# PROGRAMME GUIDE

## DISTANCE EDUCATION PROGRAMMES

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## POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE  IN ELECTRONICS (PGDCHME)

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- **About University**

- **About Programme**

- **Scheme of Examination**

- **Detailed Syllabus, List of Practical & Reference Book**

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- **Date Schedule & Instructions for Submitting Assignments**

- **Guideline For Preparation of Project Report**

## DR. C. V. RAMAN UNIVERSITY
## INSTITUTE OF OPEN AND DISTANCE EDUCATION (IODE)

KARGI ROAD, KOTA, BILASPUR, CHATTISGARH
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E-mail: cvrussd@gmail.com, Website: www.cvru.ac.in

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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 Centres across the country. Till date, AISECT has transformed the lives of over 19 lakh 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 diploma degree, such as distance education PGDCHME, 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 PGDCHME programme is to provide increasing knowledge in the field of information technology and allied sectors. This programme is to distribute knowledge of computers, computer hardware's, software and communication technology along with its applications across the learners, so they can serve as IT technical's, skilled primary users of computer applications and computer professionals 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 PGDCHME programme is to skill based computer programme for the learner of the ruler and tribal areas to enhance their skill as hardware networking expert and also have a sound knowledge of computer applications of computer system so they can 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.

PGDCHME programme offered in Institute of Open and Distance Education runs for the period of 12 months or one years and it comes under the faculty of information technology. This is a post graduate diploma programme related to knowledge of computers and their applications in the field of information technology. This programme is for the learner who wants to learn computer languages and want to know about basic applications of computer system.

**(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 PGDCHME, learners have to pass their graduation 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 PGDCHME 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 assignments 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:

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The Director

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**LEARNER SUPPORT DESK:**

Phone: 07753-253872, 07753-253873, 8359050061

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## POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS (PGDCHME)

Eligibility – Graduate

Duration – 12 Months

| Course Code | Title of the Course | Credit | Total Marks | Theory | | Practical | | Assignment | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Max. | Min. | Max. | Min. | Max. | Min. |
| **SEMESTER-I** | | | | | | | | | |
| PGDCHME1 | Fundamental of Computers and Information Technology | 3 | 100 | 70 | 25 | - | - | 30 | 11 |
| PGDCHME2 | Assembly of PC | 3 | 150 | 70 | 25 | 50 | 18 | 30 | 11 |
| PGDCHME3 | PC Installation and Maintenance | 3 | 150 | 70 | 25 | 50 | 18 | 30 | 11 |
| PGDCHME4 | Basic and Digital Electronics | 3 | 150 | 70 | 25 | 50 | 18 | 30 | 11 |
| PGDCHME5 | Computer Hardware Maintenance | 4 | 150 | 70 | 25 | 50 | 18 | 30 | 11 |
| **Total aggregate required to pass** | | | **700** | **350** | **140** | **200** | **80** | **150** | **60** |
| **SEMESTER-II** | | | | | | | | | |
| PGDCHME6 | Networking Fundamentals | 3 | 150 | 70 | 25 | 50 | 18 | 30 | 11 |
| PGDCHME7 | Windows 2000 & 2003 Server Management | 3 | 150 | 70 | 25 | 50 | 18 | 30 | 11 |
| PGDCHME8 | Linux Installation & Configuration | 3 | 150 | 70 | 25 | 50 | 18 | 30 | 11 |
| PGDCHME9 | Introduction to Entrepreneurship | 2 | 150 | 70 | 25 | 50 | 18 | 30 | 11 |
| PGDCHME10 | Project | 5 | 100 | - | - | 100 | 36 | - | - |
| **Total aggregate required to pass** | | | **700** | **280** | **112** | **300** | **120** | **120** | **48** |

## *Evaluation Scheme*

1. 36% in each theory, practical, project, dissertation & internal assessment but the total aggregate for passing is 40%.

2. Project work carrying 100 marks has to be done under the guidance of a Project supervisor. The distribution of 100 marks are as – Marks given by the external Examiner is out of 70 (50 on Report + 20 on Viva & Presentation), Marks given by the Internal examiner is out of 30 (20 on Project Report + 10 on Viva & Presentation).

