Oct-22/TE/Insem-629
T.E. (Artificial Intelligence and Data Science)
COMPUTER NETWORKS
(2019 Pattern) (Semester - I) (317521)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

1) *Attempt Q.1 or Q.2, Q.3 or Q.4 & Q.5 or Q.6.*
2) *Neat diagram must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data, if necessary.*

Q1) a) Match the following functions to one or more layers of OSI model. **[3]**

     i) Transmission of bit stream across physical medium.

     ii) Defines Frames.

     iii) Error correction and retransmission.

     iv) Reliable Process-to-process message delivery.

     v) Route selection.

     vi) Provides user services such as e-mail and file transfer.

   b) Define FHSS and explain how it achieves bandwidth spreading. **[5]**

   c) Which are the types of guided media? **[2]**

OR

Q2) a) What is the difference between port address, logical address & Physical address? **[4]**

   b) Generate CRC code for message 1101010101. Generator polynomial is $g(x) = x^4 + x^2 + 1$. **[6]**

P.T.O.

Q3) a) Explain various networking Devices - Bridge, switch, Router, gateway & Access point. **[5]**

b) For the bit sequence 100001011111 draw the waveform for **[5]**

   i) Manchester Encoding

   ii) Differential Manchester Encoding

<center>OR</center>

Q4) a) Explain pure and slotted ALOHA. **[5]**

b) What are various design issues of data link layer? **[5]**

Q5) a) Explain peer to peer network architecture with diagram. **[5]**

b) Which are the different types of transmission medium? **[5]**

<center>OR</center>

Q6) a) Explain IEEE 802.11 with protocol stack diagram. **[5]**

b) Explain working of CSMA/CD with flowchart. **[5]**

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