

KATHMANDU UNIVERSITY
End Semester Examination
June/July, 2019

Marks Scored:

Level : B.E.

Year : IV

Course : ETEG 427

Semester : II

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No. :

Date :

SECTION "A"

[20 Q. \times 0.5 = 10 marks]

Choose and encircle the most appropriate option.

- Which is the first geostationary successful satellite?
a. Sputnik b. Molnya 1 c. Syncom-2 d. Intelsat 1
- Which is the largest sector by revenue in global satellite industry?
a. Satellite manufacturing b. Satellite services
c. Satellite launching d. Satellite ground equipment
- The frequency band most commonly used for TV and video broadcasting through satellite is.....
a. C band b. L band c. Ka band d. Ku band
- Which of the following is a regional coverage satellite system?
a. EUTELSAT b. INTELSAT
c. INMARSAT d. GPS
- For a satellite moving in an elliptical orbit, the velocity of the satellite when it is farthest from earth is.....to that when it is nearest to the earth.
a. more b. less c. equal d. double
- An LNA of a satellite earth station with gain G and operating at physical temperature T_p °K has equivalent noise temperature referred to the input T_i K. What is the equivalent noise temperature referred to its output?
a. T_i K b. $T_p(1-T_i)$ c. T_i/G d. GT_i
- G/T ratio in satellite communication is used to represent the parameter of.....
a. earth station b. space station
c. transmission medium d. either the earth station or space station
- The effect of rain on the satellite link is.....
a. it attenuates the signal b. it adds noise
c. it causes interference d. both a and b
- Rain attenuation is very critical in.....frequency bands.
a. C b. Ku c. X d. VHF
- The inclination angle of a circular satellite orbit is 38° . The orbit can be a
a. geostationary orbit b. prograde orbit
c. retrograde orbit d. Molnya orbit

11. If the BER of a satellite link is between that defined for performance threshold and availability threshold, the link is said to be operating in
 - a. improved performance region
 - b. desired performance region
 - c. degraded performance region
 - d. acceptable performance region
12. In satellite communication systems, which of the following is not considered a significant loss?
 - a. Multipath loss
 - b. Antenna misalignment loss
 - c. Free space path loss
 - d. Receiver feeder loss
13. In the uplink design, the G/T ratio considered is of.....
 - a. satellite receiver
 - b. satellite transmitter
 - c. earth station transmitter
 - d. earth station receiver
14. What is the most popular rechargeable battery type used in GEO satellites?
 - a. Sealed Lead Acid Batteries
 - b. NiCd Batteries
 - c. NiH₂ batteries
 - d. NiMH Batteries
15. Movement of the satellite about roll axis
 - a. Moves the satellite footprint east west
 - b. moves the satellite footprint north south
 - c. rotates the footprint
 - d. has no effect in satellite footprint
16. Momentum wheel and fly wheels are the techniques used for.....
 - a. altering the orbit of the satellite
 - b. controlling the attitude of the satellite
 - c. providing the thermal control
 - d. signal processing onboard the satellite
17. Which of the modulation techniques has NOT been commonly used in satellite communication systems?
 - a. BPSK
 - b. QPSK
 - c. FM
 - d. AM
18. Which of the following ES antennas usually need least amount of tracking?
 - a. BSS-DTH ES antenna
 - b. FSS GEO ES antenna
 - c. FSS Non GEO ES antenna
 - d. Satellite mobile hand held ES antenna
19. The constellation of Iridium system includes
 - a. LEO satellites
 - b. MEO satellites
 - c. GEO satellites
 - d. Combination of all above
20. The area on earth surface that is under the "coverage" of the satellite is called.....
 - a. shadow area
 - b. subsatellite point
 - c. Footprint
 - d. earth station