

B.VOC

In

HARDWARE AND NETWORKING
(UGC)

Program Outcomes:

- Learn the proper techniques of maintenance of hardware and networking devices
- Study the science of hardware and networking
- Diagnose and repair all major problems regarding hardware, PC peripheral devices
- Build your own book of business
- Work as a system administrator

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Course Relevance:

A recent survey has uncovered that the electronics and hardware sector is anticipated to grow even more in the coming years. Computer hardware and networking is proposed to be one of the quickest growing occupations.

Aspirants can seek jobs in private and public sector banks, financial institutions, colleges etc. as to perform their regular work they require the services of hardware and networking experts. The additional benefit of being a trained professional in this sector is that they can start a business of their own, providing various computer networking related services to various other sectors who are in need for the same. Teaching in technical institutes too can be considered as a good career option.

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
B.Voc. in Hardware & Networking (UGC)
(Effective for Academic Session 2018-2019)

Year- 1 – Diploma (SEMESTER – I)

Course	Component	Theory / Practical	Internal (Theory)	External (Theory)	Internal (Practical)	External (Practical)	Credit		
							L	T	P
UGEN-101 ENGLISH LANGUAGE AND COMMUNICATIVE SKILLS	Generic	Theory & Practical	10	40	10	40	2	1	3
UGEN-102 COMPUTER FUNDAMENTALS & IT	Generic	Theory & Practical	10	40	10	40	2	1	3
UHWNV-103 BASIC ELECTRONICS	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-104 DIGITAL ELECTRONICS	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-191 PRACTICAL ON COMPUTER COMPONENTS IDENTIFICATION AND TESTING	Skill	Practical	-	-	20	80	-	-	6
All Generic Components common to all B.Voc. courses. Industrial Training of 5-6 weeks of 6 credits in each year followed by report writing and Viva Voce. These credits will be evaluated in semester 6									

Year- 1 – Diploma (SEMESTER – II)

Course	Component	Theory / Practical	Internal (Theory)	External (Theory)	Internal (Practical)	External (Practical)	Credit		
							L	T	P
UGEN-201 SOFT SKILL & PERSONALITY DEVELOPMENT	Generic	Theory & Practical	10	40	10	40	2	1	3
UGEN - 202 BUSINESS ANALYSIS: ENVIRONMENT, SALES & MARKETING	Generic	Theory & Practical	10	40	10	40	2	1	3
UHWNV-203 PERSONAL COMPUTING SOFTWARE	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-204 COMPUTER HARDWARE, PC ASSEMBLING & TROUBLE SHOOTING	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-291 PRACTICAL ON LAPTOP TROUBLE SHOOTING	Skill	Practical	-	-	20	80	-	-	6
All Generic Components common to all B.Voc. courses. Industrial Training of 5-6 weeks of 6 credits in each year followed by report writing and Viva Voce. These credits will be evaluated in semester 6									

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Year- 2 – Advanced Diploma (SEMESTER – III)

Course	Component	Theory / Practical	Internal (Theory)	External (Theory)	Internal (Practical)	External (Practical)	Credit		
							L	T	P
UGEN-301 VALUE EDUCATION & HUMAN RIGHTS	Generic	Theory & Practical	10	40	10	40	2	1	3
UGEN-302 BASIC ACCOUNTING	Generic	Theory & Practical	10	40	10	40	2	1	3
UHWNV-303 COMPUTER PERIPHERAL AND DEVICES	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-304 NETWORK FUNDAMENTALS	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-391 PRACTICAL ON NETWORKING	Skill	Practical	-	-	20	80	-	-	6

All Generic Components common to all B.Voc. courses.
Industrial Training of 5-6 weeks of 6 credits in each year followed by report writing and Viva Voce.
These credits will be evaluated in semester 6

Year- 2 –Advanced Diploma (SEMESTER – IV)

Course	Component	Theory / Practical	Internal (Theory)	External (Theory)	Internal (Practical)	External (Practical)	Credit		
							L	T	P
UGEN-401 ENVIRONMENTAL STUDIES	Generic	Theory & Practical	10	40	10	40	2	1	3
UGEN-402 QUALITY MANAGEMENT	Generic	Theory & Practical	10	40	10	40	2	1	3
UHWNV-403 WINDOWS SERVER ADMINISTRATION	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-404 SWITCHING AND ROUTING	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-491 PRACTICAL ON ROUTING CONFIGURATION & NETWORK CONNECTIVITY	Skill	Practical	-	-	20	80	-	-	6

All Generic Components common to all B.Voc. courses.
Industrial Training of 5-6 weeks of 6 credits in each year followed by report writing and Viva Voce.
These credits will be evaluated in semester 6

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Year- 3 – Degree (SEMESTER – V)

