

SANATAN DHARMA COLLEGE, AMBALA CANTT



College with Potential for Excellence, UGC, New Delhi
NAAC Accredited Grade "A+" with CGPA 3.51 in 3rd cycle
ISO 9001:2015 & ISO 14001:2015 Certified



Department of Computer Science

Lesson Plan (Session 2022-2023)

Class: BCA

Sem: VI

Course Code: BCA-364

Nomenclature: Internet Technology

Dates: 1 Feb, 2023- 17 May, 2023

SYLLABUS

BCA-364 Internet Technology

Maximum Marks: 100

External: 80

Minimum Pass Marks: 35

Internal: 20

Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT – I

Internet: Introduction; History; Internet Services; TCP/IP: Architecture, Layers, Protocols; TCP/IP model versus OSI Model; World Wide Web (WWW) - The Client Side, The Server Side, Creating and Searching Information on the Web, Popular Search Engines, URL, HTTP, Web Browsers, Chat & Bulletin Board, USENET & NNTP (Network News Transfer Protocol); Internet vs. Intranet;

UNIT – II

TCP, UDP and IP Protocols, Port Numbers; Format of TCP, UDP and IP; IPv4 addressing; The need for IPv6; IPv6 addressing and packet format; TCP Services; TCP Connection Management; Remote Procedure Call; IP Address Resolution- DNS; Domain Name Space; DNS Mapping; Recursive and Iterative Resolution; Mapping Internet Addresses to Physical Addresses: ARP, RARP, DHCP; ICMP; IGMP;

UNIT – III

Application Layer: Electronic Mail: Architecture; Protocols - SMTP, MIME, POP, IMAP; Web Based Mail; File Access and Transfer: FTP, Anonymous FTP, TFTP, NFS; Remote Login using TELNET; Voice and Video over IP: RTP, RTCP, IP Telephony and Signaling, RSVP;

UNIT – IV

Routing in Internet: RIP, OSPF, BGP; Internet Multicasting; Mobile IP;
Private Network

Interconnection: Network Address Translation (NAT), Virtual Private Network (VPN); Internet Management and SNMP; Internet Security: E-Mail Security; Web Security; Firewall; Introduction to IPSec and SSL;

TEXT BOOKS

- (Douglas E. Comer, “Internetworking with TCP/IP Volume – I, Principles, Protocols, and Architectures”, Fourth Edition, Pearson Education.
- (Andrew S. Tanenbaum, “Computer Networks”, Pearson Education.

REFERENCE BOOKS:

- Behrouz A Forouzan, “Data Communications and Networking”, McGraw Hill.
- Michael A. Gallo, William M. Hancock, “Computer Communications and Networking Technologies”, CENGAGE Learning.
- James F. Kurose, Keith W. Ross, Computer Networking, A Top-Down Approach Featuring the Internet, Pearson Education.
- “Introduction to Data Communications and Networking”, Wayne Tomasi, Pearson Education.

Course Outcomes

After the completion of this course, prospective Computer professionals will have the ability to

Semester-VI Course- BCA-364: Internet Technologies At the end of course student should be able to:	
CO-1	Predict and explain how different networking technologies at the same or different layers interact and affect each other in a large-scale system
CO-2	Critically evaluate network technologies with respect to system requirements, based on information from current research and technical documentation
CO-3	Apply basic system models and analysis methods to analyze distributed systems and networks
CO-4	Study about Application Layer
CO-5	Study about Routing in internet
CO-6	Study about TCP/IP protocol.

S.No	Instructional Technique	Assessment Methods (AM)
1	Chalk & Talk	Assignments
2	ICT tools	Quiz
3	Group discussions	Group Discussions
4	Industrial visit	Oral Tests
5	Case studies	Sessional
6	Small Projects	Presentations
7	Workshop	Seminar
8	Spoken Tutorials	University Exams
9	Flipped Class	
10.	E-Resources	

