MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION

GOVERNMENT POLYTECHNIC, AWASARI (KH)

TAL – AMBEGAON, DIST – PUNE – 412405

ACADEMIC YEAR : 2021-2022

COURSE NAME : COMPUER NETWORK

COURSE CODE : 22416

BRANCH : INFORMATION TECHNOLOGY(SY)

TOPIC NAME : Present a design of computer network for

department Including wireless facility.

DETAILS OF TEAM MEMBERS:

Sr.no.	Roll Number	Name of the Students	Enrolment No.
1.	20IF201	Bangar Sarthak Nilesh	2010510345
2.	20IF202	Barhate Vaishnavi Bhagavat	2010510346
3.	20IF203	Bharati Aditya Dronacharya	2010510349
4.	20IF204	Bhosure Priya Shivaji	2010510350
5.	20IF205	Chipade Aditya Sandip	2010510351
6.	20IF206	Chipade Siddhi Satish	2110510352

GUIDANCE BY: MRS. SUTAR MAM.

DEPARTMENT OF INFORMATION TECHNOLOGY

GOVERNMENT POLYTECHNIC AWASARI (KHURD)

SEMESTER-IV (2021-22)

CERTIFICATE

This is to certify the following students of semester 4th of Diploma in Information Technology of Institute: Government Polytechnic, Awasari (kh) (code :1051) has completed of micro project satisfactorily in subject – computer network (Present a deign of computer network for department including wireless faculty.) for the academic year 2021-2022 as prescribed in the curriculum.

Sr.no.	Roll Number	Name of the Students	Enrolment No.
1.	20IF201	Bangar Sarthak Nilesh	2010510345
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3.	20IF203	Bharati Aditya Dronacharya	2010510349
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5.	20IF205	Chipade Aditya Sandip	2010510351
6.	20IF206	Chipade Siddhi Satish	2110510352

Guidance By	H.O.D	Principal
(Mrs.Sutar Mam)	(Dr.D.N.Rewadkar)	(Dr.D.R.Nandanwar)

PART A – A MICRO PROJECT PROPOSAL

Aims / benefits of micro-project :

Aim:

Present a deign of computer network for department including wireless

Faculty.

Benefits:

- First, we understand concept of computer network.
- We learn how to design of computer network.
- Now all teammates are able to use Cisco packet tracer.

Course Outcomes (COs):

CO1: Use basic concepts of networking for setting-up computer network.
CO2: Setup a computer network for specific requirements.
CO3: Configure basic network services.
CO4: Configure the different TCP/IP.
CO5: Implement subnetting for improved network address management.

Proposed Methodology:

First of all, we have to select a topic to: "Present a deign of computer network for department including wireless faculty." The teacher will assign one set of Micro Project and ask the student to create a report on given topic.
We collected information about the topic using sources such as the internet and books then we asked the subject teacher about: Present a deign of computer network for department including wireless faculty.

on which we have a micro project and then we type the required Part-A and done proper page set up and submitted to subject teacher. After the setup of part- A, we prepare a report of the given project. After finishing all the typing, we arrange all the data in proper arrangement. We selected proper margin font, lay out, 4A size etc.

Action plan: -

Sr. No.	Details of activity	Planned start date	Planned Finish date	Name of Responsible members
1	Group formation and allocation of micro project title			Bangar Sarthak Nilesh
2	Information search and required analysis.			Barhate Vaishnavi Bhagavat
3	Assembling Information for the project work			Bharati Aditya Dronacharya
4	Implementation of Project			Bhosure Priya Shivaji
5	Testing of project			Chipade Aditya Sandip
6	Submission of project.			Chipade Siddhi Satish

Resources Required :

Sr.no.	Name of Resource	Specification	Qty.	Remarks
1	Software	Cisco Packet Tracer, Microsoft Word.	-	-
2	Books	Computer Network	-	-

TEACHER   **H.O.D**   **PRINCIPAL**
(Mrs.Sutar Mam.)   (DR.D.N.REWADKAR)   (DR.D.R.NANDANWAR)

PART B – Micro Project Report

Title of Micro Project

PRESENT A DESIGN OF COMPUTER NETWORK FOR DEPT. USING WIRELESS FACILITY

AIM:

Present a design of computer network for dept. Using wireless facility.

