RGPV (DIPLO WING) BHOP	MA PAL	OBE CURRICULUM FOR Computer Network	FORMAT- 3	Sheet No. 1/3									
Branch		Computer Science and Engineering	Semester	IV									
Course Code	402	Course Name	Computer N	etwork									
Course Outcome	1 I	Describe basic concept of computer network.	Hrs	Marks									
Learning Outcom 1	ne Ex	xplain definition and benefits of computer stwork.	12	15									
Contents	In No Bo (P M da	Network, Applications, and Component of Computer Network, Network Benefits- Sharing Information (File Sharing, E-mail) - Sharing Resources (Printer Sharing, Application Services) - Facilitating Centralized Management-Managing Software, Maintaining the Network, Backing up data.											
Method of Assessment	Q	Question Paper -External- End Sem Exam											
Learning Outcom 2	ne To ne	classify different types of computer etwork and understand server concept.	10	15									
Contents	Co Go by Ty	Computer Network Classifications- Classification of Network by their GeographyPAN, CAN, LAN, MAN, WAN, Classification of Network by their Component RolePeer-to-Peer Network, Server-Based Network, Types of server.											
Method of Assessment	Q	Question Paper -External- End Sem Exam											
Learning Outcom 3	ne To ar	e To Learn and apply different network 08 15											
Contents	In Di	Installation, Up gradation, Troubleshooting of window network, Device Driver Installation, BIOS Setup, Installation and Troubleshooting devices.											
Method of Assessment	E	xternal Exam Practical											

Course Outcome 2	Use network Devices, drivers and media.	Hrs	Marks									
	To Understand and use naturally devices											
Learning Outcome 1	To Understand and use network devices.	11	10									
Contents	Need of Network Control devices, Role of Network, Connectors, Hub, Repeater, Br Gateway, and Modem.	etwork Control de ridges, Switches	vices in a , Router,									
Method of Assessment	Question Paper–Internal Assignment- Progr	ressive										
Learning Outcome 2	Learn device control and software to manage network.	09	15									
Contents	NIC Device Driver, client-server, Software, tel and hardware, types of firewall and manageme	net, ftp, firewall-s nt.	oftware									
Method of Assessment	od of External Exam Practical ment											
Learning Outcome 3	TO understand different types of media and the	eir selection. 14	15									
Contents	Need of Transmission Media, Selection Crite Media- 1) Guided Media: Cable Characteristic Pair Cable, Co-axial Cable, Fiber Optic Cable. of Communication Band-Microwave Com Communication, Satellite Communication, Infr	ria. Types of Tra cs, Types of Cabl 2) Unguided mea munication, Rac rared Communica	nsmission e-Twisted lia: Types lio wave tion.									
Method of Assessment	Question Paper -External- End Sem Exam											
Course Outcome 3	Hrs	Marks										
Learning Outcome	Explain OSI Reference Model Concept.	08	15									
Contents	Introduction OSI model – Layered Architectur Interfaces between Layer, Protocols, Org Encapsulation. Layers of the OSI Reference Layer &Protocols used) – Physical Layer, Layer, Transport Layer, Session Layer, Prese	re, Peer-to-Peer anization of the Model (Function Data-Link Layer, entation Layer, A	Processes, e Layers, as of each Network pplication									