Course	Component	Theory / Practical	Internal (Theory)	External (Theory)	Internal (Practical)	External (Practical)	Credit		
							L	T	P
UGEN-501 INDIAN ECONOMY & SOCIAL CHANGES	Generic	Theory & Practical	10	40	10	40	2	1	3
UGEN-502 RESEARCH METHODOLOGY	Generic	Theory & Practical	10	40	10	40	2	1	3
UHWNV-503 LINUX OPERATING SYSTEM	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-504 NETWORK ADMINISTRATION & TROUBLE SHOOTING	Skill	Theory & Practical	10	40	10	40	2	1	3
UHWNV-591 PRACTICAL ON SWITCHING CONFIGURATION & NETWORK CONNECTIVITY	Skill	Practical	-	-	20	80	-	-	6
All Generic Components common to all B.Voc. courses. Industrial Training of 5-6 weeks of 6 credits in each year followed by report writing and Viva Voce. These credits will be evaluated in semester 6									

Year- 3 Degree (SEMESTER – VI)

Course	Component	Theory / Practical	Internal (Theory)	External (Theory)	Internal (Practical)	External (Practical)	Credit		
							L	T	P
UGEN-601 GENERAL HUMAN PSYCHOLOGY & HR MANAGEMENT	Generic	Theory & Practical	10	40	10	40	2	1	3
UGEN-602 ENTREPRENEURSHIP DEVELOPMENT PROGRAMME	Generic	Theory & Practical	10	40	10	40	2	1	3
UHWNV-681 INDUSTRIAL TRAINING	Skill	Practical	-	-	-	300	-	-	18
All Generic Components common to all B.Voc. courses. Industrial Training of 5-6 weeks of 6 credits in each year followed by report writing and Viva Voce. These credits will be evaluated in semester 6									

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Year-1 Diploma (SEMESTER – I)

Paper Title: UGEN – 101: ENGLISH LANGUAGE AND COMMUNICATIVE SKILLS

Theory: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Objective: The objective of this paper is to familiarize the students with the importance of Communication and its associated components in the hard core corporate sector.

Instructions:

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **NINE** questions comprising two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT - I

The Sentence and Its Structure - How to Write Effective Sentences - Phrases - What Are They? - The Noun Clauses - The Adverb Clause - The Relative Clause - How the Clauses Are Conjoined - Word - Classes and Related Topics - Understanding the Verb - Understanding the Auxiliary Verb - Understanding the Adverbs - Understanding the Pronoun - Prepositions.

UNIT - II

Spelling and Pronunciation - Pronunciation, The Tense and Related Topics - Presentness and Present Tenses - The Presentness of a Past Action - Interrogatives and Negatives - Negatives - How to Frame Questions - What's What? - Polite Expressions - Some Time Expressions - In Conversation – Letter Writing - Academic Assignments.

UNIT - III

Self - Assessment; Identifying Strength & Limitations; Habits, Will - Power and Drives, Developing Self - Esteem and Building Self - Confidence, Significance of Self - Discipline, Understanding Perceptions, Attitudes, and Personality Types, Mind - Set: Growth and Fixed, Values and Beliefs, Motivation and Achieving Excellence; Self - Actualization Need; Goal Setting, Life and Career Planning , Constructive Thinking, Communicating Clearly: Understanding and Overcoming barriers.

UNIT - IV

Active Listening, Persuasive Speaking and Presentation Skills, Conducting Meetings, Writing Minutes, Sending Memos and Notices; etiquette: Effective E - mail Communication; Telephone Etiquette, Body Language in Group Discussion and Interview.

Practical based on UGEN - 101

Practical: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any three question
- Each question carries 5 marks.
- Practical file carries 5 marks and 20 marks for practical work and viva - voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

Planning for Practical session:

- Conversation classes on contemporary issues
- Writing of corporate CVs
- PPT presentation on selected issues
- Group discussion
- Tips to face the interviews and mock sessions

Books Recommended:

- Dorch, Patricia. What Are Soft Skills? New York: Execu Dress Publisher, 2013.

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- Kamin, Maxine. Soft Skills Revolution: A Guide for Connecting with Compassion for Trainers, Teams, and Leaders. Washington, DC: Pfeiffer & Company, 2013.
- Klaus, Peggy, Jane Rohman & Molly Hamaker. The Hard Truth about Soft Skills. London: HarperCollins E - books, 2007.
- Petes S. J. , Francis. Soft Skills and Professional Communication. New Delhi: Tata McGraw - Hill Education, 2011.
- Stein, Steven J. & Howard E. Book. The EQ Edge: Emotional Intelligence and Your Success. Canada: Wiley & Sons, 2006.

Paper Title: UGEN – 102: COMPUTER FUNDAMENTALS & IT

Theory: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Objectives: The objective of this course is to familiarize students with Fundamentals of Computer and IT applications. It enables the student to get practical exposure towards MS - Office tools.

