

Q.P. Code :23795

[Time: 3 Hours]

[Marks:80]

Please check whether you have got the right question paper.

- N.B:
1. Question No.1 is compulsory, attempt any 3 questions out of remaining 5 questions
 2. Figures to right indicate full marks
 3. Assume suitable data wherever necessary and state it clearly

Q.1 Attempt the following questions

- | | | |
|----|---|---|
| A) | What are the advantages and disadvantages of geostationary orbits? | 5 |
| B) | Explain the design considerations for a satellite. | 5 |
| C) | Discuss the role of SOC and Network Management Centre in a satellite network. | 5 |
| D) | How are DTH signals relayed to earth stations by satellite? | 5 |

Q.2 Attempt the following questions

- | | | |
|----|---|----|
| A) | Explain spin and 3-axis method of stabilization of a satellite. | 10 |
| B) | Derive the expression for equivalent noise temperature for a system of cascaded amplifiers. | 10 |

Q.3 Attempt the following questions

- | | | |
|----|---|----|
| A) | Discuss the various applications and services of a satellite network. | 10 |
| B) | What are the different tracking mechanisms used for a satellite? Discuss in detail. | 10 |

Q.4 Attempt the following questions

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|----|--|----|
| A) | Explain in detail the GLOBALSTAR network. | 10 |
| B) | How images of Earth taken by satellite help in meteorology and weather forecasting applications? | 10 |

Q.5 Attempt the following questions

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|----|---|----|
| A) | Explain satellite laser beam acquisition techniques with diagram. | 10 |
| B) | Describe the TT&C unit of a satellite. | 10 |

Q.6 Attempt the following questions

- | | | |
|----|---|---|
| A) | Write a short note on satellite eclipse due to earth and moon. | 5 |
| B) | Differentiate between single hop and multi hop satellite connections. | 5 |
| C) | What is window organisation and frame organisation? | 5 |
| D) | Write a short note on orbital perturbations. | 5 |
