QP Code :15490

(3 Hours) [Total Marks : 100

N.B.
(1) Question No. **1** is **compulsory**. Solve any **four** questions from remaining **six** questions.
(2) Assume suitable **data** wherever **necessary**.
(3) **Figures** to the **right** indicate **full** marks.

1. (a) Consider a mobile user who is migrating from a place to another place provide him a seamless service by satellite system, also sketch the architecture. **10**
   (b) A certain city has an area of 1300 square miles and is covered by a cellular system **10** using a seven cell reuse pattern" Each cell has a radius of 4 miles and the city has 40 MHz spectrum with a full duplex channel bandwidth of 60KHz. Find :
   (i) The number of cells in the service area.
   (ii) The number of channels per cell.
   (iii) Total number of subscribers that can be served.

2. (a) Write about types of antennas and their radiation pattern ? **10**
   (b) Describe how data encryption is done in GSM system, with diagram explaining the **10** role of SIM, A3, A5 and A8 algorithm.

3. (a) What are various types of satellites are used ? Describes there functionality and **10** also explain the concept of localization, routing and handover in them.
   (b) The channel access control sublayer of HIPERLAN offers a connectionless data **10** transfer service to the higher MAC layer. Justify the above statement with related references.

4. (a) What is the fundamental difference of WML compared to HTML ? Why is this **10** difference important with respect to handheld devices ? What is specified in addition to save bandwidth ?
   (b) What are the general problems of mobile IP regarding security and support of quality **10** of service ?

5. (a) Explain the transaction classes provided by Wireless Transaction Protocol (WTP) ? **10** Also explain Services provided by Wireless Session Protocol (WSP) ?
   (b) What are the modifications require to an existing GSM network to be upgraded to **10** GPRS ? Explain with the help of diagram.

6. (a) Discuss the PHY frame format of an IEEE 802·11 using the spread spectrum **10** technique which separates by code.
   (b) Discuss IMT 2000 system. **10**

7. (a) Explain in short Wireless Security Threats. **5**
   (b) What do you mean by WiMAX ? In what way it is similar to DSL ? **5**
   (c) Discuss about Link Management in Wireless A TM. **5**
   (d) What is handoff ? What is roaming ? How do you perform handoff during roaming ? **5**

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