

CodeAI Plus

Windows 10 with Office 2019

Also compatible with Office 2016



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|-------------------------|----------------------------|
| Artificial Intelligence | Multidisciplinary Approach |
| Animated Life Skills | Subject Integration |
| Coding | Art Integration |
| Computational Thinking | Skill Formation |
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Answer Key

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TRIAL TRIVIA

Write the name of following images:

1. Router
2. Cables
3. NIC
4. Coaxial Cable

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SELF-EVALUATION

A. Tick (✓) the correct answer.

1. (b) Communication
2. (a) host
3. (c) Microwaves
4. (b) Peer-to-Peer
5. (a) Print
6. (a) Ring

B. Write 'T' for True and 'F' for False statements.

1. True
2. True
3. False
4. False
5. True

C. Fill in the blanks.

1. Computer Network
2. Switch
3. Physical
4. Fiber-optic
5. Digital Citizenship

D. Define the following.

1. Protocol: It is a set of rules that outlines characteristics of how two devices communicate.
2. Router: A router is a device that connects multiple computers or devices together and transmits data to its correct destination on a network through a process known as routing.

3. FTP: FTP stands for File Transfer Protocol, a set of rules that allows file uploading to and downloading from other computers on the Internet.

E. Differentiate between the following.

1. Hub and Switch

Hub	Switch
It offers a central location where all the cables on a network meet. It allows us to connect multiple computers to a single network.	It is a device that provides a central point for cables in a network. It receives data from many directions and then forwards it to one or more destinations.

2. Twisted Pair Cable and Coaxial cable

Twisted Pair Cable	Coaxial Cable
It consists of one or more twisted-pair wires bundled together. Each wire consists of two separate insulated copper wires that are twisted together and is color-coded for identification.	It consists of a single copper wire surrounded by at least three layers. The first one is an insulating material, the second is a wire mesh, and the third is a plastic or PVC outer coating.

3. Star Topology and Ring Topology

Star Topology	Ring Topology
In this topology, connector called a hub is placed at the center to which all the other nodes are connected. All the information that is transferred from one computer to another	In this topology, nodes are connected in a circular chain in which each node is connected to the next one and the last node was connected to the first one.

4. POP3 and IMAP

POP3	IMAP
This is an email protocol that stores email messages on a mail server and allows the user to view, access and manipulate the message after downloading and storing it on their computer.	This is also an email protocol that stores email messages on a mail server and allows the user to view, access and manipulate the messages on the mail server from their computer.

F. Answer in 1-2 sentences.

1. Downloading is the process of transferring files from a server on the Internet to our computer.
2. The names of two network communication channels are- physical and wireless.
3. The six types of wireless transmission media are-
 - a. Infrared(IR)
 - b. Broadcast Radio
 - c. Wi-Fi
 - d. Cellular Radio
 - e. Microwave
 - f. communication Satellite
4. Digital citizenship refers to the responsible and ethical use of technology by people who uses Internet, and digital devices.

G. Answer briefly.

1. The basic needs for computer networks are-
 - a. Data and Information sharing
 - b. Hardware sharing
 - c. Software sharing
 - d. Transfer Funds
2. LANs stands for Local Area Network, is a network that connects the computers and the devices in a limited geographical area, such as home, school, office building etc. LAN can either work with cables and hubs or wirelessly.
3. FTP stands for File Transfer Protocol, a set of rules that allows file uploading to and downloading from other computers on the Internet. Uploading is the process of transferring files from our computer to a server on the Internet. Downloading is the process of transferring files from a server on the internet to our computer.

H. Application-based Question

He can use peer-to-peer network to access computer B files on his computer.

Chapter – 5 [Networking and Digital Citizenship]

Worksheet - 1

Q1. Put your knowledge to the test by choosing the right option:

1. What is a computer network?
 - a. A single computer ☐
 - b. Collection of connected computing devices ☐
 - c. A software program ☐
 - d. A printer ☐
2. Which type of network covers a larger geographical area, such as an entire city or country?
 - a. Local Area Network (LAN) ☐
 - b. Metropolitan Area Network (MAN) ☐
 - c. Wide Area Network (WAN) ☐
 - d. Personal Area Network (PAN) ☐
3. What is the purpose of a router in a network?
 - a. Connects multiple computers ☐
 - b. Manages printers ☐
 - c. Distributes files to network users ☐
 - d. Transmits data to its correct destination ☐
4. Which transmission media uses infrared light waves for communication?
 - a. Twisted pair cable ☐
 - b. Coaxial cable ☐
 - c. Infrared (IR) ☐
 - d. Fiber-optic cable ☐
5. In which network topology does a failure in one node affect the entire network?

