

M.Sc.-II (Electronics) (New CBCS Pattern) Semester - IV  
**PSELT404.2 / PSELET404-SEC4 - Paper-IV :**  
**Mobile and Satellite Communication**

P. Pages : 2

Time : Three Hours



**GUG/S/23/11374**

Max. Marks : 80

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

**Either :-**

1. a) Describe the operation of cellular system. 8  
b) Explain the concept of frequency reuse. 8

**OR**

- c) Discuss the general concept of cellular digital switching system. 8  
d) Explain the role of microwave in cellular system. 8

**Either :-**

2. a) Explain GSM architecture with suitable diagram. 8  
b) Explain the concept of intelligent cell. State its application. 8

**OR**

- c) Explain mobile handset as a data storage device. 8  
d) Explain CDMA technology for cellular system. 8

**Either :-**

3. a) What are the orbital parameters required to determine a satellite orbit? Name and explain them. 8  
b) What is telemetry tracking? Explain the importance of telemetry tracking system. 8

**OR**

- c) Explain 8  
i) Coverage area  
ii) Work Angle.  
d) Explain the effect of solar eclipse on satellite communication. 8

**Either :-**

- |           |    |                                                         |          |
|-----------|----|---------------------------------------------------------|----------|
| <b>4.</b> | a) | Explain the TDMA frame structure.                       | <b>8</b> |
|           | b) | Discuss the FDMA. State its advantages & disadvantages. | <b>8</b> |

**OR**

- |           |    |                                                               |          |
|-----------|----|---------------------------------------------------------------|----------|
|           | c) | Describe the direct to home (DTH) TV satellite service.       | <b>8</b> |
|           | d) | Explain the role of satellite in weather forecasting station. | <b>8</b> |
| <b>5.</b> | a) | Explain the cell splitting.                                   | <b>4</b> |
|           | b) | State the feature of cellular handset.                        | <b>4</b> |
|           | c) | Discuss the satellite stabilization in a orbit.               | <b>4</b> |
|           | d) | State the advantages and disadvantages of CDMA.               | <b>4</b> |

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