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	Network Programming Laboratory		
Course Code	CSLR31	No. of Credits	2
Course Code of Pre-requisite subject(s)	CSPC27 CSPC32		
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	LAB course		

Syllabus (approved in BoS)
2015

COURSE OBJECTIVES

- To create client and server applications using the "Sockets" API and the implementation of Data link layer protocols, Network layer protocols and TCP layer
- To conduct computer communication network simulations
- To have a hands on experience of computer network simulation and modeling techniques using NS-2/NS-3 simulation software

COURSE OUTCOMES (CO)

Course Outcomes	Aligned Programme Outcomes (PO)
Ability to invoke analytical studies of Computer Networks through network simulation	**PO1, PO3, PO4, PO6,PO8**
Technical knowhow of the various components in NS-3 toolkit and its importance in designing a real network	**PO1, PO3, PO5, PO8**

	COURSE PLAN – PART II	

COURSE OVERVIEW

This course enables the students to work on the simulation of wired and wireless networks and to analyze their performance under various metrics.

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Exercise No.	Problem
1	1,2	Socket programming using C language
2	3	Socket programming using JAVA
3	4	Installation of NS3 and study of basics
4	5	Simulation of LAN with various topologies
5	6	Implementation of MAC protocols and to analyze their performance
6	7	Implementation of Routing protocols and evaluating their performance
7	8	Simulation of Wireless Networks
8	9	Implementation of Wireless LAN MAC protocols
9	10	Implementation of Wireless LAN routing protocols

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Continuous assessment	Every Week	3 hours	40
2	Record	October IV week		10

3	Model Exam	November I week	3 hours	20
4	Final Assessment *	November III week	3 hours	30

*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

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

References
1. W. Richard Stevens, "UNIX Network Programming – Networking APIs: Sockets and XTI", Vol. 1, 2nd Ed, 1998, Prentice Hall
2. Eitan Altman and Tania Jimenez, "NS Simulator for Beginners", Morgan & Claypool - Publishers, 2011
3. Jack L. Burbank, "An Introduction to Network Simulator 3", 1st edition, Wiley-Blackwell, 2015

FOR APPROVAL

Course Faculty _____ CC-Chairperson _____ HOD _____

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.