PVP 19

Code: 19ES5601B

III B.Tech - II Semester – Regular Examinations – JUNE 2022

TELECOMMUNICATION FOR SOCIETY
(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
4. All parts of Question paper must be answered in one place.

PART – A

1. a) Describe any four regulations of ITU.
   b) Describe the following terms:
   i.Data rate
   ii.Bandwidth.
   c) State the relationship between data rate and bandwidth as it applies to the cellular system.
   d) The numerical aperture of a fiber optic cable is 0.59. Determine the critical angle.
   e) State the operative physical principles of launching a satellite and maintaining its orbit.

PART – B

UNIT – I

2. a) Describe the characteristics of the various signals used in telephone communication system. 6 M
   b) Explain the operation of transmitting circuits in a modern fax transceiver. 6 M

OR

3.	a)	Explain the operation of basic telephone system with neat diagram.	6 M
	b)	Explain the principle and working of Cordless Telephone with neat diagram.	6 M

UNIT – II

4.	a)	Compare and Contrast the Video conferencing and E-Mail conferencing with example.	6 M
	b)	Explain in detail about Customer oriented communication aspects.	6 M

OR

5.	a)	Explain in detail about Voice enabled DSL.	6 M
	b)	Explain in detail about Teleconferencing.	6 M

UNIT-III

6.	a)	Explain in detail about WiMAX and Wireless Metropolitan-Area Networks.	6 M
	b)	Explain in detail about Digital Cell Phone Architecture.	6 M

OR

7.	a)	Explain in detail about ZigBee and Mesh Wireless Networks.	6 M
	b)	Demonstrate the generic 4G LTE smart phone with neat block diagram.	6 M

UNIT – IV

8.	a)	Describe the modulation process of Light sources and explain in detail about light-emitting diodes .	6 M
	b)	Classify Fiber-Optic Cables based on index of refraction and mode of operation.	6 M

OR

9.	a)	A fiber-optic cable system has a dispersion factor of 33 ns/km. The length of the system is 0.8 km. What is the highest data rate that can be achieved on this link?	6 M
	b)	Four cables with attenuations of 5, 10, 39, and 44 dB are spliced together. What is the total attenuation in decibels?	6 M

UNIT – V

10.	a)	Explain the concept of satellite orbits and positioning in detail.	6 M
	b)	Explain in detail about Global Navigation Satellite Systems.	6 M

OR

11.	a)	Explain the principle and operation of a satellite communication systems with neat block diagram.	6 M
	b)	Describe the operation of an earth station with neat diagram.	6 M