

061906T4TEL

TELECOMMUNICATION ENGINEERING LEVEL 6

ENG/OS/TLE/CR/11/6/A

Install Telephone Network

July/August 2025



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

PRACTICAL ASSESSMENT

Time: 4 HOURS

INSTRUCTIONS TO CANDIDATE

1. Do not write on the question paper.
2. A separate plain sheet will be provided.
3. Return this paper to assessor at the end of the assessment.
4. The assessor will take pictures and videos as you conduct the practical.

This paper consists of TWO (2) printed pages.

**Candidate should check the question paper to ascertain that
all pages are printed as indicated and that no questions are missing.**

1. Figure 1 below shows a setup of VoIP.

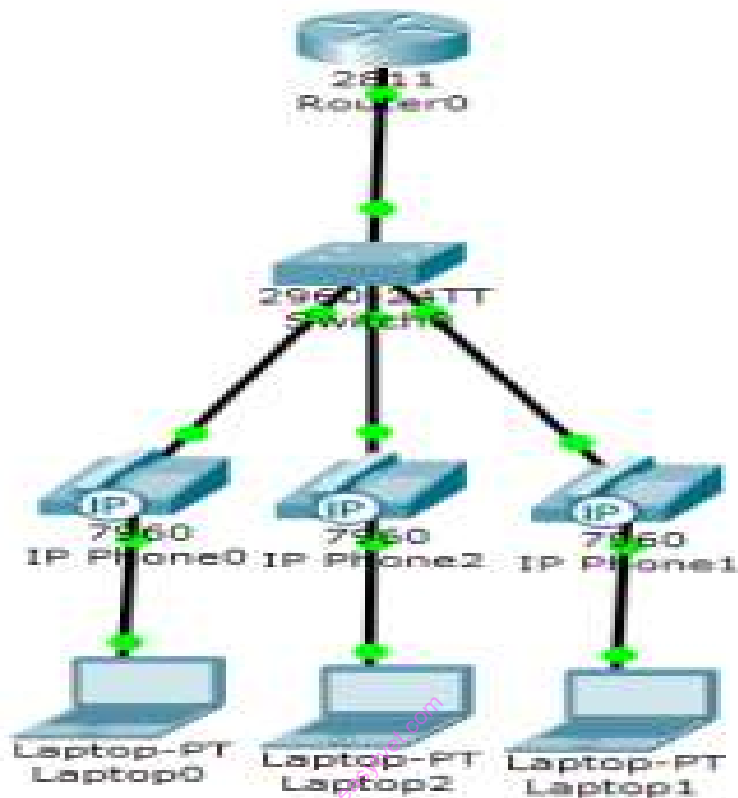


Fig. 1 Setup of IP

You are supposed to simulate the network in packet tracer according to the following procedures.

TASK 1: Design the network topology.

- a) Open CISCO packet tracer and add
 - i. 1 CISCO 2811 Router
 - ii. 1 CISCO 2960 switch
 - iii. 3 IP Phones
 - iv. 3 laptops.
- b) Connect devices
 - i. Router Fa0/0 to Switch Fa0/1.
 - ii. IP Phones to Switch ports Fa0/2, Fa0/3 and Fa0/4.
 - iii. Laptops to switch Fa0/5, Fa0/6 and Fa0/7.

TASK 2: Configure the Router

- a) Configure interface Fast Ethernet 0/0 and Dynamic Host
- b) Configuration Protocols (DHCP) server on ROUTER 0
- c) Enable VoIP Telephony service.

TASK 3: Configure the switch.

- a) Set voice VLAN for IP phone ports.

TASK 4: Configure phone numbers on the router

TASK 5: Connect and test

- i. Power on the IP Phones and ensure they obtain IP addresses via DHCP
- ii. Check IP registration message on the router.
- iii. Initiate a call from one phone to another.
- iv. Observe call status. (ringing, connected, disconnected)

SUBMISSIONS

Each student should submit the following

1. Packet Tracer (.pkt) Simulation File
2. Screenshot evidence for TASK 5.

You are provided with

1. One CISCO Router: 2811 series.
2. One CISCO Switch: 22960 series(manageable).
3. Three IP Phones.
4. Three laptops.

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