, Microsoft Office XP Suite, What's Special About Office XP, Voice Dictation and Voice Commands, Smart Tags , The Office Task Panes , The Ask a Question Box, Document Recovery, Product Activation.

Common Elements Of The Suite - Introduction, Different Integrated Items in Office Suite, Menu Bars and Toolbars, Shared Tools, Objects, Linking, Embedding, Office Assistant and Online Help.

Office Task Panes - Introduction, The Task Pane, Displaying And Hiding a Task Pane, Types of Task pane, Additional Task Panes, Insert ClipArt Task Pane, Styles and Formatting Task Pane, Mail Merge Task Pane, Exercise.

UNIT-II

Word Processing and MS-Word - Introduction, Features of Word Processor, MS-WORD—a powerful word processor, Starting MS-Word, Chief Elements Of MS-Word Window, Displaying and Hiding the Toolbar, File operations in MS-WORD, Using Help Online, Customizing Office Assistant.

Text Formatting - Introduction, Typing the text, Selecting Text with a mouse, Deleting Text, Restoring the deleted text, Typing over the existing text, Undoing/Cancelling the last action, Redoing/Repeating the last action, Formatting font, Advanced text formatting, Customizing Spelling Check, Using the thesaurus.

Document Formatting - Introduction , Using page border, Bullets and numbering, Setting and removing tab stops, Making word count, Using Autotext, Using autocorrect, Headers and Footers, Setting up columns in the document, Removing columns from the document, Inserting page numbering, Formatting the page numbering, manual and automatic page breaks, Setting margins, Inserting date and time, Using Goto, Cursor movement with key-board.

Tables And Graphics - Introduction, creating tables, calculating numeric data in a table , Deleting columns and rows, Formatting a table, Aligning text in the table, Formatting text in the table, Applying borders and shadings, Add a border to a table, Automatically format a table , Using Drawing, Creating a Shape, Using Word Art, Using Autoshapes, Insert a clip from the Clip Organizer, Inserting a text box, What is Drawing Canvas?, Using autoshapes.

Mail Merge, Views, Template and Wizard - Introduction, Mail merge , Views, Overview of templates, Creating a document template, Create a Web page based on a template, Modify a document template, RULER, ZOOM, PROTECTING YOUR DOCUMENT, INSERTING A FILE INTO ANOTHER , overview of wizard , Inserting Hyperlinks to a Web Page or a Word Document , EXERCISE.

UNIT-III

Spreadsheet and MS -Excel-Introduction , Starting MS-Excel , Spreadsheet and its Elements , Application Window , Document Window, Cell , Standard Toolbar, Formatting Toolbar, Workbook , Worksheet, Handling Files.

Worksheet Formatting - Introduction, Entering Text Data, Entering Formula , Editing the Cell Content, Formatting the Cell , Formatting Font, Setting Border Around Cell, Highlighting gridlines, Using Format Painter, Finding and Replacing the Text, Using Spelling and Grammar.

Function and Operator- Introduction, Entering Functions , Editing Functions, Using Mathematical Functions, Using Statistical Functions, Using Date & Time Functions, Changing the default date format , Text Function, Logical Functions, Financial Function, Operators, AutoSum, Function Wizard.

Chart and Web Object - Introduction, Types of Charts, Creating a Quick Chart Sheet , Parts of a Chart, Types of Charts, Creating A Chart using wizard, Using Pivot Table , Object Linking and Embedding (OLE), Linking Cells, Linking Formula, Hyper Links, Previewing charts, printing charts, Exercise.

UNIT-IV

Presentation Package And MS-PowerPoint , Introduction, Chief Elements of Presentation, Starting Powerpoint, Creating A Presentation, Creating A Presentation with Auto Content Wizard, Create a presentation using a design template, Creating a blank presentation, Powerpoint window and its Elements, Using Help Online, Customizing Office Assistant .

Text Formatting in Slides - Introduction , Adding text to slides, Editing text on a slide, Using Format Painter, Setting Paragraph Indents, Line Spacing in a Paragraph, Setting and Removing Tab Stops , Checking Spelling of the text , Finding and replacing the text, Moving slides.

Table, Chart and other Drawing Objects- Introduction, Creating a table, Creating an embedded Word table, Adding Columns and Rows, Deleting Columns and Rows, Changing Table Borders, Using Autoshapes, Chart, Inserting a clip to your slide, Using Word Art, Inserting A Word Art, Working With Drawing Toolbar, Creating A Shape.

Slides, Views, Notes, Handouts - Introduction, PowerPoint Views, Notes Pages, Using Handouts, Inserting Header and Footer in the, Slide , Transition , Custom Show, Assigning Custom Animation , Adding a motion path, Animating a chart, Publish a presentation or HTML file , to the Web, Preview a presentation as a Web page, Showing Slides , Printing Slides .

UNIT-V

Outlook Express - introduction, WHAT IS outlook express?, Features of Outlook Express, starting outlook express, Concepts of CC and BCC, Email address, Reading a received message , composing message, Replying And Forwarding Messages, attaching files, Creating signature in outlook express, Formatting message text, What is mime?, applying stationery, Inserting a hyperlink or HTML page into a message, Flagging an e-mail or news message, Importing messages from other e-mail programs, What are newsgroups?, Adding a newsgroup account, Switching between e-mail and news reading, Identities (Multiple Users on A Single Computer), Adding a new identity, Managing contacts with outlook, creating addresses, Importing an address book from another program, Using keyboard shortcuts in Outlook Express ,

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. ILLUMINATING MS-OFFICE XP-A.MANSOOR
2. MS-OFFICE XP FOR EVERY ONE-SANJAY SAXENA

LAB WORK:-

SR. NO	TOPICS
1	EXPLORING MS-WORD BASIC TOOLS AND FEATURE
2	FAMILIEAR WITH MS-WORD DIFFERENT COMMAND AND STYLE
3	PRACTICE MS-EXCEL DIFFERENT COMMAND AND FEATURES

List of Practical's

1. Creating, opening, closing, saving and editing a word Document..
2. Insertion of header and footer in the document.
3. Use of word art, spell check and work with Page layout.
4. Creation of a link between two files using Hyperlink.
5. E- mail-merge and providing protection of a document.
6. Creation of a letter/Application in different subjects.
7. How to insert, close, update and save a worksheet?
8. Creation of records in excels for students marks of five subjects and calculation of their average percentage using formulas.
9. Operation of data sorting in a worksheet.
10. Use of mathematical functions, date function and time function.
11. Define trig function with an operation on excel sheet.
12. Creation of new slide and duplicate slide in power point.
13. Steps of presentation and creation of presentation for the seminar in a topic.
14. Use of animation audio and clipart in power point presentation.
15. Changing backgrounds and adding slides in a presentation

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- First Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSES: - PROGRAMMING IN C **Assig. Max. M: 30 Min. M: 10**

COURSE CODE: 1BCA3, CREDIT:-4 **Practical Max.M:50 Min. M: 17**

UNIT-I

Principles of Programming- Introduction to Programming, Program Concept, Characteristics of Programming, Stages in Program Development, Tips for Program Designing, Programming Aids, Algorithms, Notations, Design, Flowcharts, Symbols, Rules

Programming Techniques and Logic- Introduction, Introduction to programming techniques, Top-down approach or technique, Bottom-up approach or technique, Unstructured technique of programming, Structured technique of programming, Modular technique of programming, Comparative study of programming techniques, Cohesion , Coupling, Debugging , Syntax Errors, Logical Errors, Data Entry Errors, Linker Errors, Runtime Errors, Program Testing

Turbo C IDE - Turbo C IDE (Integrated Development Environment), Main Menu Bar, File Options, Edit option, Run option, Compile option, Project option, Options option, Debug option, Break/watch option, Edit Window, Message Window, Status bar, Editing, Compiling and Running a C Program, Features of C language, C language standards, Standardization , Successors of C language

UNIT-II

Introduction to 'C'- Introduction, Structure of a C program, 'C' Tokens, Keywords, Identifiers, 'C' Constants, Variables in C, Data Types, Derived Data Types : , Operators, Precedence and Associativity of operators, Hierarchy of operators at a glance, Expression & its Evolution, Type conversion in expressions , (Implicit and Explicit type conversion)

Decision Making and Branching - Introduction, Sequential statements, Unformatted I/O functions, Formatted input using scanf() function, Formatted output using print(), Branching statements, The if-else statement, The nested if-statement, The switch statement, Additional programs

UNIT-III

Looping Statements - Introduction, for-statement, while-statement, do-while statement, Difference between while-loop and do-while loop, Nested loops, Jumps in loops, Programming examples

Arrays - Introduction, Single-dimensional arrays, Reading and writing single dimensional arrays, Examples of Complex Programs, Searching, Sorting, Two-dimensional arrays (Multi-dimensional arrays), Reading-writing two-dimensional arrays, Manipulation in two-dimensional arrays, Programming Examples

Strings - Concepts of string, Strings in C language, String variable, Initializing strings, String input/output functions, Arrays of strings, String handling functions, Memory formatting

UNIT-IV

User Defined Functions - Introduction, Elements of user -defined functions, Categories of functions, Passing parameters to functions, Programming Examples, Arrays in functions, Nesting of Functions, Recursion, Command Line Arguments, Storage Classes

Structure and Union - Introduction to structures, Structure and its definition, Structure declaration, Tagged Structure, Structure variables, Type- Defined Structure, Structure initialization, Accessing structures, Nested structures, Array of structures, Structures and functions, Sending individual members, Sending the whole structure, Passing structures through pointers, Uses of structures, Union and its definition

Debugging - Common Programming Errors, Program Testing and Debugging, Types of Errors, Debugging C program

UNIT-V

Pointers - Introduction, Pointer concepts, Pointer variable, Accessing variables through pointers, Pointer declaration and Definition, Initializing a pointer variable, Pointers to Pointers, Compatibility, Pointer applications, Pointers and other operators, Memory allocation functions, Memory map of C program, Memory management functions

File Handling - Introduction to file handling, File system basics, Standard streams in C, File structure, FILE pointer, Opening and closing a file, File handling functions, File types, Text and Binary, Input / Output operations on file, Reading a character using getc(), Writing a character using putc(), Using feof(), Working with string using fputs() and fgets(), Using fprintf() and fscanf(), Using fread() and fwrite(), Direct Access file, fseek()

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Let us C, Yashwant kanetkar, BPB Publication
2. ANSI C, E Balagurusamy, MC. Graw Hill
3. Ashok N. Kamthane, Programming with ANSI and Turbo C, Pearson Education

LAB WORK:-

SR. NO	TOPICS
1	UNDERSTANDING THE C WINDOWS AND ITS TOOLS
2	FAMILIEAR WITH THE DATA TYPES & DECISION MAKING CONCEPT
3	RUN BASIC PROGRAM ACCORDING TO THE SYLLABUS

List of Practical's

1. Write a program to perform addition of any given number.
2. Write a program to calculate the given number is Armstrong or not.
3. Write a program to print Fibonacci series from 01to 100.
4. Write a program to calculate the multiplication table for given number.
5. Write a program for calculating the area of triangle.

6. Write a program to calculate factorial of given no.
7. Write a program to explain Recursion.
8. Write a program to print this pattern:

```
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1
```

9. Write a program to perform various file operations.
10. Write a program to use various functions in file handling.

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SEMESTER- First Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - DISCRETE MATHMATICS **Assig. Max. M: 30 Min. M: 10**

COURSE CODE: 1BCA4, CREDIT:-3

UNIT-I

SET THEORY - Set and Subsets, Operations on Sets, Countable and Uncountable Sets, The Principle of Inc Inclusion-Exclusion, Derangements, Propositions

PERMUTATION, COMBINATIONS, DISCRETE PROBABILITIES - The rules of sum and product, Permutations, Combinations, Binomial and Multinomial Theorems, Combinations with Repetitions, Probability, Random Variables & Probability Distributions, Repeated Trials

UNIT-II

RELATION AND FUNCTION- Cartesian (Cross) Product of Sets, Relation, Operation on Relations, Properties of Relation as Binary Relation on a Set, Two Important Relations, Partial Ordered Relation, Lattices, Functions - Mappings, Types of Functions, Cardinality of Set, Composition of Relation and Function, Composition of Function, Existence of Inverse Function (Mapping), Set Image/Preset Image of Function

UNIT-III

Graph - Directed Graphs, Graphs, Isomorphism, Sub graphs, Operations on Graphs, Walks and their classification, Connected and Disconnected Graphs, Euler circuits Euler trails, Planar and non-planar graphs

Recurrence relations - First-order Recurrence Relations, Second-order Homogeneous Recurrence Relations, Third and higher-order Homogeneous Recurrence Relations, Non-homogenous Recurrence Relations of second and higher orders, Method of Generating Functions

UNIT-IV

Groups - Introduction, Important Examples, Necessary and sufficient Condition for any subset of a group to be subgroup, Partition of a Group, Characteristics of Cosets of a Subgroups, Normal Subgroups, Necessary and sufficient condition for any subgroup of group to be normal subgroup, Characteristics of Normal (Sub groups), Quotient groups, Concept of Homomorphism, Rings, Some special types of Rings, Elementary Properties of Rings, Subrings, Results of Sub-rings of a ring, Standard Properties of ideals, Homomorphism of Rings, Properties of Homomorphism

UNIT-V

Discrete Numeric Functions and Generating Functions -Discrete Numeric Functions, Manipulation of Numeric Functions, Asymptotic Behavior of Numeric Functions, Binomial Coefficients

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Discrete Mathematics, Dr. Swapan Kumar Sarkar, S. Chand & Company
2. Discrete Mathematics, Akerkar & Akerkar, Pearson

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Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- First Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - COMMUNICATIVE ENGLISH **Assig. Max. M: 30 Min. M: 10**

COURSE CODE: 1BCA5, CREDIT:-2

UNIT-I

English Language - Listening, Speech, Pronunciation, Reading, Spelling, Writing *Right*

Nouns: Countable and Uncountable, Pronouns: Personal, Relative and Others, Articles

UNIT-II

The Parts of Speech, The Prepositions, Clauses: Coordinate, Subordinate, Relative Adverbs, Adjectives and Adjective Phrases, Verb

UNIT-II

The Model Auxiliaries, Adverb, Adverb Phrases Comparisons and Intensification, Linking Devices, Subject Verb Agreement, Tenses, Common Errors, Word Building, Vocabulary

UNIT-III

Developing Ability of Question and Answer, Body Language and Its Use in Speaking, Group Discussions, Interview Skills

UNIT-IV

Composition - Making a Technical Report, E-Mails and Text Messages Composing, Letter Writing, Paragraph Writing, E-mail Writing, Writing Resume, Writing a Cover Letter

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Effective Business Communication, Herta A Murphy, Herbert W Hildebrandt, Tata McGraw Hull Publication

2. ESSENTIALS OF BUSINESS COMMUNICATION,RAJENDRA PAL,J.S. KORLAHALLI, S.CHAND & SONS

SEMESTER-II

Dr. C.V. RAMAN UNIVERSITY

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Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Second Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**
COURSE: - DIGITAL COMPUTER ORGANIZATION **Assig. Max. M: 30 Min. M: 10**
COURSE CODE: 2BCA1, CREDIT:-3

UNIT-I

Introduction- Digital Computers, Computer Architecture, Computer Organization, Difference between Computer Architecture and Organization, Structure and Functions, Summary, Exercise

Basic Arrangement Of A Computer System - Computer, Basic organization of a computer system, Types of computers, Microprocessor (μp), Working of Microprocessor, Microprocessor 8085 Architecture, Speed of Microprocessors, Summary, Exercise

UNIT-II

Number System And Its Representation **-** Data Types, Number System, Number System Conversion, Binary Arithmetic, Integer and Floating Point Representation Overflow Underflow

Computer Codes - Introduction, BCD (Binary Coded decimal) Code, EBCDIC Code, ASCII Code, Excess-3 Code, Gray Code, Error Detection Code, Error Correction Code

Basic Building Blocks - Logic Gates , Universal Gates, Exclusive Gates, Bubbled Gates, Universality of NAND and NOR gates

UNIT-III

Boolean Algebra - Boolean Variable, Boolean Algebra, Boolean Functions and Truth Tables, Logic Diagram, Laws of Boolean Algebra, Rules for Boolean Algebra, Demorgan's theorems, Simplification of Boolean Functions, Implementation Using Basic Gates, To Obtain Expression from Logic Circuits

Karnaugh Map - Introduction, Algebraic Expression by Karnaugh Map, Simplification of Boolean Expression using K Map, Simplification of Boolean expression using K-map, Don't care conditions

Digital Logic Circuits - Introduction, Combinational Logic Circuit , Sequential Logic Circuits

UNIT-IV

Basic Computer Organization - Register Transfer language and Micro- operations, Instruction Codes , Instruction Set, Operations and Operands, Computer Registers, Instruction Format, Instruction Cycle, Addressing Modes, Real and Protected Addressing Modes, Assembly Language Programming, Input-Output and Interrupt