Benefits:

- First, we understand concepts of computer networks.
- We learn how to design of computer network.
- Now all teammates are able to use Cisco Packet Tracer.

Course Outcomes (Cos):

CO1: Use basic concepts of networking for setting-up computer network.
CO2: Setup a computer network for specific requirements.
CO3: Configure basic network services.
CO4: Configure the different TCP/IP.
CO5: Implement subnetting for improved network address management

Introduction:

Computer Network is a group of computers connected with each other through wires, optical fibres or optical links so that various devices can interact with each other through a network.

The aim of the computer network is the sharing of resources among various devices.

In the case of computer network technology, there are several types of networks that vary from simple to complex level.

Uses Of Computer Network:

Resource sharing: Resource sharing is the sharing of resources such as programs, printers, and data among the users on the network without the requirement of the physical location of the resource and user.

Server-Client model: Computer networking is used in the server-client model. A server is a central computer used to store the information and maintained by the system administrator. Clients are the machines used to access the information stored in the server remotely.

Communication medium: Computer network behaves as a communication medium among the users. For example, a company contains more than one computer has an email system which the employees use for daily communication.

E-commerce: Computer network is also important in businesses. We can do the business over the internet. For example, amazon.com is doing their business over the internet, i.e., they are doing their business over the internet.

What is Cisco Packet Tracer?

Cisco Packet Tracer as the name suggests, is a tool built by Cisco. This tool Provides a network simulation to practice simple and complex networks.

Purpose:

The main purpose of Cisco Packet Tracer is to help students learn the principles of networking with hands-on experience as well as develop Cisco technology specific skills. Since the protocols are implemented in software only method, this tool cannot replace the hardware Routers or Switches. Interestingly, this tool does not only include Cisco products but also many more networking devices. Using this tool is widely encouraged as it is part of the curriculum like CCNA, CCENT where Faculties use Packet Trace to demonstrate technical concepts and networking systems. Students' complete assignments using this tool, working on their own or in teams. Engineers prefer.

to test any protocols on Cisco Packet Tracer before implementing them. Also, Engineers who would like to deploy any change in the production network prefer to use Cisco Packet Tracer to first test the required changes and proceed to deploy if and only if everything is working as expected.

Features:

▪ Unlimited devices

▪ E-learning

▪ Customize single/multi user activities

▪ Interactive Environment

▪ Visualizing Networks

▪ Real-time mode and Simulation mode

▪ Self-paced

▪ Supports majority of networking protocols

▪ International language support.

Cisco Packet Tracer

Advantages:

1) Packet Tracer offers an effective, interactive environment for learning networking concepts and protocols.

2) Most importantly, Packet Tracer helps students and instructors create their own Virtual "network worlds" for exploration, experimentation, and explanation of Networking concepts and technologies.

Importance networking in department:

➢ Networking with leaders and peers in your field helps you hear tips and gain advice from others who are successful.

➢ You can even learn important news and upcoming changes that may be happening within your field. Networking also teaches you how to properly interact with others

➢ It gives you the chance to connect with professionals in your desired field of work, such as your course professors; they can provide you with valuable advice, or even referrals.

