1	IP Addressing, Basic Configuration of Cisco Packet Tracer
2	Socket Programing
3	Basic Network Configuration (Static) Data
4	Variable Length Subnet Mask (VLSM)
5	RIP, EIGRP
6	Dynamic Host Configuration Protocol (DHCP) , Open Shortest Path First (OSPF)
7	**Lab Test-1**
8	Physical Network Interface Connection/ Router & Switch Configuration
9	Access Control List (ACL)
10	VLAN, InterVLAN, VTP
11	Information Gathering using Wireshark
12	Introduction to NS2
13	**Lab Test-2**
14	Quiz

Reading Reference:

1. Computer Networks - Andrew S. Tanenbaum
2. Computer Networks: Protocols, Standards, and Interfaces - Uyless Black Internetworking with TCP/IP: Principles, Protocols, Architecture - D. E. Comer
3. TCP/IP Illustrated Vol. I - W. R. Stevens
4. Complete Networking : A Top Down Approach Featuring the Internet – James F. Kurose, Keith W. Ross

Assessment Methods:

Category	**Marks %**
Lab Test-1	25
Lab Test-2	25
Viva	10
Class Participation	10
Class Assignment	30
Total	**100**

Course Title: Integrated Design Project
Course Code: CSE 301, Credit: 2.0, Total hours: 56

Rationale:

Culminating demonstration of skills and knowledge achieved to date to apply and solve real life problems solvable through computer technology.

Objective:

To apply technical knowledge and skills for further research and design of computer system at professional engineering scale.

Course Outcomes (CO):

Upon completion of the course, the students will be able to:

1. Develop systems' requirement specification from top-level customer requirements.
2. Analyze and compare design alternatives, at the system and subsystem levels, and use measures of performance or other criteria to rank alternatives.
3. Plan and organize an engineering design project using tools such as Gantt charts to develop a work breakdown structure, develop a schedule including milestones, and estimate effort and costs incorporating the ethical, financial and environmental issues.
4. Develop a design concept and elaborate it through to a detailed design by decomposing a system concept into component subsystems, identifying the subsystem requirements and applicable standards, and defining interfaces between the subsystems.
5. Build prototypes of key subsystems.

Course Content:

Knowledge Acquisition:

Introduction and brief with software, Discussion and submission Project Proposal, Learning Version Control System: Github, Interface design, Database Connectivity: Sqlite, Json, Cloud, Firebase database, Google Api, Sensor.

Implementation:

Idea Submission, Objective, Methodology, Literature Review, High Level Design, Low Level Design, Evaluation and feedback, Design & Partial Implementation (Prototype/Demo).

Mapping of Course Outcomes (CO) and Program Outcomes:

Course Outcomes(CO) of the Course	Program Outcome (PO)											
	1	2	3	4	5	6	7	8	9	10	11	12
Develop system requirements from top-level customer requirements.	√	√				√						
Analyze and compare design alternatives, at the system and subsystem levels, and use measures of performance or other criteria to rank alternatives.		√	√		√							
Plan and organize an engineering design project using tools such as Gantt charts to develop a work breakdown structure, develop a schedule including milestones, and				√		√						

estimate effort and costs.											
Develop a design concept and elaborate it through to a detailed design by decomposing a system concept into component subsystems, identifying the subsystem requirements and applicable standards, and defining interfaces between the subsystems			√	√							
Build prototypes of key subsystems.					√			√			

Lecture Outline:

Week	Topics	Remarks
1	Introduction and brief with softwares and Tools	
2	Learning Version Control System: Github	
3	Interface Design, activity and navication.	
4	Database Connectivity: Sqlite, Json, Cloud* Firebase database	
5	Google Api	
6	Sensor	
7	Database Integration with the application	
8-9	Topic Selection and Project Plan	
10-11	Objective, Methodology, Literature Review	
12-14	Design & Partial Implementation (Prototype/Demo)	

Reading Reference:

1. Android Programming: The Big Nerd Ranch Guide (3rd Edition) (Big Nerd Ranch Guides) 3rd Edition
2. Professional Android, Reto Meier, Ian Lake; 4th Edition
3. Website: https://www.tutorialspoint.com/android/

Assessment Methods:

Category	Marks %
Project	40
Quiz	20
Viva/Presentation	10
Class Participation	10
Home Assignment /Report	10
Class performance/observation	10
Total	**100**