	Layer.										
Method of Assessment	Question Paper -External- End Sem Exam										
Learning Outcome 2	To learn TCP/IP protocol suite.	8	10								
Contents	Layers in the TCP/IP Protocol Suite, Com TCP/IP Protocol Suite, Addressing- physical a port address.	parison between address, logical ad	OSI and ddress and								
Method of Assessment	Question Paper–Internal Assignment- Prog	ressive									
Learning Outcome 3	To study of IP addressing and internet protocol versions(IPV4 and IPV6)	12	10								
Contents	IP Address classes, classless IP addressing, Masking. : Host-to-Network-SLIP and PPP, I and IP: Introduction, IPv4, IPv6 (Header Fo IPv4 & IPv6.	, Subnetting, sup Internet Layer-AF ormat), Difference	pernetting, RP, RARP e between								
Method of Assessment	Internal marks lab										
Course Outcome 4	To understand concept of wireless Network, management and Routing.	Hrs	Marks								
Learning Outcome 1	To learn different architecture in wireless network.	09	10								
Contents	Bluetooth Architecture, Wi-Fi, Wi- Max, and Cellular (Mobile) Telephone - Band in Cellular Telephony, Calls Using Mobile Phones, Transmitting receiving / Handoff operations.										
Method of Assessment	Internal Assignment term										
Learning Outcome 2	Explain concept of network management.	09	10								
Contents	Simple network management protocol (SNMP), SNMP component, SNMP messages, SNMP Version, Network monitoring tools and software.										

Method of Assessment	Internal marks lab		
Learning Outcome 3	Describe routing algorithm for computer network.	10	10
Contents	Routing, Routing Metrics, Types of Routing vector routing, difference between RIP and OS	g, Link-state and PF.	l distance
Method of Assessment	Question Paper -External- End Sem Exam		

RGD	DV (Din	loma Wing) Bh	onal	SCHEME	FOR LEARNING	j _	Bra	anch Cod	9	Co	urse Co	de	CO Code	LO Code	Format No. 4	
NOF			opai	C	UTCOME		C	0	4	4	0	2	1	1		
COUR NAME	SE E	Computer Network														
CO-1 Descri	ption	Describe basic concept of	computer	network.												
LO-1 Descrij	ption	Explain definition and be	nefits of co	omputer network.												
SCHEME OF STUDY																
SNoLearning ContentTeaching –Learning MethodDescription of T-L ProcessTeach Hrs.Pract. /I Hrs.												LRs Required				
SiteEccurring ContentIntroduction and Definition of computer network, Need of Computer Network, Applications, and Component of Computer Network.1Network Benefits- Sharing Information(File Sharing, E-mail) - Sharing Resources (Printer Sharing, Application Services) - Facilitating Centralized Management-Managing Software, Maintaining the Network, 			Traditiona and hando	l lecture method uts, presentation.	Teacher will explain the contents and provide handout to students. Teacher will conduct some practical to make students practice their knowledge.	10		02		H	andou	its/Lab	o manua	1	NIL	
		· · · · · · · · · · · · · · · · · · ·			SCHEME OF ASSESSME	NT										
SNo	Met	thod of Assessment		Description of Assessment			Maximum Marks				Resou	rces R	equired		External / Internal	
1	Question 1	Paper -External- End Sem Exam	Question .	Question Answer15-External												
			А	DDITIONAL INST	TRUCTIONS FOR THE HOI	D/ FACU	JLTY	(IF AN	JY)							
	NIL															

	RGPV (Diploma Wing)			SCHEME FOR LEARNING				ranch Cod	le	Co	ourse Co	de	CO Code	LO Code			
KGP	יע (טוף	ioma wing) Bi	пораг	(OUTCOME		С	0	4	4	0	2	1	2	Format No. 4		
COUR NAME	SE E	Computer Network	'												·		
CO-1 Descri	ption	Describe basic concept o	f computer	network.													
LO-2 Descri	ption	To classify different type	es of compu	ter network and	understand server concept.												
	SCHEME OF STUDY																
SNo Learning Content Teaching –Learning Method Description of T-L Process Teach Hrs. Pract. /Tut											t LRs Required				Remarks		
 Computer Network Classifications- Classification of Network by their GeographyPAN, CAN, LAN, MAN, WAN Classification of Network by their Component RolePeer-to- Peer Network, Server-Based Network, Types of server 			Traditiona and hando	l lecture method uts, presentation	Teacher will explain the contents and provide handout to students. Teacher will conduct some practical based on content to make students practice their knowledge.	08		02		H	andou	ts/Lab	1	NIL			
	,	51			SCHEME OF ASSESSM	IENT											
SNo	Met	hod of Assessment		Description o	f Assessment	Maximum Marks					Resources Requ				External / Internal		
1	Question	n Paper -External- End Sem Exam		Theory questions					15 - External								
	ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)																
	NIL																

