# NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

## DEPARTMENT OF COMPUTER APPLICATIONS

| COURSE PLAN – PART I | | | |
|---|---|---|---|
| **Name of the programme and specialization** | **MCA** | | |
| **Course Title** | **Networks Lab** | | |
| **Course Code** | **CA705** | **No. of Credits** | **2** |
| **Course Code of Pre-requisite subject(s)** | **CA727** | | |
| **Session** | **July 2020** | **Section (if, applicable)** | **A** |
| **Name of Faculty** | **Dr. Balaji Ganesh R** | **Department** | **Computer Applications** |
| **Official Email** | **rbalaji@nitt.edu** | **Telephone No.** | **8220037222** |
| **Name of PAC Chairman** | **Dr. (Mrs.) B. Janet, Assistant Professor** | | |
| **Official E-mail** | **janet@nitt.edu** | **Telephone No.** | **0431-2503742** |
| **Course Type (**please tick appropriately**)** | ☑ **Core course** | ☐ **Elective course** | |

**Syllabus (approved in BoS)**

- Exercises to practice installation and configuration to understand network architecture and build a network
- Exercises to implement network principles

**COURSE OBJECTIVES**

To enhance the understanding of the following concepts of computer networks through experiments and simulation.

- Install and configure networks
- Build the network according to the requirement
- Implement network principles

**MAPPING OF COs with POs**

| **Course Outcomes** | **Programme Outcomes (PO) (**Enter Numbers only**)** |
|---|---|
| 1. Install and configure networks | **1, 2** |
| 2. Build the network according to the requirement | **1, 2, 5** |
| 3. Implement network principles | **1, 2, 4** |

## COURSE PLAN – PART II

### COURSE OVERVIEW

This course makes students to install, configure networks and build the networks according to the requirement and implement the network principles using Simulation software Packet Tracer

### COURSE TEACHING AND LEARNING ACTIVITIES

| S.No. | Week/Contact Hours | Topic | Mode of Delivery |
|---|---|---|---|
| 1 | Week 1 | Introduction to Packet Tracer, Building Networks | PPT, Demo in MS Teams using CISCO Packet Tracer |
| 2 | Week 2 | Switch Configuration, Addressing | PPT, Demo in MS Teams using CISCO Packet Tracer |
| 3 | Week 3 | Switch Configuration – Port and terminal Security | PPT, Demo in MS Teams using CISCO Packet Tracer |
| 4 | Week 4 | Switch Configuration – VLAN and Trunk link configuration | PPT, Demo in MS Teams using CISCO Packet Tracer |
| 5 | Week 5 | Router Configuration – Static, default routing | PPT, Demo in MS Teams using CISCO Packet Tracer |
| 6 | Week 6 | Router Configuration – Dynamic Routing | PPT, Demo in MS Teams using CISCO Packet Tracer |
| 7 | Week 7 | Subnetting various address | PPT, Demo in MS Teams using CISCO Packet Tracer |
| 8 | Week 8 and Week 9 | Implementation of TCP and UDP | PPT, Demo in MS Teams using CISCO Packet Tracer |
| 9 | Week 10 | Implementation of OSI Layers | PPT, Demo in MS Teams using CISCO Packet Tracer |

**COURSE ASSESSMENT METHODS (**shall range from 4 to 6**)**

| S. No. | Mode of Assessment | Week/Date | Duration | % Weightage | Mode of Conduct |
|---|---|---|---|---|---|
| 1 | Exercises Demonstration – I | 6th Week | - | 15 | MS Teams / Cisco Packet Tracer |
| 2 | Exercises Demonstration – II | 10th Week | - | 15 | MS Teams / Cisco Packet Tracer |
| 3 | Laboratory Report | Every week | - | 10 | Google Forms |
| 4 | Online Assessment – Objective type | 10th | 1 hour | 15 | Instructure Canvas |
| 5 | Project | 11th | - | 15 | MS Teams |
| CPA | Compensation Assessment* | 12th | 1 hour | 15 | Instructure Canvas |
| 6 | Final Assessment* – Oral Viva Voce Examination | 12th | - | 30 | MS Teams |

***mandatory; refer to guidelines on page 4**

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

- The students through the class representative may give their feedback at any time to the faculty which will be duly addressed.
- The students may give their feedback during class committee meetings.

**COURSE POLICY (**including compensation assessment to be specified**)**

**Compensation Assessment**

One compensation assessment for absentees in assessment (other than the final assessment) is mandatory. Only genuine cases of absence shall be considered.

**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, IF ANY**

Students are advised to learn the beginner level free Online course "Introduction to Packet Tracer" offered by CISCO learning academy available at URL: https://www.netacad.com/courses/packet-tracer/introduction-packet-tracer

**FOR APPROVAL**

| Course Faculty _____ | CC- Chairperson _____ 19/10/2020 | HOD _____ |
|---|---|---|
| **Dr.R.Balaji Ganesh** | **Dr.(Mrs.) B.Janet,** | **Prof.Dr.PJA Alphonse** |
| **PDF** | **Assistant Professor** | **Professor and Head** |

## Guidelines

a) The number of assessments for any theory course shall range from 4 to 6.

b) Every theory 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.

d) The passing minimum shall be as per the regulations.

| B.Tech. Admitted in | | | | P.G. |
|---|---|---|---|---|
| 2018 | 2017 | 2016 | 2015 | |
| 35% or (Class average/2) whichever is greater. | | (Peak/3) or (Class Average/2) whichever is lower | | 40% |

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.