

Wireless Technology

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