Central Processing Unit Design - Central Processing Unit (CPU), BUS Organization, Register Organization, Stack Organization, Data Path and Control Signals, Types of Processor (CPU) , Micro Programmed Control and Hardwired Control, Pipelining, Software - Hardware Interaction layers in Computer Architecture

UNIT-V

Input-Output Organization- Transfer of Information between I/O Devices, CPU & Memory, Data Transfer Format , Types of Data Transfer , I/O Interface , Modes of Data Transfer , I/O Channels and Processors, Input/Output Identification (Peripheral or Memory Mapped), Conditions of Data Transfer

Memory Organization **-** Computer Memory, Characteristics of Memory, Units of Memory, Data Accessing/Storing Methods in Computer Memory, Memory Hierarchy, Classification of Memory, Associative Memory, Virtual Memory, Memory Management System

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Digital Computer & logic Design, M. Morris Mano, Pearson Publication
2. Fundamentals of Digital Circuit, A.Anand Kumar, PHI
3. Computer Architecture, sheetanshu rajoriya, Pragya

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Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Second Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**
COURSES: - OBJECT ORIENTED PROGRAMMING WITH C++ **Assig. Max. M: 30 Min. M: 10**
COURSE CODE: 2BCA2, CREDIT:-4 **Practical Max.M:50 Min. M:17**

UNIT-I

Overview of C++ - Overview of C++, Software crisis, Object oriented programming paradigm, Basic concepts of OOP, Advantages/Benefits of OOP, Usage/applications of OOP

C++ Environment, Program development environment, The language and the C++ language standards, Introduction to various C++ compilers, The C++ standard library, Prototype of main() function, i/o operator, manipulator, comments, data types

Creating and Compiling C++ Programs - TURBO C++ IDE, Creating, compiling and running a C++ program using ide and through command line, Elements of C++ Language, Structure of a C++ program, C++ tokens, Type conversion in expressions

Decision Making and Branching - Introduction, Sequential statements, Mathematical Functions, Branching statements, looping Statements, Nested loops, Programming examples

UNIT-II

Arrays and Functions- Arrays, The meaning of an array, Single-dimensional arrays, Two-dimensional arrays (Multi-dimensional arrays), User Defined Functions, Elements of user-defined functions, Return values and their types, Function calls, Categories of functions, Passing parameters to functions, Recursion, Command Line Arguments, Storage Class Specifiers

Classes and Objects - Classes, Structures and classes, Unions and classes, Friend function, Friend classes, Inline function, Scope resolution operator, Static class members, Static data members, Static member functions, Passing object to functions, Returning objects, Object assignment

UNIT-III

Array, Pointers, References and the Dynamic Allocation Operators - Array of objects, Pointer to object, Type checking in C++, The this pointer, Pointer to Derived Types, Pointer to class members, References, C++'s Dynamic Allocation Operators

Constructors and Destructors - Introduction, Constructors, Default Constructor, Parameterized constructors, Copy Constructors, Multiple Constructors in a class, Constructors with default arguments, Default Arguments, Special Characteristics of Constructor functions, Destructors

UNIT-IV

Function and Operator Overloading - Function overloading, Overloading Constructor

Function, Finding the address of an overloaded function, Operator Overloading, Creating a Member Operator Function, Creating Prefix and Postfix forms of the increment (++) and decrement (– –) operators (Overloading Unary Operator), Overloading the Shorthand Operators (i.e. +=, == etc), Operator Overloading Restriction (Rules), Operator Overloading using friend function, Overloading new and delete operator, Overloading some special operators, Overloading [ ] (Subscripting) operator, Overloading() (Function Call) operator, Overloading Binary Arithmetic operators, Concatenating String, Overloading Comma (,) operator, Overloading the I/O operators

Inheritance - Introduction to inheritance, Features or Advantages of Inheritance, Type of Inheritance :, Base Classes and Derived Classes, Base Class Access Control, Protected Members, Protected Base class Inheritance, Inheriting Multiple Base Classes, Constructors, Destructors and Inheritance, Passing Parameters to Base Class Constructors, Granting Access, Virtual Base Classes

UNIT-V

Polymorphism - Polymorphism, Types of Polymorphism, Virtual Functions and Polymorphism, Pure Virtual Functions, Early Vs Late Binding

The C++ I/O System Basics - The C++ I/O System basics, C++ predefined streams, Formatting using the ios members, Clearing Format Flags, An Overloaded form of setf( ), Examining the Formatted Flags, Using width( ), Using precision( ), Using fill( ), Using Manipulators to format I/O, Creating your own Manipulators,

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Object Oriented Programming with C++, E Balagurusamy, McGraw hill
2. Insight Into OOPS & C++, Rajeshwar Shukla, Pragya
3. Ashok N.Kamthane, Object Oriented Programming with ANSI & Turbo C ++, Pearson Education, 2006
4. Robert Lafore, "Object Oriented Programming with C++", Galgotia.

LAB WORK:-

SR. NO	TOPICS
1	UNDERSTANDING THE OOPS CONCEPT
2	FAMILIEAR WITH THE C++ WINDOWS AND TOOLS
3	RUN BASIC PROGRAM ACCORDING TO THE SYLLABUS

List of Practical's

1. Write a program to calculate the given number is Armstrong or not.
2. Write a program to print Fibonacci series from 1to 100.
3. Write a program to calculate the multiplication table for given number.
4. Write a program for calculating the area of any shape by function overloading.
5. Write a program to create and use a class for employee.
6. Write a program to demonstrate the use of parameterized constructor.
7. Write a program to demonstrate the working of multiple Inheritance.
8. Write a program to demonstrate the use of friend function.

9. Write a program for binary operator overloading.
10. Write a program to demonstrate the working of hybrid inheritance.
11. Write a program to access employee record from their object.
12. Write a program to print this pattern:

```
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1
```

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Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Second Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**
COURSES: - OPERATING SYSTEM **Assig. Max. M: 30 Min. M: 10**
COURSE CODE: 2BCA3, CREDIT:-4

UNIT-I

Operating Systems: Overview -Introduction of Operating System, Types of Operating System, System Components and it's services, System Calls, System Programs, Structure, Design and, Implementation, Operating System Generation

Process : Concept, Description and Control -Concept of process, Process state model, Process description - PCB, Process control, Threads, Threads in Linux

UNIT-II

Process Scheduling - Types of Scheduler, Scheduling Criteria, Uniprocessor, Scheduling, Multiprocessor Scheduling, Algorithm Evaluation, Process Scheduling in Linux

Concurrency - Introduction to concurrency, Critical section problem, Mutual Exclusion solutions, S/w approach, H/w support, semaphore, monitor, Classical problem of synchronization

Deadlock - Deadlock Characterization, Deadlock Prevention, Deadlock Detection, Deadlock Avoidance, Combined Approach

UNIT-III

Protection - Goal of Protection, Protection Domains, Access Matrix, Implementation of Access Matrix, Revocation of Access Rights, Language Based Protection

Security and Encryption - Security Problem, User Authentication, Program Threats, System Threats, Securing System and Facilities, Encryption & Decryption – Cryptography

UNIT-IV

Memory Management -Memory Management Requirements, Address Space, Linking and Loading, Swapping, Partitioning, Paging, Segmentation

Virtual Memory - Introduction to Virtual Memory, Demand Paging, Page Replacement, Thrashing, Demand Segmentation

UNIT-V

Input Output Systems - Input - Output Devices, Hardware Support for I/o, I/O Communication Techniques, I/O Software Device Drivers, Performance Consideration,

Disk Structure - Introduction to Disks, Disk Scheduling, Disk Management, Disk Reliability, Swap Space Management, Stable Storage Implementation

File Management - File Concepts, Directory structure, File Sharing, Protection, File system in Linux

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Operating System principles, Abraham Silberschatz, Wiley Indian edition
2. Overview of operating system, Dr. Pankaj chaturvedi, Deepak sahu, Ratnesh Jain, Pragya
3. Milankovic, Operating system, Tata Macgraw Hill, New Delhi.
4. A.S. Tanenbaum : Operating System : Design and Implementation, Prentice Hall of India.

Dr. C.V. RAMAN UNIVERSITY

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Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Second Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - INTERNET PROGRAMMING (HTML, DHTML& JAVASCRIPT) Assig. Max.M:30 Min.M:10

COURSE CODE: 2BCA4, CREDIT:-3 **Practical Max. M: 50 Min.M:17**

UNIT-I

ABC OF INTERNET - Introduction, What is Internet Actually ?, Growth of Internet , Owner of Internet, Internet Service Provider, Anatomy of Internet, Arpanet and Internet history of the World Wide Web, Internet Tools, Basic Internet Terminologies, net etiquette, Applications.

INTERNET CONNECTIONS -Introduction, Internet Vs Intranet, Types of Connectivity, VSAT, Radio Frequency, Integrated Services Digital Network Connections, Digital Subscriber Line Connection, DSL (Digital Subscriber Line), Cable Modem Service, Wireless Connection of Internet, Enabling Internet Connection Sharing on a Network Connection, Configuring Internet options for Internet connection sharing, What is a Proxy Server?.

WORLD WIDE WEB - Introduction, Basic Features, Evolution of the WWW, Mechanism of the World Wide Web, WWW Browsers, URL (web address), Domain Name System (DNS), Search Engines, Searching The Web, Site Specific Search Tools.

ELECTRONIC MAIL -Introduction, What is an E-mail?, Concept of Email, How Does Email Work ?, Structure of an E-mail, Starting Outlook Express, Setting up a Mail Account, Web Based Emails, Creating Signature in Outlook Express, Creating Signature in Yahoo, E-mail Protocols, Mailing List .

UNIT-II

HYPER TEXT MARKUP LANGUAGE -Introduction, Concept of Hyper Text Markup Language, Versions of HTML, HTML Editors, Elements of HTML, Document Layout, Cascading Style Sheet, Advanced HTML, Setting Up A Form, Creating A Menu.

WEB DESIGNING TOOLS -Introduction, WYSIWYG Design tools, HTML Editors, Adobe PageMill, AOLPress, BBEdit, Crackerjack, PSPad, Webniac, EZPad, Site Management Tools, Netscape Composer, Adobe SiteMill, GoLive CyberStudio, Macromedia Dreamweaver, Microsoft FrontPage, NetObjects Fusion.

WEB DESIGNING WITH FRONTPAGE 2002 -Introduction, What is FrontPage ?, Starting FrontPage, Front Page Window And Its Elements, Creating A Website, Creating Tables In FrontPage, Formatting A Table, Using Graphics In A Web Page, Creating Thumbnails.

WEB HOSTING AND PUBLISHING CONCEPTS, Introduction, What is the Need of a Website, Types of Websites, Components of Web Publishing, Web Hosting, Web Design And Development, Web Page Considerations, Testing Your Website, Publishing Tools, Uploading Web Pages Using Cute FTP), File Publishing Using Web Publishing Wizard, Web Casting.

UNIT-III

INTRODUCTION TO JAVASCRIPT , Introduction, What is JavaScript ?, Role of Scripting,

JavaScript Versus Java, JavaScript versus VBScript, JavaScript Versions, Error Handling in JavaScript Program, Creating a Simple External JavaScript Program, Creating a simple HTML page, Adding an Alert box with External JavaScript.

ELEMENTS OF JAVASCRIPT , Introduction, Elements of JavaScript), Data Type Conversion in JavaScript, Using Special Characters in Strings, Escaping Characters, Unicode Support in JavaScript, Comments, Alert Boxes, Confirm Alert Box, Prompt Boxes.

VARIABLES & FUNCTIONS, Introduction, Variables in JavaScript, Declaring Variables, Using Variables, Variable Scope, Constants, Function, Working with Objects, Object Properties, Object Methods.

EXPRESSIONS AND OPERATORS IN JAVASCRIPT, Introduction, Expressions in JavaScript, Operators in JavaScript, Assignment Operators , Comparison Operators , Arithmetic Operators , Bitwise Operators , Logical Operators, Short-Circuit Evaluation, String Operators , Special Operators, Operator Precedence.

UNIT-IV

STATEMENTS IN JAVASCRIPT , Introduction, Statements, Block Statement, Conditional Statements, The if...else Statement, The switch Statement , Loop Statements , The for Statement , The do...while Statement , The while Statement , The infinite loop, The label Statement , The break Statement , The continue Statement .

EVENTS IN JAVASCRIPT , Introduction, JavaScript Events, Dealing with Objects & Properties, Creating New Objects, Using Object Initializers, Using a Constructor Function, Defining Methods, Using Object References, Main Built in Object Type, Array Object, Accessing Arrays, Modifying Values in Existing Arrays, Boolean Object, JavaScript Math Object.

USING FORMS IN JAVASCRIPT , Introduction, Creating the form, Getting a value from a form object, Setting a value in a form object, Reading other form object values, Using Hidden Text Boxes, Using Radio Buttons, Using Check Boxes, Using Text Areas, Using Selection Lists,
Other events you can trigger within a form, Submitting the form to the server, Using onSubmit, Using submit, Validating form data using JavaScript

UNIT-V

INTRODUCTION TO ELECTRONIC COMMERCE -Introduction, Electronic Commerce, Technical and Organizational Aspects, Advantages of E-Commerce Disadvantages of E-Commerce, Components of E-Commerce, Internet and E-Commerce, Types Of E-Commerce, Constraints To E-Commerce, I.T Act 2000.

ELECTRONIC PAYMENT SYSTEM AND ELECTRONIC SECURITY, Introduction, Electronic Payment System, Types of Electronic Payment System, Risks from Mistakes and Disputes: Consumer Protection, Managing Information Policy, Managing Credit Risk, Electronic Security, Minimise Spam, Keep Backing Up Your Data, Develop Your System With Secure Passwords, Keep Your Software Up to date, Make Sure Your On Line Banking is secure, Develop a Security Policy and Maintain it., Firewall.

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. A complete Guide to internet and web programming, Deven N. Shah, Wiley Pub
2. Internet technology and web design, A.Mansoor, Pragya publication
3. Web Enabled Application development using HTML,Java Script,DHTML,PHP, Ivan Bayross, BPB
4. HTML Black Book: Galgotia Publications.

LAB WORK:-

SR. NO	TOPICS
1	UNDERSTANDING THE BASIC TERMINOLOGY OF ITERNET
2	IMPLEMENT THE APPLICATION WITH THE HTML ACCORDING TO THE SYLLABUS
3	USING THE BASIC TOOLS AND CONCEPTS OF JAVA SCRIPT
4	CREATE THE APPLICATION WITH JAVA SCRIPT
5	FAMILEAR WITH THE E-COMMERCE LIVE APPICATION

List of Practical's

Que1: Write the step to create a Gmail account?
Que2: Write a HTML program by using following tag:
(a) BODY
(b) BGCOLOR
(c) HEADING
(d) TITLE

Que4: Write a HTML program to create a following table:

Red	Red again
Blue	Blue again

Que5: Write a HTML program for following:
Marital status..Married Unmarried

Que6: Write a HTML program for following:
Cricket
Music
Travelling
Que7: Write a JavaScript program to find sum of two number?
Que8: Write a JavaScript program which display following text in browser?
I am learning JavaScript
Que9: Write a program to display use of for loop?
Que10: Create a JavaScript code for creating four check box in web page?
Que 11: Create a JavaScript code for creating four radio button in web page?
Que 12: Create a JavaScript program for getting value from a form object?
Que13: Create a JavaScript program using hidden textboxes?
Que14: Create a javascript code for validating form data?
Que15: Create a javascript to display use of Date Object?

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SEMESTER- Second Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**
COURSE: - ENVIROMENTAL STUDY **Assig. Max. M: 30 Min. M: 10**
COURSE CODE: 2BCA5, CREDIT:-2

UNIT-I

ENVIRONMENTAL EDUCATION - Introduction, Environmental education , Environmental studies: importance, Need for public awareness, Natural resources, Classification of natural resources, Natural resources and associated problems, Forest resource, Deforestation, Major activities in forest, Water resources, Big dams - benefits and problems, Mineral resources, Food resources, Changes caused by overgrazing, Effect of modern agriculture, Energy resources, Renewable energy resources, Land resources, Role of an individual in conservation of natural resources

UNIT-II

ECOSYSTEM - Introduction, Concept of ecosystem, Ecosystem characteristics, Functions, Trophic structure, Food chains, Food web, Ecological pyramid, Major ecosystem include
BIODIVERSITY - Introduction, Biogeoporahical classification of India, Value of biodiversity, Global biodiversity, Biological diversity at National level (Indian biodiversity), India as a mega-diversity nation, Hot spots of biodiversity, Threats to biodiversity, Man- wildlife conflicts, Endangered species of India, Endemic species of India, Conservation of biodiversity

UNIT-III

ENVIRONMENTAL POLLUTION - Introduction, Air pollution , Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear pollution, Solid waste management, Role of an individual in prevention of pollution, Disaster management.

