Total No. of Questions : 5]

SEAT No. :

PA-1018

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S.Y. B.Sc.

COMPUTER SCIENCE

CS-242: Computer Networks - I (Paper - II)

(2019 Pattern) (Semester - IV) (24122)

Time : 2 Hours] *[Max. Marks : 35*

Instructions to the candidates :

1) ***All questions are compulsory.***
2) ***Neat diagrams must be drawn wherever necessary.***

Q1) Attempt any Eight of the following : **[8 × 1 = 8]**

a) List components of data communication.

b) What is data communication?

c) Define Protocols.

d) List any two channelization protocols.

e) State any two applications of wireless LAN.

f) What is bandwidth?

g) Define congestion.

h) What is Routing?

i) What is a Port Number?

j) What is internetworking?

P.T.O.

Q2) Attempt any Four of the following : **[4 × 2 = 8]**

a) What is Computer Network? Write any four characteristics of Computer Network.

b) What is LAN? Write any two advantages of LAN.

c) Consider a noiseless channel with a bandwidth of 4000 Hz transmitting a signal with two signal levels. What will be the maximum bit rate?

d) Write any four application of Bluetooth technology.

e) Change the following IPv4 address from binary notation to dotted decimal notation.

i) 10000001 00001011 00001011 11101111

ii) 11000001 10000011 00011011 11111111

Q3) Attempt any two of the following : **[2 × 4 = 8]**

a) Compare OSI Reference Model and TCP/IP model.

b) Explain the important design issues of the data link layer.

c) Explain the different services offered by the Network layer.

Q4) Attempt any two of the following : **[2 × 4 = 8]**

a) Write any four differences between Fast ethernet and Gigabit ethernet.

b) Write any eight features of IPv6 protocol.

c) Explain any four features supported by TCP.

Q5) Attempt any one of the following : **[1 × 3 = 3]**

a) Explain datagram format of UDP.

b) Define Pulling.

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SEAT No. :

P5144

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S.Y. B.Sc.

COMPUTER SCIENCE

CS - 242 : Computer Networks - I

(2019 Pattern) (Semester - IV)

Time : 2 Hours] *[Max. Marks : 35*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Neat diagram must be drawn if necessary.***

Q1) **Attempt any EIGHT of the following (Out of TEN).** **[8 × 1 = 8]**

a) What is Port address?

b) What is the size of IPv4 & IPv6 Address?

c) List application Layer Protocol.

d) "UDP is Connection Oriented Protocol." State the statement is true / false.

e) What is the function of Presentation layer?

f) What is Protocol?

g) Which devices operates at physical layer.

h) What is Bandwidth?

i) What is CSMA/CD?

j) Define Masking.

Q2) **Attempt any FOUR of the following (Out of FIVE).** **[4 × 2 = 8]**

a) Define Terms :

i) Jitter

ii) Latency

b) Write Nyquist & Shannon's formula for calculating data rate of a channel.

c) Define routing.

P.T.O.

d) Define following Data communication standards:

i) De Facto

ii) De Jure

e) Apply bit stuffing on Pattern 01101111111111110010

Q3) Attempt any TWO of the following (Out of THREE). [2 × 4 = 8]

a) Explain Multiplexing & De_multiplexing in transport Layer.

b) What is Taxonomy for Media Access Protocol?

c) Which are the methods of framing.

Q4) Attempt any TWO of the following (Out of THREE). [2 × 4 = 8]

a) Write note on Circuit Switching.

b) For the given IP address 205.16.37.39/28 in some block of address, Calculate :

i) Address Mask

ii) First Address of block

iii) Last address of block

iv) Number of addresses in the block

c) Write note on UDP

Q5) Attempt any ONE of the following (Out of TWO). [1 × 3 = 3]

a) What is BSS & ESS? Explain in detail.

b) Explain TCP/IP Model in detail.

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