RGPV (diploma wing) BHOPAL	OBE CURRICULUM FOR THE COURSE		FORMAT-1	Sheet No
Branch	COMPUTER HARDWARE AND MAINTENANCE		Semester	FIFTH
Course Code		Course Name	Computer Network	
Course Outcome 1	**BASICS OF COMPUTRE NETWORK**		(Hrs)	(Marks)
Learning Outcome 1	Introduction of Network & It's Types		10	10
Contents	Basics of Networks - Definition, Need, Uses and Advantages Types of Computer Networks- Local area Networks (LAN), Wide Area Networks(WAN) , Metropolitan Area Network(MAN)			
Method of Assessment	END SEM THEORY (EXTERNAL)			
Learning Outcome 2	Introduction of Network Architectures			
Contents	Introduction of Peer to Peer Architecture, Introduction of Client-Server Architecture, Introduction of Hybrid Architecture, Intranet and Internet			
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 MODELS AND ADDRESSES**		15	10
Learning Outcome2.1	To Explain OSI and TCP/IP Model			
Contents	OSI Reference Model- Introduction to each layer, Its Functionalities, Related Protocols. TCP/IP Reference Model- Introduction to each layer, Its Functionalities, Related Protocols and.			
Method of Assessment	Question Paper–Internal Assignment- Progressive			
Learning Outcome2.2	To Explain Various LAN and WAN Protocols			
Contents	Introduction to various LAN Protocols. Introduction to various WAN Protocols. Sub netting : Need, advantage, subnet mask, Super netting: Need, advantage, Protocol Suite			
Method of Assessment	END SEM THEORY (EXTERNAL)			
Learning Outcome2.3	To explain Network Address.			
Contents	Overview of Address, Type of Addresses, Need, advantages and disadvantages. Class Full Addressing Classless Addressing.			

Method of Assessment	PROGRESSIVE TEST-I (INTERNAL)		
Learning Outcome2.4	To Explain Networking Device		
Contents	NIC, Modem, Hub, Repeater, Switches, Bridge, Router, Wi-Fi , VSAT. Transmission terminology, transmission impairments		
Method of Assessment	PRACTICAL (INTERNAL)		
Course Outcome 3	**NETWORKING COMPONENTS**	15	10
Learning Outcome3.1	To Explain Networking Media		
Contents	Coaxial Cable, Twisted Pair Cable, Fiber Optical Cable, wireless media. Cable specification and Termination.		
Method of Assessment	END SEM THEORY (EXTERNAL)		
Learning Outcome3.2	To Explain Structured cabling System		
Contents	Concept, advantages, racks, patch panel, crimping, crimping and punch tool, patch cords, RJ Connectors, Information Outlets (I/O Box) ,Media Converter		
Method of Assessment	Question Paper–Internal Assignment- Progressive		
Learning Outcome3.3	To Explain Types of Connectivity		
Contents	Dial up connection, Digital Subscriber Line (DSL), Asynchronous Digital Subscriber Line (ADSL), Leased line /Non Exchange , Cable Net , WI-FI, WI-MAX, CDMA,GSM.		
Method of Assessment	PRACTICAL (EXTERNAL)		
Course Outcome 4	**Network Operating System and Ethernet**	15	10
Learning Outcome4.1	To Explain Network Operating System		
Contents	Features of NOS : Multiuser , multitasking , time sharing, Distributed Operating System Types of Client / Server Operating System. Open Sources And Windows Operating System		
Method of Assessment	Question Paper–Internal Assignment- Progressive		
Learning Outcome4.2	To Explain Ethernet Introduction		
Contents	Introduction to Ethernet, Ethernet and OSI Model, MAC addressing, Ethernet frame structure and fields Types of Ethernet.		
Method of Assessment	END SEM THEORY (EXTERNAL)		

Learning Outcome4.3	**To Explain ARP/RARP**		
Contents	Address resolution Problem- problems & need, operation, Resolution through:- Direct mapping, Dynamic binding, packet format & encapsulation. Reverse address resolution protocol - problems & need, operation, packet format & encapsulation.		
Method of Assessment	PRACTICAL (EXTERNAL)		
Course Outcome 5	**Internet Protocol**	10	10
Learning Outcome5.1	To Explain basic of Internet		
Contents	Virtual network. Connectionless, unreliable, packet Delivery System. Datagram format: Datagram size, Network MTU and fragmentation, Time stamp option.		
Method of Assessment	END SEM THEORY (EXTERNAL)		
Learning Outcome5.2	To Explain Internet Protocol		
Contents	ICMP:- Introduction, type of messages, message format: error reporting & query, encapsulation. IGMP:- Introduction, Group management, Message Format, operation, encapsulation.		
Method of Assessment	PROGRESSIVE TEST-I I(INTERNAL)		

Experiment list

1. Observation and Study of Various Network 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 ad-hoc networks and structured networks
5. Installation of Various types of Network Devices
6. Implementation of small Network segment
7. Identifying valid IP Addresses, Defining Subnet IDs and Host IDs.
8. Observation and Study of ARP/RARP
9. Observation and Study of ICMP
10. Observation and Study of IGMP

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