Kafrelsheikh University - Faculty of Engineering

Course	Satellite Communications	Date	8/1/2018
Time	3 Hours	Mark	90
Students	4th Year Electronics and Electrical Communications		

This Exam measures ILOs: a.4, a. 8 ,b.2, b.3, b.5 ,c3 , d7

Answer all the following questions:

Clarify your answer with the suitable diagrams.

Q.1 Discuss the TT&C system of a communication satellite. (9 Marks)

Q.2 Elaborate on the bus system of the communication satellites. (9 Marks)

Q.3 What is a Regenerative Repeater? How is it different from Transparent Repeater? (9 Marks)

Q.4 Explain with Drawings the following: (9 Marks)

a- the Cassegrain Antennas .

b- Gregorian Antennas.

Q.5 What is RECIPROCITY THEOREM? Explain the consequences of this theorem. (9 Marks)

Q.6 Find the JD from reference time Jan 0.5 1900 to UT 13 hours of 18th December 2016.

(C1= 30.6001, C2= 1720994.5, JDref = 2145020, JC = 36525) (9 Marks)

Q.7 Discuss the design considerations of a communication satellite. (9 Marks)

Q.8 Explain the Design Considerations of FDMA system (9 Marks)

Q.9 Explain the Reference burst (*preamble*) of *TDMA system.* (9 Marks)

Q.10 Draw and Explain How the TWT Amplifier works. (9 Marks)

Good Luck and Best Wishes   *Dr. Ibrahim Elashry*