UNIT-IV

SOCIAL ISSUES AND THE ENVIRONMENT - From unsustainable to sustainable development, Urban problems related to energy, Water conservation, Rain water harvesting:, Watershed management:, Resettlement and rehabilitation issues:, Global warming, Green house gases:, Acid rain, Ozone layer depletion, Effects of ozone layer depletion, Wasteland reclamation, Environmental legislations, Wildlife (protection) act, 1972, Forest (conservation) act, 1980, Water (prevention and control of pollution) act, 1974 , The air (prevention and control of pollution) act, 1981, The environment (protection) act, 1986, Enforcement of environmental legislation: major issues, Public environmental awareness

UNIT-V

HUMAN POLLUTION AND THE ENVIRONMENT - Population growth, Population explosion,

The population clock:, Family welfare programmes, Family planning, Environment and human health:, Human rights, Family values, Consumerism, Society, Value education, HIV/AIDS, Women and child welfare, Role of information technology in environment and human health, Remote sensing and geographical information system (GIS),

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. KUMARASAMY, K., A.ALAGAPPA MOSES AND M.VASANTHY, 2004. ENVIRONMENTAL STUDIES, BHARATHIDSAN UNIVERSITY PUB, 1, TRICHY
2. RAJAMANNAR, 2004, ENVIRONEMNTAL STUDIES, EVR COLLEGE PUB, TRICHY
3. KALAVATHY,S. (ED.) 2004, ENVIRONMENTAL STUDIES, BISHOP HEBER COLLEGE PUB., TRICHY
4. Paryawaran adhyyan, Sashi shukla , N.K Tiwari, R.P Unified

SEMESTER-III

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Third Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**
COURSE: - DATA BASE MANAGEMENT SYSTEM **Assig. Max. M: 30 Min. M: 10**
COURSE CODE: 3BCA1, CREDIT:-4

UNIT-I

Introduction to DBMS, Operational Data, Introduction to database, Views of data, Three-Level Architecture proposal, Instances and Schemas, Purpose of database system, Advantages of DBMS, Disadvantages of DBMS, Structure of a DBMS, Data Models, Database Languages.

E-R Model, Entity-Relationship Model, Entity and Entity set, Attributes and Keys, Relationship and relationship set, Mapping constraints, Entity-Relationship diagram, Strong and Weak entities, Generalization, Specialization, Aggregation, Reducing ER diagram to tables

UNIT-II

RDBMS Concept and Terminology, Set theory - concepts and fundamentals, Extension and Intention, Attributes and Domains, Relations, Tuple, Concepts of keys, Fundamental integrity rules

Normalization, Functional dependencies, Universal Relation, Anomalies in a database, Decomposition, Normalization

Relational Algebra, Select Operation, Project Operation, Join Operation, Division Operation, Cross Product Operation, Set operations

UNIT-III

Relational Calculus, Introduction, Tuple Relational Calculus, Operators used in TRC, Example queries using TRC, Domain Relational Calculus, Operators used in DRC, Example queries using DRC, Comparison of TRC, DRC, RA

Database Language, Structured Query Language (SQL), Integrity Constraints, Implementing SQL using MS Access, Functions, Indexing, View using MS Access

Database Administration, DBA - Role, Functionality and Importance, Failure classification, The storage hierarchy, RAID, Transaction model, File structure and Storage access, File organization, Organization of records in file, Data dictionary storage

Advanced DBMS, Database system Architectures, Centralized System, Client-Server System, Parallel Database System, Distributed Database System, Overview of Database on Web, Concepts of ODBC, DSN

UNIT-IV

Structured Query Language (SQL), Problems in SQL, Advantages of PL/SQL, Block Structure of PL/SQL, Common Data Types of PL/SQL, Declaration of Variables in PL/SQL, Assignment Statement in PL/SQL, User Input Statement in PL/SQL, User Output Statement in PL/SQL, Relational and Logical Operators in PL/SQL, Branching in PL/SQL, Looping in PL/SQL, Cursor, Exception, Procedure, Function

UNIT-V

Database Storage And Querying, Basic Concepts of Indexing and Hashing, Query Processing, Measures of Query Cost, Basics of Query Optimization, Choice of evaluation plan, Structure of Relational Database

Transaction Management, Introduction, Transaction Concepts, Features of Database Transaction, Concurrency Control in Database -, Lock Base, Time-stamp Base, Validation Base, Database Recovery System

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Database Management System, Arun k. Majumdar, Tata McGraw hill
2. Author: Silberschatz–Korth–Sudarshan: Database System Concepts, Fourth Edition, Title: Database System Concepts, Publishers: Tata McGraw Hill.
3. Ivan Bayross, SQL, PL/SQL The Programming Language of Oracle, BPB Publication.

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)
Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Third Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**
COURSE: - DATA STRUCTURE WITH C++ **Assig. Max. M: 30 Min. M: 10**
COURSE CODE: 3BCA2, CREDIT:-4

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UNIT-I

Analysis of Algorithm-Introduction, Criteria of Algorithm, Time Complexity, Space Complexity, Asymptotic Notation: Big Oh (O) Notation: Big Omega (Ù) Notation :, Big Theta (È) Notation

Types of Data structures- Introduction, Types of Data structures, Linear Data Structures, Non Linear Data Structure, Array, SPARSE MATRICES, Garbage Collection, Benefits, Disadvantages

UNIT-II

Stacks-Introduction, Push operation, Pop operation, Stack implementation using arrays, (static implementation of stacks), STACK as a Linked List, Stack as an abstract data structure, Applications of stack, Conversion of Expressions, Precedence and associativity of the operators, Evaluation of Postfix expression, Multiple stacks,

Recursion-Introduction, Working of recursion, Fibonacci series, Tower of Hanoi, Efficiency of recursion

UNIT-III

Queue-Introduction, Different types of queues, Queue (Linear queue), Queue as an abstract data structure, Circular queue, Double ended queue (Dequeue), Priority queue, QUEUE as a Linked List, Applications of Queue

Linked Lists -Concept of list and array , Introduction to Data Structures, Arrays, Linked list, Singly or Linear linked list, Circular singly linked list, Doubly linked lists, Header Node, Applications of linked lists, Addition of two long positive numbers, Evaluation of a polynomial

UNIT-IV

Trees-Introduction, Representation of tree, Binary Tree , Representation of binary tree, Array representation of binary tree, Linked List representation of binary tree, Basic Operation on Binary Tree- Traversals, Binary Tree Traversal Algorithms (Recursive), Creation of Binary Search Tree:, Types of binary trees, Operations on Binary Search Tree (BST), Threaded binary trees, Application of Binary Tree:, B-Tree, Height Balanced Tree ,

Graph- Introduction to Graphs, Undirected Graph, Directed Graph or digraph, Graph

Representation, Adjacency Matrix Representation, Adjacency List Representation, Graph Traversals, Breadth First Traversal, Depth First Traversal , Searching in Graph, Minimal Spanning Tree, Kruskal's Algorithm, Prim's Algorithm , Shortest Path in Graph,

UNIT-V

Sorting and Searching - Introduction, Bubble sort, Selection Sort, Merge Sort, Quick sort, Insertion Sort, Shell sort, Address calculation sort, Radix sort, Comparison of sorting methods, Hash Table, Collision Resolution Techniques, Linear Search (Sequential Search), Binary Search, Searching an ordered table, Indexed sequential search, Interpolation search

File Structure And Indexing- Introduction, Objectives, Terminology, File Organisation, Sequential Files, Disadvantages, Direct File Organisation, Indexed Sequential File Organisation

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Tenenbaum, Augenstein, & Langsam, Data Structures using C and C++, Prentice Hall of India, New Delhi.
2. Adam Drozdek, Data Structure & Algorithms in C++. Thomson.
3. Data Structure Using C & C++, Agrawal & Birthare, Kamal Prakhasn

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Third Semester

PROGRAMME: - BCA
COURSE: - :- COMPUTER COMMUNICATION & NETWORKS
COURSE CODE: 3BCA3, CREDIT:-3

Theo. Max. M: 70 Min. M: 23
Assig. Max. M: 30 Min. M: 10
Practical Max.M:50 Min. M:17

UNIT-I

Introduction to Networking, Introduction to Network, Network, Computer Networks, Need of Network, Uses of Computer Network, Applications of networks, Network Criteria, Network Hardware and Software, network types: client, server & peers, Various Types of Servers.

Transmission Technology, Transmission technology, Data can be analog or digital, Analog and Digital Transmission, Asynchronous & synchronous transmission, Types of Communication Modes, Baseband and Broadband Transmission, Comparison of Baseband and Broadband Signaling.

UNIT-II

Transmission Media , Transmission Media, Classification of Transmission Media, Comparison of Guided and Unguided Media, Twisted Pair (TP) Cable, Coaxial Cable, Fiber Optic Cable (FOC), Unguided Media, Radio Frequency Characteristics, Microwave Transmission, Applications of Infrared Transmission.

Network Topology , Network Topology, Types of Network, Local Area Network (LAN), Metropolitan Area Networks (MAN), Wide Area Networks (WAN), Satellite Networks, Wireless LAN.

Network Adapters, Network adapters, Network interface cards (NIC), Multiple Access Protocol, ALOHA, Carrier Sense Multiple Access (CSMA), CSMA/CD [Carrier Sense Multiple Access/Collision Detection], Collision Free Protocols , Limited Contention Protocol, Controlled Access , Channelisation, Code Division Multiple Access (CDMA).

UNIT-III

The Theoretical Network Model - OSI, OSI Model, open system interconnection model (OSI) Layered Architecture of the OSI Reference Model, Functions of the ISO/OSI Layers, Summary of OSI Layer functions.

Real World Networks, real world network : Ethernet, Fast Ethernet , FDDI (Fiber Distributed Data Interface), Network Operation, ATM (Asynchronous Transfer Mode), ATM Service Categories, ARCNET , AppleTalk.

IEEE 802 Standards , IEEE 802 standards, IEEE 802.3 (CSMA/CD) , IEEE 802.4 (Token Bus), IEEE 802.5 [Token Ring] , IEEE 802.5 cable standards, Comparison between IEEE 802.3,802.4 and 802.5, Compare Token Passing with CSMA/CD.

Connectivity Devices, Networking scaling , Connectivity Devices , Modems, Transceiver , Repeaters, Hubs, Bridges, Routers .

UNIT-IV

TCP/IP Reference Model, Overview of TCP/IP reference model, Introduction to TCP/IP :, TCP/IP Protocols, User Datagram Protocol, The Internet Control Message Protocol (ICMP), The Address resolution Protocol (ARP), Reverse Address Resolution Protocol (RARP), Simple Mail Transfer Protocol (SMTP), File Transfer Protocol, Dynamic Host Configuration Protocol (DHCP), Remote Login (rlogin), The Network File System (NFS).

IP Addressing & Subnet, Introduction to IP, Domain Name System (DNS), URL (Uniform Resource Locator), Electronic Mail, E-mail address, Subnet & Subnet masks.

Network Building Blocks, Network building blocks required for Setting up a Small LAN using Windows in an Office, Hyper Terminal, Network Setup Wizard, Setting up Internet Connection Sharing in Windows.

Network Security, Network Security, The Need for Security, common threats, security barriers in network pathways, Attacks, Classification of Attacks, Specific Attacks.

Approaches to Network Security, Levels of Security, Approaches to network security, Security Services.

UNIT-V

Viruses & Security Threats, Virus & Threats, Malicious Programs , Types of Viruses, Virus Countermeasures, Antivirus Approach, Advanced Antivirus Techniques, Distributed Denial of Service Attacks, DoS Attack Description.

Firewalls, Firewalls, Firewall Design Principles, Types of Firewalls, Firewall Configurations, Demilitarized Zone (DMZ) Networks, VLAN.

Encryption & Decryption, Encryption & Decryption - Cryptography, Terminology, Classification of Cryptography, Substitution Ciphers, Security of algorithms, Steganography, Steganography vs. Cryptography, Public key encryption , Comparison of Symmetric and Asymmetric Key Cryptography , Public Key Cryptanalysis.

Digital Signature, Digital Signature , Requirements of Digital Signature, Direct Digital Signature, Arbitrated Digital Signature, Authentication Protocols, Symmetric Encryption Approach, Public-Key Encryption Approach, Digital Signature Standard, RSA and Digital Signature, DSS Approach, The Digital Signature Algorithm,

LABWORK

SR. NO	TOPICS
1	UNDERSTANDING THE NETWORK CONCEPT
2	FAMILEAR WITH TRANSMISSION MEDIA AND TOPOLOGY
3	ESTABILISH THE SMALL NETWORK WITH CONNECTIVITY DEVISE
4	UNDERSTANDING THE IP ADRESSING AND SECURITY

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. A.S. Tananbaum, "Computer Networks", Pearson Education, Delhi, Fourth edition, Year of Publication: 2009
2. Behnouz A. Forouzan, "Data Communication and networking", 2nd Ed. Update, Tata McGraw Hills 2003
3. Black U, "Computer Networks-Protocols, Standards and Interfaces", PHI 1996
4. Insight Into Computer Network , Ekta Gupta, Pragya

List of Practical's

1. Point-to-Point cable connection between two computers.
2. Establishment of LAN (Cable Connection).
3. Introduction of different cables.
4. Study of various networks command.
5. Configuration of topology.
6. Introduction to communication device.
7. Establishment of unguided media and wireless technology.
8. Introduction to router, gateways, server, repeater, bridges and switches.
9. Study and classification of IP address.
10. Introduction to internet, www, browsing and web hosting

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Third Semester

PROGRAMME: - BCA
COURSE: - PROGRAMMING WITH JAVA
COURSE CODE: 3BCA4, CREDIT:-3

Theo. Max. M: 70 Min. M: 23
Assig. Max. M: 30 Min. M: 10
Practical Max.M:50 Min. M:17

UNIT-I

OVERVIEW OF JAVA - Introduction, Programming paradigm, OOPS Concepts, Evolution of Java, Features of Java, C++ Vs Java, Java and Internet, Java and WWW, Java support systems, Java Environment

KEY FEATURES OF JAVA - Introduction, Java Program Structure, Simple Java Program, Tokens, Java Statements, Java Virtual Machine, Constants and Variables, Declaration of Variables, Scope of Variables, Data types, Symbolic Constants, Type Casting, Command line arguments

UNIT-II

OPERATORS - Operators, Arithmetic Operators, Relational Operators, Logical Operators, Bitwise Operators, Increment and Decrement, Conditional Operators, Special Operators, Assignment Operators, Expression & its evaluation

CONTROL STATEMENTS - Introduction, Control Statements, Sequence Control Statement, Decision Control Statement, Case Control Statement, Iteration Control Statement, Jump in loops, Labelled Loops

ARRAYS AND STRINGS - Introduction, Array, Need of Array, Types of Array, One dimensional Array, Two- Dimensional Array, Multidimensional Array, Strings, Concatenation of Strings, Methods for String Comparison, Methods for searching Strings, Changing the case of characters, String Buffer

UNIT-III

CLASSES - Introduction, Defining a Class, Adding Variables, Adding Methods, Creating Objects, Accessing Class members, Call by value and call by reference, Recursion, Access Control, Constructors, Method overloading, Constructor Overloading, Garbage Collection, finalize( ) method, this keyword, Static Members, Nesting of Methods

INHERITANCE - Inheritance, Single Inheritance, Multilevel Inheritance, Multiple Inheritance, Hierarchical Inheritance, Using Super, Constructor -Order of Execution in Inheritance, Overriding methods, Final variables and methods, Final Classes, Abstract methods and Classes, Containership, Visibility Control

UNIT-IV

WRAPPER CLASSES AND VECTORS - Introduction, Wrapper Classes, Number Class, Byte class, Short class, Integer class, Long class, Converting Numbers to and from Strings, Float

class, Double class, Character class, Boolean class, Vectors, Creating a vector

INTERFACE & PACKAGES - Introduction, Interfaces, Defining interface, Implementing interface, Accessing interface method, Accessing interface variable, Extending interfaces, Packages, System packages, Using system packages, User defined packages, Adding class to a package, Accessing and using package

UNIT-V

EXCEPTION HANDLING - Introduction, Exceptions, Using try & catch, Multiple catch clauses, Finally, Throw, Throws

MULTITHREADING - Introduction, The Main Thread, Creating Threads, Life cycle of Thread, Using Threads Methods, Thread Priorities, Stopping and Blocking a thread, Thread Exceptions, Using is Alive( ) and join( ), Synchronization

APPLETS - Introduction, Local & remote applets, Applet vs applications, Writing applets, Life cycle of an applet, Creating source code of applet, Creating an executable applet, Creating applet tag, Adding applet tag to html, Running the applet, Detailed form of applet tag, Passing parameters to applet, Aligning the display, Html tags, Getting input from user

INPUT-OUTPUT STREAMS AND FILE MANAGEMENT - Introduction, Stream, Stream Classes, Byte Stream Classes, Character Stream Classes, System Class, Reading Console Input, Writing Console Output, Using the File Class, Random Access File

GRAPHICS PROGRAMMING - Introduction, The Graphics Class, Drawing Lines and Rectangles, Using drawOval() and fillOval() method, Drawing arcs, Drawing Polygon, Line Graphs, Drawing Bar Charts

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Programming in Java – 2nd Edition by C.Muthu, TMH Publication
2. Java How to Program by Deitel & Deitel - 6th Edition- PHI Publication 2005.
3. Programming with JAVA, E-Balagurusamy, TATA McGraw Hill

LABWORK

SR. NO	TOPICS
1	UNDERSTANDING THE JVM
2	IMPLEMENT THE BASIC CONCEPT IN COMMAND LINE ARGUMENT
3	FAMILEAR WITH BASIC CONCEPT OF JAVA ACCORDING TO SYLLABUS

List of practical

1. Write a program to check whether a number is Armstrong number or not.
2. Write a program to sort a stream of Strings.
3. Write a program to perform multiplication of two matrices.
4. Develop a program to illustrate a copy constructor so that a string may be duplicated into another variable either by assignment or copying.
5. Create a base class called shape. It contains two methods getxyvalue() and showxyvalue() for accepting co-ordinates and to display the same. Create the subclass called Rectangle

which contains a method to display the length and breadth of the rectangle called showxyvalue().Use overriding concept.

