Total No. of Questions : 10]

SEAT No. :

P110

[Total No. of Pages : 2

[5871]-613
B.E. E&TC
MOBILE COMMUNICATION
(2015 Pattern) (Semester - II) (404189)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8. Q.9. Q.10.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***
5) ***Use of logarithmic tables slide rule, mollier charts, electronic pocket calculator and steam tables is allowed.***

Q1) a) Explain different types of grading? **[6]**

b) If a group of 20 trunks carries 10 Erlang of traffic and average call duration is 3 minute calculate average no. of calls in progress. Also calculate total number of calls originating per hour. **[4]**

OR

Q2) a) If a group of 7 trunks is offered 4 Erlang of traffic find - **[4]**

i) Grade of service

ii) The probability that only one trunk is busy

iii) The probability that only one trunk is free

iv) The probability that at least one trunk is free

b) Draw and Explain input controlled time division space switching. **[6]**

Q3) a) Explain pure chance traffic, statistical equilibrium, full available. **[6]**

b) A cellular telephone system's total channel capacity consist of 10 clusters with 5 cells in each. Cluster and 20 channels in each cell. Calculate number of occupied channels. **[4]**

OR

P.T.O.

Q4) a) Design two stage switching network for 36 incoming and 64 outgoing trunks using switch size 3×4? Calculate number of cross points required. **[5]**

b) Draw & Explain co-channel interference and adjucent channel interference. **[5]**

Q5) a) Draw GSM system Architecture & Explain function of each. **[8]**

b) Write a various radio transmission parameters used in GSM system. **[8]**

OR

Q6) a) Draw and Explain different Interfaces used in GSM system. **[8]**

b) Explain five functional entities associated with MSC in GSM 900. **[8]**

Q7) a) Draw & Explain GPRS Architecture. **[8]**

b) Classify logical channel in GSM system. **[9]**

OR

Q8) a) Draw & Explain GSM Burst structure. **[8]**

b) Draw & Explain mobile to Mobile call Process? **[9]**

Q9) a) Discuss disruptive technologies of 5G Mobile communication. **[9]**

b) Draw & Explain Architecture of LTE. **[8]**

OR

Q10)a) Compare GSM with CDMA related with following parameters. **[9]**

i) Carrier spacing ii) Modulation method

iii) Data Rate iv) Uplink frequency

iv) Downlink freq.

b) Draw & Explain open wireless 5G architecture. **[5]**

c) Compare 5G architectural layers with standard OSI reference model. **[3]**

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