# Detailed Syllabus, List of Practical & Reference Book

## SEMESTER-I



# Dr. C.V. RAMAN UNIVERSITY

### Institute of Open and Distance Education (IODE)

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

**SEMESTER- First Semester**

**PROGRAMME: - POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

**COURSE: - FUNDAMENTAL OF COMPUTERS AND INFORMATION TECHNOLOGY**       **Theo. Max. M: 70 Min. M: 25**

**Assig. Max. M: 30 Min. M: 11**

**COURSE CODE: 1PGDCHME1, CREDIT:-3**

Brief history of development of computers, Computer system concepts, Computer system characteristics, Capabilities and limitations, Types of computers Generations of computers, Personal Computer (PCs) – evolution of PCs, configurations of PCs- Pentium and Newer, PCs specifications and main characteristics. Basic components of a computer system - Control unit, detailed functions of ALU, Input/Output functions and characteristics, memory - RAM, ROM, EPROM, PROM and other types of memory.

Input/Output & Storage Units-:Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Light pen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size, Resolution, Refresh Rate, Interlaced / Non Interlaced, Dot Pitch, Video Standard - VGA, SVGA, XGA etc, Printers& types – Daisy wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter,

Sound Card and Speakers, Storage fundamentals - Primary Vs Secondary Data Storage and Retrieval methods - Sequential, Direct and Index Sequential, SIMM, Various Storage Devices - Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, flash drives Video Disk, Blue Ray Disc, SD/MMC Memory cards, Physical structure of floppy & hard disk, drive naming conventions in PC. DVD, DVD-RW.

Software and its Need, Types of Software - System software, Application software, System Software - Operating System, Utility Program, Programming languages, Assemblers, Compilers and Interpreter, Introduction to operating system for PCs-DOS Windows, Linux, File Allocation Table (FAT & FAT 32), NTFS files & directory structure and its naming rules, booting process details of DOS and Windows, DOS system files Programming languages- Machine, Assembly, High Level, 4GL, their merits and demerits, Application Software and its types - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, characteristics, Uses and examples and area of applications of each of them, Virus working principles, Types of viruses, virus detection and prevention, viruses on network.

Use of communication and IT, Communication Process, Communication types- Simplex, Half Duplex, Full Duplex, Communication Protocols, Communication Channels - Twisted, Coaxial, Fiber Optic, Serial and Parallel Communication, Modem - Working and characteristics, Types of network Connections - Dialup, Leased Lines, ISDN, DSL, RF, Broad band, Types of Network - LAN, WAN, MAN, Internet, VPN etc., Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies, Components of LAN -Media, NIC, NOS, Bridges, HUB, Routers, Repeater and Gateways.

**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

# Dr. C.V. RAMAN UNIVERSITY

**Institute of Open and Distance Education (IODE)**

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

**SEMESTER- First Semester**

**PROGRAMME: - POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**          **Theo. Max. M: 70 Min. M: 25**
**COURSE: - ASSEMBLY OF PC**          **Assig. Max.M: 30 Min. M:11**
**COURSE CODE: 1 PGDCHME2, CREDIT:-3**          **Practical Max.M:50 Min.M:18**

- Introduction of assembling, difference between branded and assembled computer.

- Tools used for assembling.

- Identification and selection of basic components for assembling a PC.

- Opening of Cabinet.

- Install the power supply and check it. .

- Install the components on motherboard - CPU, Heat sink / fan assembly, RAM.

- Install the motherboard.

- Install internal drive-Hard Disk.

- Install drives in external ways- Optical Drive and Floppy Drive.

- Install adapter Cards- NIC, Video adapter & Sound.

- Connect all internal cables - Power cables and Data cables.

- Connect all front panel indicators, switches and cables.

- Close the cabinet.

- Connect all peripherals – Keyboard, Mouse, Monitor, Speaker, Printer etc.

- Final check before Booting.
- Testing –Boot Computer for the first time, identify beep codes and BIOS setup.

**READINGS:** SELF LEARNING MATERIAL

**LAB WORK:**

1. **Introduction to computer hardware.**

2. **Introduction of cables, wires and peripherals devices.**

3. **Assembling personal computer**

4. **Booting and Testing**



# Dr. C.V. RAMAN UNIVERSITY

**Institute of Open and Distance Education (IODE)**

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

**SEMESTER- First Semester**

**PROGRAMME :- POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

   **Theo. Max. M: 70 Min. M: 25**

**COURSE:- PC INSTALLATION AND MAINTENANCE          Assig. Max.M: 30 Min. M:11**

**COURSE CODE :1 PGDCHME3, CREDIT:-3**                    **Practical Max.M:50 Min.M:18**

**INSTALLATION:**

- Booting of system from DOS/Windows

- Fundamentals of Hard Disk Partitioning and Formatting Hard Disk using Fdisk/Disk Manager

- Basic concepts of operating systems- Desktop, Network, Server.

