Assignment-1

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Instructions

i. Multiple choices of each question are marked as A to unambiguously correct. Choose the most appropriate one

ii. Assume spherical earth with average radius of 6378 Km

1) Determine the rise in antenna noise temperature of a GHz receiver with antenna efficiency of 60% and be

- A. 2.274K
- B. 22.74K
- C. 227.4K
- D. 22274K

No, the answer is incorrect.
Score: 0
Accepted Answers:

C. 227.4K

2) A Satellite is orbiting in an elliptical orbit with apogee height at 400 Km. The ratio of velocity at perigee t

- A. 3.89
- B. 7.07
- C. 15.15
- D. 2.56

No, the answer is incorrect.
Score: 0
Accepted Answers:
A. 3.89

3) A satellite is orbiting in a circular orbit which is 100 earth. Then how many times in a day, the satellite location on the earth.

   A. 16 times
   B. 15 times
   C. 14 times
   D. 13 times

No, the answer is incorrect.
Score: 0
Accepted Answers:

D. 13 times

4) A satellite is orbiting in an elliptical orbit. Thus a go

   A. the velocity at apogee is greater than that of perigee
   B. the velocity at apogee is less than that of perigee
   C. velocity at perigee is minimum
   D. velocity at apogee is maximum

No, the answer is incorrect.
Score: 0
Accepted Answers:

B. the velocity at apogee is less than that of perigee

5) Determine the orbital height in Km of a satellite orbital period of a sidereal day.

   A. 42164 Km
   B. 36712 Km
   C. 42379 Km
   D. 35786 Km

No, the answer is incorrect.
Score: 0
Accepted Answers:

D. 35786 Km
The difference between the farthest and the closest from the surface of the earth is 30000 Km, and the if the mean radius of the earth is considered to be 64 and length of semi-major axis of the orbit.

A. 0.32 & 31500 Km
B. 0.48 & 31400 Km
C. 0.61 & 31500 Km
D. 0.27 & 31400 Km

No, the answer is incorrect.
Score: 0
Accepted Answers:

B. 0.48 & 31400 Km

A satellite is in a circular equatorial orbit moving in the same rotation with a period 24 hours exactly. Determine the rate point around the equator in degrees per solar day.

A. 0.5 degree towards east
B. 0.5 degree towards west
C. 0.98 degree towards west
D. 0.98 degree towards east

No, the answer is incorrect.
Score: 0
Accepted Answers:

C. 0.98 degree towards west

Determine the visibility arc on earth equator from the geostationary orbit

A. 5.7°E to 168.3°E
B. 87°E to 168.3°E
C. 163.3°W to 8.7°W
D. Cannot be determined

No, the answer is incorrect.
Score: 0
Accepted Answers:

A. 5.7°E to 168.3°E
A satellite is moving in an elliptical orbit with the Km. If the perigee distance is 6978 Km, find the ap

- A. 30000 Km, 0.62
- B. 42164 Km, 0.9
- C. 35786 Km, 0.72
- D. 42164 Km, 0.72

No, the answer is incorrect.
Score: 0
Accepted Answers:
C. 35786 Km, 0.72

An earth station at IIT Kharagpur campus (22°N,8° located at 93°E. Select the correct option for the E and distance to the satellite. Assume the radius of the orbit height of INSAT is 35786 Km.

- A. Elevation=63.34°, Azimuth=164.33° and Distan
- B. Elevation=31.34°, Azimuth=195.67° and Distan
- C. Elevation=63.34°, Azimuth=165.67° and Distan
- D. none of these

No, the answer is incorrect.
Score: 0
Accepted Answers:
A. Elevation=63.34°, Azimuth=164.33° and Distan

A satellite in circular orbit with 1000 Km orbital station in the plane of the satellite orbit receives the is rising from horizon. The Doppler shift of the rece

- A. +50 KHz to +55 KHz
- B. -50 KHz to -60 KHz
- C. +55 KHz to +60 KHz
- D. -55 KHz to -65 KHz

No, the answer is incorrect.
Score: 0
Accepted Answers:
12) A satellite was launched from a satellite launching pad located at azimuth 102° and was launched into a Geosynchronous Transfer Orbit 250 Km and apogee at Geosynchronous height. Determine the velocity required to place the satellite in Geostationary orbit.

A. 1.63 Km/s  
B. 2.64 Km/s  
C. 4.56 Km/s  
D. none of these

No, the answer is incorrect.  
Score: 0  
Accepted Answers: 
A. 1.63 Km/s

You were allowed to submit this assignment only once.