4226 - COMPUTER INSTALLATION, MAINTENANCE & DIAGNOSIS

Teaching Schedule Per Week			Progressive Assessment		Examination Schedule (Marks)			
Lectures	Practical	Credit			Theory		Practical Ex.	Total
3	3	6	50	-	3 Hrs	100	50	200

COURSE CONTENTS	Hrs	Mks
1. SITE PREPARATION Design of computer room considering factors like false flooring, false ceiling, disk tape library room, air conditioning requirements, temperature, humidity, need for dust free environment.	6	10
2. POWER REQUIREMENTS OF A COMPUTER CENTRE Specifications and different types of power supplies, Overload protection devices, Simple principles of UPS and its advantages over normal power supplies, Earthing and isolation techniques, Distribution boards, Fire detection and Prevention. Linear power supply V/S SMPS.	6	10
3. INSTALLATION Layout, Interpretation of installation and wiring diagrams, Installation procedures and documentation, Visual checks, Power cabling, System Integration.	4	10
Bios & CMOS Setup – Motherboard Bios, POST, Setup, Bios features, Bios ID String, AMI & Phoenix Bios, Bios error messages. CMOS Setup – Standard and Advanced, Plug and Play, Power Management.	2	5
Chipset & Motherboards – Intel 430 & 440 Chipset, SIS & Opti Chipsets. Main features to be known. Socket 6, Socket 8, slot 1 Motherboard.	2	5
4. MAINTENANCE Preventive and remedial maintenance. Intermittent and hard on faults. Customer provided information and its synthesis.	4	10
5. TROUBLESHOOTING TECHNIQUES Classical steps to successful troubleshooting, Understanding how components fail, Disk drives, Keyboard failure. Repair generated failures, Documentation, Localising failures, Safety precautions in trouble shooting. Equipment used in trouble shooting. Spare part management. Diagnostic software.	8	15
6. PC DIAGNOSIS PC start- up problems; PC display problems; Disk drive problems; Keyboard problems; Hard disk drive problems; Computer Virus.	10	20
7. INTERNET SETUP Modem installation & Setting, Dial up network, TCP IP Settings, Browsers and e-mail setup.	2	5
8. UPGRADING Upgrading of computer systems (Important factors to be considered).	4	10
Total	48	100

Books:
1. IBM PC Advanced troubleshooting & repairs - by Robert C. Brenner
2. Upgrading and repairing PC's - by Scott Mueller
3. Microcomputer Servicing – Practical systems & Troubleshooting -- by Stuart M. Asser, Bahrenberg, Vincent J. Stigliano.