- Determine minimum hardware requirements and compatibility with the OS

- Characteristics of modern operating systems.

- Using desktop operating system( DOS/Windows).

- Identify applications and environments that are compatible with an operating system

- Installation of operating system, Installation of Multiple Booting (Win-98, Win-XP, VISTA Media Center)

- Installation of Different Drivers (Sound, display, USB Devices, Printer, Scanner, Web Camera, TV Tuner Card, Modem, Modem Setting)

- Importance of rebooting

- Installation of Application Software, (Office XP, Visual Studio, Java, Auto Cad etc)

- Installation of DTP Softwares ( Photoshop, Corel, PageMaker, etc. )

- Installation of Media Players ( Adobe Flash Player, Real Player, Jet Audio, Power DVD)

- Installation of Nero and Other Optical Disk Writer.

- Installation of Anti-Virus, Scan Virus File & Folder, Repair Virus File & Folder.

- Create a Rescue Disk,

- Installation of Acrobat Reader, WinZip etc.

**MAINTENANCE:**

- Identify and apply common preventive maintenance techniques for operating systems

- Create a preventive maintenance plan

- Schedule a task- Taking Backup of data and Restore the backup in the hard drive

- Updation of antivirus patches

- Troubleshoot operating systems- Review the troubleshooting process, Identify common problems and solutions

- Use of Control Panel.

- Use of System Tools

**READINGS:** SELF LEARNING MATERIAL

**LAB WORK:**

1. Introduction to DOS.

2. Introduction Hard drive and other storage devices.

3. Formatting computer system.

4. Installation of Operating Systems.

5. Installation of Application software.

6. System backup and restore.

# Dr. C.V. RAMAN UNIVERSITY

## Institute of Open and Distance Education (IODE)

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

**SEMESTER- First Semester**

**PROGRAMME:- POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

|  |  |
|---|---|
| | **Theo. Max. M: 70 Min. M: 25** |
| **COURSE: - BASIC AND DIGITAL ELECTRONICS** | **Assig. Max. M: 30 Min. M: 11** |
| **COURSE CODE: 1 PGDCHME4, CREDIT:-3** | **Practical Max.M:50 Min.M:18** |

## BASIC ELECTRONICS

- Fundamentals of Electronics-Atomic Structure, Energy Level Diagram of Insulator, Conductor, Semiconductor, Electric Field, Potential And Potential Difference, Electric Current, Direct Current, And Alternating Current, Ohm Law.

- Registers-Types of Registers, Color Codes, Series And Parallel Connections, Potentiometers, Trimmers, Basic Uses of Registers.

- Capacitors-Type of Capacitors, Color Codes, Series And Parallel Connection, Charging of Capacitor, Basic Uses of Capacitors

- Inductors- Concept of Coil, Inductance, Types of Inductors, Basic Uses Of Inductors

- Transformer- Transformer Working, Types of Transformer, Design Issues of Transformer, Basic Uses of Transformer.

- Semiconductor Device- Semiconductor Theory( P & N Type), PN Junction, Rectifier Types of rectifier, Transistor-NPN And PNP, Transistor Configurations, CB, CE And CC, Transistor as An Amplifier, Power Gain of a Transistor, Practical Facts About Transistor, Biasing of Transistor.

- FET Construction, MOSFET Constriction, Parameter And Specifications, UJT Construction And Its Parameters, Thyristor-SCR, DIAC, TRIAC.

- Special Purpose Diodes And opto Electronic Devices-Light Emitting Diode Photo Diode, Photo Resisters, photo Transistor, opto Couplers Displays –Constriction And Application, LCD, Screen Segment Displays Dot Matrix Display

- Amplifiers-Class A Class B Class Amplifier, Voltage And Current Amplifier

- Oscillator-RS Oscillator Phase Shift And Wien Bridge, LC Oscillator-Hartley And Colpitt, Crystal Oscillator.

- Voltage Regulator And Filters-Voltage Regulator, Series And Shunt Regulators, Capacitor Inductor And Choke Input Filters.

- Wave Shaping Circuits - Clamper, Clipper and Multivibrator,

- Opamp And IC Timer-Opamp Block Diagram And Its Application, IC Timer-Pin Diagram Of IC555 And Application of Basic Circuits.

