

# BITT

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Branch: E.C.E

Semester: 4<sup>th</sup>

Subject: Data Communication & Computer Networking

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### A. Objective question

- OSI stands for \_\_\_\_\_
  - open system interconnection
  - operating system interface
  - optical service implementation
  - open service
- The number of layers in ISO OSI reference model is \_\_\_\_\_
  - 4
  - 5
  - 6
  - 7
- TCP/IP model does not have \_\_\_\_\_ layer but OSI model have this layer.
  - session layer
  - transport layer
  - application layer
  - network layer
- Which layer is used to link the network support layers and user support layers?
  - session layer
  - data link layer
  - transport layer
  - network layer
- Which address is used on the internet for employing the TCP/IP protocols?
  - physical address and logical address
  - port address
  - specific address
  - all of the mentioned
- TCP/IP model was developed \_\_\_\_\_ the OSI model.
  - prior to
  - after
  - simultaneous to
  - with no link to

7. Which layer is responsible for process to process delivery in a general network model?
  - a) network layer
  - b) transport layer
  - c) session layer
  - d) data link layer
8. Which address is used to identify a process on a host by the transport layer?
  - a) physical address
  - b) logical address
  - c) port address
  - d) specific address
9. Which layer provides the services to user?
  - a) application layer
  - b) session layer
  - c) presentation layer
  - d) physical layer
10. Transmission data rate is decided by \_\_\_\_\_
  - a) network layer
  - b) physical layer
  - c) data link layer
  - d) transport layer

### **B. Short Question**

1. List the layers of OSI model?
2. What are the responsibilities of data link layer?
3. What are the responsibilities of network layer?
4. What are the responsibilities of transport layer?
5. What is the function of the application layer in networking?
6. What are the difference between TCP and UDP?
7. In which layer term “Frames” is used?
8. In which layer term “Packets” is used?
9. Give some example for protocols work at application layer?
10. What is the difference between flow control and error control?

## Solution

### A. Objective Question

1. a
2. d
3. a
4. c
5. d
6. a
7. b
8. c
9. a
10. b

### B. Short Question

1. List the layers of OSI?

**Answer:** OSI layers are:

- i) Application
- ii) Presentation
- iii) Session
- iv) Transport
- v) Network
- vi) Data Link
- viii) Physical.

2. What are the responsibilities of data link layer?

**Answer:** Responsibilities of Data Link layer are: Framing, Error detection, CRC and Physical Addressing is the task of DLL.

3. What are the responsibilities of network layer?

**Answer:** Responsibilities of Network layer are: Routing, IP Addressing and Path determination are the main responsibilities of Network Layer.

4. What are the responsibilities of transport layer?

**Answer:** Responsibilities of Transport layer are:

- i) Multiplexing and De-Multiplexing
- ii) Segmentation and Re-assembly
- iii) Flow Control
- iv) Error Correction
- v) Connection Establishment
- vi) Sequencing
- vii) Acknowledgement

5. What is the function of the application layer in networking?

**Answer:** Application Layer is responsible for providing a user interface in between user and Network with the help of applications like web browsers.

6. What are the difference between TCP and UDP?

Answer: Following are differences in TCP and UDP:

- TCP stands for “Transmission Control Protocol” and UDP stands for “User datagram Protocol”.
- TCP is connection oriented protocol while UDP is connectionless protocol.
- TCP is more reliable than UDP.
- UDP is faster for data sending than TCP.
- UDP makes error checking but no reporting but TCP makes checks for errors and reporting.
- TCP provides guaranteed Delivery of Data but UDP has no guarantee.
- Header size of TCP is 20 bytes while that of UDP is 8 bytes.
- TCP has acknowledgement segments but UDP has no acknowledgement.
- TCP is used for application that require high reliability but less time critical whereas UDP is used for application that are time sensitive but require less reliability.

7. In which layer term “Frames” is use?

**Answer:** Frames are PDU of Data Link Layer.

8. In which layer term “Packets” is used?

**Answer:** Frames are PDU of Network Layer.

9. Give some example for protocols work at application layer?

**Answer:** Application Layer Protocols are: HTTP, HTTPs, Telnet, SSH, DNS, FTP, TFTP, DHCP, RIP

10. What is the difference between flow control and error control?

**Answer:** Error Controls the process of detecting and correcting bot the bit and packet level error. While flow control is a mechanism to ensure the efficient delivery of Data. Flow control is agreeing on the minimum amount of data that a receiver can handle at a time.

