SmartKalike

CBSE Class 12 · Computer Science

CoMpuTer neTworks

10 most probable questions for Boards 2027

Q1. 1 mark · Multiple choice

Why was ARPANET commissioned in the 1960s?
(A) To connect academic and research institutions for scientific collaboration
(B) To provide wireless access to homes
(C) To establish the first commercial email service
(D) To connect television networks across cities

Answer

(A) To connect academic and research institutions for scientific collaboration — ARPANET was commissioned for scientific collaborations between institutions located at different places.

Q2. 2 marks · Short answer

What is a Metropolitan Area Network (MAN), and what type of geographical area does it cover?

Answer

A Metropolitan Area Network (MAN) is an extended form of LAN covering a larger geographical area, such as a city or town, and can extend up to 30-40 km.

Q3. 5 marks · Long answer

An office needs to connect several computers using wired connections. Explain what an Ethernet hub is and how it can be used to connect these devices.

Answer

An Ethernet hub is a network device used to connect different devices through wires.
1. The office can connect several computers to one hub using separate wired network connections, with each computer attached to a line on the hub.
2. When a computer sends data, the data arrives at the hub through its connected line.
3. The hub sends data arriving on any line out on all the other lines, so the connected computers can receive it.
4. The hub does not send data only to its intended destination; if data from two devices arrive at the same time, they collide.
An Ethernet hub provides a simple wired connection for office computers, but simultaneous transmissions can cause collisions.

Q4. 1 mark · Multiple choice

Between which two institutions was the first ARPANET message communicated?
(A) UCLA and Stanford Research Institute (SRI)
(B) CERN and UCLA
(C) SRI and the National Science Foundation
(D) CERN and the National Science Foundation

Answer

(A) UCLA and Stanford Research Institute (SRI) — the first message was communicated between the University of California, Los Angeles (UCLA) and SRI.

Q5. 2 marks · Short answer

State the usual data-rate range of a MAN relative to a LAN, and give one example of a MAN.

Answer

Data transfer rate in a MAN ranges in Mbps, but is considerably less than in a LAN. Cable TV network or cable based broadband internet services are examples of a MAN.

Q6. 5 marks · Long answer

When data arrives at one port of an Ethernet hub, describe how the hub handles it and identify which connected devices receive the data.

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/computer-science/computer-networks

Q7. 1 mark · Multiple choice

Which statement best describes an Ethernet card (NIC)?
(A) It is an adapter for a wired network and interfaces a computer with the network.
(B) It converts analog signals into digital bits at the receiver.
(C) It regenerates weakened signals on a cable.
(D) It connects networks only through wireless media.

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/computer-science/computer-networks

Q8. 2 marks · Short answer

Expand the term modem and state what it converts between.

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Q9. 5 marks · Long answer

Two devices transmit data through the same Ethernet hub at the same time. Explain what happens to their data and state the resulting limitation of using a hub.

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/computer-science/computer-networks

Q10. 1 mark · Multiple choice

What happens to a signal carried over a cable after travelling beyond its usual specified distance of about 100 m?

(A) It becomes weaker and may need regeneration.

(B) It changes from analog to digital automatically.

(C) It is converted into a packet.

(D) It becomes stronger as it travels.

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