Total No. of Questions : 4] **SEAT No. :**

PB-296 **[Total No. of Pages : 2**

[6270]-85

B.E. (E & TC) (Insem)

MOBILE COMPUTING

(2019 Pattern) (Semester - VIII) (404191 (E)) (Elective - V)

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

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Use of Calculator is allowed.***
5) ***Assume suitable data if necessary.***

Q1) a) What do you mean by spread spectrum? List its types and explain any one with neat block diagram. **[5]**

b) Define Mobile Computing. List the applications of mobile computing. **[5]**

c) Explain the terms hidden terminal and exposed terminal. **[5]**

OR

Q2) a) Explain classical Aloha and slotted Aloha with a neat sketch. **[5]**

b) Compare FDMA, TDMA and CDMA. **[5]**

c) Consider a slow FHSS system with m-ary FSK with number of bits per symbol = 2, two symbol per hop and PN sequence generated output with binary message of 011011011000. The message is transmitted using following PN sequence with K=3 {001 110 101 000 101}. Plot output of the system. **[5]**

P.T.O.

Q3) a) List the features of 5G and compare 1G, 2G, 3G, 4G and 5G. **[5]**

b) Draw and explain GPRS architecture. **[5]**

c) Explain connection establishment steps of Mobile Originated Call (MOC) in GSM. **[5]**

OR

Q4) a) Explain different algorithms used to make GSM secure. Draw a neat diagram and elaborate it. **[5]**

b) Draw and explain 5G network architecture. **[5]**

c) Draw and explain the GSM frame structure. **[5]**

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