Total No. of Questions : 6] **SEAT No. :**

P234 **[Total No. of Pages : 2**

BE/INSEM/APR-564
B.E. (E&TC) (Semester - II)
404189 : MOBILE COMMUNICATION
(2015 Pattern)

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

Instructions to the candidates:

1) ***Attempt questions Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) a) Draw & Explain input controlled time division space switching? Also write Switching capacity with details of time required? **[6]**

b) Calculate the unavailability for single processor system with MTBF is 12000Hrs and MTTR is 4Hrs in 30 years? **[4]**

OR

Q2) a) Design two stage switching network & for 36 incoming trunk & 64 outgoing trunk using switch size 3×4? Also calculate number of cross point required? **[4]**

b) Explain Circuit switching? Write and explain mathematical equation to calculate total time required in circuit switching. **[6]**

Q3) a) Calculate the busy hour calling rate for exchange that serves 1000 subscribers if average BHCA is 5000 and CCR is 60%? **[4]**

b) Draw & Explain B-D process with assumption considered? **[6]**

OR

Q4) a) A switching system serves 9000 subscribers with traffic intensity of 0.1 E per subscriber. If there is 35% sudden increase in traffic what is call arrival rate? **[4]**

b) Explain Associated & non Associated Common Channel Signaling? **[6]**

P.T.O.

Q5) a) List and Explain different radio propagation Mechanism with suitable example? **[6]**

b) Calculate Signal to Interference ratio in dB for a system having frequency reuse factor of 4 if path loss component is 3, assume suitable data if any? **[4]**

OR

Q6) a) Explain the following cell sizes with its application? **[4]**

i) Microcell ii) Pico cell

iii) Macrocell iv) Femtecell

b) What is handoff? Why it is necessary in mobile cellular system? Explain SHO? **[6]**