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H – 3415

Reg. No. : .....

Name : .....

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 × 4 = 40 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 × 20 = 60 Marks)