6. Write a program which throws Arithmetic Exception.
7. Create a user defined Exception class which throws Exception when the user inputs the marks greater than 100.
8. Write a program using InetAddress class and also show the utility of URL and URL Connection classes.
9. Write a program which illustrates capturing of Mouse Events. Use Applet class for this.
10. Write a program using RMI in which a simple remote method is implemented.
11. Write a servlet program using HttpServlet class. Also give the appropriate HTML file which posts data to the servlet.
12. Write a JDBC program for Student Mark List Processing.

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Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Third Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**
COURSE: - PRINCIPAL OF MANAGEMENT **Assig. Max.M: 30 Min. M: 10**
COURSE CODE: 3BCA5, CREDIT:-2

UNIT-I

Management: an Introduction, Introduction, What is management ?, Definition of management, Characteristics of management, Objectives of management, Administration Vs management, Management as a science and an art.

HISTORY OF MANAGEMENT, Introduction, Classical school, Scientific management theory Frederic Taylor, Bureaucratic Management theory, Administrative Management Henri Fayol, Social System Approach, Human relations Movement, Hawthorne Experiment, Management Science theory, Recent development in management theory, The contingency Approach, Excellent companies Approach/7-S framework.

UNIT-II

Managers & Management Responsibilities Styles, Introduction, Types of managers on basis of style, Managerial skills, Qualities of a manager, Management Responsibility.

Managerial Roles, Introduction, Managerial role according to Henry Mintzberg, responsibility of a manager, Introduction, in an organization Internal Environment, management External fubnctions Environment, Changes in Technological

BusiessEnvironme **Environment,** Changes in Sociological Environment, Changes in Economical Environment, Changes in Political-Legal Environment, Changes in Ecological Environment.

Organisation, Introduction, Development, Definitions, Meaning and Nature of organization, "Organisation as systems", Steps in organization, Importance of Organisation, Principles of Organisation, Formal Organisation, Informal Organisation, Organisation Structure, Meaning of organization structure, Definition of organization structure, Importance of structure, Organization structure and role of culture, Forms of organizational Structure, Organisation Charts, Determination of structure, Span of control, Impact of span of control on organization structure.

Centralisation Vs Decentralisation and Change Management, Authority and responsibility, Decentralisation of Authority, Degree of Decentralisation, Centralisation of Authority, Centralisation Vs Decentralisation, Change Management - Why, What and How?, Types of changes for Managers, Types of organisational changes, Organisational Change Management Model, Why do people resist to change?, How should the managers overcome resistance?, Management of change, Role of groups in change management, Five Basic principles of change management and how to apply them.

UNIT-III

Concept of Social Responsibility Management Obligations and , Government Regulations, Management Obligation, Social responsibility (CSR), Definition of social

responsibility, The ethics and the social responsibility of management, Government Regulations,

Strategy – Meaning, Process and Elements, Strategy-Introduction, Strategy- Defined, Key terms in strategic management, The Scope Of Strategic Management, Dimensions of Strategic Management, The strategic decision makers, Basic models of strategic management, Types of strategies, Elements of strategy , Elements in strategic management process,

Strategy Formulation, Introduction, Three aspects of strategy formulation, Competitive (business level) strategy, Competitive tactics, Cooperative strategies, Functional strategies, Choosing the best strategy alternatives, Evolution of strategic management, Long range planning and strategic planning , Strategic posture management ,

Alliances and Acquisitions , "Coopetition" and strategic alliances, From competition to collaboration, Creating an alliance culture, Business strategy for world-class organizations, Acquisition or alliance?, Alliance or acquisition?, Co-branding a popular form of strategic alliance, Exclusivity, Licensing specifics, Branding and marketing specifications.

UNIT-IV

Decision Making, Introduction, What is decision making, Characteristics of managerial decision making, Types of Managerial decisions, The components of decision making, Approaches to decision making, Decision making strategies, Decision making is a recursive process, Decision making procedure, Kinds of decision, Decision making models, Decision making techniques,

Information Management and Reporting , Background – Information as an asset, Characteristics of Information, Measures of value of information, Functioning Reporting, Common errors, Information flow, Significance of information in organization, Value of information, Level of information, Quality of information, Writing the report, Categories of Reports, Steps of Report Writing,

Management Information System, Introduction, Data, Information, knowledge & wisdom, Characterstics of Information , What is system ?, Information System, Business perspective of information system, Why Information System ?, Contemporary approaches to Information System., Management Information System , Role of MIS, MIS as a federation of subsystem, MIS as a multidisciplinary activity, Assessing vulnerability to MIS risk, Why an MIS might fail ?, MIS reviews,

Project Planning And Management, Introduction, History of project management, Project management triangle, Project management activities, Project Objectives, Project management arti facts, Approaches, Development phase of a Project, Rational unified process, Event chain Methodology, Project Systems, Gantt Chart, Sequential and parallel activities, PERT, Implementing PERT, Critical path method,

Human Resource Management (HRM) , What is HRM ?, Schools of thought, History of HRM, Labour movement worldwide, Core Values of HRM, The philosophy of HRM, Objectives of HRM, Principles of HRM, Functions of HRM, Importance of HRM functions, Challenges of HRM, Segregation Vs Integration of People Practices, Effect of Competition on HRM,

Job Analysis , Introduction, Process of job analysis, Job description Vs Job Specification, Methods of collecting job analysis data, Impact of behavioral factors on job analysis, Job evaluation, Job evaluation process, Job description, Job specification.

UNIT-V

Management Skills- Leadership and Motivation , Introduction, Definition and meaning of leadership, Leadership Vs Management, Importance of Leadership, Leadership Traits, Leadership Traits, Leadership Style, Approaches to Leadership, Hersey and Blanchard's situation model, Path Goal theory, Transformational leadership,

Delegation And Motivation , Introduction, Definition of delegation, Degree of delegation,

Importance and need of delegation, Process of delegation, Principle of delegation, Barrier of delegation of authority, Guidelines of effective delegation, Conclusion for delegation, Motivation and its theories, Need and Importance of motivation,

Team Building, Why have teams become. So popular ?, Team versus groups, Team Building, Acquiring the team, Characteristics of effective team, Evaluation of team effectiveness, Types of Teams, Beware team aren't always the answer, Selecting team members, Training & Development, Importance of Training & Development, Disadvantage of Training, Development,

Communication An Introduction , Introduction, Functions of Communication, Communication process, Direction of Communication, Interpersonal Communication, Computer Aided Communication, Choice of Communication, Barriers of effective Communication, Communication Comprehension, Presentation skills, Objectives of Communication, Techniques of Speech, Practical guidelines, Guidelines, Presentation for developing a formal presentation, Discussion leading,

Time Management , Introduction, Time management, Manage your time management categories, Why is time management important ?, The importance of time management in your life., Different uses of the term, Techniques for setting priorities, How to use time boxing for getting results., Personal Time boxing, Time management personality by pes, Time management tips, Time management tools,

Entrepreneurship, Introduction, History, The Entrepreneur, Contribution of entrepreneurs, More about Entrepreneurs, Definitions and Terminology, Business incubator, Entrepreneurship, Self employed Entrepreneur, Knowledge Entrepreneur, Characteristics of the successful entrepreneur, Sups of how to become in entrepreneur ?,

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. *Principles and Practices of Management* by Koontz & O'eonneal
2. *Management Today Principles and Practices* by Burton & Thakur
3. *Management Principles & Functions* by Ivancevich & Gibson , Donnelly
4. *Organizational Behavior* by Stephen Robbins
5. Principal of management , Dr Mukti Jain , Pragya

SEMESTER-IV

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fourth Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE:-LINUXOPEARTINGSYSTEM-OPERATION & MANAGEMENT **Assig. Max. M:30 Min. M: 10**

COURSE CODE: 4BCA1, CREDIT:-3 **Practical Max. M: 50 Min. M:17**

UNIT-I

INTRODUCTION TO LINUX - introduction, what is Linux?, basic features, Linux different flavors, gnu/Linux, the most popular flavors of Linux, installing requirement: minimum hardware requirements, software requirements to install Linux, allocating disk space for Linux, adding a new hard drive, using an existing hard drive or partition, reconstructing an existing partition to install Linux, using fdisk to partition a hard disk, installing Linux, basic architecture of unix/Linux system, Linux logging in, logging out and shutting down, avoid the GUI

LINUX FILE SYSTEMS - introduction, the inode and its structure, the Linux file system , Linux standard directories, layout of file system , supported file systems, the second extended file system (ext2), the ext2 superblock, Linux directory terminology, how Linux access files , storage files

UNIT-II

USING LINUX COMMANDS - introduction, commands for files and directories, creating and viewing files, viewing files, disk related command,

SHELLS, PROCESSES & ESSENTIAL LINUX COMMANDS - introduction , understanding shells, process in Linux, connecting process with pipes, background processing, managing multiple processes, changing process priority, printing commands in Linux, scheduling of process, file related commands

MATHEMATICAL COMMANDS AND TEXT EDITORS IN LINUX - introduction, mathematical commands, interacting with 'units', using 'units' non-interactively, the vi editor, the vim editor - the powerful simple editor, efficient editing with vim, the joe editor-joe's own editor, editing tasks - basic editing

UNIT-III

SYSTEM ADMINISTRATIONS IN LINUX - introduction, system administrator or supper user, common administrative tasks: role of system administratoor, identifyong administrative files: configuration and log files, managing user accounts, changing permission and ownership, creating and mounting file system, getting system information

BACKUP AND UTILITIES - introduction, backup and restore files, Linuxconf, utility in gui, reconfiguration hardware with kudzu

UNIT-IV

CONFIGURING DESKTOP IN LINUX - introduction, desktop environment, Linux configuration tools, x- configurator, understanding xf86config file, starting and using x desktop, configuring x: changing x settings, kde & gnome graphical interface

BASIC NETWORKING ADMINISTRATIONS IN LINUX - introduction, setting up a lan using Linux, setting up an ethernet (local area networks (lan)), network topologies, lan equipment, lan equipment setup, configuring host computers, choosing peer to peer vs client server model, administrations in network environment, checking ethernet connection, connecting to internet, common networking administrative tasks, Linux network file system (nfs), initializing and configuring ethernet interface

UNIT-V

TCP/IP NETWORK - introduction, tcp/ip basics, dns services, routing using Linux, slip & ppp services, squid - Linux webcache/proxy server

INSTALLATION & ADMINISTRATIONS OF SERVERS- introduction, what are servers?, type of servers, overview of e-mail, installation and administrations of mail servers (sendmail), overview of ftp, installation and administrations of ftp (vsftpd) servers, installation and administrations of apache web servers

SHELL PROGRAMMING - introduction, basic of shell programming: building blocks, shell scripts, getting started with shell programming, wild cards (filename shorthand or meta characters), shell variables, shell kewords , various types of shells, conditional and looping statements, creating shell programs for automate system and report printing, use of grep in shell, call awk from shell script, examples of general shell programming , using "bourne shell".

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. The complete Reference LINUX: Rechard Petersen, TATA McGraw Hill.

LABWORK:-

SR. NO	TOPICS
1	UNDERSTANDING THE LINUX ENVIROMENT AND TOOLS
2	RUN BASIC COMMAND ACCORDING TO THE SYLLABUS
3	UNDERSTANDING SHELL PROGRAMMING ENVIROMENT

List of Practical's

1. Explain the various installation method of Linux.
2. Explain the procedure for partitioning a hard disk.
3. Write the commands for file and directory in Linux.
4. Which command is used to remove a job from the printer queue?
5. Which command is used to end Process?
6. What are the numerical values used in permission?

7. Explain following command with example.
    1. l's command
    2. cat command
8. What is kudzu? Explain it.
9. Write the step for installation of Linux operating system.
10. How can we create user manually?
11. Write print related commands used in Linux?

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fourth Semester

PROGRAMME: - BCA
COURSE: - SOFTWARE ENGINEERING
COURSE CODE: 4BCA2, CREDIT:-3

Theo. Max. M: 70 Min. M: 23
Assig. Max. M: 30 Min. M: 10

UNIT-I

Introduction to software engineering - introduction, reusable software components, what is well engineered software?, programming and software engineering, what is software engineering ?, goals of software engineering, software processes, software process models, process iteration, other important software models

Software project management - project management, management activities, project planning, project scheduling, risk management, selecting staff, metrics used for measuring the software cost, cocomo model

Software process and project metric - software quality, metrics for the analysis model, metrics for the design model, metrics for source code, metrics for testing

Software project planning - introduction, software project planning, other planning activities, organisation of the software project management plan (spmp) document

UNIT-II

Software cost estimation - introduction, software cost factors, programmer's ability, product complexity, product size, required level of reliability, level of technology, decomposition technique, empirical estimation models, the structure of estimation models

Software project requirements - software requirements, functional and non-functional requirements, user requirements, system requirements, software requirements document

Requirements engineering process - requirements engineering process, feasibility study, requirements elicitation and analysis, scenarios, requirements specification, ethnography, requirements validation, requirements management

UNIT-III

Software prototyping - software prototyping, prototyping in the software process, rapid prototyping techniques, user interface prototyping

Analysis concept and modeling - analysis modeling, context model, data modeling concepts, cardinality and modality, flow oriented diagram, data dictionary

Design concepts and principles - introduction, design within the context of software engineering, design process and design quality, design concepts, information hiding, functional independence, design classes, the design model, software patterns

UNIT-IV

Software architecture - software architecture data design, architectural styles and patterns, analyzing alternative architectural designs, mapping the requirements into a software architecture, architectural design

Designing the user interface - user interface, input design, end-user considerations for input design, output design, design principles, screens, forms, menu, messages, importance of code, data codification schemes, designing code less systems

Software quality management - software quality management, role of a software quality manager, iso quality model, quality assurance standards, quality planning, quality control, software reviews, software reliability

Verification and validation - verification and validation, software testing, verification and validation planning, software inspections, automated static analysis, cleanroom software development

UNIT-V

Software testing models - software testing fundamentals, black-box and white-box testing, white-box testing, basis path testing, control structure testing, black-box testing, object-oriented testing methods

Software testing strategies - the strategic approach, the software testing strategy, strategic issues, unit testing, integration testing, validation testing, system testing, test automation

Computer aided software engineering (CASE) - computer aided software engineering (CASE), case workbenches, integrating case environment, need of software reuse:, types of reuse, reuse

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. R.S. Pressman, Title: Software Engineering – A Practitioner's Approach Publishers: McGraw Hill, 6th edition
2. P. Jalote, "An Integrated approach to Software Engineering", Narosa.
3. R. Fairley, "Software Engineering Concepts", Tata McGraw Hill, 1997.
4. Software Engineering by Ian Sommerville, Pearson Education

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fourth Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - MICROPROCESSOR AND ASSEMBLY LANGUAGE PROGRAMMING **Assig. Max. M: 30 Min. M: 10**

COURSE CODE: 4BCA3, CREDIT:-3

UNIT-I

Introduction, OR gate identity, AND gate identity, Demorgan's theorem, logic gates, Karnaugh map, simplification of Boolean equation by K map, don't care condition, combinational circuits, arithmetic circuits , subtractors, sequential circuits, clock, flip flop, binary counters, asynchronous (or ripple) down counter, up-down counter

UNIT-II

Microprocessor evolution and types, dedicated or embedded controllers, characteristics of embedded controllers, other common controller features, embedded controllers vs. general microprocessors and microcontrollers, bit-slice processors, general purpose CPUS, RISC processor:, RISC versus CISC, RISC properties, RISC evaluations, computing speed, specification of sun SPARC cy7c601,
the Intel i860 processor architecture, RISC processor-Motorola 88000, superscalar processor, register renaming, branch prediction, PowerPC organisation, machine status register (msr), data types, features of PowerPC architecture

