

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – PART I			
Name of the programme and specialization	B.TECH. (CSE)		
Course Title	INTERNETWORKING PROTOCOLS		
Course Code	CSPC32	No. of Credits	3
Course Code of Pre-requisite subject(s)	CSPC27		
Session	July 2018	Section (if, applicable)	BOTH A & B
Name of Faculty	Dr. S. Mary Saira Bhanu	Department	CSE
Email	msb@nitt.edu	Telephone No.	9442970006
Name of Course Coordinator(s) (if, applicable)	NA		
E-mail	----	Telephone No.	----
Course Type	Core course		
Syllabus (approved in BoS)			
2015			
COURSE OBJECTIVES			
<ul style="list-style-type: none"> To know the design principles of interworking protocols To know the implementation details of IPv4, IPv6 and TCP To adapt the IP for Mobile Applications 			
COURSE OUTCOMES (CO)			
Course Outcomes		Aligned Programme Outcomes (PO)	
Ability to gain insight about basic network theory and layered communication architectures		PO1, PO2, PO3, PO6 , PO8	
Ability to code and implement MAC protocols, IPv4, IPv6, and TCP		PO1, PO3-PO8	
Ability to design and develop Mobile IP		PO1, PO3-PO8	

COURSE PLAN – PART II**COURSE OVERVIEW**

This course focuses on the design of protocols for MAC layer, Network layer, Transport layer and Application layer. This course deals with the design principles of IEEE 802 standard protocols, IPv4, TCP/IP, IPv6, and mobile IP protocols.

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week	Topic	Mode of Delivery
1	1	Overview of ISO OSI model, TCP/IP model	Chalk and Board
2	2	Multiplexing and Switching , Data Link Layer - MAC protocols – ALOHA, CSMA-CD	C&B
3	3	LAN Standards - Overview of IEEE 802 series	C&B, PPT
4	4	IP Internet Protocol, IPv4 Headers, Host processing of IP datagrams	C&B, PPT
5	5	DHCP and Autoconfiguration, Firewalls and NAT, ICMPv4, IP Fragmentation	C&B, PPT
6	6	Broadcasting and Local Multicasting, IGMP and MLD	C&B, PPT
7	7	Routing Protocols, IPv6 Transition issues, Addressing	C&B, PPT
8	8	Options and Extension headers, ICMPv6, Neighbor Discovery	C&B, PPT
9	9	Routing, Autoconfiguration, IPv6 and DNS	C&B, PPT
10	10	TCP , TCP services and Header, Connection Management, Timeout and Retransmission	C&B, PPT
11	11	TCP Interactive Data Flow, Nagle Algorithm, Window Management	C&B, PPT

12	12	TCP Congestion Control, TCP persist and Keepalive timers	C&B, PPT
13	13	Mobile IP, Need and overview, Tunneling	C&B, PPT
14	14	Mobility for IPv6, Applications of Mobile IP	C&B, PPT

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Written Test	September I week	1 hour	20
2	Assignment	October I week		10
3	Written Test	October IV week	1 hour	20
CPA	Compensation Assessment*	November I week	1 hour	20
4	Final Assessment *	November IV week	3 hours	50

*mandatory; refer to guidelines on page 4

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

Feedback to be collected at the end of semester through MIS

COURSE POLICY (preferred mode of correspondence with students, compensation assessment policy to be specified)

MODE OF CORRESPONDENCE (email/ phone etc)

Through email

COMPENSATION ASSESSMENT POLICY

Students should not absent for assessments. If the reason for absence is genuine, the student can appear for compensation assessment. The medical certificate/on duty certificate should be submitted within one week after rejoining. The portions for the compensation assessment will be Assessment 1 and Assessment 3 portions.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- At least 75% attendance in each course is mandatory.
- A maximum of 10% shall be allowed under On Duty (OD) category.
- Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade.

ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.

The above policy against academic dishonesty shall be applicable for all the programmes.

ADDITIONAL INFORMATION

ESSENTIAL READINGS (Textbooks, Reference books, Websites, Journals, etc.)

Text Books

1. W. Richard Stevens and G. Gabrani, "TCP/IP Illustrated: The Protocols", Pearson, 2011
2. Peter Loshin, Morgan Kaufmann, "IPv6: Theory, Protocol, and Practice", 2 nd Ed, 2003
3. James Solomon, "Mobile IP: The Internet Unplugged", 1 st Ed, Pearson Education, 2008

Reference Books

1. Kevin R. Fall and W. Richard Stevens, "TCP/IP Illustrated, Vol. 1- The Protocols", 2 nd Edition, Addison-Wesley, 2012
2. Silvia Hagen, "IPv6 Essentials, 2 nd Edition, O'Reilly Media, 2006
3. Charles E. Perkins, "Mobile IP: Design Principles and Practices", 1 st Edition, Pearson Education, 2008

FOR APPROVAL

Course Faculty _____

CC-Chairperson _____

HOD _____

Amabham

chjs
12/7/18

[Signature]
12/7/18

Guidelines:

- a) The number of assessments for a course shall range from 4 to 6.
- b) **Every course shall have a final assessment on the entire syllabus with at least 30% weightage.**
- c) **One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered. Details of compensation assessment to be specified by faculty.**
- d) **The passing minimum shall be as per the regulations.**
- e) **Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.**
- f) **Absolute grading policy shall be incorporated if the number of students per course is less than 10.**
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.