- Basic Measuring Instruments-Ammeter, Voltmeter, Multimeter, CRO, Function Generator

**DIGITAL ELECTRONICS**

- Number System And Codes-Binary, Decimal, Octal and Hexadecimal Number System

- Conversion of Number Systems- Binary Addition, Subtraction, Alphanumeric Codes-ASCII And EBCDIC, Excess 3 And Gray Codes.

- Logic Gates and Boolean Algebra-Positive And Negative Logic Gates its Truth Tables OR,

AND, NOT, Ex-OR, NOR, NAND, Ex-NOR, Pin Diagram Of All Gates. Basic Laws of Boolean Algebra.

• Combinational Logic Circuits- Multiplexer, De multiplexer Adder, Subtractor, Encoder/ Decoder,

• Flip-Flop- Basic Flip-Flop, SR Flip-Flop, clocked Flip-Flop, T Type Flip-Flop, D Type Flip-Flop, JK Flip-Flop, Race Around Condition, MS JK Flip-Flop. PIN Configuration of Each Flip-Flop ICs.

• Counters And Registers- Binary Ripple Counters, Operation of A Ripple Counters, Modules of A Counter, Synchronous or Parallel Counters Operation, And Modules of Counter UP/DOWN Counter, PIN Diagrams Of Each Counter.

• Shift Registers : Serial In Serial out, Serial In Parallel out, Parallel In Serial out, Parallel In Parallel out

• D/A And Converter : Basic A/D Converter - Its Types, Basic D/A Converter –Its Type.

• Semiconductor Memories: Memory Organization And Operation, Expanding Memory Size, Classification of Memories, Memory Based Numerical.

• Microprocessor- Introduction of Microprocessor, Block Diagram of Micro Computer, Block Diagram of CPU with system Bus, Bus Organization in Microprocessor, Details of different Microprocessor.

**READINGS:** SELF LEARNING MATERIAL

**ADDITIONAL READINGS:**

1. Digital Computer & logic Dssign, M. Morris Mano, Pearson Publication

2. Fundamentals of Digital Circuit, A.Anand Kumar, PHI

**LAB WORK:**

1. **Introduction of all internal parts.**
2. **Acknowledgement of power supply.**

3.  **Introduction to registers and their uses.**
4.  **Introduction to memory and its organization.**
5.  **Working manner of Microprocessor.**

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

**SEMESTER- First Semester**

**PROGRAMME: - POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

**Theo. Max. M: 70 Min. M: 25**

**COURSE: - COMPUTER HARDWARE MAINTENANCE**    **Assig. Max. M: 30 Min. M: 11**

**COURSE CODE: 1PGDCHME5, CREDIT:-4**    **Practical Max. M: 50 Min. M: 18**

**PROCESSING UNIT**

•   Microprocessor Selection(Processor Frequency, Bus Speed, Cache RAM, Processor Marking) Type of CPU(Normal CPu, HT CPU, Mobile CPU, Centrino CPU, Dual Core CPU, Quad Core CPU, etc. ), Introduction of different Companies (Intel, AMD, Cyrix, etc. )

•   Details of Different CPU Series (P-I, P-II, P-III, P-IV & Celeron, AMD, HT-Supported CPU), CPU Slots (Socket 1-8, Socket 370, Socket 423, Socket 478…. . etc), Input Output Slot(ISA, VESA, PCI, AGP, AMR, CNR, PCI Express etc. ), Introduction of RAM Slot (SIMM, DIMM, RIMM) Introduction of Motherboard's Chip Set (INTEL, SIS, VIA, NVIDIA, AMD)Onboard Facilities.

•   Introduction of Motherboard and its various types, Block Diagram of Motherboard, Selection of motherboard( industry/home purpose)

- Understanding of Different Motherboard circuit diagrams.

- Description of Slot Ports : Describe of all sections, Slots & ports Identification, RTC(real Time Clock)

- Voltage Regulator Module section(Block diagram, Working, Output Current sense, Input volt Sens, Five bit Programmable section, Circuit of VRM, Testing and fault Finding),

- Clock Generator Section, Types of Clock Generator, Working and testing of Clock Generator

- Introduction of North Bridge & South Bridge section, System Control, GMCH, ICH etc.