UNIT-III

8086 internal architecture, register organisation of 8086, addressing modes,
instruction set and assembler directives, data movement instructions, addition, subtraction and compare instructions, multiplication and division instructions, BCD and ASCII arithmetic instructions, logical instructions, shift and rotate instructions, string compare instructions, jump instructions, machine control and miscellaneous instructions, interrupt instructions, instruction templates and coding formats, assembler directives and operators ,

UNIT-IV

assembly language of 8086:, languages used for programming, assembly language programming tips, 8086 signals, addressing memory, addressing i/o, general bus operation, special processor activities, minimum mode 8086 system and timings, maximum mode 8086 system and timings , the processor 8088

UNIT-V

Intel 80386 processor, architecture and bus cycles:, features of 80386 :, architecture of 80386dx, instruction decode unit, execution unit:,
pin diagram of the 80386 microprocessor, DMA controller:, DMA controller: data transfer

modes :, pin configuration of 8237, block diagram of 8237

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. R.S.Gaonkar, Microprocessor Architecture – Programming and Application with 8085/8080A, Wiley Eastern Limited, 1990.
2. A.Mathur, Introduction to Microprocessor, Third Edition, Tata McGrawHill Publishing Co.Ltd.,1993.
3. The 8086 Microprocessor: programming and interfacing in PC, Kenneth J. Ayala, Cengage Learning pub

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Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fourth Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - RDBMS PRACTICE WITH ORACLE/MS SQL SERVER EXPRESSES EDITION **Assig. Max. M: 30 Min. M: 10**

COURSE CODE: 4BCA4, CREDIT:-3

UNIT-I

Introduction to DBMS & RDBMS - Introduction to database, Introduction DBMS, Different database models, Structure of DBMS, RDBMS an introduction, Cod's law for RDBMS, Components of rdbms (kernel/data dictionary)

Introduction to Oracle RDBMS and Client/Server Computing - Introduction to Oracle, The Features of Oracle 9i, The oracle product details, An introduction to client/server computing, Oracle and client/server computing

Overview of Oracle Architecture - Oracle Architecture, Oracle Files, System and User Processes, Oracle Memory, System Database Object, Protecting Data

UNIT-II

Introduction to SQL*PLUS -Introduction to SQL, Features of SQL, Components of SQL, Introduction to SQL*PLUS, Features of SQL*PLUS, Execution of SQL*PLUS, Important commands used in SQL*PLUS, Oracle Data-Types

Working with Tables -Tables - An Introduction, Use Of Table In SQL, Viewing The Stored Data In Tables, Filtering Table Data, Updating Data, Deleting Data From Tables, Modifying The Structure Of Tables, Destroying A Table, A Few Other SQL Statements

Data Constraints - Data Constraints, The Use of Data Constraints, The Types of Data Constraints, Defining Integrity Constraints By 'Alter Table', Removing Integrity Constraints, 'Null' Value Concept, 'Not Null' Constraint, Default Value Concept, 'User Constraints' Table

UNIT-III

Data Manipulation in SQL - Oracle Operators, Range Searching, Pattern Matching, LIKE 'IN' and 'NOT IN' Predicates, An Introduction to 'DUAL' Table, An Introduction to 'SYSDATE'

Oracle Functions - Oracle Function, Function Types, Group Function, Scalar Function, Working With 'Date' in SQL, Grouping Of Data Of Different Tables In SQL

Joins, Sub-Queries & Views - types of joins, use of sub-query, 'union' and clause, 'Intersect' Clause, Minus Clause, Concept of View, Types of View, Use of View

User Accounts Management & Indexing - Creation of User Account, User Account Management, Granting Privileges, Revoking Privileges, Modifying Password, Closing User Account, Concept of Index, Creation of Index, Types of Index, Use of Index, Deleting Index

UNIT-IV

Introduction to PL/SQL Programming - Introduction to PL/SQL, Advantages of PL/SQL, Differences between SQL and PL/SQL, PL/SQL Block Structure, PL/SQL Character set, Variable, Constant and Data type, Assignment Operator and the use of 'SELECT….INTO, PL/SQL Program Control Structure, The use of 'IF…THEN…ELSE…ENDIF', Iteration Control (The use of LOOP, WHILE, FOR), The use of 'GOTO Statement

Cursor - Cursor an Introduction, Types of Cursor, Features of Cursor, Implicit Cursor, Explicit Cursor, Application of for Loop with Cursor.

UNIT-V

Exception Handling in PL/SQL - Exception Handling in PL/SQL, Built in Exception Handling, User Defined Exception Handling, The Raise Application-error Procedure

Oracle Transaction - Oracle Transaction, Commit Statement, Rollback Statement, Save point statement, Concept of lock, Types of locks, Levels of Locks, 'SELECT…..FOR UPDATE' Statement, Removing the Lock

Procedures and Functions- Concept of Procedures and Functions, Advantages of Procedure and Function, Creation of Procedure and Function, Deleting Procedure and Function

Database Triggers - Concept of Triggers, Types of Triggers, Creation of Triggers, Application of Triggers, Deleting Triggers

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Author: Silberschatz–Korth–Sudarshan: Database System Concepts, Fourth Edition, Title: Database System Concepts, Publishers: Tata McGraw Hill.
2. Elmasri & Navathe, Fundamentals of Database systems, Addison & Weisely, New Delhi.
3. C. J. Date, Database Systems, Prentice Hall of India, New Delhi.
4. Martin Gruber, Understanding SQL, BPB Publication, New Delhi.
5. Val Occardi, Relational Database: Theory & Practice, BPB Publication, New Delhi.
6. Ivan Bayross, SQL, PL/SQL The Programming Language of Oracle, BPB Publication

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Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fourth Semester

PROGRAMME: - BCA
COURSE: - PROGRAMMING WITH VISUAL BASIC .NET
COURSE CODE: 4BCA5, CREDIT:-4

Theo. Max. M: 70 Min. M: 23
Assig. Max.M: 30 Min. M: 10
Practical Max.M:50 Min.M:17

UNIT-I

Introduction to .NET - Introduction, What is a Program?, What is Programming?, What do you mean by .NET Framework?, Features of .NET Framework, VB 6 VS VB.NET, VB.NET VS JAVA, VB.NET VS C#, What is .NET Architecture?, What is CLR?, What do you mean by Class Library?, Versions of .NET Framework, What are Assemblies?, Namespaces, CTS (Common Type System), Interfaces, What is special in VB.NET?

Visual Studio 2005 - Introduction, What is Visual Studio?, Flavors of Visual Studio, Visual Studio 2005, File Extensions Used in VB.Net, Using Visual Studio 2005, Feature of Visual Studio 2005, Output Window, Components Tray, References and the Reference Window, Quick View of Visual Studio 2005, Opening an existing project, Adding a Form to a Project

UNIT-II

The Visual Basic Language - Visual Basic Statements, Data Types in VB.NET, Declaring Variables, Declaration of Variables (Advanced), Data Type Conversion, String Functions, Formatting Data, Arithmetic Operators, Parentheses and Precedence, Operator Operation, Constants, Control Statements, Arrays in VB.NET, Specifying Optional Procedure Arguments, Passing a Variable Number of Arguments, Recursion, Using a Delegate

Working With The Controls - The Toolbox, Adding and deleting Tools in the Toolbox, creating a tab on the toolbox, Form Designer Basics, The Button, The ComboBox , The ListBox, The Checkbox, The PictureBox, The RadioButtons, The Scroll Bar, Timer, ListView, TreeView, Toolbar, Dialog Boxes, Menus in VB.NET, LinkLabel Control

Designing Menus - Menus, Context menu, Event of the MenuItem, Creating menu items in Visual Studio .Net

UNIT-III

Object Oriented Programming with VB.NET - OOPs?, What is an Object?, What are Classes?, Visual Basic .NET and Object- Oriented, Principles of Object-Oriented Programming, Classes V/s Objects, Inheritance, Polymorphism and Overloading, Scope and Accessibility in Class Modules, Namespaces, Managed Execution, Assemblies, Assemblies in VB .NET

UNIT-IV

The .NET Framework Class Library - The .NET Framework Class Library, The System

Namespace, Data Type Conversion Using Convert Class, The Array Class, The Math Class, The String Class, Other Namespaces, System.Collections, System.Data, System.IO

OLE/COM/Win32 API - Object Linking and Embedding, History of OLE/COM, Component Object Model (COM), COM interoperability in .NET, Win32 API in .NET, COM Interoperability in .NET, Installation and Registration of Assembly, Microsoft Office solutions with Visual Studio .NET, Automation of Office from Visual Studio .NET, Creating and opening Microsoft Word document from VB.NET

User Controls in VB.NET - Introduction, The Control Class, The Control Class' Properties, The Control Class' Methods, Creating the Control Project 1, The RoundButton Control, Creating the Control Project 2, Building the new Button

UNIT-V

A Brief Introduction to Database Access with VB .NET - Introduction, What is ADO?, What is ADO.NET?, The Connection Object, Connecting to a Database, The Command Object, The DataAdapter Object, The DataReader Object, The DataSet Object, Updating Your Database by Using DataSets, The AcceptChanges () Method, The RejectChanges () Method, The HasChanges () Method, The GetChanges () Method, Working with DataSets in Visual Studio, Moving Around in DataSet and Retrieving Data, Using Strongly Typed DataSets, DataSets With Multiple Tables, Finding and Sorting Data in DataSets, Filtering on Row State and Version, Data View Manager

Graphics In VB.NET - Introduction, Service of GDI+, Using GDI+ Manged Classes, BRUSH Class, Bitmap Class, Graphics Class, Simple Drawing, Drawing Text, An Example: Show All Fonts, Printing, Printing Multiple Pages, More on the PrintPageEventArgs Class, Using a Print Dialog Control, Rolling Your Own Printing Code, Print Preview

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. V.B. Net Programming, Hemant Bairagee, Kamal Prakashan
2. Visual Basic .Net Simplified, A.Mansoor, Pragya

LABWORK:-

SR. NO	TOPICS
1	UNDERSTANDING THE .NET FRAMEWORK
2	RUN BASIC PROGRAM ACCORDING TO THE SYLLABUS
3	UNDERSTANDING DATA BASE CONECTIVITY IN .NET FRAMEWORK

List of Practical's

1. Write a program to show the use of any three controls in vb.net.
2. Write a program to show the use of timer.
3. Write a program to create a procedure to calculate factorial of a number with arguments.
4. Write a program to show the use of ListBox, ComboBox, Checkbox and RadioButton.
5. Write a program to display a tree of Colors.
6. Write a program to Show use of ColorDialog and Font Dialog Control.
7. Write a program to Save the document written in RichTextBox using SaveDialogControl.
8. Write a program to Print the document and also PrintPreview and PageSetup.

9. Write a program to Display a picture in Form.
10. Write a program to Show the use of Multiform With student Registration Form.
11. Write a program to perform Inheritance in VB.Net.
12. Write a program to perform Polymorphism in Vb.Net.
13. Write a program to handle Constructor and Destructor in VB.net.
14. Write a program to Perform database connectivity with MS Access with the fields Name, EnrollNo., DOB, Class and Address.
15. Write a program to perform data binding with DataGridControl

SEMESTER-V

Dr. C.V. RAMAN UNIVERSITY

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SEMESTER- Fifth Semester

PROGRAMME: - BCA | **Theo. Max. M: 70 Min. M: 23**
COURSE: - COMPUTER GRAPHICS | **Assig. Max.M: 30 Min. M: 10**
COURSE CODE: 5BCA1, CREDIT:-4 | **Practical Max.M:50 Min.M:17**

UNIT-I

Introduction to Computer Graphics - introduction to computer graphics, advantages of computer graphics, applications of computer graphics, classification of computer graphics, graphics standards, graphical user interface, basic elements of graphics

Graphical Input Devices - Introduction, Keyboard, Mouse, Trackball, Trackpads, Touch Screens/panels, Automatic Teller Machine, Joystick, Light Pen, Data Glove, image scanners, Digitizers/digitizing or graphic tablets

Graphical Output Devices - Introduction, hard copy and soft copy output devices, graphical Display or soft copy Devices, Monitor , Raster Scan and Random scan displays, Display technologies, Cathode Ray Tube (CRT) Displays, Flat Panel Displays, Characteristics OF A Monitor, video/Display Adapters , Modes , HARD COPY DEVICES

UNIT-II

Drawing Geometry : Line & Circle Generation, Introduction, lines, Line Segments, Vectors, Vector Generation, Thick Lines, Basic Concepts in Circle Drawing, Circle Drawing Algorithms, Ellipse Drawing Algorithm

Aliasing, Antialiasing and Character Generation - Aliasing and Antialiasing, Character Generation, Normalized Device Co-ordinates, Display of Frame Buffer

Polygon Representation and Filling - Introduction, Types of Polygons, Representation of Polygons, Entering Polygons, An Inside Test, Polygon Filling, Filling with Patterns, Scan Conversion

UNIT-III

2D Geometric Transformation - Introduction, Matrices, Transformations, Homogeneous Co-ordinates, Composition of 2D Transformations, Other Transformations

2D Viewing Transformation and Clipping - Introduction, Viewing Transformation, More about Viewport and Window, Two- Dimensional Viewing Functions, Clipping, Cohen-Sutherland Subdivision Line Clipping Algorithm, Midpoint Subdivision Algorithm, Polygon Clipping, Sutherland - Hodgeman Polygon Clipping Algorithm

UNIT-IV

3D Geometric Transformation - Introduction, 3D Geometry, 3D Primitives, Techniques to Achieve Realism, 3D Geometric tranformations, Reflection with Respect to Given Plane, Reflection with Respect to Any Plane

3D Display Methods - Three Dimensional Viewing, Viewing Parameters, Transformation from World co-ordinate to , Viewing co-ordinates, Projections, 3D Clipping, 3D Midpoint Subdivision Algorithm

UNIT-V

Segments - Introduction, Segment Table, Functions for Segmenting the Display File, More about Segments, Image Transformation, Raster Techniques, Animation using Segmentation

Curve Generation - Introduction, Curve Generation, Interpolation, Interpolating Polygons, Spline Representation, Bezier Curves, B-Spline Curves, hidden surface, Back face Removal Algorithm, Z-Buffer Algorithm, Scan Line Algorithm, Painter's Algorithm (Depth Sort Algorithm)

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. D.Hearn and M.P.Baker - Computer Graphics (C version) - Pearson Education.
2. W.M. Newman and RF.Sproull - Principles of Interactive Computer Graphics - McGraw Hill International Edition - 1979.
3. Computer Graphics, Zhingang Xiang, Shaums Outline

LABWORK:-

SR. NO	TOPICS
1	UNDERSTANDING GRAPHICS BASIC
2	IMPLEMENT GRAPHICS ALORITHM ACCORDING TO SYLLABUS
3	FAMILEAR WITH 2D & 3D METHOD

List of Practical's

1. Introduction of CRT, TFT, LCD and LED.
2. Introduction to 2D and 3D display.
3. Change and rotate pixel position.
4. Program for DDA algorithm.
5. Printing of Menu by choosing 2D primitive.
6. Use of goto() statement in program.
7. Implementation of 2D geometric transformation.
8. Implementation of 3D geometric Transformation.
9. A program to create 3D scene in C++.
10. Operation on Images.

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fifth Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - SOFTWARE TESTING & PROJECT MANAGEMENT **Assig. Max. M: 30 Min. M: 10**

COURSE CODE: 5BCA2, CREDIT:-4

UNIT-I

Software Testing Fundamentals , Introduction , Software is Different From Hardware , The History of Software Testing , Quality, Quality Control And SQA , Software Quality Attributes , Testing, Verification and Validation , Testing Versus Debugging , Software Testing Principles , Phases of Software Development , Requirement Gathering and Analysis , Project Planning , Design Phase , Development and Coding , Testing Phase , Deployment and Maintenance Phase , When to Test Software? , Software Process Models , The Waterfall Model , Prototype Model , Spiral Model , Rapid Application Development (RAD) Model , V-Model , Comparison of the Process Models , Questions

UNIT-II

White Box Testing , Testing Objectives , What's a Test Case?, Type Of Testing –White Box & Black Box , White Box Testing , Static Testing , Desk Checking , Source Code Walkthroughs , Formal Code Inspection , Dynamic Testing , Unit Testing , Code Coverage Testing , Statement Coverage , Code Complexity Testing , Questions .

Black Box Testing , Introduction to Black Box Testing , Requirement Based Testing , Important Points regarding Requirement Based Testing, Boundary value analysis , Positive and Negative Testing, Decision Tables , Compatibility testing, Documentation Testing, Domain Testing , Black Box V/s White Box Testing , Questions .

