Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

CS-8303 (GS)

B.E. VIII Semester

Examination, May 2018

Grading System (GS)

Wireless Networks

(Elective - III)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions (including all parts).
ii) All questions carry equal marks.
iii) Assume missing data, if any, suitably.

1. a) Explain different generations of wireless networks. 7
   b) Discuss briefly the properties of wireless medium. 7

2. a) Name the five cell types in the cellular hierarchy and compare them in terms of coverage area and antenna site. 7
   b) Illustrate frequency hopping Spread Spectrum and Direct sequence spread spectrum with suitable examples. 7

3. a) Explain the term interference in the space time, frequency and code domain. What are counter measures in SDMA, TDMA, FDMA and CDMA. 7
   b) Calculate the uplink cell load factor and number of voice user for WCDMA system using the following data. What is the pole capacity of the pole? 7
   Information rate (Ri) = 12.2 Kbps
   Chip Rate (Rc) = 3.84 Kbps
   Required Eb/Nt = 4 dB
   Required Interference Margin = 3 dB
   Interference Factor Due to other cells = 0.5
   Channel activity factor = 0.65

4. a) Explain in detail about WPAN frame format discuss physical and MAC layer issues. 7
   b) What is a WPAN? What is the difference between WPAN and WLAN? Name two example technologies for WPAN. 7

5. a) Explain about GSM architecture in detail with neat block diagram. 7
   b) Compare all versions of IEEE 802.11 WLAN. 7

6. a) Discuss HIPERLAN-1 PHY and MAC layers in detail. 7
   b) Describe major research issues and challenges in 3G wireless network. 7

7. a) Explain in detail the MAC protocols and the issues behind supporting channel access for adhoc wireless networks. 7
   b) Draw network connection establishment flow in Bluetooth and explain Park, Hold and Sniff mode in detail. 7

8. Write short notes on the following (any three) 14
   a) Mobile Application protocols
   b) 16 QAM
   c) HomeRF
   d) Cellular Topology

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