Total No. of Questions—**8**] [Total No. of Printed Pages—**2**

| **Seat No.** | |
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# [5559]-209

## S.E. (IT) (Second Semester) EXAMINATION, 2019

## FOUNDATIONS OF COMMUNICATION AND COMPUTER NETWORK

## (2015 PATTERN)

**Time : 2 Hours** **Maximum Marks : 50**

**Instructions to the candidates:**

1) **Answer Question 1 or 2, 3 or 4, 5 or 6, 7 or 8**
2) **Figures to the right indicate full marks.**
3) **Assume suitable data, if necessary**

Q.1 A) Explain various types of Guided Media used in Physical layer. [06]

B) With respect to FM discuss following terms?

i) Frequency deviation ii) Deviation ratio iii) Bandwidth of FM [06]

**OR**

Q.2 A) Explain any three network topology with advantages and disadvantages? [06]

B) What is FM? Derive a mathematical expression for FM wave. [06]

Q.3 A) List the Line Coding schemes used in digital transmission. Explain Polar NRZ and Uni-polar NRZ schemes. [07]

B) Explain CRC generator and CRC checker with suitable example. [06]

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**OR**

Q.4 A) what is mean by Entropy (Average Information)? Derive expression for Entropy? State it's Properties. [07]

B) Explain with suitable examplegeneration of Hamming Codes for 11 bit codeword. [06]

Q.5 A) Draw and Explain TDM Multiplexing and De-multiplexing Process. [06]

B) Compare Spread spectrum modulation techniques: FHSS and DSSS. [06]

**OR**

Q.6 A) Explain HDLC with the help of its frame formats I-frame, S-frame, & U-frame. [06]

B) Discuss CSMA/CD random access technique. How collisionavoidance achieved in the same? [06]

Q.7 A) What is mean by switching? Explain Circuit switching in detail with help of Three Phases, Efficiency and delay. [07]

B) Draw and explain each field of MAC Frame Format of IEEE 802.3. [06]

**OR**

Q.8 A) Explain with suitable diagrams Repeaters, Bridges and Routers used in networking. [07]

B) Explain following physical layer implementation in Fast Ethernet:
i) 100BaseTX ii)100BaseFX iii)100BaseT4
With respect to media, Maximum Length and Line encoding. [06]

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