



Kafrelsheikh University - Faculty of Engineering

Course	Digital Communications	Date	27/5/2018
Time	3 Hours	Mark	70
Students	3 rd year Computer and systems		

This exam measures ILOs no.: a.13, a.15, b.16

Answer all the following questions:

Clarify your answer with the suitable diagrams.

- Q1. Compare Between The GEO, MEO and LEO orbits of satellites. (7 Marks)
- Q2. Compare between Optical Fiber, Twisted Pair and Coaxial cables. (7 Marks)
- Q3. Calculate the epoch day of 22 hours 56 minutes and 52.88 seconds of the 324th day of the year. (7 Marks)
- Q4. Write about the different generations of the PBX. (7 Marks)
- Q5. Explain in detail, with the aid of graphs, how the digital optical receiver works. (7 Marks)
- Q6. What are the advantages of Fiber Optic Systems? (7 Marks)
- Q7. Calculate the antenna gain for a parabolic reflective antenna with a diameter of 3m and operating at 8 GHz. ($G=7A/\lambda^2$). (7 Marks)
- Q8. Find the relation between the frequency of the rotation and the radius of the satellite orbit. (7 Marks)
- Q9. Explain the following Entropy encoding techniques: (7 Marks)
- Run-length encoding.
 - Statistical encoding
 - Color look up table.
- Q10. A Multi parity check code Block (63,57) is received from a TV frame. The parity bits are in the locations 31, 47, 55, 59, 61, 62. Explain how this block will be corrected at the receiver if the bit at location 11 was received in error. (7 Marks)

Good Luck and Best Wishes

Dr. Ibrahim Elashry

(Handwritten signatures)