RGPV (diploma wing) BHOPAL	OBE CURRICULUM FOR THE COURSE		FORMAT-1	Sheet No
Branch	COMPUTER HARDWARE AND MAINTENANCE		Semester	SIXTH
Course Code	601	Course Name	Network Device and Configuration	
Course Outcome 1	**BASICS OF COMPUTRE FUNDAMENTAL**		(Hrs)	(Marks)
Learning Outcome 1	Introduction of Communication		10	10
Contents	Communication model, communication tasks, categories of communication			
Method of Assessment	END SEM THEORY (EXTERNAL)			
Learning Outcome 2	Introduction of Network Protocol			
Contents	Protocols: characteristics and functions, encapsulation process, overview of different protocols associated with each layers of OSI Model.			
Method of Assessment	END SEM THEORY (EXTERNAL)			
Learning Outcome	Introduction of Network Topology			
Contents	Bus Topology, Star Topology, Ring Topology, Hierarchical Topology, Full mesh Topology, Partial mesh Topologies, Logical Topology			
Method of Assessment	Question Paper–Internal Assignment- Progressive			
Course Outcome 2	**NETWORKING MEDIA**		15	10
Learning Outcome2.1	To Explain Copper Media			
Contents	Copper Media: American Wire Gauge, Twisted pair cable, STP and UTP, Coaxial cable, Cable specification and Termination			
Method of Assessment	Question Paper–Internal Assignment- Progressive			
Learning Outcome2.2	To Explain Optical Media			
Contents	Optical Media: The Electromagnetic Spectrum, Total Internal reflection, Types OFCs, Cable Designs, Optical Networking components, Signals and Noises in OFC, Standards and Codes, Tools, Installation process.			
Method of Assessment	END SEM THEORY (EXTERNAL)			
Learning Outcome2.3	To explain WAN Technology			
Contents	WAN physical layer, WAN serial connection, ISDN,DSL and Cable connections Setting up Console connection Wireless local loops Wireless application protocols Various types of wireless LAN technologies			

Method of Assessment	PROGRESSIVE TEST-I (INTERNAL)		
Learning Outcome2.4	To Explain Transmission terminology		
Contents	Frequency, Spectrum, Bandwidth, Transmission Impairments.		
Method of Assessment	PRACTICAL (INTERNAL)		
Course Outcome 3	**EATHERNET MEDIA**	15	10
Learning Outcome3.1	Introduction Of Ethernet		
Contents	Introduction to Ethernet, Ethernet and OSI Model, MAC addressing, Ethernet frame structure and fields.		
Method of Assessment	END SEM THEORY (EXTERNAL)		
Learning Outcome3.2	To Explain types and operation of Ethernet		
Contents	Ethernet Operation: Media Access control, Ethernet MAC, Simplex, Duplex operations, Ethernet timing, Interframe spacing, Error Handling, Types of collisions, Ethernet errors, Collision Domains and Broadcast Domains Ethernet switching: layer 2 and layer 3 switching, micro segmentation.		
Method of Assessment	Question Paper–Internal Assignment- Progressive		
Learning Outcome3.3	To Explain LAN Protocol		
Contents	LAN physical layer, BOOTP and DHCP		
Method of Assessment	PRACTICAL (EXTERNAL)		
Course Outcome 4	**ROUTING FUNDAMETALS**	15	10
Learning Outcome4.1	Introduction of Routing		
Contents	Router routing, types of routing Routing table, identifying routing protocols.		
Method of Assessment	Question Paper–Internal Assignment- Progressive		
Learning Outcome4.2	To Explain Router set up		
Contents	Router Fundamentals: Router Boot Sequences and setup mode, Establishing HyperTerminal session, CISCO IOS software fundamentals. Router Configuration. Managing CISCO IOS software, Introduction to CDP, getting information about remote Devices.		
Method of Assessment	END SEM THEORY (EXTERNAL)		
Learning	To Explain ACL		

Outcome4.3			
Contents	Access Control Lists: ACL overview, Creating and Using ACL, Working of ACL, Standard ACLs, Extended ACLs, Named ACLs, Firewall.		
Method of Assessment	PRACTICAL (EXTERNAL)		
Course Outcome 5	**Switching Basics and Intermediate Routing**:	10	10
Learning Outcome5.1	To Explain basic switching technology		
Contents	Basics of switching technology types of switching technology, LAN switches and Hierarchical network design		
Method of Assessment	END SEM THEORY (EXTERNAL)		
Learning Outcome5.2	To Explain intermediate routing		
Contents	Spanning Tree protocol: redundant topology overview, Spanning Tree overview, STP and RSTP. OSPF EIGRP		
Method of Assessment	PROGRESSIVE TEST-I I(INTERNAL)		

Experiment list

1. Observation and Study of WAN Devices
2. Observation and Study of Various Types of Network Topologies
3. Crimping of UTP Cable and Testing of cables.
4. Observation and Study of OFC'S
5. Installation of Various types ACL
6. Observation and Study of RIP
7. Identifying valid IP Addresses, Defining Subnet IDs and Host IDs.
8. Observation and Study of DHCP
9. Observation and Study of OSPF
10. Observation and Study of EIGRP

BOOKS RECOMMANDED.
B. A. Fourozan, TCP/IP Protocol Suite, Tata McGraw Hill
Internetworking with TCP/IP, Douglas E. Corner, Publisher- PHI, New Delhi
TCP/IP Illustrated by Richard Stevens, Publisher- Addison – Wesley.

Computer Networks, Andrew S Tanenbaum, Publisher- PHI, New Delhi
Wireless Communication and Networks" by William Stallings, 1st edition.
"Wireless and Mobile Network Architectures" by Yi-Bing Lin and
 Wireless & Cellular Telecommunications, 3/e,Dr. William C.Y. Lee,TMH