

# Eighth Semester B.Tech. Degree Examination, November 2019 (2008 Scheme)

08.805 (3): MOBILE AND WIRELESS NETWORKS (R)

(Elective III)

Time: 3 Hours

Max. Marks: 100

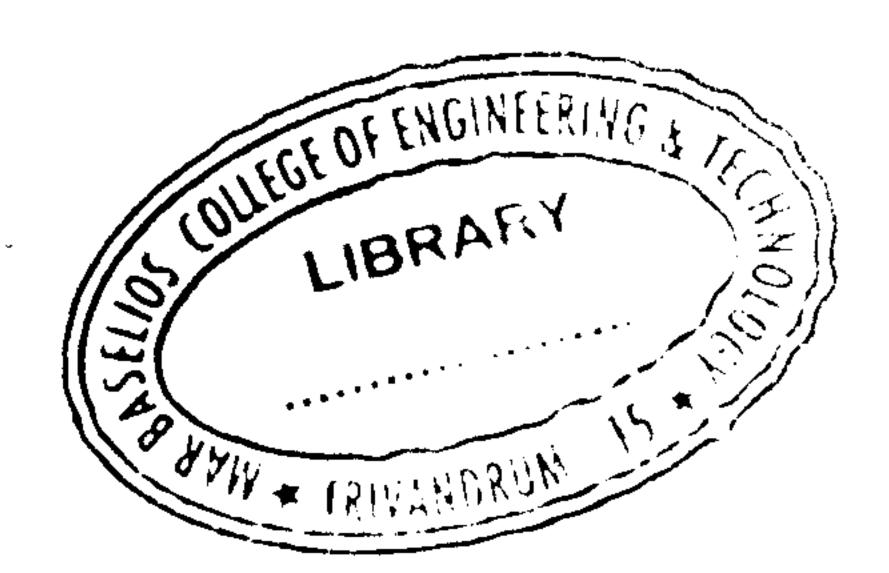
## PART – A

## Answer all questions:

- 1. Why do radio waves not always follow a straight line?
- 2. Show the waveform corresponding to the bit pattern 100111010001 using Minimum Shift Keying.
- 3. What are the main benefits of a spread spectrum system?. How can spreading be achieved?
- 4. Discuss the mechanism "DFWMAC-PCF with polling" with neat sketch.
- 5. Why are so many different identifiers/addresses needed in GSM?
- 6. Discuss the different states of a Bluetooth device.
- 7. How do inclination and elevation determine the use of a satellite?
- 8. How does registration on layer 3 of a mobile node work?
- 9. Differentiate I-TCP from Snooping TCP.
- 10. How is unnecessary overhead avoided when using WSP on top of WTP for web browsing?

 $(10 \times 4 = 40 \text{ Marks})$ 

P.T.O.



## PART - B

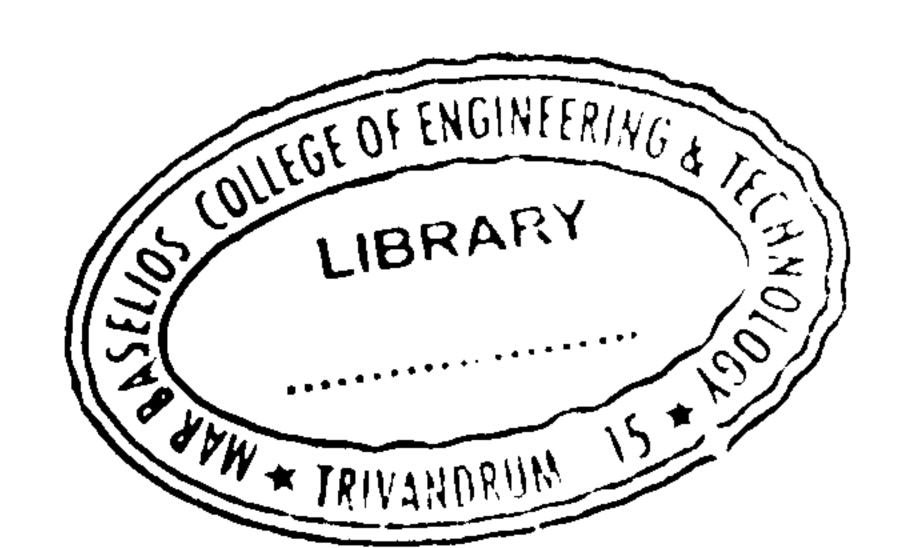
Answer one question from each Module.

### Module - I

- 11. (a) Briefly explain the techniques used to mitigate narrowband interference? What are the complexities of the different solutions?
  - (b) Explain the following TDMA techniques:
    - (i) CSMA/CA
    - (ii) MACA
    - (iii) PRMA
    - (iv) DAMA

OR

- 12. (a) Consider a CDMA system in which users A and B use the codes (0 1 0 1 0 1 0 1) and (0 0 1 1 0 0 1 1) respectively.
  - (i) Show the output at the receiver if A transmits a data bit 0 and B transmits a data bit 1. Assume the B's strength is two times A's Strength. This can be represented by showing the received signal component from A as consisting of elements of magnitude 1(+1,-1) and the received signal component from B as consisting of elements of magnitude 2(+2,-2).
  - (ii) Show the output at the receiver if A transmits a data bit 1 and B doesn't transmit. Assume the received power from both A and B is the same.
  - (b) Explain about different modulation techniques used in wireless communication with suitable example.



#### Module - II

- 13. (a) Give reasons for a handover in GSM and the problems associated with it. Explain the different types of handover.
  - (b) Briefly explain IEEE 802.11 Synchronization and power management mechanisms for infra structure based and infrastructure less networks.

OR

- 14. (a) Illustrate the system and protocol architecture of DECT.
  - (b) Show how Digital Video Broadcasting facilitates high speed Internet access and mobile TV.

## Module - III

- 15. (a) Draw the packet flow from a fixed host to a mobile host via a foreign agent. Then a handover takes place. What are the following actions of mobile IP?
  - (b) What are the issues in MANET routing? Discuss any one of the routing algorithms with an example.

OR

- 16. (a) Explain WTA logical architecture and interaction among WTA's elements with neat sketch.
  - (b) What is the reaction of standard TCP in case of packet loss? How is packet loss handled in case of wireless network?

 $(3 \times 20 = 60 \text{ Marks})$