Instructions:

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **NINE** questions comprising two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT - I

KNOWING COMPUTER: Introduction, Objectives, Basic Applications of Computer, Components of Computer System: Central Processing Unit, Keyboard, mouse and VDU, Other Input devices, Other Output devices, Computer Memory. Concept of Hardware and Software: Hardware, Software: Application Software, Systems software. Concept of computing, data and information. Bringing computer to life: Connecting keyboard, mouse, monitor and printer to CPU, Checking power supply.

UNIT - II

OPERATING COMPUTER USING GUI BASED OPERATING SYSTEM: Introduction, Objectives, Basics of Operating System: Operating system, Basics of popular operating system (LINUX, WINDOWS). The User Interface: Task Bar, Icons, Menu, Running an Application. Operating System Simple Setting: Changing System Date And Time, Changing Display Properties, To Add Or Remove A Windows Component, Changing Mouse Properties, Adding and removing Printers. File and Directory Management: Creating and renaming of files and directories, Common utilities.

UNIT - III

INTRODUCTION TO INTERNET, WWW AND WEB BROWSERS: Introduction, Objectives. Basic of Computer Networks: Local Area Network (LAN), Wide Area Network (WAN). Internet: Concept of Internet, Applications of Internet, Connecting to the Internet, Troubleshooting, World Wide Web (WWW), Web Browsing Software, Popular Web Browsing Software. Search Engines: Popular Search Engines / Search for content, Accessing Web Browser, Using Favorites Folder, Downloading Web Pages, Printing Web Pages. Understanding URL, Surfing the web: Using e - governance website.

UNIT - IV

COMMUNICATIONS AND COLLABORATION: Introduction, Objectives, Basics of E - mail: What is an Electronic Mail, Email Addressing, Using E - mails: Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E - mail, Replying to an E - mail message, Forwarding an E - mail message, Sorting and Searching emails. Introduction to MS - Office: MS - Word, MS - Excel, MS - Power Point.

Practical based on UGEN - 102

Practical: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any two question
- Each question carries 10 marks.

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- Practical file carries 10 marks and 10 marks for viva-voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

List of Experiments:

- Different components of Taskbar
- Create Desktop icons
- Create Folder and Files on Desktop
- Run Application such as Notepad, MS Paint
- Change Mouse properties in Windows
- Connecting to the Internet
- Applying browsers software such as chrome, Internet Explorer
- Applying software download
- Create E-mail ID in a mail server
- Sending E-mail and working with Inbox
- Create Bio data in word
- Formatting text in Word
- Create excel database, apply auto sum
- Create presentation file with multiple slides
- Apply slide transition

Books Recommended:

- Fundamentals of Computers, V. Rajaraman, PHI Publication
- Computer Fundamentals, P. K. Sinha, BPB Publication
- Introduction to Computers with MS - Office 2007, Leon, TMH Publication

Paper Title: UHWNV - 103: BASIC ELECTRONICS

Job Role: Hardware and Network Support Technician

Theory: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Objectives: Basic electronics enable the students to learn about Analog electronics technologies, their implementation, uses, circuit tracing, troubleshooting and maintenance.

Instructions:

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **NINE** questions comprising two questions from each unit, including Question No.1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT-I

Current Electricity: Definition of Resistance, Voltage, Current, Power, Energy and their units, Relation between electrical and mechanical units, Temperature variation of resistance, Difference between AC and DC voltage and current.

D.C. Circuits: Ohm's Law, Series – parallel resistance circuits, calculation of equivalent resistance.

UNIT-II

Capacitors: Capacitor and its capacity, Concept of charging and Discharging of capacitors, Types of Capacitors and their use in circuits.

Overview of Atom, Sub-Atomic Particles and CRO: Brief History of Electronics. Atom and its elements, Electron, Force, Field intensity, Potential, Energy, current Electric field, Magnetic field, Motion of charged particles in electric and magnetic field. Overview of Multimeter and CRO.

UNIT-III

Voltage and Current: Resistance, Ohm's law, V-I Characteristics, Resistors, Inductors. Voltage and Current sources, Symbols and Graphical representation, Overview of AC, DC, Cells and Batteries, Energy and Power.

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Basics of Semiconductor: Semiconductor materials, Metals and Semiconductors. N-type and P-type semiconductor, Effects of temperature on Conductivity of semiconductor. PN junction diode, depletion layer, Forward & Reverse bias, V-I Characteristic, Effects of temperature, Zener diode, Photo diode, LED, Types and applications of diode. Diode as a rectifier, Half wave and full wave rectification, Zener diode Regulator. Introduction to Filters.

