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Question Paper Code: 49417

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Electronics and Communication Engineering

14UEC917 - SATELLITE COMMUNICATION PRINCIPLES AND APPLICATIONS

(Regulation 2014)

Duration: 1:15hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. Low-Earth-orbit (LEO) satellites have _____ orbits.
(a) equatorial (b) polar (c) inclined (d) none of these
2. Elevation is measured
(a) Upward from local horizontal
(b) North eastward to the projection of the satellite path
(c) North westward to the projection of the satellite path
(d) South eastward to the projection of the satellite path
3. Transponders are
(a) Power systems used in satellites (b) Used to stabilize the satellite
(c) Launch vehicles for satellites (d) Receiver transmitter units
4. Telemetry means
(a) Measuring using Instruments (b) Measurement at a distance
(c) Shift in attitude of satellite (d) Stabilizing the satellite from distance
5. A fundamental difference between analog and digital signals is that we can improve the bit error rate of a digital signal by the use of
(a) Stop and wait ARQ system (b) Go back ARQ system
(c) Error correction technique (d) Select and repeat ARQ system

6. ISI stands for
- (a) Ionosphere satellite interference (b) Inter modulation symbol interference
(c) Inter symbol interference (d) Inter satellite interference
7. G/T ratio is called as
- (a) Gain noise temperature ratio (b) Gain telemetry ratio
(c) Geostationary tracking ratio (d) Gain tracking ratio
8. The alphabets used in colour TV signals are
- (a) Y,T and V (b) Y,I and Q (c) Y,A and M (d) Y,C and R
9. The CATV system employs a single_____, with separate feeds available for each sense of polarization.
- (a) Outdoor unit (b) Indoor unit (c) TV unit (d) None of these
10. Inmarsat provides satellite communications for
- (a) Internet connectivity (b) Direct to home television programs
(c) Satellite telephones (d) Ships and offshore oil platforms

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. State Kepler's three laws for planetary motion. Illustrate in each case their relevance to artificial satellites orbiting the earth. (8)
12. Discuss the satellite uplink and downlink analysis. (8)
13. Explain how Television signals are transmitted using Analog FM transmission by satellite. (8)
14. Explain in detail equipment for earth stations. (8)
15. Explain in detail satellite navigational system. (8)