- Description of BIOS Section, Types of ROM ( BIOS), Testing & Fault Finding of BIOS

- I/O Controller Section, Working of I/O (Input Output) Controller, Types of I/O Controller, Identification of I/O, Pin detail of I/O Controller, Section wise description of I/O Controller(FDC Interface Stage, keyboard Interface Stage, LPC Interface Stage, Multimode Parallel Port Stage, Communication, ACPI Interface Stage, Hardware Monitoring Interface Stage, Input/output Ports, Power division Stage)Testing and fault Finding.

- Audio section, Working of Audio Section, Types of Audio Section, Version of Audio Section, Testing & Fault finding.

- General Fault Finding of Mother Board : Testing Flow Chart.

- C. R. O, Operating of CRO, Troubleshooting by CRO.

- Soldering & Desoldering, Soldering & Desoldering of Chip Components by SMD, IROn & Hot air gun.

- CMOS Setup, CMOS Setup Utility & Controlling Option of Setup, on Board BIOS Programming.


**INPUT AND OUTPUT DEVICES**

- Keyboard, Mouse & scanner

- o Types of Keyboard, Technology used in Keyboard, Scanning of row and Column and Interfacing, Key Rollover, Key debounce, QA Plus Software, Circuit Diagram and Fault Finding, Pin Details and Testing of Micro Controller, Wireless Keyboards.
- o Functions of Mouse, Types of Mouse, Cable Detail, Interfacing, Card Conflicts, IRQ Conflicts, Optical Mouse, Wireless Mouse

- o Basics of Scanner, Types of Scanner on the basis of (i)Image Scanning (ii) Technology used in Scanner, Detail of DPI, SPI, PPI, Interfacing, parts of Scanner, Port Controller, Power LED, Stepper Motor, Scan Head Unit, Home Sensor, Inverter, Fault Finding of Scanner

- CRT Monitor

    - o Introduction of Monitor, Types of Monitor, Monitor CRT – (i) Mono CRT (ii) Colour CRT, CRT Working, Deflection Coil, Degauss Coil, Rotation Coil, Signal Cable Connector Description, Color Monitor, block Diagram.

    - o Identification & working of Monitor section, SM Power Supply, Video Amp Stage, Video Driver & Output Stage, OSD Stage, System & System driver stage, Horz Osc State, Horz Driver & Output Stage, EHT Stage, Vertical Osc Stage, Vertical Driver Output Stage.

- LCD/TFT Monitor

    - o Introduction of LCD, Working of LCD/TFT, Manufacturing of LCD/TFT, Different Between CRT & LCD/TFT VGA & DVI Cable, Introduction of Different Stage.

    - o Identification and Working of LCD/TFT Monitor Section(Power supply Stage, Inverter Stage, Block Diagram of Main Board, Block Diagram of TFT Panel, Main PCB, Monitor Control Stage, Memory Stage, Functional Keyboard, Scaler Stage)

- Printer (DMP, Inkjet, Laser)

    - o Introduction of Printer, Classification of printer, Different section of Printer, its detail and identification, Interface Section, Repairing of Printer, Testing of Printer(Self Test,

Test by Computer)

- o Block Diagram of DMP Printer and its description, Layout of DMP Printer, Paper Sensor, Home Sensor, Front Panel LED Indicator, Carriage Motor Driver, paper Feed Motor Drive, Print Head Driver, Power Supply, Description of 24 V and 5V Power Supply, CPU and DIP Switch, Gate Array, RAM, ROOM Pin Details, Fault Finding of Printer.

- o Types of Inkjet Printer, Thermal Process, Print Head, Different sections of Inkjet, Motor, Sensor, Caping Locking, Wiping, Splitting, Mechanism of Inkjet Printer & detail.

- o Function Block Diagram of LASER Printer and its Process, Image Formation (Cleaning to Fusing Process), Electronic Section of Laser Printer(Formater PCA and DC Controller), Mechanical Section of Laser Printer(Paper feeding, Motor Solenoid), Fault Finding of Laser Printer., Refilling

- o Introduction to MFD.

- **STORAGE AND POWER SUPPORTING DEVICES**

  - o Storage Devices

  - o Introduction of Storage devices, Types of Hard Disks(IDE, SCSI, SATA, USB etc. ), use of internal and external Hard Disk. Identification of HDD Capacity, Model, RPM Speed & Companies Comparison, Jumper Setting, Types of Floppy Disk Drive, Details of CD ROM, CD Writer, Combo Drive, DVD Drive, Pen Drive, etc. Use of cleaning tools.