Integration Testing , Introduction , Stubs and Drivers , Top- Down Integration, Bottom-Up Integration , BI -Directional or Sandwich Approach , Big Bang method , Scenario test , Use Case Scenarios , Defect bash , Questions .

UNIT-III

System and Acceptance Testing , System Testing , Why System Testing is important?, Prerequisites for System Testing , Steps needed to do System Testing, How to write a System Test Case? , Factors That Affect Success Of System Testing , Functional Versus Non Functional Testing, Performance Testing , Scalability Testing , Reliability Testing , Stress Testing , Compatibility Testing , Recovery Testing , Usability Testing , Security Testing , Load testing , Why Load Test?, When to Load Test?, Difference Between Stress And Load Testing , Alpha Testing , User Acceptance Testing , User Acceptance Testing Prerequisites , Why Do User Acceptance Testing? , What to Test in User Acceptance Testing? , How to Test User Acceptance Testing? , Beta Testing , Interoperability testing , Questions .

Performance and Object Oriented Testing , Performance testing , Reasons for conducting

performance testing , Types of Performance Testing , Baselines , Benchmarking , Input Requires in Performance Testing, Output from the Performance Testing , Steps in Conducting Performance Testing, Benefits and Challenges Related to Various Performance Test, Regression testing , Benefits of Regression Testing, Questions .

UNIT-IV

Ad-hoc Testing & Object Oriented Testing, AD -HOC Testing , BUDDY TESTING , Pair Testing , Exploratory Testing , Situations where Exploratory Testing is more suitable , Iterative Testing , Agile Testing , Testing in Extreme Programming (XP), How XP Testing is Different , XP Tester Activities , DEFECT SEEDING , Object Oriented Testing , Differences in Object Oriented and Traditional Testing , Questions .

Software Testing Tools , Automation of Software Testing , Benefits of Automated Testing, Disadvantages of Automation Testing , WinRunner , WinRunner Testing Modes, Context Sensitive , Analog , The WinRunner Testing Process , Create The GUI Map , Create Tests , Debug Tests , Run Tests , View Results, Report Defects, Test Director , The TestDirector Testing Process , Specifying Requirements , Planning Tests , Running Tests , Tracking Defects, Load Runner , The load testing process , Important Concepts Used in LoadRunner , Virtual Users , Controller , Agent , Virtual User Generator , Load Analyser , Planning , Create LoadRunner Scripts, Recording Vuser scripts , Parameterising Vuser scripts, Testing Scripts , WinRunner Scripts, Data Preparation, Scenario Creation , Golden Area , Execution , Baseline Load , Medium Load , Heavy Load , Analysis of the Results , Questions .

UNIT-IV

Software Project Management , Introduction to Project Management , Key Objectives of Effective Management , The Role of the Software Project Manager , Software Project Management Framework , Initiation , Planning , Execution , Monitoring , Closing , The Project Team, Their Roles & Responsibilities , Who is Part of the Project Team? , The Stakeholders & its importance , Steering Committee , Steering Committee Responsibilities , Project Sponsor , Project Sponsor Responsibilities , Project Manager , Project Manager Responsibilities , Project Team , Project Team Responsibilities , Change Management Team , Change Management Responsibilities , Quality Assurance Team , Quality Assurance Team Responsibilities , Customer , Customer Responsibilities , Project Review Team Management , Project Review Team Responsibilities , Division of Purchasing , Division of Purchasing Responsibilities , Problems in Project Management , Sources of Project Problems , Fixing a Problem with a Recovery Plan , Problems in Software Projects , Software Project Management Myths and their Clarification , Questions .

Software Project Scope Management , The Need of Scope Management , Initiation , Inputs requires to Initiation , Tools and Techniques Used for Initiation , Outputs from Initiation , Scope Planning , Inputs to Scope Planning , Tools and Techniques for Scope Planning , Outputs from Scope Planning , Scope Definition , Inputs to Scope Definition , Tools and Techniques for Scope Definition , Outputs from Scope Definition , Scope Verification , Inputs to Scope Verification , Tools and Techniques for Scope Verification, Outputs from Scope Verification , Scope Change Control , Inputs to Scope Change Control , Tools and Techniques for Scope Change Control , Outputs from Scope Change Control , Communication tools and techniques , Communication Techniques , Interviewing , Brainstorming, 5 Whys Analysis, Meeting , Scenario development , Communication Tools , Questionnaire , Internet Relay Chat (IRC), Telephone , Voicemail , Instant messaging (IM), Teleconference , Videoconference , Communication Methodologies used to Elicit Client Requirements , Observation , Context-Free Questions , How To Use The Technique , Strengths of The Technique , Quality Function Deployment , Facilitated Application Specification Technique (FAST), Questions .

Software Requirement Gathering and Resource Allocation , Software requirement , When Requirements Defined?, Requirements Specifications , Who Defines Requirements? , Requirements Traceability , Benefits From A Good SRS , Nature of the SRS , Environment of

the SRS , Characteristics of a good SRS, Correct , Unambiguous , Complete , Consistent , Ranked for importance and/or stability, Verifiable , Modifiable, Traceable, The Parts of an SRS, Introduction , Overall Description Section of ohe SRS, Specific Requirements , Supporting Information , Resources Allocation to the Project , People , Reusable Software Resources , Hardware and Software Tools , Resource Allocation in The Project , Questions ,

UNIT-V

Software Project Estimation , Software Cost Estimation , Work Breakdown Structure (WBS), Measuring Efforts for a Project , SLOC Technique , Function Point Approach , Function Point Counting Process, COCOMO Cost Estimation Model , The Scale Drivers , Cost Drivers , COCOMO II Effort Equation , Effort Adjustment Factor , COCOMO II Schedule Equation, The SCED Cost Driver , Delphi Technique , Delphi Estimation Sheet , Questions .

Project Scheduling , Project Scheduling Activities , Need of the Project Scheduling , Gantt Chart , When to Use Gantt Charts , Construction of Gantt Chart , Using the Chart , Why You Should Use Gantt Charts to Manage Projects , PERT/CPM , Steps in the PERT Planning Process , Benefits of PERT , Limitations of PERT, CPM - Critical Path Method, Steps in CPM Project Planning , Benefits of Using CPM , Limitations of CPM , Questions .

Using Project Management Tool : MS Project 2000 , MS Project 2000 Introduction , Managing Resources and Project Success , Project Activities and What MS Project Provides, Specifying Tasks and Milestones , Enter a Milestone , Enter a Recurring Task, Constraints , Adding Task Deadlines , Task Dependencies , Splitting Work , Adding Resources and Costs , Add Costs to Resources , Specifying Resource Costs, Viewing Costs , Scheduling in Microsoft Project 2000 , Schedule with Task Calendars , Viewing Your Information , Formatting Views , Formatting Text , Formatting Timescales , Formatting Gridlines , Printing Views , Printing and Publishing Basics , Views Versus Reports , Print a View , Print a Report, Publishing Projects on The Web or Intranet , Examples of Project Information You can Print , Questions.

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Principales technics & tools, S. Limage, McGraw Hill
2. Software testing and Project Mangement, Dr Anurag Seetha, Pragya

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Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fifth Semester

PROGRAMME:- BCA **Theo. Max. M: 70 Min. M: 23**
COURSE: - MULTIMEDIA SYSTEM **Assig. Max. M: 30 Min. M: 10**
COURSE CODE: 5BCA3, CREDIT:-3 **PracticalMax.M:50 Min.M:17**

UNIT-I

Introduction of Multimedia - Introduction of Multimedia, Meaning of Multimedia, What is Multimedia ?, Identifying Multimedia Elements, Text, Images, Sound/Audio, Animation, Video, Areas of use for Multimedia

Multimedia Input Devices - Introduction, Input Device, Typing Input Devices, Pointing Input Devices, Scanning Input Devices, Audio Visual Input Devices

Multimedia Output Devices - Introduction, Output Devices, Soft Copy Vs Hard Copy Output, Monitor, Printers, Plotter, Electrostatic Technique, Special Purpose Output Equipments

UNIT-II

TEXT - Concept of Plain and formatted text, Advanced text formatting, Using Various Text Effect, RTF & HTML TEXT, Using text preparation tools and standard software, Conversion to and from of various text formats:, Object Linking and Embeding Concept, Basic of FONT DESIGN:, Overview of some fonts editing and designing tools

Images - Importance of Graphics in Multimedia, Graphics in Web Designing, During Web site designing remember the following basics Tips, Vector and Raster Graphics, Image Capturing Methods, Various Attributes of Images, Various Image File Formats (Features & Limitations), Graphics File Formats Conversion

UNIT-III

Processing Images with Common Software Tools - Overview of Photoshop, Resizing Images and Size Guide, Modify Color and effects, Layers, Text Editing, Converting an Image to Black and White, Restoring Old Photographs, CorelDraw, Paint shop Pro:, Features of Corel Paint Shop Pro Photo X2, getting started with paint shop pro, the clone brush, the flood fill tool, moving a layer, the deformation tool, masks

SOUND - Sound and it Attributes, Mono V/s Sterio Sound, Sound Channels, Sound and its Effect in Multimedia, Analog V/s Digital Sound, Basics of Digital Sound-Sampling, Frequency, Sound Depth, Channels, Sound on PC, Sound Standards on PC, Capturing and Editing Sound on PC, Overview and using some Sound Recording, Sound Editing Software, Overview of Various Sound File Formats on PC, WAV, MP3, MP4, Ogg Vorbose

UNIT-IV

Animation - BASIC OF ANIMATION, Three Basic Types of Animation, Basic principles of animation, Uses of animation in multimedia, Effects of Resolutions, Pixel Depth, Image Size on Quality and Storage, Overview of 2D and 3D Animation Techniques and Software, 2D and 3D Animation Software, Introduction to Flash, Installation of Flash MX:, Using the

Flash Interface, To create Motion Tween, GIF Animator

Video - BASICS OF VIDEO, Analog and Digital Video, How to use Video on PC:, Introduction to Graphics Accelerator Cards, Introduction to DirectX, Introduction to AV/DV and IEEE1394 Cards, Digitization of Analog Video to Digital Video, Interlacing and Non-Interlacing, Brief note on Various Video Standards, Introduction to Video Capturing Media & Instruments, Introduction to Digital Video Compression Techniques, Type of digital Video Compression Techniques, Introduction to Various Digital Video files formats

UNIT-V

Video Editing & Movie Making Tools - Brief Introduction to Video Editing and Movie Making Tools, Video Editing Terminology, The Goals of Editing, Different Types of Video Editing, Movie Making Tools, QuickTime Video Editing Tool, Working with QuickTime Pro, Video for Windows, Capturing video, Adobe Premiere Pro, Working with Premiere, Using the Premiere Title Designer, Using Transitions in Adobe Premiere

LABWORK:-

SR. NO	TOPICS
1	FAMILEAR WITH VARIOUS INPUT AND OUTPUT DEVICE USED FOR MULTIMEDIA
2	UNDERSTANDING THE IMAGE AND SOUND PROCESSING SOFTWARE TOOLS
3	PRACTICE ANIMATION AND VIDEO EDITING TOOLS

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Multimedia making it works, Tay vaugh, McGraw Hill
2. Multimedia At Run, Shridhar B. Dandin, Pragya
3. Multimedia Magic - S.Gokul revised and updated second edition - BPB

List of Practical's

1. Introduction to multimedia devices and uses of it.
2. Demonstration and working manner of different audio devices.
3. Demonstration and working manner of different display devices.
4. Introduction of many multimedia software and its qualities.
5. All the steps to make your own font using any text preparation tool.
6. Uses of different tools of multimedia software.
7. Making 75% transparent image using Photoshop.
8. Creation of three layered photoshop document.
9. Uses of 3D animation software and information about different tools of animation software.
10. A program to read paragraph stored in a file by author.
11. Photo editing and video making through software with the use of 3D effects.

12. Creation of animated video with the use of sounds and special effects through animation software.
13. A program to change and display a bitmap image in display device.
14. Use of sound recorder and its tools.
15. Adding, removing various effects into the movie.

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fifth Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - MANAGEMENT INFORMATION SYSTEM **Assig. Max.M: 30 Min. M: 10**

COURSE CODE: 5BCA4, CREDIT:-2

UNIT-I

Fundamentals of Information Systems, Introduction, Data, Information and Knowledge, Concept of System, Characteristics of A System, Elements of A System, System environment and boundary, types of a system, Components of Information System, Information System Activities, Evolution of an Information System, Impacts of Information System, Level of management decision-making, Information system in business.

Management Information System, Introduction, Management Information System (MIS), Fields of Information System, Elements Of MIS, Objectives Of MIS, Characteristics of MIS, Impact Of MIS, Designing An MIS , Placement Of MIS, Views Of MIS, Pitfalls In Designing an MIS, Components of Management Information System, Outputs of a Management Information System, Management Information Systems for Competitive Advantage, MIS Function in an organisation, Role of MIS in Management.

IS Related Concepts, MIS versus Data Processing, MIS & Decision Support System, MIS & Information Resources Management, End-user computing, Uses of Management Information System in Finance, Uses of Management Information System in Marketing, Functions of MKIS, Components of an MKIS, Uses of Management Information System in Manufacturing, Information system for Human Resource .

System Approach to Problem Solving , Definition of problem, Terminology of Problem Solving, Thinking patterns, System approach to problem Solving.

UNIT-II

Information, Introduction, What is Information, Nature of information, Need of Information, Information and Communication, Information Process, Quality of information, Sources of information, Information gathering technique, Levels of Management, Levels of Information, Management and Need for Information Systems, Marketing Management, Material Management, Finance Management, Human Resource Management.

System Development Life Cycle, Introduction, System development Life cycle, The problems of a system mean, Different Phases of System Development Life Cycle, Considerations for candidate systems , political consideration, prototyping.

PLANNING, Introduction, Meaning and Definition of Planning, Nature / Features of Planning, Objective of Planning, Importance of Planning , Levels of Planning, Planning Process, Six P's of Planning, Types of Plans, Types of planning, Advantages of Planning, Limitations meaning of Planning, &Definitions' of Controlling, Control Process Nature of Control /Characteristics of **Control, '** Importance of Controlling, Limitation of Controlling, Principles of Effective Control Systems, Necessity of Control, Objective of Control, Elements of Control, Types of Controls, Qualities of Effective Control System.

UNIT-III

System Planning and Initial Investigation , Introduction, System planning, Why system planning ?, Strategic MIS planning, Managerial and operational Mis planning, Strategies for determining information requirements, Getting information from the existing information system, Prototyping, Initial investigation, Information service request, Activities in initial investigation, Background analysis, Fact-Finding techniques, Data collection, Correspondence and questionnaires, Personal interview, Observation, Research.

Structured Analysis and Feasibility Study , Introduction, What is Structured Analysis ?, Why Structured Analysis ?, Charts, Data Flow Diagram, Guidelines for Drawing Data Flow Diagrams, Logical and Physical Data Flow Diagrams, Data Dictionary, Data Dictionary Definition and Entries, Decision Trees, Structured English, Why Feasibility Study ?, Steps In Feasibility Study, Preparing Detailed Description of Candidates, Identifying Meaningful System Characteristics, Determining Performance and Cost for Each Candidate, Weighing the System Performance and Cost Characteristics.

System Design, Introduction, Design Process, Phases of Design, Methodologies of Designing, Structured Design, Functional Decomposition, Module Coupling and Cohesion, Prototyping, Information Engineering, Joint Application Development, Rapid Application Development, Object Oriented Design, Development Activities, Audit Considerations, Processing Controls and Data Validation, Audit Trial and Documentation control.

Input, Output And Form Design, Introduction, Input Design, Input Design Considerations, Input Devices, Output Design, Form Design, Types of Forms, Layout Considerations, Print Forms in Reasonable Quantities, Automated Form Design, Forms Control.

File Organisation And Database Design, Introduction, File Structure, File Organisation, Methods of Organising Files, Objectives of Database, Data Structure, Types of Relationship Amidst Data, Types of Data structure, Entities and Attributes, Normalization, Why is Normalization Necessary ?, Role of Database Administrator, Managing Data Activities, Managing Database Structure, Managing Database Management System.

UNIT-IV

Implementation And Software Maintenance , Introduction, What is System Implementation ?, What is System Conversion ?, Types of Implementation, Conversion, Conversion Activities, User Training, Combating Resistance to Change, Post Implementation Review, Software Maintenance, Maintenance or Enhancement ?, Primary Activities of Maintenance Procedure, Reducing Maintenance Costs.

Hardware/Software Selection and the Computer Contract , Introduction, Supplier and Types, Software Industry, Procedure for Hardware/Software Selection, Major Phases of Selection, Role of Consultant, Selection of Vendors, Post Installation Review, Software Selection, Criteria for Software Selection, Ownership, Financial Consideration in Selection, Computer Contract, Art of Negotiation, Responsibilities and Remedies, Hardware & Software, Delivery and Acceptance, Warranties, Finance, Guarantee fo Reliability.

