

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019

Course Code: EC404

Course Name: ADVANCED COMMUNICATION SYSTEMS

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

- 1 a) With a block schematic explain microwave radio IF repeater station. (8)
- b) Explain Hot standby protection switching arrangement of a microwave radio system. (7)
- 2 a) With a block diagram explain the DVB-T system. (10)
- b) How the diversity is enhancing the performance of radio wave propagation? (5)
- 3 a) How the images compressed with the help of Discrete Cosine Transform(DCT)? Explain. (10)
- b) Compare LED and LCD display systems. (5)

PART B

Answer any two full questions, each carries 15 marks.

- 4 a) Explain the effect of Non-spherical shape of earth on a satellite orbit. (5)
- b) With the help of a block diagram briefly explain Satellite Transponder Subsystem. (5)
- c) A satellite TV signal occupies the full transponder bandwidth of 36 MHz and it must provide a C/N ratio at the destination earth station of 22 dB. Given that the total transmission loss is 210 dB and the destination earth station G/T ratio is 31 dB/K. Calculate the satellite EIRP required.
Given value k in dB is - 228.6 dB. (5)
- 5 a) Briefly describe about global positioning satellite system. (5)
- b) With the help of figure, describe WLL technology and its advantages. (7)
- c) Mention the features of Bluetooth. (3)
- 6 a) What are the different versions of WLAN. (5)
- b) Compare 1G, 2G,3G & 4G systems. (7)
- c) State the differences between TDD & FDD in cellular communications. (3)

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) What is meant by small-scale fading? List out the factors influencing small-scale fading. (5)
- b) With necessary diagrams explain the technique 'Hand off '. Describe the different Hand off strategies. (10)
- c) Describe knife edge diffraction model. (5)
- 8 a) Write a short note on MIMO systems. (5)
- b) Give the concepts of Push To Talk (PTT) technology. (5)
- c) Explain in detail about the characteristics and network architecture of GPRS. (10)
- 9 a) Explain the OFDM implementation of multicarrier modulation with necessary diagrams. (6)
- b) Describe the traffic routing in wireless networks. (8)
- c) Explain Digital Enhanced Cordless Telecommunications (DECT) data service. (6)
