

(3 Hours)

[Total Marks: 80]

**N.B. :** 1) Question No.1 is **compulsory**.

2) Attempt any **three** from the remaining **five** questions.

3) Figures to the right indicate full marks

1. (a) Draw and explain GSM architecture in detail. (10)  
(b) Define Modulation. Explain different digital modulation techniques in detail. (10)
  2. (a) Discuss the architecture of IEEE 802.11 in detail (10)  
(b) What are the changes required in the Traditional Transport layer so that it is compatible with the Wireless Scenario. (10)
  3. (a) Explain the protocols used for Mobile routing in Adhoc networks (10)  
(b) Discuss WAP architecture in detail. (10)
  4. (a) How is Spread Spectrum technique useful in wireless communication? Explain Direct Sequence Spread Spectrum in detail. (10)  
(b) Explain the two types of networks defined by Bluetooth. Also explain various protocols supported by Bluetooth protocol architecture. (10)
  5. (a) Discuss the principles and organization of the cellular networks. Explain the general operation of cellular networks. (10)  
(b) Explain the various interface used in the UMTS. Also explain UMTS Bearer Model. (10)
  6. Write Short notes on any **four**: (20)
    - (a) LTE
    - (b) Handoff
    - (c) Care of Address
    - (d) WCDMA
    - (e) MANET
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