System Security And Disaster Recovery Planning , Introduction, System Security, System Security is an Important Concern, Threats to System Security, Personal Computer and System Integrity, Risk Analysis, Control Measures, Recovery/Restart Requirements, System Failures and Recovery, Disaster/Recovery Planning, Plans, Team, Planning Task, Ethics in System Development, Ethics Codes and Standards of Behaviour, Information Systems Misuse - Threats & Countermeasures.

UNIT-V

Business Applications of Information Technology , Introduction, What is Internet Actually ?, Growth of Internet , Owner of Internet, Internet Service Provider, Anatomy of Internet, Arpanet and Internet history of the World Wide Web, Internet Tools, Basic Internet

Terminologies, Net Etiquette, Electronic Commerce, Technical and Organizational Aspects, Components of E-Commerce, Internet and E-Commerce , Constraints to E-Commerce, IT ACT 2000, Intranet, Extranet & Enterprise Solutions.

Information System for Business Operations, E-Business, Components of E-Business Model, E-Business Trends, Information system for strategic advantage, Information System for Managerial Decision Support, Management Information systems, Decision Support System (DSS), Other Information systems.

Advance Concepts in Information Systems, Enterprise Resource Planning, Components of ERP, Supply Chain Management, E-Supply Chain Management, Major Trends in E-SCM, Architecture of E-Supply Chain , E-SCM Process Integration, Customer Relationship Management Concepts, Electronic Customer Relationship Management, E -CRM Goals, E-CRM Business Models, Technologies for e-CRM , How Technology can help in CRM, E-CRM Solutions, Contact Management Software, Advantages of E-CRM, E-CRM Capabilities, Implementing an E-CRM System,

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Simplified approach to Management Information System, Ravi kumar, S.k Kataria & Sons
2. MANAGEMENT INFORMATION SYSTEM,PROF A.K NAYAK,SURBHI RASTOGI,PRAGYA PUBLICATION

Dr. C.V. RAMAN UNIVERSITY

Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Fifth Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE: - DATAWARE HOUSING & MINING **Assig. Max.M: 30 Min. M: 10**

COURSE CODE: 5BCA5, CREDIT:-3

UNIT-I

Strategic Information Management - Need for strategic information, Decision support system, Knowledge discovery & decision making, Need for data warehouse, Definitions of Data warehousing and data mining, Common characteristics of Data warehouse, Data Marts, Metadata, Operational versus analytical databases, Trends and planning of Data warehousing.

UNIT-II

Data Modeling Strategy - Defining business requirements, Data modeling strategy, Fact tables, Dimensions, Star schema and other schemas, Multi dimensional data models, Data Cube presentation of fact tables, Using the Data warehouse, Designing tools for Data warehouse, OLAP models and operations

UNIT-III

Data Warehouse Architecture Components and, Implementation Options - Architectural components, Infrastructure: Operational & Physical, Extraction, Transformation and Loading, Components of an Oracle Data warehouse, Data Transformation Functions, DBA responsibilities, Capacity Planning.

UNIT-IV

Data Warehouse Implementation -Implementation of Data warehouse, Physical design: steps, considerations, physical storage, indexing, Performance Optimization, Datawarehouse deployment activities, Data security, Backup and recovery concepts, Data warehouse Maintenance

UNIT-V

Data Mining - Basics of data mining, Related concepts, Data mining techniques, Data Mining Algorithms , Classification, Clustering and Association rules, Knowledge Discovery in databases (KDD) Process, Introduction to Web Mining

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Data Mining (Concepts and Techniques), Jiawei Han and Micheline Kamber, Morgan Kaufmann Publishers (An imprint of Elsevier)
2. Data warehousing Fundamental, Paulray ponniah, wiley Indian edition
3. Data Mining (Next Generation Challenges and Future Directions, Karguta, Joshi, Sivakumar & Yesha, Printice Hall of India
4. Data Warehousing , Data mining & OLAP, Alex Benson, Stephen V. Smith, Tata McGraw – Hill

SEMESTER-VI

Dr. C.V. RAMAN UNIVERSITY

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SEMESTER- Sixth Semester

PROGRAMME:- BCA **Theo. Max. M: 70 Min. M: 23**

COURSE:- WEB DEVLOPEMENT THROUGH OPEN SOURCE TECHNOLOGY(PHP,MySQL) **ASSIG. MAX. M: 30 MIN. M: 10**

COURSE CODE : 6BCA1, CREDIT:-3 **Practical Max.M:50 Min.M:17**

UNIT-I

Introduction to PHP & Creating your first PHP script., Introduction, Considering the Various Uses for PHP, Using PHP for web application, Using PHP for database applications, Using PHP with your file system, Using PHP for system commands, Understanding How PHP works, PHP as a general purpose language, PHP for the web, Keeping Up with changes in PHP, PHP 5, Previous versions of PHP., Introduction, Writing PHP statements, Adding PHP sections to HTML files, Writing PHP output statements, Documenting your scripts.

UNIT-II

Using variables in PHP scripts & Working with data., Understanding data types, performing arithmetic, Manipulating characters strings, Using dates and times. , Introduction Naming variables, Assigning values to variables, Removing variables, Using constants, Handing errors.,

Storing data in groups by using arrays, Introduction, Building arrays, Assigning values to arrays, Sorting arrays, Using Values in arrays, Building multidimensional arrays.

UNIT-III

Controlling the flow of the script & Reusing PHP code, Introduction, Changing the order in which statements are executed, Setting up condition, Joining simple conditions to make complex conditions, Using conditions in conditional statements and loops, Writing if statements, Building and using loops for repeated statements, Breaking our of loops., Introduction, Including files in scripts, Understanding store for included files, Writing functions, Using functions.

UNIT-IV

Object-Oriented Programming meets PHP, Introduction, Understanding object- oriented programming, Identifying objects, Writing Classes, Using Classes.,

The Basics of web application & Other web application Introduction, Understanding web site security, Displaying static pages, Collecting information form user with HTML forms, processing information received from users., Introduction, Passing information from page to

page, using cookies, using hidden fields in HTML forms, Using HPP session functions, Adding java script to PHP scripts.

UNIT-V

Storing data with PHP, Introduction, Writing, and reading flat files, Exchanging data between PHP and other programs, Understanding database supports in PHP, Using PHP to interact with a database, Handling database-connection errors.

LABWORK:-

SR. NO	TOPICS
1	FAMILEAR WITH VARIOUS PHP WINDOWS ENVIROMENT
2	UNDERSTANDING THE DATA AND SCRIPT,OBJECT ORIENTED PROGRAMMING
3	PRACTICE BASIC PHP PROGRAM AND SQL TOOLS

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1 PHP-the complete reference, steven holzner , McGraw Hill
2. Beginning-php6, apache-mysql-web development, Timothy Boronczyt, Elizabeth Naramore, Jason Gelner, wiley Indian edition

List of Practical's

1. A PHP program to find maximum and minimum number.
2. Write PHP script to sort Array of 10 students.
3. Write PHP script to validate e-mail address and mobile number.
4. Write PHP script for editing and deleting database table record.
5. PHP code to upload image.
6. PHP code to develop e-mail registration form and to store all submitted data in database table.
7. PHP program to display current date and time.
8. Write a script in PHP to record student information in tabular format.
9. PHP program to print the values of array.
10. PHP function to print your name.

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SEMESTER- Sixth Semester

PROGRAMME: - BCA **Theo. Max. M: 70 Min. M: 23**

COURSE:- INFORMATION TECHNOLOGY TRENDS **Assig. Max.M: 30 Min. M: 10**

COURSE CODE: 6BCA2, CREDIT:-3

UNIT-I

Introduction - Introduction, Parallel and Distributed Systems, Computer Networks Modern Business Management

Distributed Systems -Distributed System, Managing Distributed Databases, Distributing the Processing and Storage Function, Transactions and Concurrency, Advantages and Disadvantages of DS , Flavors of Distributed Systems, Architectures of Distributed Systems, Security in Distributed Systems

Modern Business Trends: E-Business & E-Commerce -INTRODUCTION, ONLINE SHOPPING, E-BUSINESS, E-Commerce, Buying and Paying Online, Electronic Payment System, Online Publishing

UNIT-II

Modern Business Management: E-SCM - Introduction, Supply Chain Management, E-Supply Chain Management, Components of Modern E-SCM, Major Trends in E-SCM, Example of E -SCM, Architecture of E-Supply Chain Models, E-SCM Process Integration, Supply chain management components integration, Globalization and E-SCM, E-Supply Chain Network, E-Supply Chain Management Framework

Modern Business Management: E-CRM - Customer Relationship Management Concepts, How Technology can help in CRM, E-CRM Solutions, Advantages of E-CRM, E-CRM Capabilities, Data Mining and E-CRM, Example of E-CRM, Implementing an E-CRM System, E-CRM Framework, Next Generation CRM

Virtual Reality - Introduction, History of Virtual Reality, Virtual Reality, Virtual Reality Application, Impact of VR , Simulated Reality, Virtual Reality : Hardware, Levels of VR Hardware Systems , VR Software Systems , Aspects of VR Program , World Space , World Database , Control Panels , Types of VR Systems , VR Challenges

UNIT-III

Artificial Intelligence - Introduction, Concept of AI, AI Applications, Intelligence, Artificial Intelligence, Intelligent Systems, Knowledge-based Systems , Knowledge-based Engineering

Expert Systems , Introduction, Background History , Concept of Expert Systems, Expert Systems Vs. Problem solving System, People involved in Expert Systems, The End User, The Knowledge Engineer, Features of Expert System, Building of the Expert System, Advantages and Disadvantages of ES, ES Applications, Expert System Problem domain, Benefits and Limitations of Expert Systems, Examples of Expert Systems

UNIT-IV

Data Warehousing , Introduction, Data Warehouse, Data Warehousing, Some Key Concepts About Data, Data Warehouse Components, Structure of Data warehouse, Advantage of Data Warehouse, Summarized Data, Current Details, System of Records, Integration and Transformation Program, Archives (Store House) , Meta Data, Uses of a Data warehouse, Standard Reports and Query, Queries Against Summarised Data, Interface With Other Warehouse, Common Warehouse Metamodel, ETL , Data Warehouse Appliance, Data Marts

Data Mining , Introduction, Data Mining & Evolution of DM, Data mining: Verification vs. Discovery, Data Mining Technology, Advantages of Data Mining, Disadvantages of Data Mining , Data Mining Processes, Data Mining Techniques, Data Mining tools, Conducting a Data Mining , Data Mining Issues, Limitations of Data Mining, Knowledge Discovery, Knowledge Discovery Metamodel, On Line Analytical Processing, OLAP Types, Selecting an OLAP Application

UNIT-V

Mobile Commerce , Mobile Commerce , Technology for Mobile Commerce, Wireless Communications and its Generations, Wireless Application Protocol (Wap), Other Wireless Technologies , GSM/CDMA Security Issues, Growth and Success Stories of M-Commerce, M-commerce in India

Geographic Information Systems , Introduction, Geographic Information System , Components of a GIS, Working of GIS, Data for GIS, GIS and Related Technologies, Spatial Data Infrastructures, Maps and Map Data Handling , Traditional maps Vs. GIS, Functions of GIS , Planning for GIS , Implications of GIS , Virtual Globe, GIS Software

Introduction and Basic Concepts of Modern Communication and Telephony Technology , Introduction, Code Division Multiple Access, Wireless Local Loop, GSM (Global System for Mobile Communication), Voice Over IP, Bluetooth , Wi-Fi, ISDN

Electronic Data Interchange , Introduction, Electronic Data Interchange, The Structure of EDI Systems, EDI Standards, Features of EDI, EDI Technology, Advantages of EDI, Barriers in adopting EDI, Drawbacks of EDI, New Trends in EDI.

READINGS: SELF LEARNING MATERIAL.

ADDITIONAL READINGS:

1. Fundamental of IT Trends, Surbhi rastogi, Pragya publication

2. R. Kalakota and A. B. Whinston, Frontiers of Electronic Commerce, Addison Wesley,

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Institute of Open and Distance Education (IODE)

Kargi Road, Kota, Bilaspur (C.G.)

SEMESTER- Sixth Semester

PROGRAMME: - BCA
COURSE:- PROJECT
COURSE CODE: 6BCA3

6BCA3-PROJECT

All the candidates of BCA are required to submit a project-report based on the work done by him/her during the project period. A detailed Viva shall be conducted by an external examiner based on the project report. Students are advised to see the detailed project related guidelines on the website of CVRU, (www.cvru.ac.in) under Project Guidelines for student section.

Counseling and Study Structure

Sl. No.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical	Assignments
Semester I								
1	1BCA1	Fundamentals of Computers & Information Technology	3	90	12	51	-	27
2	1BCA2	Windows & MS Office	4	120	16	44	24	36
3	1BCA3	Programming in C	4	120	16	44	24	36
4	1BCA4	Discrete Mathematics	3	90	12	33	18	27
5	1BCA5	Communicative English	2	60	8	34	-	18
Second Semester								
7	2BCA1	Digital Computer Organization	3	90	12	33	18	27
8	2BCA2	Object Oriented Programming with C++	4	90	12	33	18	27
9	2BCA3	Operating Systems	4	120	16	44	24	36
10	2BCA4	Internet Programming (HTML, DHTML & JavaScript)	3	90	12	33	18	27
11	2BCA5	Environmental Study	2	60	8	34	-	18
Third Semester								
12	3BCA1	Data Base Management System	4	120	16	44	24	36
13	3BCA2	Data Structure with C++	4	120	16	44	24	36
14	3BCA3	Computer Communication & Networks	3	120	16	44	24	36
15	3BCA4	Programming with JAVA	3	90	12	33	18	27
16	3BCA5	Principal of Management	2	90	12	51	-	27
Fourth Semester								
17	4BCA1	Linux Operating System — Operations & Management	3	90	12	33	18	27
18	4BCA2	Software Engineering	3	90	12	33	18	27
19	4BCA3	Computer Architecture & Assembly Language Programming	3	90	12	33	18	27
20	4BCA4	RDBMS Practice with Oracle / MS SQL Server Express Edition	3	90	12	33	18	27
21	4BCA5	Programming with Visual Basic .NET	4	120	16	44	24	36
Fifth Semester								
22	5BCA1	Computer Graphics	4	120	16	44	24	36
23	5BCA2	Software testing & Project Management	4	120	16	44	24	36
24	5BCA3	Multimedia Systems	3	90	12	33	18	27
25	5BCA4	Management Information System	2	60	8	34	-	18
26	5BCA5	Data Warehousing & Mining	3	90	12	33	18	27
Sixth Semester								
27	6BCA1	Web Development through Open Source Technologies (PHP, MySql)	3	90	12	33	18	27
28	6BCA2	Information Technology Trends	3	90	12	33	18	27
29	6BCA3	Project	10	360	-	-	-	-

STUDY MODULES AND BOOKS INFORMATION

Course Code	Name of the Course	Books / Modules to be used
Semester-I		
1BCA1	Fundamentals of Computers & Information Technology	Module Prepared by CVRU
1BCA2	Windows & MS Office	Module Prepared by CVRU
1BCA3	Programming in C	Module Prepared by CVRU
1BCA4	Discrete Mathematics	Module Prepared by CVRU
1BCA5	Communicative English	Module Prepared by CVRU
Semester II		
2BCA1	Digital Computer Organization	Module Prepared by CVRU
2BCA2	Object Oriented Programming with C++	Module Prepared by CVRU
2BCA3	Operating Systems	Module Prepared by CVRU
2BCA4	Internet Programming (HTML, DHTML & JavaScript)	Module Prepared by CVRU
2BCA5	Environmental Study	Module Prepared by CVRU
Semester III		
3BCA1	Data Base Management System	Module Prepared by CVRU
3BCA2	Data Structure with C++	Module Prepared by CVRU
3BCA3	Computer Communication & Networks	Module Prepared by CVRU
3BCA4	Programming with JAVA	Module Prepared by CVRU
3BCA5	Principal of Management	Module Prepared by CVRU
Semester IV		
4BCA1	Linux Operating System — Operations & Management	Module Prepared by CVRU
4BCA2	Software Engineering	Module Prepared by CVRU
4BCA3	Computer Architecture & Assembly Language Programming	Module Prepared by CVRU
4BCA4	RDBMS Practice with Oracle / MS SQL Server Express Edition	Module Prepared by CVRU
4BCA5	Programming with Visual Basic .NET	Module Prepared by CVRU
Semester V		
5BCA1	Computer Graphics	Module Prepared by CVRU
5BCA2	Software testing & Project Management	Module Prepared by CVRU
5BCA3	Multimedia Systems	Module Prepared by CVRU
5BCA4	Management Information System	Module Prepared by CVRU
5BCA5	Data Warehousing & Mining	Module Prepared by CVRU
Semester VI		
6BCA1	Web Development through Open Source Technologies (PHP, MySql)	Module Prepared by CVRU
6BCA2	Information Technology Trends	Module Prepared by CVRU
6BCA3	Project	Guidelines provided by CVRU

