



Vidyavardhini's College of Engineering and Technology
Department of Artificial Intelligence & Data Science

AY: 2024 - 25

Class:	TE	Semester:	V
Course Code:	CSC501	Course Name:	Computer Network

Name of Student:	Sainath . S. Khot
Roll No. :	20
Assignment No.:	1
Title of Assignment:	Apply the concepts of data communication
Date of Submission:	26/7/24
Date of Correction:	30/7/24

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Completeness	5	03
Demonstrated Knowledge Legibility	3	02
Legibility	2	02
Total	10	07

Performance Indicator	Exceed Expectations (EE)	Meet Expectations (ME)	Below Expectations (BE)
Completeness	5	3-4	1-2
Demonstrated Knowledge Legibility	3	2	1
Legibility	2	1	0

Checked by

Name of Faculty : Miss Sneha Yadav

Signature :

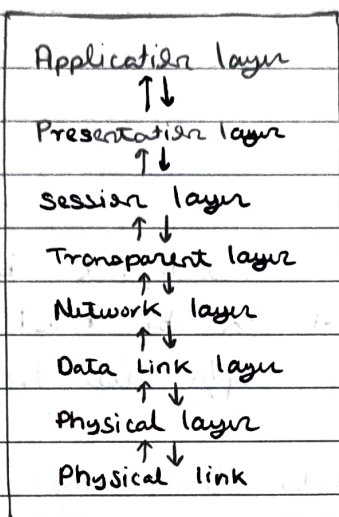
Date :

26/8/24

Q.

=>

O/S model gives a layered networking framework that conceptions how communication should be done between heterogeneous systems. It has 7 layers.



- a) Physical layer : Deals with the physical connection between heterogeneous devices, including transmission & reception of raw bitstreams.
- b) Data link layer : Manage the direct point-to-point communication between devices including error detection.
- c) Network layer : Responsible for data routing, packet forwarding & addressing.
- d) Transport : Ensures reliable data transfer between devices handling error correction & segmentation.
- e) Session layer : Manage session or connection between applications, establishes, maintains & terminates connection.

- F) Presentation layer: Translates data between the application layer & the network, handles data encryption, decryption, compression & format.
- g) Application layer: End-user applications interact with the network, provides protocols & interface for services like web browsing, emails & file transfer.

Q2

⇒ (1) A switch is a multiport bridge with a buffer & a design that can be boost its efficiency (a large no of ports imply less transfer/traffic) & performance.

(2) It is a data link layer device.

(3) Switch can perform error checking before forwarding data, which makes it very efficient as it does not forward packets that have error & forward selectively to the correct port.

- Possible issues with the switch could include.
 - 1) Faulty ports: Some switch ports might be handling more traffic than it can support.
 - 2) Overload switch: The switch might be handling more traffic than it can support.
 - 3) Firmware issues: The switch firmware might be outdated or corrupted.

i) Cabling Issues: Poor quality or damaged cables might be causing connectivity problems.

• Troubleshooting steps:

1) Check Port status: Use the switch management interface to check the status of the ports & identify any errors.

2) Test different ports: Move affected devices to different ports ~~on~~ on the switch to see if the issue persists.

3) Monitor traffic: Use networking tools to analyze the switch traffic load & identify any bottlenecks.

4) Update firmware: Download & install the latest firmware for the switch from the manufacturer's website.