

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme		Diploma Engineering				Branch		Computer Engineering	
Semester		V				Version		1.0.0.0	
Effective from Academic Year			2020-21			Effective for the batch Admitted in			JULY 2018
Subject code		1CE2501	Subject Name			Computer Peripherals & Troubleshooting			
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	0	1	0	4	Theory	40	60	100
Hours	3	0	2	0	5	Practical	30	20	50

Pre-requisites:
Fundamental knowledge Hardware

Course Learning Outcomes:
<p>The course content should be taught and implemented with an aim to develop different skills leading to the achievement of the following competencies and course learning outcomes:</p> <p>T1 Install, configure and maintain various components in computer system and peripheral devices.</p> <p>T2 Diagnose faults, repair and maintain computer system and its peripherals.</p> <p>T3 Install, configure Operating Systems and device drivers.</p> <p>The practical should be carried out in such a manner that students are able to acquire different learning outcomes in cognitive, psychomotor and affective domain to demonstrate course learning outcomes.</p>

Course Content				
Name of UNIT	Unit Content	Unit Learning Outcomes	Marks	Hrs
UNIT-1 INSIDE THE PC: CORE COMPONENTS	1.1. Definition of computer 1.2. Computer Hardware, Software and Firmware 1.3. Classification of computer 1.4. Difference between PC, PC-XT and PC-AT 1.5. Types of motherboard 1.6. Functional block diagram of Motherboard 1.7. BIOS 1.8. CMOS setup 1.9. Types of Buses on the motherboard 1.10. Battery on Motherboard 1.11. CPU 1.12. Expansion Buses (ISA, EISA, MCA, VESA Local), AGP 1.13. Chipsets: Definition, Advantage, North and South Bridge	1.1 List and Identify the components of computers 1.2 Draw and explain the functional block diagram of motherboard 1.3 Explain functionality and features of CPU 1.4 Explain Bus sub system 1.5 Describe BIOS Features. 1.6 List advantages of Chipsets	12	10

UNIT-2 MOMORY & STORAGE DEVICES	<p>2.1 Types of Memory: Temporary Memory, Permanent Memory, Read Only Memory, Cache Memory, Flash Memory (USB flash Drive)</p> <p>2.2 Hard disk Drive</p> <p>2.3 Physical Structure</p> <p>2.4 Logical Structure (Heads, Tracks, Sectors, Cylinders, Cluster, Landing zone, MBR, Zone bit recording)</p> <p>2.5 Disk Interface: SCSI, IDE, SATA, USB</p> <p>2.6 Disk performance Characteristics: Seeks and Latency, Data Transfer Rate</p> <p>2.7 Optical Drives</p> <p>2.8 DVD: Types, Recording, Construction</p> <p>2.9 Blu Ray Disk: Specification</p> <p>2.10 Difference between DVD & Blu Ray Disk</p>	<p>2.1 Explain basics of memory.</p> <p>2.2 HD Disk Basics</p> <p>2.3 Describe functioning of hard disk.</p> <p>2.4 Describe the parameters of performance characteristics of hard disk.</p> <p>2.5 Explain types of DVD, recording and constructions</p> <p>2.6 Describe the DVD drive performance criteria</p> <p>2.7 List blu-ray disk specification</p>	12	10
UNIT-3 INPUT DEVICES: KEY BOARD, MOUSE, SCANNER	<p>3.1 Keyboard</p> <p>3.2 Types of keyboard: Wired Keyboard, Wireless Keyboard</p> <p>3.3 Types of Keyboard Switches</p> <p>3.4 Keyboard interfaces</p> <p>3.5 Mouse</p> <p>3.6 Types- Mechanical, Opto Mechanical and Optical</p> <p>3.7 Mouse interfaces</p> <p>3.8 Scanner: Scanner Types, Image quality measurement, Working</p>	<p>3.1 Describe operation of Keyboard.</p> <p>3.2 Describe Operation of Mouse.</p> <p>3.3 Describe Working of Scanner.</p>	12	8
UNIT 4 OUTPUT DEVICES: MONITOR, PRINTER	<p>4.1 Video Basics (CRT parameters)</p> <p>4.2 Monitor</p> <p>4.3 Types of Monitor: CRT Monitor, LCD Monitor, LED Monitor, Plasma Display</p> <p>4.4 Graphics Cards: Components of a card, CGA, EGA, VGA</p> <p>4.5 Printers, Classification of Printer: Impact Printer, non-Impact Printer, Difference between Impact and Non-Impact Printers</p>	<p>4.1 Define video basics.</p> <p>4.2 Differentiate digital display technologies.</p> <p>4.3 Differentiate graphic cards.</p> <p>4.4 Classify printer.</p> <p>4.5 Describe the working of impact and non-impact printers.</p>	8	7
UNIT-5 POWER SUPPLY	<p>5.1 SMPS</p> <p>5.2 Working Principle of SMPS</p> <p>5.3 Block Diagram of SMPS</p> <p>5.4 Difference Between Linear power supply and SMPS</p>	<p>5.1 Describe SMPS.</p> <p>5.2 Describe working of SMPS.</p> <p>5.3 Describe working of Linear Power Supply</p>	8	4

	5.5 Output Connectors of SMPS 5.6 UPS 5.7 Stabilizer	5.4 List different SMPS connectors 5.5 Describe Ups. 5.6 Describe Stabiliser.		
UNIT 6 TROUBLESHOOTING AND REPAIRING OF COMPUTER	5.1 Types of Computer Maintenance: Preventive Maintenance, Breakdown Maintenance 5.2 Types of Computer Faults 5.3 Nature of Computer Faults 5.4 Layman Checks 5.5 Diagnostic software 5.6 Testing and Measuring Instruments: Multimeter, C.R.O., Logic Probe, Logic Pulser, Current Tracer, Logic Analyser 5.7 POST: Functions, IPL Hardware, Test Sequence, Error messages 5.8 Troubleshooting, Motherboard, Keyboard, Hard Disk Drive, Printer	5.1 Describe types of Maintenance. 5.2 Distinguish types of Faults and nature of Faults. 5.3 Use of the Testing and Measuring Instruments 5.4 Describe POST. 5.5 Describe peripheral trouble shooting.	8	6

List of Practical		
No.	Unit	Name of Practical
1	1	Introduction of Computer Peripherals
2	5	Disassembling Faulty Computer system
3	1	To demonstrate of motherboard and Components on Motherboard
4	3	Troubleshooting and Repairing of Keyboard and Scanner
5	4	To demonstrate of Printer
6	2	Troubleshooting and Repairing of Hard Disk Drive
7	2	Troubleshooting and Repairing of CD-ROM drive/CD-Writer/Combo Drive/DVD writer
8	2	Troubleshooting of Pen drive
9	3	Troubleshooting and Repairing of Mouse.
10	5	Troubleshooting and Repairing of SMPS
11	5	Identify the problem in the given PC, using the given troubleshooting sequence, fix the issue, record the given problem, and produce proper documentation of your work
12	5	Installation of Operating system (Windows and Linux)
13	5	Installation of Device drivers for different Hardware devices.
14	5	Assembling of Computer Systems

List of Instruments / Equipment / Trainer Board	
1	Desktop Computer Parts
2	Screwdriver Set
3	Multimeter

List of TextBooks			
No	Title of Text Books	Authors	Publication
1	The complete PC Upgrade & Maintenance Guide	Mark Minasi	BPB Publications
2	IBM PC and clones	Govind Rajalu	Tata McGraw Hill Education Private Limited