Date	Topics to be Covered	Instructional Technique	Assessment Method
01.02.2023	Internet: Introduction	1	1,2,3,4
05.02.2023	SUNDAY		
06.02.2023		1	1
07.02.2023	History, Internet Services	1	1,2,3,4
08.02.2023	TCP/IP: Architecture	2-(PPT/Projector)	1,2,3,4
12.02.2023	SUNDAY		
13.02.2023	TCP/IP model versus OSI Model; World Wide Web (WWW)	2-(PPT/Projector)	1,2,3,4
14.02.2023	The Client Side, The Server Side, Creating and Searching Information	1	1,2,3,4

	on the Web		
15.02.2023	Popular Search Engines, URL, HTTP	2-(PPT/Projector)	1,2,4
19.02.2023	SUNDAY		
20.02.2023	Web Browsers, Chat & Bulletin Board, USENET		
21.02.2023	NNTP (Network News Transfer Protocol)	2-(PPT/Projector)	1,2,3,4
22.02.2023	Internet vs. Intranet	1	1,2,3,4
26.02.2023	SUNDAY		
27.02.2023	TCP, UDP and IP Protocols	1	1,2,3,4
28.02.2023	Port Numbers; Format of TCP, UDP and IP	2-(PPT/Projector)	1,2,3,4
01.03.2023	IPv4 addressing	9	1,2,3,4,6
05.03.2023	SUNDAY		
06.03.2023	HOLI VACATIONS		
07.03.2023			
08.03.2023			
09.03.2023			
10.03.2023			
11.03.2023			
12.03.2023	SUNDAY		
13.03.2023	IPv6 addressing and packet format	1	1,2,3,4
14.03.2023	TCP Services, TCP Connection Management, Remote Procedure Call	2-(PPT/Projector)	1,2,3,4
15.03.2023	IP Address Resolution- DNS, Domain Name Space, DNS Mapping	2-(PPT/Projector)	1,2,3,4
19.03.2023	SUNDAY		
20.03.2023	Recursive and Iterative Resolution; Mapping Internet Addresses to Physical Addresses: ARP	2-(PPT/Projector)	1,2,3,4
21.03.2023	Mapping Internet Addresses to Physical Addresses: RARP, DHCP; ICMP; IGMP;	6	1,2,3,4
22.03.2023	Revision		4
26.03.2023	SUNDAY		

27.03.2023	Application Layer: Electronic Mail: Architecture	2-(PPT/Projector)	1,2,3,4
28.03.2023	Protocols - SMTP, MIME	1	1,2,3,4
29.03.2023	Assignment- 1	2-(PPT/Projector)	1,2,3,4
02.04.2023	SUNDAY		
03.04.2023	IMAP, Web Based Mail	2-(PPT/Projector)	1,2,3,4
04.04.2023	HOLIDAY		
05.04.2023	File Access and Transfer: FTP, Anonymous FTP	9,10	1,2,3,4
09.04.2023	SUNDAY		
10.04.2023	Sessional	1	1,2,3,4
11.04.2023	Video over IP: RTP, RTCP	1	1,2,3,4
12.04.2023	IP Telephony and Signaling, RSVP	1	1,2,3,4
16.04.2023	SUNDAY		
17.04.2023	Routing in Internet: RIP, OSPF, BGP	1	1,2,3,4
18.04.2023	Internet Multicasting, Mobile IP, Private Network	2-(PPT/Projector)	1,2,3,4
19.04.2023	Interconnection: Network Address Translation (NAT), Virtual Private Network (VPN);	1	1,2,3,4
23.04.2023	SUNDAY		
24.04.2023	Assignment 2	2-(PPT/Projector)	1,2,3,4
25.04.2023	Internet Management and SNMP, Internet Security: E-Mail Security; Web Security	6	1,2,3,4
26.04.2023	Firewall; Introduction to IPSec and SSL	2-(PPT/Projector)	1,2,3,4
30.04.2023	SUNDAY		
01.05.2023	Revision	2-(PPT/Projector)	4
02.05.2023	Revision	2-(PPT/Projector)	4
03.05.2023	Revision	1	4
07.05.2023	SUNDAY		
08.05.2023	Revision	1	4
09.05.2023	Revision	1	4
10.05.2023	Revision		4

14.05.2023	SUNDAY	
15.05.2023	Revision of Previous Years Question Papers	4
16.05.2023	Revision of Previous Years Question Papers	4
17.05.2023	Revision of Previous Years Question Papers	4

	Teacher Incharge	Head of the Department
Name	Ms. Shaina	Dr. Girdhar Gopal
Sign with Date		