- **SMPS**

  - o Introduction of Basic Component, Working principle of SMPS, Introduction of AT, ATX & BTX SMPS, Connector Details with Voltage and Color, Block Diagram of SMPS, AC/DC stage, PS Stage, Switching output, DC Output, +3. 3 V Reg. & PG Stage, Calculation of SMPS wattages for different PCs.

- **UPS**

  o Introduction of UPS, Relay switch, Transformer Working, Fundamental of UPS & UPS Block Diagram, AVR Stage, Voltage Regulator Stage, Charger Stage, Oscillator Stage, Switching Stage, AC low & Hgh Sensor stage, AC/DC Selector Stage, Battery Low Stage, battery deep discharge protection stage.

**READINGS:** SELF LEARNING MATERIAL

**LAB WORK:**

1. Introduction of microprocessors, registers and processing unit.

2. Work with input and output devices.

3. Power supply.

**SEMESTER-II**

# Dr. C.V. RAMAN UNIVERSITY

### Institute of Open and Distance Education (IODE)

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

**SEMESTER- Second Semester**

**PROGRAMME: - POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

**Theo. Max. M: 70 Min. M: 25**

**COURSE: - NETWORKING FUNDAMENTALS**     **Assig. Max. M: 30 Min. M: 11**

**COURSE CODE:-2PGDCHME1, CREDIT:-3**     **Practical Max.M:50 Min.M:18**

Basics of Data communication and Networking

- Needs For Networking

- Advantage And Disadvantage Of Networking

- Type Of Network-LAN, WAN, MAN

- Network Topology- Bus, Ring, Star, Hierarchical

- Characteristics Of Network- Architectural Model, Topology

- Physical components of a network-Hubs, Bridges, switches, Routers, Wireless acess point.

- Network Cables-Twisted pair, coaxial cable, and fiber optic cable.

- Network Model- Peer To Peer, Protocol, Client/Server Network, Hybrid Type.

- Types Of Server-File Server, Database Server, Print Server, Web Server, Proxy Server

- Network Protocols-Communication Protocol, Hardware Dependent Protocol, Software Dependent Protocol.

- Protocol Services-File& Printer, Multimedia, Email, WWW, Usenet Newsgroups, e-phonebooks, Video Conferencing, Administrative Record Keeping.

- Network Operating System-Windows XP, Windows NT, 2000, 2003, 2008 Server Unix, Linux.

- OSI Model and TCP/IP Model.

- Internet Basics and concept of Domain

**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

**LAB WORK:**

1. Communication devices and its working manner.

2. Acknowledgement of Protocols.

3. Networking models and layers.

4. Introduction to Server and its types.

5. Use of Internet.

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SEMESTER- <span style="color:red">Second Semester</span>

**PROGRAMME: - POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

**Theo. Max. M: 70 Min. M: 25**

**COURSE: - WINDOWS 2000 & 2003 SERVER MANAGEMENT    Assig. Max. M: 30 Min. M: 11**

**COURSE CODE: 2PGDCHME2, CREDIT:-3          Practical Max. M: 50 Min. M: 18**

- Introduction To Windows Server 2003(R1, R2 variations -32 bit and 64 bit)

- Deployment Of Windows Server 2003

- User Group Management

- Storage Management

- TCP/IP And Ipv4 Network Management

- Understanding NetBIOS, Wins And NetBT

- Configuring DNS And DHCP Server

- Security Management

- Implementing Volume Shadow Copy

- Controlling With MMC

- Controlling With CLI

- Controlling Windows With Registry

- Controlling Windows Group Policy

- Windows Server Virtualization

- Active Directory Domains Services

- Active Directory Certificate Services

- Terminal Services Enhancements Clustering Enhancements

- Implementing And Troubleshooting Nap

- IIS installation and configuration.

- Implementing Active Directory Services.

- Planning And Implementing

- Restoring Active Directory.

- INTRODUCTION TO WINDOWS SERVER 2008

- Introduction, Managing And Maintaining Windows Server 2008 Environment

- New in Windows Server 2008

- Compare With Windows Server 2003

- Virtualization concepts

**READINGS:** SELF LEARNING MATERIAL

**LAB WORK:**

1. Introduction of server and its working manner.

2. Troubleshooting.

3. Server based application.

4. Working with directories and windows sever operating system.

5. Restoring.

6. Security Management.

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**SEMESTER- Second Semester**

**PROGRAMME: - POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

|  |  |
|---|---|
|  | **Theo. Max. M: 70 Min. M: 25** |
| **COURSE:- LINUX INSTALLATION & CONFIGURATIO** | **Assig. Max. M: 30 Min. M: 11** |
| **COURSE CODE: 2PGDCHME3, CREDIT:-3** | **Practical Max. M: 50 Min. M: 18** |

- Overview of Linux

- Installation of Linux

- Linux Advanced File System Management

- Besh Shell

- Linux Commands.

