Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May – 2017**

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| **Code :** | **14EC2050** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASICS OF SATELLITE COMMUNICATION** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Calculate the range and look angles for an E.S antenna at latitude 35°E and longitude 100°W. Assume that the geostationary satellite is located 90°W. | CO1 | 15 |
| b. | Portray few applications of satellite communication. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Portray the details about Range, Azimuth, elevation angles to satellite with necessary digrams and equations. | CO2 | 15 |
| b. | Distinguish LEO, MEO and HEO. | CO1 | 5 |
| 3. |  | Illustrate the frequency translation transponder and onboard processing transponder operational flow of satellite communication with neat diagram. | CO1 | 20 |
| (OR) | | | | |
| 4. |  | Explicate the various orbit control and thermal control schemes. | CO2 | 20 |
| 5. | a. | Illustrate the model of conventional encryption system. | CO2 | 12 |
|  | b. | Interpret the five important parameters of an encryption model with suitable examples. | CO2 | 8 |
| (OR) | | | | |
| 6. | a. | Demonstrate the need of Power Flux Density and basic link equation of received power in the evaluation of power requirements with neat diagram. | CO2 | 16 |
|  | b. | Illustrate the four factors that are related to satellite system design. | CO2 | 4 |
| 7. |  | Portray the need for high power transmitters and klystron devices in satellite communication. | CO2 | 20 |
| (OR) | | | | |
| 8. |  | Illustrate the various propagating mechanisms used in satellite communication. | CO3 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | Illustrate the limitations and applications of GSM and GPS with necessary diagrams. | CO3 | 20 |

ALL THE BEST