DO	RGPV (Diploma Wing			SCHEM	E FOR LEARNING	3	Ві	ranch Code		Co	Course Code Code			LO Code	
KGF	יע (טוף	lioma wing) Br	пораг		OUTCOME		С	0	4	4	0	2	1	3	Format No. 4
COUR NAME	RSE E	Computer Network						· ·			-			·	
CO-1 Descri	ption	Describe basic concept of	f computer	network.											
LO-3 Descri	ption	To Learn and apply diffe	erent netwo	ork architecture	of computer network.										
	SCHEME OF STUDY														
SNo Learning Content Teaching –Learning Method Description of T-L Process Teach Hrs. Pract. /Tut Hrs. LRs Required Remark													Remarks		
1	Installatio Troubles network, Installatio devices.	on, Up gradation, nooting of window Device Driver on, BIOS Setup, on and Troubleshooting	Presentatio Vlabs	resentation , handouts, labs resentation , ha						o manua	1	NIL			
					SCHEME OF ASSESSM	IENT									
SNo	Met	hod of Assessment		Description of	of Assessment	Max	kimu	m Marks		I	Resour	ces R	equired		External / Internal
1	Exte	ed to write a program		1	5				-			External			
			AD	DITIONAL INS	TRUCTIONS FOR THE H	OD/ FA	ACUI	LTY (IF	ANY)					
					NIL										

DOD	RGPV (Diploma Wing) Bh			SCHEM	E FOR LEARNING	6	В	Branch Cod	e	Co	ourse Co	de	CO Code	LO Code	
KGF	יע (טוף	ioma wing) Br	iopai		OUTCOME		С	0	4	4	0	2	2	1	Format NO. 4
COUR NAME	E SE	Computer Network	· · ·			· ·									
CO-2 Descri	ption	Use network Devices, driv	vers and m	nedia.											
LO-1 Descri	ption	To Understand and use n	etwork de	vices.											
	SCHEME OF STUDY														
SNo Learning Content Teaching –Learning Method Description of T-L Process Teach Hrs. Pract. /Tut Hrs. LRs Required												Remarks			
Need of Network Control devices, Role of Network Control devices in a Network, Connectors, Hub, Repeater, Bridges, Switches, Router, Gateway, and Modem.			Tradition method a	al lecture nd handouts	Teacher will explain the contents and provide handout to students. Teacher will conduct quiz to make students practice their knowledge.	10		01		handouts					NIL
	1				SCHEME OF ASSESSM	IENT									
SNoMethod of AssessmentDescription of AssessmentMaximum MarksResourt											Resources Required				External / Internal
1	Ques Assig	tion Paper–Internal ment- Progressive		Question Answers 10					- Interna						
	ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)														
					NIL										

DCI				SCHEME FOR LEARNING				ranch Cod	e	Co	urse Co	de	CO Code	LO Code	Format No.
KGF	יע (טוף	ioma wing j Bh	opai	(DUTCOME		С	0	4	4	0	2	2	2	4
COUR NAME	SE E	Computer Network	·			· ·									·
CO-2 Descri	ption	Use network Devices, driv	vers and m	edia.											
LO-2 Descri	ption	Learn device control and	software t	o manage networ	k.										
	SCHEME OF STUDY														
SNo Learning Content Teaching –Learning Method Description of T-L Process Teach Hrs. Pract. /Tut Hrs. LRs Required													Remarks		
1NIC Device Driver, client-server Software, telnet, ftp, firewall - software and hardware, types of firewall and management.			Lab practi traditional presentati handouts	cal with lecture and on method and	Teacher will explain the contents and provide handout to students. Teacher will conduct some practical based on content to make students practice their knowledge.	02		07		Handouts/ Lab Manual				ıl	NIL
		/			SCHEME OF ASSESSM	IENT									
SNo	Metl	hod of Assessment		Description o	f Assessment	Ma	ximu	m Mark	S.	F	Resour	ces R	equired		External / Internal
1	Exter	mal Exam Practical	ed to write programs	15 - Ext						External					
			ADE	DITIONAL INST	TRUCTIONS FOR THE H	OD/ FA	ACUI	LTY (IF	ANY)					
	NIL														

