

**Elective - II : Mobile Computing**

P. Pages : 2

Time : Three Hours

**NRJ/KW/17/4633**

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
  2. Solve Question 1 OR Questions No. 2.
  3. Solve Question 3 OR Questions No. 4.
  4. Solve Question 5 OR Questions No. 6.
  5. Solve Question 7 OR Questions No. 8.
  6. Solve Question 9 OR Questions No. 10.
  7. Solve Question 11 OR Questions No. 12.
  8. Due credit will be given to neatness.
  9. Assume suitable data whenever necessary.
  10. Illustrate your answers whenever necessary with the help of neat diagrams.
  11. Use of non programmable calculator is permitted.

1. a) What is the need of wireless communication? State & explain various application of wireless communication. 7

b) Draw a simplified reference model of wireless communication & explain its working. 7

**OR**

2. a) What are the benefits/advantages for wireless network over wired network. 6

b) What do you mean by term Antennas? Explain in detail, different types of Antennas & their uses. 8

3. a) What is the problem of Hidden & exposed terminals? Explain in detail & discuss its solution also. 8

b) Explain space & frequency division multiplexing with detail diagram. 5

**OR**

4. a) What are near & far terminal effects with suitable diagram & explain it in detail. 5

b) Compare TDMA with CDMA. Also explain why TDMA cannot be used alone. 8

5. What do you mean by GSM? Explain GSM architecture in detail with RSS, NSS & OSS and their components. 13

**OR**

6. Explain the following terms **any three**. 13

- |                            |                                      |
|----------------------------|--------------------------------------|
| a) Echo canceller.         | b) GSM protocols.                    |
| c) Handover/Hands off.     | d) Cell layout & frequency planning. |
| e) Localization & calling. |                                      |

7. a) What do you mean by tunneling? Explain the scenario for mobile IP with its terminology. 7
- b) "We can initialize client with DHCP Server" comment on it & justify with diagram. 7

**OR**

8. Explain the following scenarios **any three**. 14
- a) Selective Re-Transmission.
- b) Transactions oriented TCP.
- c) Fast Re-transmission / fast recovery.
- d) Snooping TCP.
- e) Transmission time out/Freezing.
9. a) Explain mobile Ad Hoc networks properties in detail. 5
- b) Explain any one of the routing protocols in MANET. 8

**OR**

10. a) Explain security in MANET (Warm hole attack). 6
- b) What are the different scenarios where MANET can be applied. 7
11. a) Explain the WAP 1.X architecture. 7
- b) Explain the working of wireless transaction protocol in WAP. 6

**OR**

12. a) What is the purpose of Bluetooth technology? Explain its architecture in detail. 9
- b) Explain wireless LAN. 4

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