UNIT-IV

Bipolar Junction Transistor: Operation of NPN and PNP transistors, Biasing of BJT. CB, CE and CC configuration. Introduction to FET, JFET, MOSFET, CMOS and VMOS

Practical based on UHWNV-103

Practical: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any two question
- Each question carries 10 marks.
- Practical file carries 10 marks and 10 marks for viva-voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

List of Experiments:

- Identification of different symbols and their components.
- Demonstration on the function of Digital Multimeter and voltage, current, resistance measurement by Multimeter.
- Demonstration of CRO and its use.
- Component checking methodology by Multimeter.
- Checking of phase, neutral and earthing of AC supply line.
- Equivalent resistance identification when they are in series, parallel and series / parallel combination
- Verification of Ohm's Law.
- Verification of KCL.
- Verification of KVL.
- Characteristics of PN junction Diode
- Experiment on Half wave rectifier by using Diode
- Experiment on Full wave rectifier by using Diode
- Basic concept of soldering, de soldering, demonstration on different soldering methods, practice of solder removal, replacement of components.
- Characteristics of BJT
- Characteristics of JFET

Books Recommended:

- Fundamentals of Electrical and Electronics, B.L. Thereja
- Principles of Electronics, V.K Mehta

Paper Title: UHWNV-104: DIGITAL ELECTRONICS

Job Role: Hardware and Network Support Technician

Theory: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Objectives: Digital electronics enable the students to learn about Digital electronics technologies, their implementation, uses, circuit tracing, troubleshooting and maintenance.

Instructions:

- The syllabus of this paper has been divided into FOUR units.

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- Examiner will set a total of **NINE** questions comprising two questions from each unit, including Question No.1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT-I

Number Systems and Boolean Algebra: Basics of Analog and Digital. Boolean algebra, De-morgan's law, Truth tables. Logical Circuits Logic gates: AND, OR, NOT, NOR, NAND, XOR, XNOR.

UNIT-II

Combinational Circuits: Arithmetic Circuits: Half adders, Full adders , Half Subtractor, Full Subtractor, Data Processing Circuits: Encoders, Decoders, Multiplexers, De-Multiplexers.

UNIT-III

Latches and Flip-Flops: Concept of Latches, Types of Latches, SR latch. SR Flip Flop, JK Flip Flop, D Flip flop, T Flip Flop, Master Slave J-K Flip Flop. Introduction to counters, Types of counters, Asynchronous and Synchronous. Introduction to shift registers, types of shift registers.

UNIT-IV

Introduction to Display Devices: LED, LCD, 7 segment display
Integrated Circuits and Memories, Introduction to IC's, Importance and applications, Linear and Digital IC's. Introduction to SSI, MSI, LSI and VLSI (Terminology & Definitions). Memory Organisation and Operations, RAM, ROM, PROM, EPROM, EEPROM.

Practical based on UHWNV-104

Practical: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any two question
- Each question carries 10 marks.
- Practical file carries 10 marks and 10 marks for viva-voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

List of Experiments:

- Practical on Logic Gates
- Practical on Universal Gate (NAND & NOR).
- Practical on Half adder.
- Practical on Full adder
- Practical on Half Subtractor.
- Practical on Full Subtractor
- Practical on Decoder
- Practical on Encoder
- Practical on MUX.
- Practical on DEMUX.
- Practical on Flip Flop
- Practical on Counter
- Practical on Register

Books Recommended:

- Digital Circuits and Logic Design, S.Salivahanan
- Digital Electronics, S.Salivahanan
- Digital computer electronics, Malvino and Brown

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Paper Title: UHWNV-191: PRACTICAL ON COMPUTER COMPONENTS IDENTIFICATION AND TESTING

Job Role: Hardware and Network Support Technician

Internal Assessment: 20
Total Marks: 100
Time: 3 hours

Objectives: The objective of this paper is to provide basic concept of computer components, its identification and testing.

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any three question
- Each question carries 10 marks.
- Practical file carries 10 marks and 40 marks for practical work and viva-voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

UNIT-I

Introduction: History and Generations of the computer. Software and Firmware concept. Power Supply & UPS: Introduction to Power supply. SMPS. UPS, Offline & Online UPS. Introduction to computer hardware: Peripheral devices of a Computer system, Add On cards: network interface card, sound card and graphics card, functional description of various partsof a PC.

UNIT-II

CPU & Memory: Different types of CPU & Socket Different type of memory & its slots. Various Components of a PC: Mother Board: Types of Motherboard AT, ATX, and BTX. Ports: Types of Ports, serial and parallel ports. Hard Disk: Types of Hard Disk: PATA, SATA, SCSI. RAM: Types of RAM: SRAM, DRAM, SDRAM, Power supply unit, cabinet, Processor.

