Total No. of Questions :6]

SEAT No. :

P61

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APR-17/B.E./Insem.-71

B.E. (Information Technology) (Semester - II)

MOBILE COMPUTING

(Elective -III) (2012 Pattern)

Time : 1 Hour] *[Max. Marks :30*

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Assume suitable data if necessary***

Q1) a) Draw the block diagram of a Cellular Mobile Communication system and explain **[4]**

b) Explain the concept of "Frequency Reuse" as applied to cellular communications. What are the advantages of this approach? **[6]**

OR

Q2) a) What are the differences between 1G , 2G and 3G mobile technologies?**[5]**

b) What are the HLR and VLR? Describe HLR and VLR in Call Routing Roaming? **[5]**

Q3) a) What is the role of AuC? How is authentication done in a GSM network? What are different algorithms used for security in GSM? **[6]**

b) State the main functions of : (1) BTS and BSC, (2) MSC/GMSC, (3) OMC, and (4) NMC. **[4]**

OR

Q4) a) Describe logical and physical channels and frame hierarchy of GSM with neat sketch. **[5]**

b) If "user A" want to call another "user B" in the another / same network, explain step wise process of call origination. **[5]**

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Q5) a) What is a role of Interworking MSC and MS-Service Center in SMS architecture in detail? **[6]**

b) What are various strengths of SMS? Explain all of them? Also state what are the applications areas where these strengths can be used? **[4]**

OR

Q6) a) Explain the difference between SMMT and SMMO in SMS Architecture? **[5]**

b) Draw and explain fixed network number portability. **[5]**