- Running DOS Command in Linux.

- Configuration of partition in Linux.

- Text Editor-vi

- Bash Shell Scripting

- Basic Networking in Linux.

- Configuration And Installation Of Hardware Device

- Linux File Security

- Connect to Internet in Linux.

- Installation software in Linux.

- Kernel Services And Configuration

- System Monitoring

- Reading Linux Partition in Windows & reading windows partition in Linux.

**READINGS:** SELF LEARNING MATERIAL

**ADDITIONAL READINGS:**

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

**LAB WORK:**

1. Installation of Linux Operating System.
2. Introduction of Linux operating system and its command.
3. File security.
4. Linux Partition in Windows & reading windows partition in Linux

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**SEMESTER- Second Semester**

**PROGRAMME: - POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

**Theo. Max. M: 70 Min. M: 25**

**COURSE: - INTRODUCTION TO ENTREPRENEURSHIP**          **Assig. Max. M: 30 Min. M: 11**

**COURSE CODE: 2PGDCHME4, CREDIT:-2**

Introduction to Entrepreneurship – Introduction and concept of Entrepreneurship

Theory of Entrepreneurship – Entrepreneurship in developing countries, Entrepreneurship stimulation, Entrepreneurship and economic growth, Entrepreneurship and Economic system, various theories of Entrepreneurship

Growth of Entrepreneurship – Role of Entrepreneurship, Growth of Entrepreneurs, Prospects for Entrepreneurship

Nature and Importance of Entrepreneurship – Entrepreneurship Qualities, Entrepreneurship Functions, Entrepreneurship Vs Entrepreneurs, Opportunity matrix, Entrepreneurship Decision, Role of Entrepreneurship, Growth of Entrepreneurship

Classification and types of Entrepreneurship – Business Entrepreneurs, Types of Entrepreneurship, Entrepreneurship and Motivation, Growth and Entrepreneurship

Nature and scope of management – Scope of Management, Meaning of Management,

Characteristics of Management, Objectives of Management, Management as a profession, Organization and Management, Branches of Management, Importance of Management, managerial Skills

Planning – Concepts, processes and types – Importance of Planning, Characteristics of Planning, a Good Plan, Advantages of Planning.

Concepts of an Organization – Organization Concepts, organization theory, formal and informal organization, significance of organization, the organization process, analysis of organization, nature of organization, organization as an art, group dynamics, organization development.

Motivation – Introduction, Meaning, Kinds of Motivation, MC Gregor's Theory X and Theory Y, Coordination, Need Hierarchy theory of Motivation, Motivational Techniques, Financial and Non-financial Incentives.

Leadership – Introduction, Characteristics of leadership, great man theory of leadership, role of leadership, leadership styles, techniques of leadership, functions of leadership, qualities of leadership, process of leadership, develop voluntary cooperation.

Communication – Introduction, Features of communication, Need, Communication Process, communication Process models, Gestural or non verbal communication, Models of Grapevine, Communication Networks, Barriers of Communication, Effective communication, Improve written communication.

Accounting in an small enterprise – Need, How accounts maintained?, Objectives of accounting, Ledger, Trial Balance, Final accounts Balance sheet etc.

Entrepreneurship development institutions -
AISECT model of Entrepreneurship

How to setup and AISECT Centre

Training for self employment

**READINGS:** SELF LEARNING MATERIAL

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**SEMESTER- <span style="color:red">Second Semester</span>**

**PROGRAMME: - POST POST GRADUATE DIPLOMA IN COMPUTER HARDWARE AND MAINTENANCE IN ELECTRONICS**

**COURSE: - PROJECT**                          **Practical Max. M: 100 Min. M: 36**

**COURSE CODE: 2PGDCHME5, CREDIT:-5**

- Select the project.

- Collect the information related to project

- Identify the technology in terms of front end, back end, hardware tools used, software tool used.

