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**D – 3555**

Reg. No. : .....

Name : .....

**Eighth Semester B.Tech. Degree Examination, December 2017  
(2008 Scheme)  
08.805 (3) : MOBILE AND WIRELESS NETWORKS (R)  
(Elective III)**

Time : 3 Hours

Max. Marks : 100

**PART – A**

Answer **all** questions.

**(10×4=40 Marks)**

1. Compare soft handover and hard handover.
2. What is hidden terminal problem and how does it impact the performance of CDMA based access method ?
3. What is the driving force for 4g technologies ?
4. What is the hopping rate of Bluetooth and how many bits are transmitted in one slot packet transmission ?
5. Identify the deficiencies in IEEE 802.11 a and IEEE 802.11 b standards when compared to IEEE 802.11g standard.
6. When is tunneling performed and why is it required ?
7. Differentiate proactive and reactive protocols. Give an example for each.
8. "End-to-End semantics is preserved in snooping TCP" – Justify.
9. Bring out the basic mechanism involved in fast retransmission/fast recovery.
10. How does receiver-initiated hard stat protocol work ?

**PART – B**

Answer **any one** full question from **each** Module. **Each** question carries **20** marks.

**Module – I**

11. While designing a cellular system how does frequency reuse help in intelligent allocation and reuse of channel throughout the coverage area ? Elaborate on the techniques that can be used for improving the capacity and coverage area of the cellular system. Identify the major interferences that affect the performance of the system and suggest techniques to overcome them.

**20**

OR

P.T.O.



12. a) A spectrum of 30 MHz is allocated to a wireless FDD cellular system which uses two 25 kHz simplex channels to provide full duplex voice and control channels, compute the number of channels available per cell if a system uses seven-cell reuse and four-cell reuse. If 1 MHz of the allocated spectrum is dedicated to control channels, determine an equitable distribution of control channels and voice channels in each cell. 10
- b) Compare SDMA, TDMA and CDMA. 10

### Module – II

13. a) An infrastructure based IEEE 802.11 Wireless LAN whose physical layer uses FHSS technique for radio transmission is to be designed. Draw its system architecture and explain the PHY frame structure for the above specification. Also discuss the three mechanisms that the MAC layer of IEEE 802.11 employ to perform medium access. 10
- b) Enlighten briefly about Digital Audio Broadcasting and Digital Video Broadcasting. 10

OR

14. a) Identify the two major problems that occur when wireless nodes try to access the medium and discuss the mechanism that the MAC layer of IEEE 802.11 employ to solve any one of the above problem. 10
- b) Identify the challenges of synchronizing data when the synchronized systems have hardware or software differences. Recommend appropriate solutions to overcome the difference in data changes. 10

### Module – III

15. How does Mobile TCP and I-TCP improve the performance in wireless and mobile environment? Describe the underlying mechanism, advantage and disadvantage of each technique. 20

OR

16. What is WML? List the Application of it. Write a WAP program for grocery store management system. 20
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