DOG	RGPV (Diploma Wing) B		SCHEM	E FOR LEARNING	3	В	Branch Cod	e	Co	ourse Co	de	CO Code	LO Code		
KGF	יע (טוף	ioma wing) Br	пораг		Ουτςομε		С	0	4	4	0	2	2	3	Format No. 4
COUR NAME	SE E	Computer Network				1				1	1	1		1	1
CO-2 Descri	ption	Use network Devices, dri	ivers and m	nedia.											
LO-3 Descri	ption	TO understand different	types of m	edia and their se	lection.										
SCHEME OF STUDY															
SNoLearning ContentTeaching -Learning MethodDescription of T-L ProcessTeach Hrs.Pract. /Tut Hrs.LRs Required												Remarks			
1	SNOLearning ContentNeed of Transmission Media, Selection Criteria. Types of Transmission Media- 1) Guided Media: Cable Characteristics, Types of Cable- Twisted Pair Cable, Co-axial Cable, Fiber Optic Cable. 2) 			ical with 1 lecture nd handouts, ion	Teacher will explain the contents and provide handout to students. Teacher will conduct quiz to make students practice their knowledge.	12		02		Н	andou	ts/ La	b manua	al	NIL
					SCHEME OF ASSESSM	1ENT									
SNo Method of Assessment Description of Assessment Maximum Marks Resources Required											External / Internal				
1	Question	n Paper -External- End Sem Exam		Question	n Answer		1	15				-			External
			AD	DITIONAL INS	TRUCTIONS FOR THE H	IOD/ F	FACU	LTY (II	FAN	Y)					
					NIL										

DO	GPV (Diploma Wing) Bl			SCH	IEME FOR LEARNING	G	В	Branch Coo	le		Course	Code	CO Code	LO Code	F
KGF	יע (עום) אי	noma wing) Bho	opai		OUTCOME		С	0	4	4	0	2	3	1	Format No. 4
COUR NAMI	R SE E	Computer Network	I			I		1						-	
CO-3 Descri	ption	To understand OSI model,	, tcp/ip pı	otocol suit	e and types of wireless network.										
LO-1 Descri	ption	Explain OSI Reference M	odel Con	cept.											
					SCHEME OF STUD	Y									
SNo Learning Content Teaching – Learning Method Description of T-L Process Teach Hrs. Pract. /Tut Hrs. LRs Required Ren												Remarks			
1	Introduction OSI model – Layered Architecture , Peer-to- Peer Processes, Interfaces between Layer, Protocols, Organization of the Layers, Encapsulation.1Layers of the OSI Reference Model (Functions of each Layer & Protocols used) – Physical Layer, Data-Link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer, Application Layer.			cticals ditional method douts	Teacher will explain the contents and provide handout to students. Teacher will conduct quiz to make students practice their knowledge.	06		02				hando		NIL	
	1		1		SCHEME OF ASSESSM	ENT									
SNo	Me	ethod of Assessment		Descr	iption of Assessment	Maximum Marks					Reso	urces I	Required	1	External / Internal
1	Question Exam	Paper -External- End Sem		Question Answer 15					- External						
			ADD	ITIONAL	. INSTRUCTIONS FOR THE H	OD/ FA	ACUL	LTY (IF	ANY)					
	NIL														

