BE.- Sem-VII (IPSCTS) + 1- Wireless Tech. 15/12/16
Wireless Technology

QP CODE : 814502

3 Hours   [80 marks]

Note :1. Question number 1 is **compulsory.**
2. Solve any **three** questions out of the remaining **five** questions
3. Assume suitable data if necessary
4. Figure indicate marks

Q1 A. Assume a cellular system of 32 cells with a cell radius of 1.6 km, a total spectrum allocation that supports 336 traffic channels, and a reuse pattern of 7.calculate the total service area covered with this configuration , the number of channels per cell, and a total system capacity. Assume regular hexagonal topology.   (10 marks)

  B. Explain the main factors of change in economics of wireless technology.   (10 marks)

Q2 A. Define piconet and scatternet. Explain Bluetooth protocol stack structure.   (10 marks)
    B. Explain WIMAX system and compare the different 802.16 standards.   (10 marks)

Q3 B. Explain GPRS architecture and explain how authentication and encryption is provided in GSM   (10 marks)

    B. Explain 802.11 MAC management functions. Explain in detail Power Management function with a neat diagram.   (10 marks)

Q4 A. Write short note on wireless sensor networks   (05 marks)
    B. Explain Hidden and exposed terminal problem with solution.   (05 marks)
    C. Why is the concept of Spread Spectrum important? Briefly explain FHSS and DSSS concept.   (10 marks)

Q5 A. With a neat diagram explain Electromagnetic Spectrum. List the advantages and disadvantages of wireless technology.   (10 marks)

    B. Neatly explain the WLL Architecture. Explain the two local loop techniques with diagram.   (10 marks)

Q6   Write short notes on (any 2):   (20 marks)
    a. VPN
    b. Multiple Access Techniques
    c. Handoff Strategies
    d.. Mobile IP

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