

M.Sc.S.Y. (Electronics)(with Credits)-Regular-Semester 2012 (Old / CBCS Pattern) Sem IV  
**MSc24114 / ELE-404 / PSELT404.2 - Paper-IV (PSELT404-SEC4) :**  
**Mobile and Satellite Communication**

P. Pages : 2

Time : Three Hours



**GUG/S/18/5743**

Max. Marks : 80

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw neat and labelled diagrams wherever necessary.

**1. Either :**

- a) Draw block diagram of a cellular telephone system and explain function of each block. **8**
- b) Write short note on : **8**
  - i) Frequency reuse
  - ii) System evaluation

**OR**

- c) Discuss fixed and dynamic channel assignment strategies. **8**
- d) Explain hand off strategies. **8**

**2. Either :**

- a) Draw and discuss GSM system architecture. **8**
- b) What are the frequency and time diversity techniques in mobile communication? Explain their utility. **8**

**OR**

- c) Discuss intelligent cell concept and state its applications. **8**
- d) Explain measurement of signal strength with suitable example. **8**

Either:-

- 3. a) Write short note on: **8****
- i) Coverage area
  - ii) Work angle in satellite communication.
- b) Explain uplink and downlink in satellite communication. **8****

**OR**

- c) Explain domestic satellite system with suitable example. 8
- d) What are system noise temperature and G/T ratio? State its importance in satellite communication. 8

Either

- 4.**
- a) Write a note on: 8
    - i) FDMA
    - ii) TDMA
  - b) Explain weather forecasting and remote sensing in satellite communication. 8

**OR**

- c) Explain satellite services used for direct to home (DTH) TV. 8
  - d) What is CDMA? Explain its applicability to commercial system. 8
- 5.**
- a) Explain space polarization in cellular telephone system. 4
  - b) Explain how SMS and voice data security are achieved in mobile communication. 4
  - c) What is satellite orbit? Explain. 4
  - d) Explain multiplexing and multiple access techniques. 4

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