UNIT-III

Peripheral Devices: Printer, Scanner, Mouse, Keyboard, Joystick, Web-Cam, Speaker. Monitor: CRT and LCD/TFT/LED Monitor. Cables: Types of Cables: USB, VGA, DVI, RJ11, RJ45, HDMI, SERIAL, and PARALLEL. Connecting Cables from SMPS to motherboard, hard disk etc. Establishing data connection for mother board, hard disk, and drivers. Fixing wires for power restart switches, fixing wires for power & HDD LED, External USB and Audio Connections. Drivers: Types of drivers: Device drivers, LAN drivers, sound drivers, graphics drivers.

UNIT-IV

Laptop: Introduction to laptop and its different parts identification. Component testing and Replacement from PCB: Resistor, Diode, Transistor, Coil, Capacitor, Fuse, Transformer, Switches, Sockets, Connectors, Cables etc. BIOS: Introduction, Connecting & disconnecting computer peripherals and components Mouse, Keyboard, Monitor, Hard Disk.

Books Recommended:

- Mastering PC Hardware & Network, Dr. Ajit Mittal, Dr. Ajay Rana
- How Computers Work, Ron White
- Fundamental of Computer, V. Rajaraman

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Year-1 Diploma (SEMESTER – II)

Paper Title: UGEN – 201: SOFT SKILL & PERSONALITY DEVELOPMENT

Theory: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Objective: On completion of the course, the students will be able to listen to lectures, public announcements, news on TV, radio and engage in telephonic conversation to communicate effectively and accurately in English used as spoken language for various purposes.

Instructions:

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **NINE** questions comprising two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT - I

Listening Skills: Barriers to listening; effective listening skills; feedback skills. Attending telephone calls; note taking. Activities: Listening exercises - Listening to conversation, News and TV reports. Taking notes on a speech / lecture.

UNIT - II

Speaking and Conversational Skills: Components of a meaningful and easy conversation; understanding the cue and making appropriate responses; forms of polite speech; asking and providing information on general topics. The study of sounds of English, stress and intonation. Situation based Conversation in English.

UNIT - III

Essentials of Spoken English: Activities, Making conversation and taking turns, Oral description or explanation of a common object, situation or concept, Giving interviews.

UNIT - IV

Oral Presentation with / without audio visual aids. Group Discussion . Listening to any recorded or live material and asking oral questions for listening comprehension.

Practical based on UGEN - 201

Practical: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any three question
- Each question carries 5 marks.
- Practical file carries 5 marks and 20 marks for practical work and viva - voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

Planning for Practical session:

- Classroom technique to improve the soft skills
- Surprise writing on current issues
- General grooming sessions to face the interview
- Group discussions
- Motivational classes to improve communication and confidence power

Books Recommended:

- Soft skills Training - A workbook to develop skills for employment by Fredrick H. Wentz
- Personality Development and Soft skills , Oxford University Press by Barun K. Mitra

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Paper Title: UGEN – 202: BUSINESS ANALYSIS: ENVIRONMENT, SALES & MARKETING

Theory: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Objective: The course will enable the students to understand, assimilate and apply the various dimensions of business and its associated affairs in the socio economic, socio cultural and socio political ambience.

Instructions:

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **NINE** questions comprising two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT - I

Business Environment - Introduction, Concept of Business, Levels of the Business Environment, Understanding the Environment, Economic Environment of Business, The Global Economic Environment, Economic Policies, Business and Economic Policies, Socio Cultural Environment, Business and Society, Business and Culture , Indian Business Culture, Culture and Organizational Behavior. Introduction to Political Environment, Political Environment and the Economic system, Types of Political Systems, Indian Constitution and Business, Changing Profile of Indian Economy , Business Risks Posed by the Indian Political System, Economic Systems, Financial Environment: Introduction, An Overview of the Financial System, Components of Financial System, Financial Institutions and their Roles, Financial Institutions in India, Role of Foreign Direct Investment

UNIT - II

Introduction to Legal Environment, Laws Impacting Industry in India, Intellectual Property Rights, Major Regulations Pertaining to Business, Regulatory Role of Government, Promotional Role of Government, Participatory Role of Government, Conciliatory and Judicial Role of Government , Impact of India's Industrial Policy on Economic Reforms, New Economic Policy, Globalization. India, WTO and Trading Blocs, Levels of Economic Integration/Trading Blocs, Effects of Economic Integration, Major Regional Trading Blocs, Commodity Agreement, World Trade Organization, WTO and India, Corporate Social Responsibility: Introduction, Meaning and Definition, Need for social responsibility of business, Social responsibility of business towards different groups, Barriers to social responsibility, Social responsibility of business in India, Public, Private, Joint and Cooperative Sectors

