GATE

Computer Science & Information Technology

Computer Networks

DPP: 1

Introduction

Q1 Which of the following is a function of the application layer ?
(A) Packet routing and forwarding
(B) Provide network services to users
(C) Framing and error control
(D) Host-to-host connectivity

Q2 Which layer of OSI model is responsible for data encryption and decryption ?
(A) Application Layer
(B) Presentation Layer
(C) Session Layer
(D) Transport Layer

Q3 Which layer in the OSI model is providing end-to-end connectivity ?
(A) Application Layer
(B) Transport Layer
(C) Network Layer
(D) Data Link Layer

Q4 The protocol data unit (PDU) for the transport layer in the Internet stack is :
(A) Frame   (B) Datagram
(C) Segment   (D) Message

Q5 Which of the following transport layer protocol uses for file transfer application ?
(A) SMTP   (B) FTP
(C) TCP   (D) UDP

Q6 Router is a_____ layer networking device.
(A) Application Layer
(B) Transport Layer

(C) Network Layer
(D) Data Link Layer

Q7 Which of the following is a function of the network layer ?
(A) Data encryption and decryption
(B) Error detection and correction
(C) Routing and forwarding
(D) Multiplexing and demultiplexing

Q8 Which of the following address type is used by the network layer ?
(A) MAC Address
(B) IP Address
(C) Port Number
(D) None of the above

Q9 Match the following :

List-I	List-II
P: Segment	I: Application Layer
Q: Frame	II: Transport Layer
R: Datagram	III: Network Layer
S: Message	IV: Data Link Layer

(A) P-II, Q-IV, R-I, S-III
(B) P-III, Q-IV, R-II, S-I
(C) P-II, Q-IV, R-III, S-I
(D) P-II, Q-III, R-IV, S-I

Q10 Assume that source S and destination D are connected through one router. Determine how many times each packet has to visit the network layer during transmission from S to D ?

Q11 _____ is an example of a circuit-switched network .

(A) Internet chat

(B) Telephone network (PSTN - Public Switched Telephone Network)

(C) Web browsing

(D) Email

Q12 Which switching techniques provide "connection-less" services ?

(A) Circuit Switching

(B) Packet Switching

(C) Virtual-circuit Switching

(D) None of the above

Answer Key

Q1	(B)		**Q7**	(C)
Q2	(B)		**Q8**	(B)
Q3	(B)		**Q9**	(C)
Q4	(C)		**Q10**	3~3
Q5	(C)		**Q11**	(B)
Q6	(C)		**Q12**	(B)

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Hints & Solutions

Q1   Text Solution:

Provide network services to users

Q2   Text Solution:

Presentation Layer

Q3   Text Solution:

Transport Layer→ End to End (Process to Process)

Q4   Text Solution:

Segment → Transport Layer (PDU)

Q5   Text Solution:

TCP

FTP → TCP → IP

Q6   Text Solution:

Network Layer (Layer -3) (Router)

Q7   Text Solution:

Routing and forwarding → Network layer
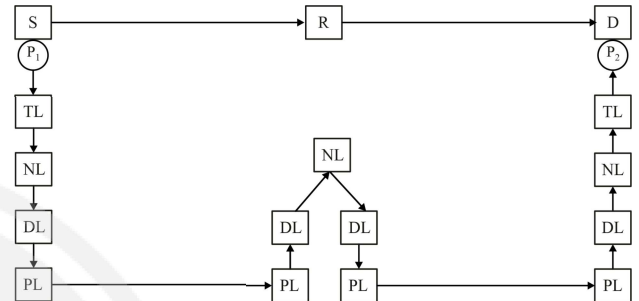
Q8   Text Solution:

IP Address→ Transport layer

Q9   Text Solution:

P: Segment→ II: Transport Layer

Q: Frame→ IV: Data Link Layer

R: Datagram→ III: Network Layer

S: Message→ I: Application Layer

Q10   Text Solution:

Q11   Text Solution:

Telephone network (PSTN - Public Switched Telephone Network)

Q12   Text Solution:

Packet Switching→ connection less and unreliable

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