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GIET MAIN CAMPUS AUTONOMOUS GUNUPUR – 765022

B. Tech Degree Examinations, May – 2021

(Eighth Semester)

BEEPE8021 – SATELLITE COMMUNICATION

(E.E.E)

Time: 2 Hrs

Maximum: 50 Marks

The figures in the right hand margin indicate marks.**PART – A: (Multiple Choice Questions)****(1 x 10 = 10 Marks)****Q.1. Answer ALL questions**

[CO#] [PO#]

- a. To implement the frequency planning, the world is divided into [CO1] PO 1
- (i) 4 Regions (ii) 1 Region
- (iii) 2 Regions (iv) 3 Regions
- b. Ascending node is [CO1] PO 1
- (i) The point where the orbit crosses the equatorial plane going from south to north (ii) The point longest from earth
- (iii) The point closest approach to earth (iv) The point nearest to the earth
- c. Mention the different services of satellite systems [CO1] PO 1
- (i) Broadcasting satellite services (ii) Signal transmission
- (iii) Information transmission (iv) Data transmission
- d. Antenna can be made more directional by [CO2] PO 1
- (i) Increasing its diameter (ii) Increasing frequency of transmission
- (iii) Both a and b (iv) Increasing the size of the antenna
- e. MATV stands for [CO2] PO 1
- (i) Maximum angular TV (ii) Multi amplitude TV
- (iii) Master antenna TV (iv) Minimum access TV
- f. Troposphere affects the satellite signal by [CO3] PO 1
- (i) Reduces velocity (ii) Reflects the signals
- (iii) Refracts the signal (iv) Bit inversion occurs
- g. Which of the following makes the existence of ionosphere possible [CO3] PO 1
- (i) Rotation of the earth (ii) Ultraviolet radiation from earth
- (iii) Solar flares (iv) Radiation from distance stars
- h. Burst code is [CO3] PO 1
- (i) Binary word (ii) Digital word
- (iii) Octal word (iv) Hexa decimal word
- i. Primary component of uplink section of satellite is [CO4] PO 1
- (i) Transformer (ii) Transistor
- (iii) Earth station transmitter (iv) Power station transmitter

- j. The total noise of a satellite earth station receiving system consists of [CO4] PO 1
- | | |
|----------------------|---------------------|
| (i) Sky noise | (ii) Internal noise |
| (iii) External noise | (iv) System noise |

PART – B: (Short Answer Questions)

(2 x 5 = 10 Marks)

Q.2. Answer ALL questions

- | | [CO#] | [PO#] |
|---|-------|-------|
| a. Enumerate some of the satellite services. | [CO1] | PO 1 |
| b. Define: Inclination. | [CO1] | PO 1 |
| c. State the methods of multiple access techniques. | [CO2] | PO 1 |
| d. What are the link parameters that are degraded by background ionization? | [CO3] | PO 1 |
| e. Write the role of low noise amplifier. | [CO4] | PO 1 |

PART – C: (Long Answer Questions)

(6 x 5 = 30 Marks)

Answer ANY FIVE questions

- | | Marks | [CO#] | [PO#] |
|---|-------|-------|-------|
| 3. Discuss in detail about satellite orbits. | (6) | [CO1] | PO 1 |
| 4. Explain about telemetry, tracking and command (TTC) subsystem. | (6) | [CO1] | PO 1 |
| 5. Describe about mobile satellite services in detail. | (6) | [CO2] | PO 1 |
| 6. Explain about DBS in detail. | (6) | [CO2] | PO 1 |
| 7. Discuss in detail about satellite antennas. | (6) | [CO3] | PO 1 |
| 8. Describe in detail about the phenomena causes lead signal loss on earth's atmosphere . | (6) | [CO3] | PO 1 |
| 9. Draw the block diagram of earth station and explain about each block in detail. | (6) | [CO4] | PO 1 |
| 10. Describe in detail about antennas in earth station. | (6) | [CO4] | PO 1 |

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