Reg. No ..... Name ..... **26P437**

**M. Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2026**

**SEMESTER 4 : PHYSICS**

COURSE : **24P4PHYT15EL : COMMUNICATION SYSTEMS**

*(For Regular 2024 Admission)*

Time : Three Hours Max. Weights: 30

**PART A**

**Answer any 8 questions** **Weight: 1**

| | | |
|---|---|---|
| 1. | What does VSAT indicate? | (An) |
| 2. | How can you define a cell in cellular communication? | (A) |
| 3. | Desecribe a simple block diagram of a radar System. | (U) |
| 4. | What is cell sectoring? | (U) |
| 5. | What is PSK used in digital modulation techniques? | (An) |
| 6. | What is cell dragging in mobile communication? | (A) |
| 7. | Mention the satellite classification based on their orbits. | (An) |
| 8. | What are blind speeds? | (U) |
| 9. | What are the reasons for choosing Hexagonal cells in cellular systems? | (A) |
| 10. | How do you characterize uplink and downlink in satellite communication? | (U) |

**(1 x 8 = 8)**

**PART B**

**Answer any 6 questions** **Weights: 2**

| | | |
|---|---|---|
| 11. | What are the features of MEO? | (A) |
| 12. | Brief about bistatic radar. | (A) |
| 13. | Explain the co-channel interference . | (A) |
| 14. | State some of the features of CDMA. | (U) |
| 15. | Describe paging system. | (A) |
| 16. | What are the features of LEO? | (U) |
| 17. | Write explanatory notes on: i) minimum detectable signal ii) false alarm iii) missed detection in a radar system. | (U) |
| 18. | Discuss different techniques used for improving coverage and capacity in cellular systems. | (A) |

**(2 x 6 = 12)**

**PART C**

**Answer any 2 questions** **Weights: 5**

| | | |
|---|---|---|
| 19. | Explain the basic principles of Radar and discuss about various parameters which improve the performance of the Radar. | (U) |
| 20. | Describe the multiple access techniques in satellite communication | (A) |
| 21. | Explain the structure of a Cellular Telephone System. | (A) |
| 22. | Describe and explain about handover techniques with suitable diagram. | (A) |

**(5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

| CO | Course Outcome Description | CL | Questions | Total Wt. |
|---|---|---|---|---|

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;