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- a. Bus Topology
- c. Ring Topology

- b. Star Topology
- d. Mesh Topology

Q2. Fill in the blanks:

1. In a _____, all computers and devices are connected to one single cable called the bus.
2. Digital citizenship promotes the responsible and ethical use of technology in the context of _____.
3. A _____ stores and manages files in a network.
4. _____ is a wireless networking technology that uses radio waves for high-speed connections.

Chapter – 5 [Networking and Digital Citizenship]

Worksheet - 2

Q1. Define the following.

1. Coaxial Cable –
.....
2. Router –
.....
3. POP3 –
.....
4. IMAP –
.....
5. Client/Server Network –
.....

Q2. Write 'T' for true and 'F' for false statements:

1. In a Peer-to-Peer network, each computer is considered equal in terms of responsibilities.
2. Communication satellites receive signals from ground-based stations and broadcast them back over a wide area.
3. In a Star Topology, a failure in one computer's network cable affects the entire network.
4. Digital citizenship includes avoiding cyberbullying, hate speech, and offensive behavior online.
5. TCP/IP is a protocol that defines how information is routed on the Internet to ensure correct data arrival.

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Chapter – 5 [Networking and Digital Citizenship]

Worksheet - 3

Q1. Answer the following questions:

1. What is a LAN?

2. Difference between Server and Workstation.

3. What is the role of a router in a network?

Worksheet – 01

Q1. Put your knowledge to the test by choosing the right option:

1. b 2. b 3. a and d 4. c 5. c

Q2. Fill in the blanks:

1. Bus topology 2. Internet and digital devices 3. File server
4. Wi-Fi

Worksheet – 02

Q1. Define the following:

Coaxial Cable: Coaxial cable consists of a single copper wire surrounded by at least three layers. The first one is an insulating material, the second is a wire mesh, and the third is a plastic or PVC outer coating. On coaxial cables, data travels through a copper wire. Cable TV network wiring uses coaxial cables.

2. **Router:** A router is a device that connects multiple computers or devices together and transmits data to its correct destination on a network through a process known as routing. A router acts as a junction between two or more networks like LAN and MAN to transfer data packets among them. It is used to connect your home network (LAN) with the Internet (WAN).

3. **POP3:** POP3 stands for Post Office Protocol version 3. This is an email protocol that stores email messages on a mail server and allows the user to view, access and manipulate the message after downloading or storing it on their computer. Once the messages are downloaded onto your computer, they are deleted from the mail server.

4. **IMAP:** IMAP stands for Internet Message Access Protocol. This is also an email protocol that stores email messages on a mail server and allows the user to view, access and manipulate the messages on the mail server from their computer.

5. **Client/Server Network:** A network in which one or more computers are designated as server(s), and the other computers on the network, called clients, can request services from the server, is known as Client/Server network.

Q2. Write 'T' for true and 'F' for false statements:

1. T 2. T 3. F 4. T 5. T

Worksheet – 03

Q1. Answer the following questions:

1. A LAN is a network that connects the computers and the devices in a limited geographical area, such as home, school computer laboratory, office building etc.
2. Powerful computers responsible for distributing files to network users are referred to as servers.

Other computers less powerful than servers and connected to a server are called workstations.

3. A router is a device that connects multiple computers or devices together and transmits data to its correct destination on a network through a process known as routing. A router acts as a junction between two or more networks like LAN and MAN to transfer data packets among them. It is used to connect your home network (LAN) with the Internet (WAN).

4. A Digital citizenship refers to the responsible and ethical use of technology by people who uses Internet, and digital devices. It comprises of practices that guide how people should engage with digital technologies, online communities, and digital content so as to promotes a safe online environment.

5. The main types of physical transmission media are- Twisted pair cable, Coaxial cable, Fibre-optic cable.