Screenshot of Simulation:
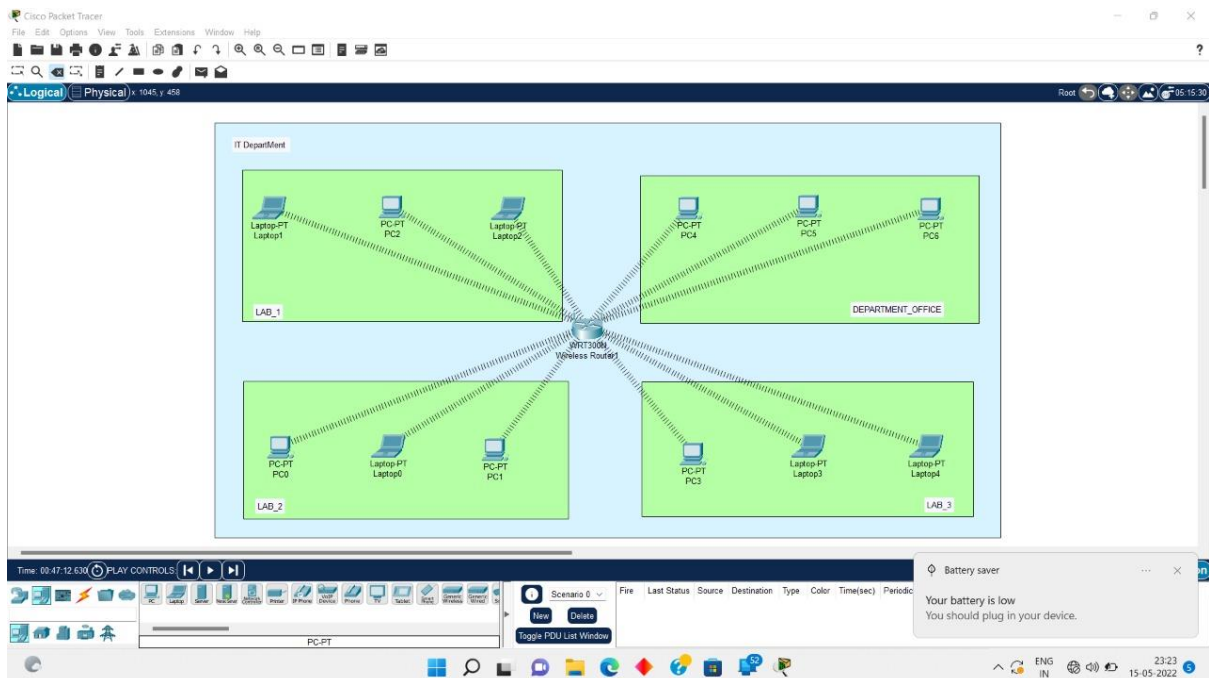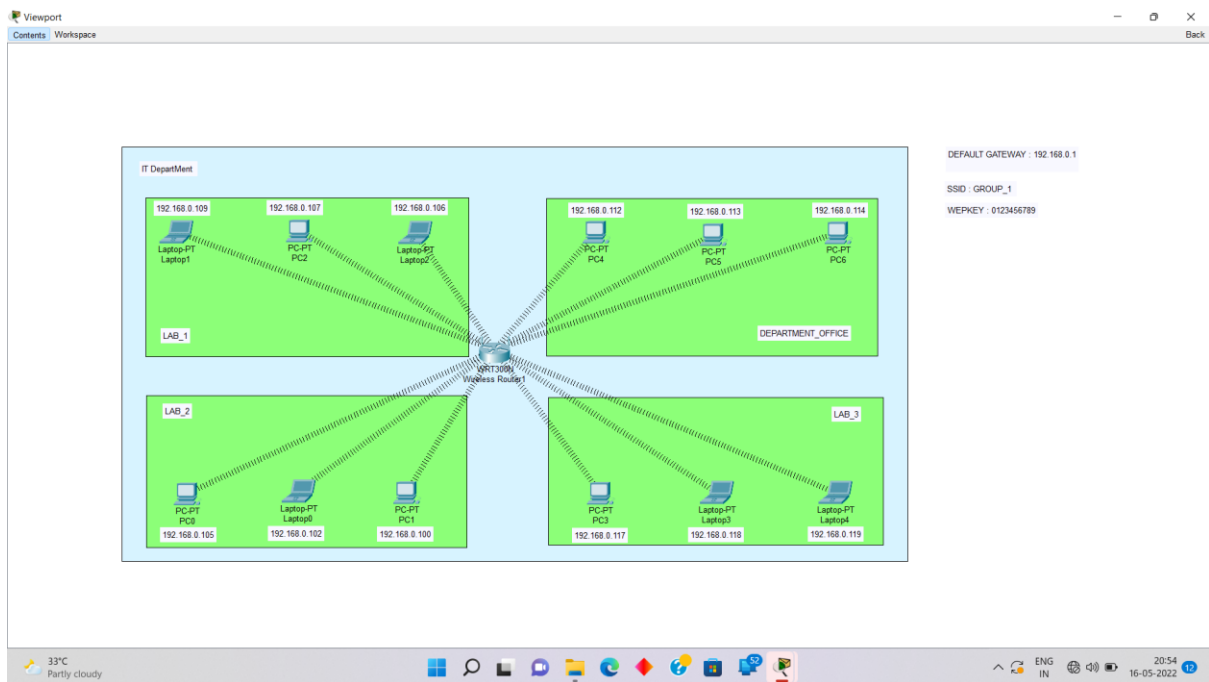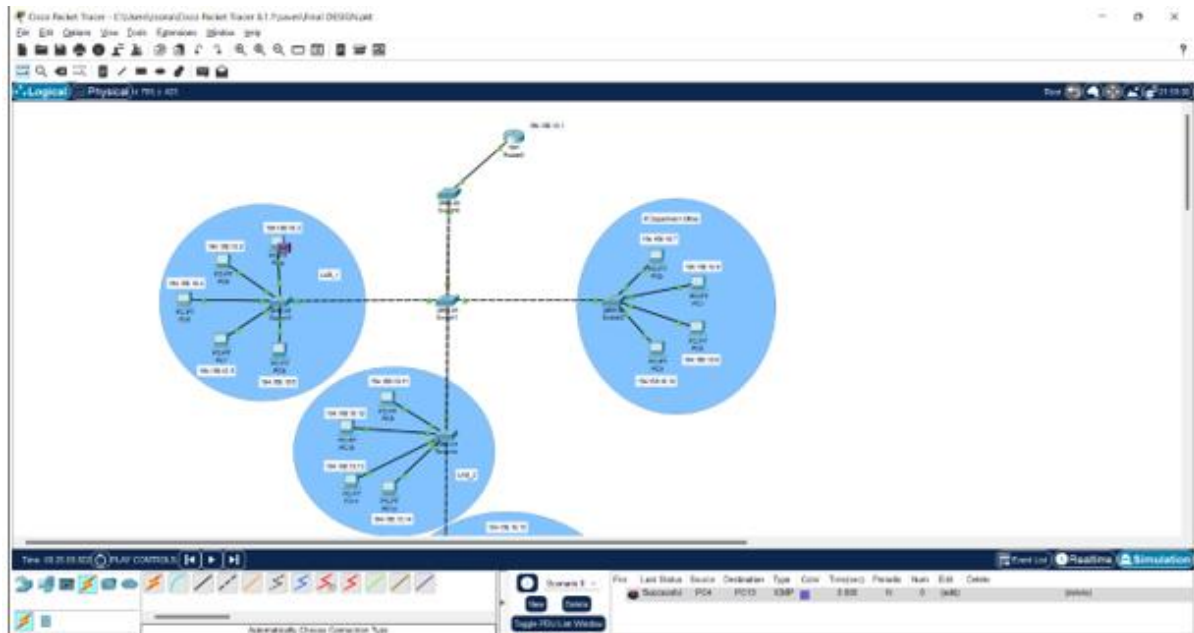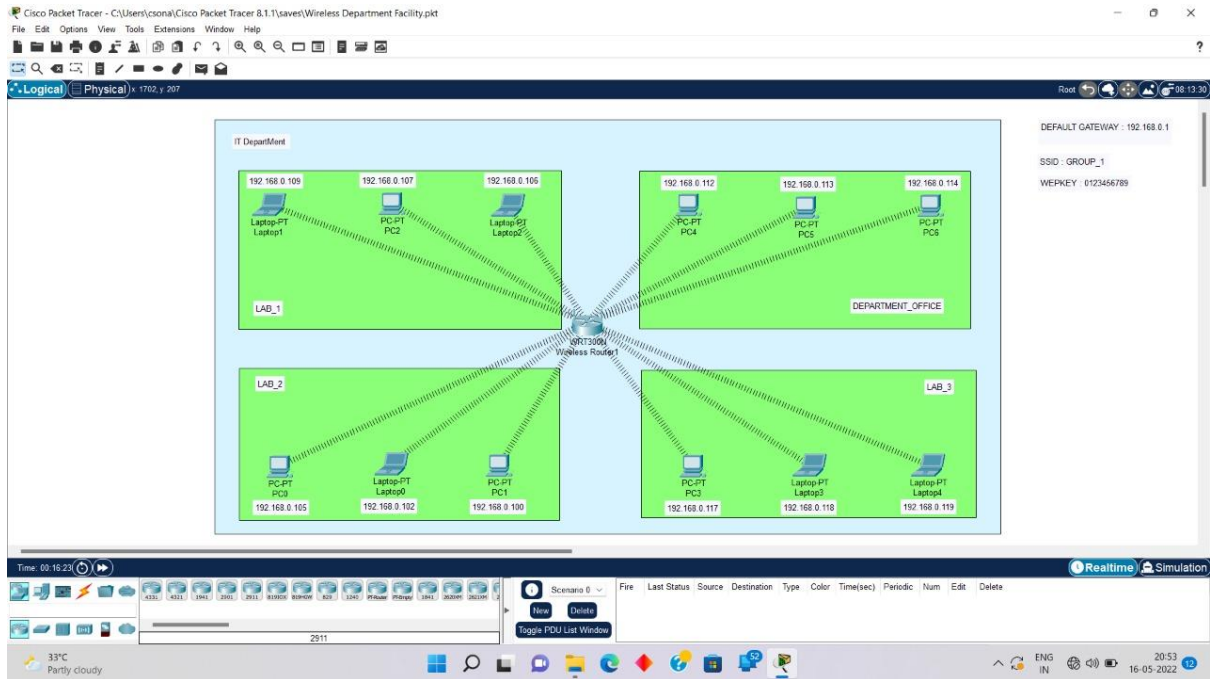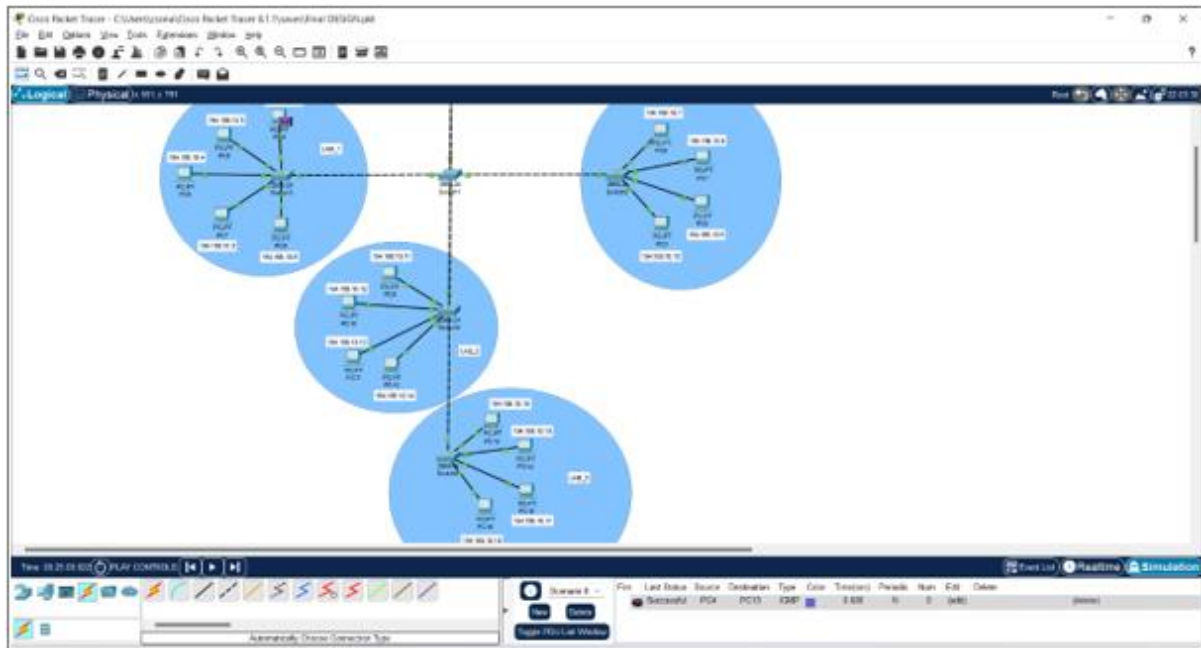
Conclusion :

• Efficient networks can only be built based on the complete knowledge and understanding of above mentioned topologies.

• Knowledge of every communication device is of equal importance to help you find the best option for your

Network requirements.

• Optimum networks can be built with complete knowledge and understanding of computer network devices and how they are designed, any mistake in choosing inappropriate techniques, device etc can only be the waste of time, resources and efforts .