UNIT – III

Traditional and Modern Concepts of Marketing; Selling vs. Marketing; Marketing mix; Marketing Environment. Market Segmentation & its implication. Concept of Product, Product Planning and Development; Packaging: Role and Functions; Brand name and Trade mark; Product Life Cycle Concept; Distributions Channels and Physical Distribution. Price: Importance of Price in the Marketing Mix; Factors affecting Price of a Product/Service; Discounts and Rebates. Methods of Promotion; Advertising Media; Characteristics of an effective Advertisement

UNIT – IV

Salesmanship and Qualities of Salesman; Product knowledge; Customer knowledge: Buying Motives and Selling Points. Scientific Selling; Approach and Presentation: Methods of Approaching a Customer; Presentation Process and Styles; Presentation planning. Objection Handling: Types of objections; Handling customer objections. Closing Sales and Follow up: Methods of closing sale; Executing sales order; Follow-up; Sales Promotion Schemes: Sampling; Coupon; Price Off; Premium Plan; Consumer Contests and Sweeps Takes; POP Displays; Demonstration; Trade Fairs and Exhibitions; Sales Promotion Techniques and Sales Force.

Practical based on UGEN - 202

Practical: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any three question

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- Each question carries 5 marks.
- Practical file carries 5 marks and 20 marks for practical work and viva - voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

Planning for Practical session:

- Study of international organization (WTO, WORLD BANK, IMF, AMA)
- Case studies on the recent Business Environment, Marketing, & Sales Promotion
- PPT presentation on selected issues
- Survey to collect the samples for project work

Books Recommended:

- Business Environment; By T. R. Jain, Mukesh Trehan, Ranju Trehan, VK Global Publications.
- Business Environment; By Vishwajeet Prasad, Gyan Publishing House.
- Business Environment; By Saleem, Pearson Education India.
- BUSINESS ENVIRONMENT; By VEENA KESHAV PAILWAR, PHI Learning Pvt. Ltd.
- Business Environment, by Suresh Bedi, Excel Books
- BUSINESS ENVIRONMENT: INDIAN AND GLOBAL PERSPECTIVE; FAISAL AHMED, M. ABSAR ALAMM, PHI Learning Pvt. Ltd.
- PRINCIPLES OF MARKETING; Kotlar Philip and Armstrong Gary, Pearson Education
- MARKETING MANAGEMENT; Ramaswamy, V.S. and S. Namakumari: Macmillian
- SALES MANAGEMENT; Condiff, Still and Govani et.al: Prentice Hall of India
- SALES MANAGEMENT; Text; Cases & Readings: Vaccaro J.P: Prentice Hall of India
- ADVERTISING & SALES PROMOTION; Kazmi & Batra: Excel Books

Paper Title: UHWNV-203: PERSONAL COMPUTING SOFTWARE

Job Role: Hardware and Network Support Technician

Theory: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Objectives: The objective of this course is to familiarize students with Fundamentals of Information Technology and its applications. It enables the student to get practical exposure towards MS- Office tools

Instructions:

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **NINE** questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT-I

DOS : Versions of DOS: Booting sequence; Warm and Cold reboot; Concept of File and directory , Redirecting command input and output pipes, Wildcard characters, Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD , CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME, TYPE, VER, VOL; External Commands: XCOPY, ATTRIB, BACKUP, RESTORE, FIND, SYS , FORMAT, CHKDSK, DISKCOPY, LABEL, MOVE, TREE, DELTREE, DEFRAG, SCANDISK, UNDELETE. Batch Files: Introduction to simple batch files; Introduction to CONFIG.SYS and AUTOEXEC.BAT files. Graphical User Interface: Fundamentals of windows, types of windows, anatomy of windows, Icons, Recycle bin Operations on window: Opening a Window, Minimizing and Maximizing a window, Moving window, Resizing Window, Closing the window windows explorer Folders: Creating and deleting folders, copying, renaming folders, folder properties. Control panel: Customizing screens, Screen colors, Patterns, Spacing icons, selecting time/date, setting the Sound, Concept of menu Using Help, Creating Short cuts, Basics of Window Setup, Notepad, Window Accessories, System restore. Customizing printing, changing the print queue, configuring the printer, adding printers. Working with fonts: changing, removing, adding, customizing mouse and keyboard use. System properties and the device manager Management tools, DOS sessions, Explorer, Memory configuration, Safe mode Install and uninstall applications, Setup/troubleshooting issues. Maintaining and optimizing disks: Disk Cleanup, Disk defragmenter, Compressing and uncompressing folders and files. Encrypting and decrypting folders and files.

UNIT-II

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Word Processing Package: Basics of Word Processing; Opening and Closing of documents; Text creation and Manipulation; Finding and replacing text, Printing of document, Formatting of text; Margin setting, Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Working with tables, Spell check, Grammar facility, Auto text, language setting and thesaurus; Mail merging. Installation of Word Processing Software.