))//D:		SC	HEME FOR LEARNING	6	В	ranch Cod	e	Co	ourse Co	de	CO Code	LO Code	
KGP	יע (טוף	ioma wing j Bhop	bai	OUTCOME		С	0	4	4	0	2	3	2	Format No. 4
COUR NAME	SE E	Computer Network			, , , , , , , , , , , , , , , , , , ,									
CO-3 Descri	ption	To understand OSI model, to	p/ip protocol su	ite and types of wireless network.										
LO-2 Descri	ption	To learn tcp/ip protocol suite.	•											
SCHEME OF STUDY														
SNo Learning Content Teaching – Learning Method Description of T-L Process Teach Hrs. Pract. /Tut Hrs. LRs Required Ref													Remarks	
Layers in the TCP/IP Protocol Suite, Comparison between OSI and TCP/IP Protocol Suite , Addressing- physical address, logical address and port address			Traditional lecture method and handouts	Teacher will explain the contents and provide handout to students. Teacher will conduct quiz to make students practice their knowledge.	06		02		handouts					NIL
				SCHEME OF ASSESSM	IENT									
SNo Method of Assessment Description of Assessment Maximum Marks Resources Required Ext In											External / Internal			
1	Question	Paper–Internal Assignment- Progressive	Multiple c	Multiple choice questions/question paper 10 -							Internal			
			ADDITION	AL INSTRUCTIONS FOR THE H	OD/ FA	ACUL	LTY (IF	ANY)					
	NIL													

RGPV (Diploma Wing) Bhopal			SCF	IEME FOR LEARNIN	G	Branch Code			Course Code			CO LO Code Cod		Format No. 4
				OUTCOME			0	4	4	0	2	3	3	
COURSE NAME Computer Network													1	1
CO-3	Description	To understand OSI model,	tcp/ip protocol su	rotocol suite and types of wireless network.										
LO-3	Description	To study of IP addressing a	and internet proto	nternet protocol versions(IPV4 and IPV6)										
SCHEME OF STUDY														
SNo	I	Learning Content	Teaching – Learning Method	Description of T-L Process	Teacl Hrs.	h 1	Pract. / Hrs	Tut		LRs Required Remarks			Remarks	
1	IP Address addressing Masking. : and PPP, I and IP: Int HeaderFor IPv4 & IP	s classes, classless IP s, Subnetting, supernetting, Host-to-Network-SLIP nternet Layer-ARP,RARP roduction, IPv4, IPv6 (mat), Difference between v6.	Traditional lecture method and handouts, presentation	Teacher will explain the contents and provide handout to students. Teacher will conduct quiz to make students practice their knowledge.	04		08		Handouts/ Lab manual				ıts/ Lab manual NII	
SCHEME OF ASSESSMENT														
SNo	Met	hod of Assessment	Desci	iption of Assessment	Max	ximu	m Mar	ks	Resources Required				External / Internal	
1 Internal marks lab			Multipl	e choice questions/quiz		1	0			- I				
	ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
NIL														

RGPV (Diploma Wing) Bhopal			SCH	EME FOR LEARNING	G	Branch Code			Course Code			CO Code	LO Code	Format No. 4						
					OUTCOME			0	4	4	0	2	4	1						
COURSE NAME Computer Network																				
CO-4	Description	To understand	wireless Network,	Managem	ent and Routing.															
LO-1	Description	To learn differ	ent architecture in	wireless ne	twork.															
SCHEME OF STUDY																				
SNo	Learning Content		Teaching –Le Method	earning I	Description of T-L Process	Teach Hrs.	1]	Pract. / Hrs.	Tut	LRs Required				red Remarks						
1	1Bluetooth Architecture, Wi-Fi, Wi- Max. Cellular (Mobile) Telephone - Band in Cellular Telephony, Calls Using Mobile Phones, Transmitting receiving / Handoff operations.		Lab practicals witraditional lecture and handouts	ith e method	Teacher will explain the contents and provide handout to students. Teacher will conduct quiz to make students practice their knowledge	09		00		Handouts /Lab manual				ıl	NIL					
SCHEME OF ASSESSMENT																				
SNo	Method c	f Assessment	l	Description	of Assessment	Max	kimu	m Marl	ĸs	I	Resources Required				External / Internal					
1 Internal Assignment term			Qu	iz /test		1	0		- Iı					Internal						
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)																				
NIL																				