DATE SCHEDULE AND INSTRUCTIONS FOR SUBMITTING ASSIGNMENTS

DUE DATE OF SUBMISSION OF ALL ASSIGNMENTS AT THE IODE, CVRU/STUDY CENTRE		
Semester	Assignment No.	Due Date
First Semester	1BCA1 1BCA2 1BCA3 1BCA4 1BCA5	April 30 (for January Session) October 31 (for July Session)
Second Semester	2BCA1 2BCA2 2BCA3 2BCA4 2BCA5	October 31 (for July Session) April 30 (for January Session)
Third Semester	3BCA1 3BCA2 3BCA3 3BCA4 3BCA5	April 30 (for January Session) October 31 (for July Session)
Fourth Semester	4BCA1 4BCA2 4BCA3 4BCA4 4BCA5	October 31 (for July Session) April 30 (for January Session)
Fifth Semester	5BCA1 5BCA2 5BCA3 5BCA4 5BCA5	April 30 (for January Session) October 31 (for July Session)
Sixth Semester	6BCA1 6BCA2	April 30 (for January Session) October 31 (for July Session)

INSTRUCTIONS TO STUDENTS FOR FORMATTING THE ASSIGNMENTS
सत्रीय कार्य हेतु छात्रों के लिये निर्देश

1. This booklet contains the assignments for the entire (All Semester) programme. Each course has one assignment. All assignments should be completed and submitted at IODE CVRU/ study centre before the due date.
इस पुस्तिका में पूरे पाठ्यक्रम के लिये (सभी सेमेस्टर) के सत्रीय कार्य दिये गये हैं। प्रत्येक पाठ्यक्रम के लिये एक सत्रीय कार्य दिया गया है जिसे पूर्ण करने के पश्चात निर्धारित तिथि तक डॉ. सी. वी आर.यु के दूरस्थ शिक्षा संस्थान / अध्ययन केन्द्र को भेजना आवश्यक है।

2. Please note that you will not be allowed to appear for the Term End Examinations for the course, until the assignments are submitted before the due date.
कृपया ध्यान रहे जब तक सत्रीय कार्य निर्धारित तिथि तक जमा नहीं होंगे, आप सत्रांत परीक्षा में नहीं बैठ सकेंगे।

3. The assignments constitute the continuous component of the evaluation process and have 30% weightage in the final grading. You need to score minimum marks as per Examinations Scheme of Particular Programmme in assignment in each course in order to clear the continuous evaluation component.
सत्रीय कार्य सतत् मूल्यांकन का महत्वपूर्ण अंग है एवं अन्तिम ग्रेडिंग में 30 प्रतिशत अंक निर्धारित हैं। सतत् मूल्यांकन में उत्तीर्ण करने हेतु प्रत्येक सत्रीय कार्य में संबंधित कार्यकम के परीक्षा योजना के अनुसार न्यूनतम अंक प्राप्त करना अनिवार्य है।

4. The assignment should be hand written on a A-4 size paper with proper cover which contains all the required information as given on the next page. You can use the photocopy of the cover for each assignment.
सत्रीय कार्य ए–4 साइज पेपर पर हस्तलिखित होना चाहिए तथा उस पर अगले पृष्ठ पर दिये गये कवर के अनुसार सभी जानकारो लिखी होनी चाहिए। (आप चाहें तो कवर की फोटोप्रति प्रत्येक सत्रीय कार्य पर लगाकर प्रयुक्त कर सकते हैं)

5. Leave at least 4cm margin on the left, top and bottom of your answer sheets for the evaluator's comments.
प्रत्येक पृष्ठ पर बायें, ऊपर एवं नीचे कम से कम 4 सें.मी. जगह छोड़ें जो मूल्यांकनकर्ता अपनी टिप्पणी के लिये प्रयोग करेगा।

6. Your answers should be brief, precise and in your own words. Please do not copy the answers from the study material.
सत्रीय कार्य के प्रश्नों के उत्तर संक्षेप, स्पष्ट एवं स्वयं के शब्दों में होना चाहिए। उत्तर स्टडी मटेरियल की कॉपी नहीं होना चाहिये।

7. Please do not copy the assignment from other student.
कृपया सत्रीय कार्य दूसरे छात्र से कॉपी न करें।

8. While solving the questions, clearly indicate the question number along with the part being solved. Recheck your work before submitting it.
प्रश्नों के उत्तर लिखते समय, प्रश्न संख्या अथवा उसके भाग का स्पष्ट उल्लेख करें। सत्रीय कार्य जमा करते समय एक बार पुनः जांच कर लें।

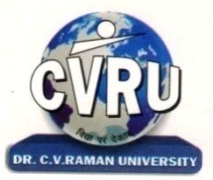
9. You may retain a copy of your assignment response to avoid any unforeseen situation.
सत्रीय कार्य की एक प्रतिलिपि अपने पास रखें ताकि किसी अनहोनी घटना से बचा जा सके।

10. You can resolve the difficulties you may face while studying the course material by sending an e-mail to Programme coordinator IODE CVRU/ study centre coordinator. However, the coordinator will not provide solutions to the assignment questions, since they constitute an evaluation component.

पाठ्यक्रम सामग्री के अध्ययन के समय यदि कोई कठिनाई होती है तो उसके निराकरण हेतु कार्यक्रम समन्वयक दूरस्थ शिक्षा संस्थान डॉ. सी. वी. रामन् विश्वविद्यालय / अध्ययन केन्द्र के समन्वयक से ई–मेल द्वारा संपर्क किया जा सकता है। परंतु समन्वयक सत्रीय कार्य के प्रश्नों के उत्तर नहीं देंगे क्योंकि ये मूल्यांकन पद्धति के अंग हैं।

Note: Assignments of the course are available for download at the CVRU Website http://www.cvru.ac.in . You can download the assignments as per your course, follow the instructions given and submit it before due dates at the IODE CVRU/study centre.

GUIDELINE FOR PREPARATION AND PRESENTATION OF PROJECT REPORT



INSTITUTE OF OPEN AND DISTANCE EDUCATION
DR. C.V. RAMAN UNIVERSITY
KARGI ROAD, KOTA, DISTT. - BILASPUR
CHHATTISGARH

PROJECT REPORT FORMAT

IODE PROGRAMME

The Project Report consists of three main parts (i) The Preliminaries (ii) The Text (iii) Annexure. It is to be arranged in the following sequence.

THE PRELIMINARIES:

- Title Page (Outer Cover) as per the format given in Annexure III, (should be printed in White Colour on a Navy Blue background).
- Title Page (Inner Cover) as per the format given in Annexure IV
- Declaration by the candidate (Annexure – V)
- Certificate of Supervisor/s (Annexure – VI)
- Acknowledgements (Annexure – VII)
- Table of Contents (Annexure – VIII)
- Abstract/Preface
- List of Tables (If applicable)
- List of Figures (If applicable)
- List of abbreviations (Optional)
- Chapter –I to ….continue according to the table of contents.

THE TEXT OF THE PROJECT REPORT

The text the Project Report is usually divided in to chapter's with subheadings, within the chapters to indicate the orderly progression of topics and their relation to each other

Chapter-I Introduction: - The Project Report should normally begin with a general introduction presenting an overview of the purpose and significance of the study. The introduction should show why the topic selected is worth investigating. This will normally be done with reference to existing research, identifying areas that have not been explored, need to be explored. The final section of the introduction should provide a brief overview of each of the main chapters that the reader will encounter.

Chapter-II Review of Related Literature: - The purpose of the literature review is to summarize, evaluate and compare the main developments and current database in the field which are specifically relevant to the subject of research embodied in the Project Report .

Chapter-III Research Methology: - The supervisor and the student may decide how this part of the Project Report should be structured. Although this section varies depending up on method and analysis technique chosen, the chapter describes and justifies the methods chosen for the study and why this method was the most appropriate.

Chapter-IV Observations & Analysis:- Observations , Analysis and Interpretation should be done as per data collected from sample.

Chapter-V Results Conclusions and Suggestions: The results are actual statement of observations, including statistics, tables and graphs. Do not present the same data as graph as well as table. Use one of the appropriate style of presentation. The purpose of this chapter is not just to reiterate the findings but discuss the observation in relation to the theoretical body of knowledge on the topic.

Bibliography Citation in Text: Citation in the text usually consists of the name of the author(s) and the year of the publication. The page no is added when utilizing a direct quotation. It should be arranged Alphabetically .

Example (i):Thomas.V (2007) identified….

Example (ii): Gould and Brown (1991, p. 14) used the

Example (iii) : Rhoades et. al (2008) define the …..

References: All publications listed in the Project Report should be presented in a list of references, following the sample.

Citation from Project Report :

- Kundur., D. (1999),Mulitresolution Digital Watermarking: Algorithms and Implications for Multimedia Signals. Ph.D Project Report , University of Toronto.

Citation from Journal:

- Clifford, G. D. and Tarassenko.,s L. (2001),One-pass Training of Optimal Architecture Auto-associativeNeural Network for Detecting Ectopic Beats. Electron Letters. 37(18): 1126–1127.
- Rhoades, B.E. (1997), A Comparison of various definitions of Contractive mappings, Trans.Amer.Math.Soc.,Vol. 5, no.3, 257-290.

Citation from Books:

- Thompson, D. ed., (1995),The Concise Oxford Dictionary of Current English. Oxford, UK: Oxford University Press, 9th ed. ISBN No.: 0987654.
- Lindsay, D. (1999),A Guide to Scientific Writing, Melbourne, Chapter 2, Australia: Addison Wesley Longman Australia, 2nd ed. ISBN No.: 12345678.

Citation from Website:

Anonymous, unZign, "Tool for Evaluating a Variety of Watermarks", http://altern.org/watermark/, (Browsing date: 23rd September 1997)
Publication of the University of Geneva (on digital watermarking): <http:// cuiwww.unige.ch/˜vision/Publications/watermarking_publications.html> (Browsing Date: 4thJanuary 2006)

Citation from patent:

Gustafsson J. K. (1976), "Analog-digital converter for a resistance bridge", Patent U. S. 3960010, June 1,.
References must be given alphabetically in References section and in text as …..
Clifford. G. D. and Tarassenko. L. (2001) suggested that……

Appendices:

- Questionnaire /Formula /Diagnosis/Any other Supporting Documents

GUIDELINES FOR WRITING :-

1. **Font size For English** **Font size For Hindi**

Title Page	18-24	18-24
Headings / subheadings	12-16	16-20
Text	12	14
Footnotes	8-10	10-12

Footnotes be given on the same page where reference is quoted

2. **Type style**

Times New Roman for English Kruti dev 10 for Hindi

3. **Margins.**

At least 1¼ -1½ inches (3.17-3.81cm) on the left-hand side, 3/4 - 1 inch (2 -2.54cm) at the top and bottom of the page, and about ½ - 0.75 inches (1.27 - 1.90cm) at the outer edge. The best position for the page number is at top-center or top right ½ inch (1.27 cm) below the edge. Pages containing figures and illustration should be suitable paginated.

4. The *Project Report* shall be computer typed (**English**- British, Font Style -Times Roman, Size-12 point, **Hindi-** Font Style -Krutidev-10,Size-14) and printed on A4 size paper.
5. The *Project Report* shall be typed on one side only with double space with appropriate margin.
6. Use only standard abbreviations. Avoid abbreviations in the title. The full term for which an abbreviation stands should precede its first use in the text except in case of measurement units. The measurement units if any shall be followed consistently.
7. Maintain uniformity in writing the *Project Report* .
8. All copies of the *Project Report* are to be bound in colored hard cover (according to color code) of the *Project Report* .
9. The final submission of the *Project Report* shall be in 03 hard bound copies and 01 soft copy (MS Word) in a CD along with all the corrections and suggestions as recommended before.

ANNEXURE-III (Outer cover)

THE TITLE OF THE PROJECT REPORT IN THE OUTER COVER SHALL LOOK EXACTLY LIKE THIS TITLE

(Font: Times New Roman, Size:16, Bold, Line Spacing: 1 ½, Centered)

{Here put a gap of 4 lines}

Project Report submitted to

(Font: Times New Roman, Size: 12, Bold, centered)

{Here put a gap of one line}

<University's logo>

INSTITUTE OF OPEN AND DISTANCE EDUCATION

Dr. C.V. Raman University

Kota, Bilaspur (C.G.)

(Font: Times New Roman, Size: 14, Bold, centered)

{Here put a gap of one line}

For the award of the degree of

(Font: Times New Roman, Size: 12, Bold, centered)

{Here put a gap of one line}

PROGRAMME NAME

(Font: Times New Roman, Size: 14, Bold, centered)

{Here put a gap of two lines}

by

(Font: Times New Roman, Size: 12, Bold, centered)

{Here put a gap of two lines}

<NAME OF THE STUDENT>

(Font: Times New Roman, Size: 14, Bold, centered)

Registration No.: <>

(Font: Times New Roman, Size: 12, Bold, centered)

<Year>

(Font: Times New Roman, Size: 12, Bold, centered)

(Font: Times New Roman, Size: 10, Bold, Centered)

ANNEXURE-IV (Inner cover)

THE TITLE OF THE PROJECT REPORT IN THE INNER COVER SHALL LOOK EXACTLY LIKE THIS TITLE

(Font: Times New Roman, Size:16, Bold, Line Spacing: 1 ½, Centered)

{Here put a gap of 4 lines}

Project Report submitted to

(Font: Times New Roman, Size: 12, Bold, centered)

{Here put a gap of one line}

INSTITUTE OF OPEN AND DISTANCE EDUCATION

Dr. C.V. Raman University

Kota, Bilaspur (C.G.)

(Font: Times New Roman, Size: 14, Bold, centered)

{Here put a gap of one line}

For the award of the degree

of

(Font: Times New Roman, Size: 12, Bold, centered)

{Here put a gap of one line}

PROGRAMME NAME

(Font: Times New Roman, Size: 14, Bold, centered)

{Here put a gap of two lines}

by

(Font: Times New Roman, Size: 12, Bold, centered)

{Here put a gap of two lines}

<NAME OF THE STUDENT>

(Font: Times New Roman, Size: 14, Bold, centered)

Under the Guidance of

(Font: Times New Roman, Size: 12, Bold, centered)

<NAME OF THE SUPERVISOR/S>

(Font: Times New Roman, Size: 14, Bold, centered)

<Year>

(Font: Times New Roman, Size: 12, Bold, centered)

(Font: Times New Roman, Size: 10, Bold, Centered)

ANNEXURE-V

DECLARATION

I the undersigned solemnly declare that the Project Report entitled "**title of the work**" is based on my own work carried out during the course of my study under the supervision of < name of supervisor >.

I assert that the statements made and conclusions drawn are an outcome of my research work. I further certify that

i. The work contained in the Project Report is original and has been done by me under the general supervision of my supervisor (s).

ii. The work has not been submitted to any other Institute for any other Degree/Diploma/Certificate in this University or any other University of India or abroad.

iii. I have followed the guideline provided by the University in writing the Project Report.

iv. I have conformed to the norms and guidelines given in the concerned Ordinance of the University.

v. Whenever I have used materials (data, theoretical analysis, and text) from other sources, I have given due credit to them by citing them in the text of the Project Report and giving their details in the references.

vi. Whenever I have quoted written materials from other sources, I have put them under quotation marks and given due credit to the sources by citing them and giving required details in the references.

(Name & Signature of the Student)

Registration No.

ANNEXURE-VI

CERTIFICATE

This is to certify that the work incorporated in the Project Report entitled " title of the Project Report " is a record of own work carried out by **<Name of Student >** under my supervision for the award of degree of **Programme Name** of Institute of Open and Distance Education Dr. C.V. Raman University, Bilaspur (C.G.)-India.

To the best of my knowledge and belief the Project Report :

i. Embodies the work of the candidate himself/herself,

ii. Has duly been completed.

iii. Is up to the desired standard both in respect of contents and language for being referred to the examiners.

Supervisor-

(Name and signature of the Supervisor
With designation and Name of Organization)

(Signature of Academic Coordinator)

(Seal of IODE)

ANNEXURE-VII

ACKNOWLEDGEMENT

Acknowledgements should be brief and should not exceed one page. Acknowledgements should be duly signed by the candidate. Gratitude may be expressed to only those who really contributed to the work directly or indirectly. Name of student should appear at the bottom of the page.

SAMPLE ACKNOWLEDGEMENT

It is a matter of immense pleasure to express the overwhelming sense of gratitude, devotion, incontestable regards to my esteemed & learned guides <…….> who have striven to perfect my project report.

……

……

……..

Finally, I express my indebtedness to all who have directly or indirectly contributed to the successful completion of my project work.

< Name of Student >

ANNEXURE-VIII

TABLE OF CONTENTS

Note