UNIT-III

Spreadsheet Package : Worksheet Basics, Data Entry in Cells : Entry of numbers, text and formulae, Moving data in a worksheet, Moving around in a worksheet, Selecting Data Range, Using the Interface (Toolbars, Menus), Editing Basics, Working with workbooks, Cell referencing; Formatting and Calculations: using Auto fill, Working with Formulae, Efficient Data Display with Data formatting (number formatting, date formatting etc.), Working with Ranges, Worksheet Printing; Working with Graphs and Charts : Creating Embedded Chart using chart wizard, sizing and moving parts, updating charts, Changing chart types, Chart wizard, Adding Titles, Legends and Gridlines, Printing Charts; Database Management. Finding records with Data form, Adding/Deleting Records, Filtering Records in a worksheet; Functions and Macros: Worksheet Creating Macros, Recording Macros, Running Macros, Assigning Macros to Buttons, Defining Macros from Scratch. Multiple Worksheets. Installation of Spreadsheet software.

UNIT-IV

Presentation Packages: Basics, General Features, Creating a presentation, formatting and enhancing text, Incorporation of Animation, adding charts, multimedia, page setup and printing slides. Installation of Presentation software. Internet and WWW: Evolution of Internet, services provided on Internet, Access Methods, application of Internet.

Practical based on UHWNV-203

Practical: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any two question
- Each question carries 10 marks.
- Practical file carries 10 marks and 10 marks for viva-voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

List of Experiments:

- Create Directory in DOS (MD Command)
- Create File in DOS (COPY CON Command)
- Apply internal DOS commands (DIR,CD,CLS,COPY,DATE,DEL,PATH,REN,RD,TYPE,VER)
- Apply External DOS Commands(XCOPY,ATTRIB,MOVE,TREE)
- Create Folders and Files in Windows Desktop
- Apply Commands such as COPY,CUT,PASTE,DELETE,RENAME on Files and Folders
- Create a Word document and type your own bio data, save and format the document
- Apply bold, italic, underline, font and other formats in a document
- Create a table with multiple rows/columns and enter tabular data
- Apply mail merge feature in MS Word
- Create excel database and save the worksheet
- Apply auto sum in a numeric range in a database
- Create different charts such as Line, Column, Bar, Pie from suitable example database
- Apply filter to extract records (Auto Filter/Advanced Filter)
- Create a presentation with multiple slides and save the presentation
- Apply different slide transitions
- Apply different animations on the slide objects

Books Recommended:

- Mathur Rajiv, 1996: Learning Word 6 for Windows Step-by-Step, Galgotia.
- Mathur Rajiv, 1996: Learning Excel 5 for Windows Step-by-Step, Galgotia.
- Jamsa, Kris A., 1993: Rescued by Windows 3.1, Galgotia.
- Basandra, S.K., 1995 Computers Today, Galgotia.
- Kasser, Barbara, 1998: Using the Internet, PHI, 4th ed., New Delhi.
- Wall, David A. & Others, 1996: Using the World Wide Web, PHI, 2nd ed., New Delhi.

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- Darril Gibson, Microsoft Windows Networking Essentials 1st Edition.
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Paper Title: UHWNV-204: COMPUTER HARDWARE, PC ASSEMBLING & TROUBLE SHOOTING

Job Role: Hardware and Network Support Technician

Theory: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Objectives: This paper enables the students to identify the hardware in-depth and helps them to learn about PC Assembling, hardware technologies, their implementation/installation, uses, troubleshooting and maintenance.

Instructions:

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **NINE** questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT-I

PC Assembling: Gather and Inspect Components and Tools. Prepare System Case for Assembly. Checking SMPS and fit with system Case. Plan System Layout. Install Hard Disk Drive/DVD-RW Drive. Configure Motherboard. Install Processor. Install Memory Modules/Motherboard/I/O Port Connectors/PS/2 Mouse Port Connector Connect Motherboard and Case Connect Hard Disk Drive/ DVD-RW Drive to Motherboard. Install Video Card. Perform Post-Assembly Inspection. Connect External Peripherals. Perform Initial Boot/Initial BIOS Setup/Install System Tests/Additional Peripherals. Partition and Format Hard Disk. Complete Assembly. Installation of Windows (Client version). Installation and configuration of driver software. Installation of Linux (Client version).Updating Service Pack of O. S. Installation of Anti Virus Software(Well known).Updating Anti Virus Software.

UNIT-II

Trouble shoots for Hardware Problems: Monitor display problems: No signals, Resolution problem, strange display etc. Mouse Problems: Wired mouse and wireless mouse both. Desktop & Laptop that shut down without warning are often experiencing overheating issues. Troubleshooting for Desktop& Laptop Hard Drive Failure, Date and Time problem, No power etc. RAM failure.

