Q. P. Code:-23492

Time: 3 Hours   Total Marks:80

Note :1. Question number 1 is **compulsory.**

2. Solve any **three** questions out of the remaining **five** questions

Q 1)

A) If a signal to interference ratio of 15dB is required for satisfactory forward channel performance of a cellular system , What is the frequency reuse factor (Q) and Cluster Size (N) that should be used for maximum capacity if the path loss exponent is as follows:
(i) n=4
(ii) n=3
Assume there are six co-channel cells in the first tier and all of them are at same distance from mobile. Use suitable approximations.   **(10 marks)**

B) Explain Piconet and Scatternet with respect to Bluetooth   **(5 marks)**
C) Explain the advantages and disadvantages of using wireless communication   **(5 marks)**

Q 2)

A) Explain the Wireless Multiple Access Techniques with suitable diagrams   **(10 marks)**
B) Explain the ZigBee (LR-WPAN) Stack Architecture with a neat diagram   **(10 marks)**

Q3)

A) List and explain the Types of channels of GSM and compare GSM with CDMA   (10 Marks)
B) Draw and explain the main components of Wireless Local Loop (WLL) Architecture (10 Marks)

Q4)

A) Explain the possible attacks on Wireless LAN and explain WEP in detail.   (10 Marks)
B) Explain in detail the WLAN Architecture with neat diagrams.   (10 Marks)

Q5)

A) Explain the evolution of cellular systems highlighting 1G/2G/3G and 4G   (10 Marks)
B) What is Spread Spectrum? Explain FHSS and DSSS.   (10 Marks)

Q6) Answer **any two** of four.   (20 Marks)

A) WiMax
B) Economics of Wireless Networks
C) Electromagnetic Spectrum
D) Frequency Reuse

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