



مستدبرم ٢٠١٩

الفرقة الرابعة

اتصالات

MENOUFIA UNIVERSITY

FACULTY OF ELECTRONIC ENGINEERING.

Dept. of Electronic & Electrical Communication

SUBJECT: Satellite Engineering

4th year Exam.

Mid. Term exam 2019

TIME: 1Hr.

NAME:

Sec.

ANSWER THE FOLLOWING QUESTIONS:

Complete the following:

- 1 – The satellite system consists of
- 2 – The different types of satellite system based on inclination angle are
- 3 – The different services provided by the satellite are
- 4 – The main function of the satellite transponder are.....
- 5 – The Inclination angle is defined as.
- 6 – The Elevation angle is defined as
- 7 – The Footprint is defined as
- 8 – The atmospheric losses depends on
- 9 – The Handover types are and affected by
- 10 – The maximum signal propagation time of a geostationary satellite transmission is about

Q.2 Prove that the satellite footprint for LEO orbit is smaller than that for GEO orbit.

Q.3 – A LEO satellite system operates with a minimum elevation angle of 5° and an earth central angle of 40° .
Let the earth radius be 6370 Km.

Determine the following:

- 1- The orbital altitude. Comment on your results.
- 2- The required number of orbital planes.
- 3- The required number of satellites per orbit.
- 4 – The average orbital period.