UNIT-III

Trouble shoots for O.S. Corruptions: Slow Operating System, Start-up Errors and Freezing Machines, Operating System will not Start, Unable to Connect to the Wireless Network(for Laptop),System restarts without warning. Fix the Windows blue screen errors. Not a valid win32 application. How to fix a fatal exception error. How to fix a general protection fault Runtime errors. Trouble shoots for Virus affected systems: Suspicious computer _ehavior such as high CPU usage on unrecognized processes. Unable to access network resources such as shared drives. Internet Explorer home page is changed without permission. Exploring error for drives.

UNIT-IV

Trouble shoots for Application software malfunctioning: Issue opening or running a software program. Unable to install a software program. Trouble shoots for Network problems. Bad network card drivers or software settings. Firewall preventing computers from seeing each other. Connection related issues. Bad network hardware. Connection IP conflict problem etc. Internet Configuration Different types of internet connection and their configuration method. Broad band connection (ADSL and Cable etc.).Webcam installation. Troubleshoot while configuring internet.

Practical based on UHWNV-204

Practical: 40
Internal Assessment: 10
Total Marks: 50
Time: 3 hours

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any two question
- Each question carries 10 marks.

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- Practical file carries 10 marks and 10 marks for viva-voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

List of Experiments:

- Prepare System Case for Assembly.
- Checking SMPS and fit with system Case.
- Plan System Layout.
- Install Hard Disk Drive/DVD-RW Drive.
- Configure Motherboard.
- Install Processor.
- Install Memory Modules/Motherboard/I/O Port Connectors/PS/2 Mouse Port Connector
- Connect Motherboard and Case
- Connect Hard Disk Drive/ DVD-RW Drive to Motherboard.
- Install Video Card.
- Perform Post-Assembly Inspection.
- Connect External Peripherals.
- Perform Initial Boot/Initial BIOS Setup/Initial System Tests/Additional Peripherals.
- Partition and Format Hard Disk.
- Complete Assembly.
- Installation of Windows (Client version)
- Installation and configuration of driver software
- Installation of Linux (Client version)
- Updating Service Pack of O.S.
- Installation of Anti Virus Software(Well known)
- Updating Anti Virus Software.
- Document System.

Books Recommended:

- Mastering PC Hardware & Network, Dr. Ajit Mittal, Dr. Ajay Rana
- How Computers Work, Ron White
- Modern TFT & LCD Monitor Introduction and Troubleshooting, BPB Publication
- Service Manual Mother Board & Laptop, GT Publication
- Fundamental of Computer, V. Rajaraman

Paper Title: UHWNV – 291: PRACTICAL ON LAPTOP TROUBLE SHOOTING

Job Role: Hardware and Network Support Technician

Internal Assessment: 20
Total Marks: 100
Time: 3 hours

Objectives: The objective of this paper is to provide concept of laptop repairing and trouble shooting.

Instructions:

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any three question
- Each question carries 10 marks.
- Practical file carries 10 marks and 40 marks for practical work and viva-voce.
- Practical paper will be conducted by the college and marks will be submitted to University.

UNIT-I

Motherboard Tracing as per block diagram. Laptop assembling & Disassembling (Battery, HDD, DVD-RW Drive, Inverter, LCD/TFT Panel, camera module etc. Bios Setting, Bios password Break, Admin password Break.

UNIT-II

Laptop trouble shooting I: Problems in different input and output ports. Adaptor Problems, S.M.P.S Problems Display Problems. Finger Prints Problems. Webcam Problems. Bluetooth Problems. LAN Problems, Ethernet Port Not Working, Sound problem:

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Sound Not Working, Intermediate Sound, Low Sound, Battery Problems, Not Booting, No charging, Less battery backup, No Output, Intermediate O/P, Low Output.

UNIT-III

Laptop trouble shooting II: Keypad Problems, Touch pad/Pointers Not Working, Mouse (Internal) Not Working, Docking Station Not Working, On/Off Switch Problems, CD/DVD Related Problems, Over Heat problems, Lock Problems, Broken Problems Handling problems, Inner Noise problems, RAM Related Problems, Hard Disk Related Problems, Not Booting/Dead set Problems When Working, Immediately Off Charging Problems.

UNIT-IV

Laptop trouble shooting III: CMOS Related Problems, Hard disk Not detect Problem, Direct Error Display, Password Related Problems, Processor Related Problems, Wireless (Wi-Fi) Not Working, Power On-Immediately, Processor Fan Off, LCD Related Problems, No Display-Light Ok, Intermediate Display, No Display-No Light, Scrambled Display, Black & White Display, LCD Changing Problems, OS Related Problems, Water Damage, Hanging Problems, Laptop Dead Problems, Motherboard Problems.

Books Recommended:

- Service Manual Mother Board & Laptop, GT Publication
- Laptop Repair Complete Guide, Garry Romano
- The Laptop Repair Workbook, Morris Rosenthal