

**Duration: 3hrs**

**[Max Marks:80]**

- N.B. : (1) Question No 1 is Compulsory.  
 (2) Attempt any three questions out of the remaining five.  
 (3) All questions carry equal marks.  
 (4) Assume suitable data, if required and state it clearly.

- 1 Attempt **any FOUR** **[20]**
  - a Explain concept of frequency reuse with clustering. **5**
  - b Explain in short wireless LAN security threats. **5**
  - c What is spread spectrum? **5**
  - d Describe use of Cellular IP. **5**
  - e Explain in short voice over LTE. **5**
- 2 a Explain in short different algorithm used for authentication and privacy in GSM. **[10]**
  - b What is the use of different interfaces used in global system for mobile communication (GSM) with diagram? **[10]**
- 3 a Explain hidden station and exposed station problem with solution in WLAN. **[10]**
  - b How is packet delivery achieved to and from mobile node? **[10]**
- 4 a Explain snooping TCP and mobile TCP with their merits and demerits. **[10]**
  - b Explain the process of registration in Mobile IP. **[10]**
- 5 a Explain protocol architecture of IEEE 802.11 with diagram. **[10]**
  - b How IP mobility is achieved in wireless network. **[10]**
- 6 a Explain different components used in LTE architecture with diagram. **[10]**
  - b Which components are new in GPRS as compared to GSM? What is there purpose? **[10]**