RGPV (Diploma Wing) Bhopal				SCH	EME FOR LEARNING	3	Branch Code			C	Course Code			LO Code	Format No. 4	
					С	0	4	4	0	2	4	2	Tornat No. 4			
COUR NAME	SE	Computer Netw	ork						<u> </u>	<u> </u>		1	1	1		
CO-4 Descri	ption	To understand	wireless Network, Management and Routing.													
LO-2 Descrij	ption	Explain concept of network management.														
	SCHEME OF STUDY															
SNo	Learr	ning Content	Teaching –Le Method	arning I	Description of T-L Process	Teach Hrs.	h	Pract. / Hrs.	Tut LRs Required					LRs Required Rema		
1	Simple network management protocol (SNMP), SNMP component, SNMP messages, SNMP Version, Network monitoring tools and software		Lab practicals with traditional lecture and handouts	ith e method	Teacher will explain the contents and provide handout to students. Teacher will conduct quiz to make students practice their knowledge	09		00		handouts				handouts		
					SCHEME OF ASSESSM	ENT										
SNo	Method	of Assessment		Description	of Assessment	Maximum Marks Resou				Resources Required				External / Internal		
1	Interna	Internal Lab Marks			e /test /quiz		1	10	-				-			
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)																
					NIL											

RGPV (Diploma Wing) Bhopal			SCH	EME FOR LEARNING	G	Branch Code			Code Course Code				LO Code	Format No.						
			OUTCOME			С	0	4	4	0	2	4	3	4						
COUR																				
CO-4	Description	To understand	wireless Network	, Managem	ent and Routing.															
LO-3	Description	Describe rout	ting algorithm fo	r compute	r network.															
SCHEME OF STUDY																				
SNo	Learning Content		Teaching –Le Methoe	earning 1	Description of T-L Process	Teach Hrs.	L	Pract. / Hrs.	Tut	LRs Required				LRs Required Ro						
1	Routing, Routing Metrics, Types of Routing, Link-state and distance vector routing, difference between RIP and OSPF.		ng, Routing cs, Types of ng, Link-state istance vector g, difference en RIP and C. 10 00 Handouts				handouts			NIL										
SCHEME OF ASSESSMENT																				
SNo	Meth	Method of Assessment		Descrip	tion of Assessment	Max	Maximum Marks		Resources H			Resources Required								
1	Question Paper -External- End Sem Exam			Qu	estion answer.		10 -					External								
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)																				
NIL																				

Experiment list

1 To observe Components of Network in your Computer Network Lab. (To know your Network Lab.)

2 To understand network features.

- 3 To connect and understand different Transmission Media and Network Control devices.
- 4 To Prepare a Straight Cable and Network Cross over Cable and test by Line Tester.
- 5 To install a network interface card.
- 6 To Connect Computers in Star Topology using Wired Media and any Network control Device.
- 7 To connect two hubs/switch by creating crossover connection.
- 8 To Configure Peer-to-Peer Network.
- 9 To Share Printer and Folder in Network.

10 To Install TCP/IP Protocols (Version 4 and version 6) and configure advanced features of TCP/IP Protocols.

11To Run Basic TCP/IP Utilities and Network Commands with all options.(Ping, Ping ::1, ipconfig, Tracert, Netstat, Wireshark, ARP, NBTSTAT.EXE), capture TCP, UDP, IP, ARP, ICMP, Telnet, FTP packets using Wire shark packet sniffer software.

- 13 To understand Subnet Masking and create two subnets.
- 14 To visit server room and prepare report on.
- 1. Proxy Server
- 2. Server Configuration
- 3. Router Configuration
- 4. Firewall Configuration
- 5. Network setup details (Topology, Back up, IP range, Network software, UPS)