- Write the brief synopsis for project

- Approved the synopsis from project in charge

- Proceed for the project using system development life cycle

- System development life cycle contain the steps like in to gathering designing, coding, development, testing, dispatched.

- Demonstrate the complete project through power point presentation to project in charge

**COUNSELING AND STUDY STRUCTURE**

| Sl. No. | Course Code | Title of the Course | Credit | Total Hours of Study | Counseling and Study Structure (hours) | | | | Project |
|---------|-------------|---------------------|--------|----------------------|----------------------------------------|------|-----|---------|---------|
| | | | | | Face to Face Counseling | Self study | Practical | Assignments | |
| **Semester I** | | | | | | | | | |
| 1 | PGDCHME1 | Fundamental of Computers and Information Technology | 3 | 90 | 12 | 51 | - | 27 | - |
| 2 | PGDCHME2 | Assembly of PC | 3 | 90 | 12 | 33 | 18 | 27 | - |
| 3 | PGDCHME3 | PC Installation and Maintenance | 3 | 90 | 12 | 33 | 18 | 27 | - |
| 4 | PGDCHME4 | Basic and Digital Electronics | 3 | 90 | 12 | 33 | 18 | 27 | - |
| 5 | PGDCHME5 | Computer Hardware Maintenance | 4 | 120 | 16 | 44 | 24 | 36 | - |
| **Semester II** | | | | | | | | | |
| 6 | PGDCHME6 | Networking Fundamentals | 3 | 90 | 12 | 33 | 18 | 27 | - |
| 7 | PGDCHME7 | Windows 2000 & 2003 Server Management | 3 | 90 | 12 | 33 | 18 | 27 | - |
| 8 | PGDCHME8 | Linux Installation & Configuration | 3 | 90 | 12 | 33 | 18 | 27 | - |
| 9 | PGDCHME9 | Introduction to Entrepreneurship | 2 | 60 | 8 | 22 | - | 18 | - |
| 10 | PGDCHME10 | Project | 5 | 150 | - | - | - | - | 150 |

## STUDY MODULES AND BOOKS INFORMATION

| Course Code | Title of the Course | Books / Modules to be used |
|---|---|---|
| **Semester-I** | | |
| PGDCHME 1 | Fundamental of Computers and Information Technology | Module Prepared by CVRU |
| PGDCHME 2 | Assembly of PC | Module Prepared by CVRU |
| PGDCHME 3 | PC Installation and Maintenance | Module Prepared by CVRU |
| PGDCHME 4 | Basic and Digital Electronics | Module Prepared by CVRU |
| PGDCHME 1 | Computer Hardware Maintenance | Module Prepared by CVRU |
| **Semester-II** | | |
| PGDCHME 6 | Networking Fundamentals | Module Prepared by CVRU |
| PGDCHME 7 | Windows 2000 & 2003 Server Management | Module Prepared by CVRU |
| PGDCHME 8 | Linux Installation & Configuration | Module Prepared by CVRU |
| PGDCHME 9 | Introduction to Entrepreneurship | Module Prepared by CVRU |
| PGDCHME 10 | Project | |

## DATE SCHEDULE & INSTRUCTIONS FOR SUBMITTING ASSIGNMENTS

| DUE DATE OF SUBMISSION OF ALL ASSIGNMENTS AT THE IODE, CVRU/STUDY CENTRE | | |
|---|---|---|
| **Semester** | **Assignment No.** | **Due Date** |
| First Semester | PGDCHME (1) <br><br> PGDCHME (2) <br><br> PGDCHME (3) <br><br> PGDCHME (4) <br><br> PGDCHME (5) | • April 30 (for January Session ) <br><br> • October 31 (for July session) |
| Second Semester | PGDCHME (6) <br><br> PGDCHME (7) <br><br> PGDCHME (8) <br><br> PGDCHME (9) | • October 31 (for July Session ) <br><br> • April 30 (for January 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 जानकारी 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 कार्यकम 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.

# 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)*

**© *\<Year\>\<Name of the student\>*.All rights reserved.**

*(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**

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{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)

# 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.

# 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)

# 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 >**

<span style="color:green">**ANNEXURE-VIII**</span>

TABLE OF CONTENTS

| | | |
|---|---|---|
| Chapter-V | Result, Conclusions and Suggestions | …… |
| Bibliography | As per style given in reference section of text of the project report. | ……. |
| Appendixes | Questionnaire/Formula/Diagnosis/Any other Supporting Documents | ……. |

## **<u>Note</u>**

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