

Seat  
No.

--	--	--	--	--	--



मुख - 014

## Mobile Communication (1100)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any five** Each carries twenty marks.
5. Draw a neat diagram whenever required.
6. Assume suitable data whenever necessary.

1. a) Explain.
  - i) Paging System.
  - ii) Why FM is used rather than AM used in most mobile radio systems today.
- b) Explain cellular system with proper diagram. Why cell shape is hexagonal.
2. a) Discuss evolution of modern wireless communication system from 2G to 3G network.
- b) What is Handoff strategies ? Compare soft and hard handoff.
3. a) What is cell splitting ? Explain the significance of cell splitting.
- b) How many users can be supported for 0.5% blocking probability for the following number of trunked channels in a blocked cell cleared system ? (a) 1, (b) 5, (c) 10, (d) 20, (e) 100. Assume each user group generate 0.1 Erlangs of traffic.
4. a) Draw and explain the Architecture of GSM system.
- b) Explain different types of GSM Channel types.
5. a) Explain various data services in GSM.
- b) What is Fading ? Explain Fast and Slow Fading.

6. a) Explain Impulse Response Model of a Multipath Channel.  
b) What are Radio wave propagation issues in personal wireless system.
7. a) Explain different types of Small Scale Fading in detail.  
b) Explain linear Equalizer with the help of block diagram.
8. a) Explain TDMA with frame structure. Derive the expression for the efficiency of TDMA.  
b) Explain difference between Wireless and Fixed Telephone Networks.

\*\*\*\*\*