18ELP01

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018
(First Semester)

Branch * APPLIED ELECTRONICS

COMMUNICATION SYSTEMS

Time : Three Hours Maximum : 75 Marks

SECTION-A (10 Marks!
Answer ALL questions
ALL questions carry EQUAL marks (10 x 1 = 10)

1 Which of the following device is used to generate AM waves?
(i) Amplifier (ii) Modulator
(iii) Transmitter (iv) Transducer

2 Identify the following modulation system is used for video modulation.
(i) DSBSC (ii) VSB
(iii) SSBSC (iv) FM

3 What is the full form of CDMA?
(i) Code Division Multiple Access (ii) Code Division Multiple Address
(iii) Carrier Division Multiple Access (iv) Complex Divide Module Address

4 Indicate the following, which filter is used to detect a PAM signal?
(i) Low pass filter (ii) Band pass filter
(iii) High pass filter (iv) All pass filter

5 Choose the major disadvantage of TRAPATT diode is_____ .
(i) fabrication is costly (Ii) low operational bandwidth
(iii) low gain (iv) high noise figure

6 When PIN diode is used as a switch, the expression for insertion loss of the switch is given by
(i) 10 log (P0/ PL) (ii) 10 log (PL /P0)
(iii) 10 log (PL . P0) (iv) None of the above

7 Two joined step index fibres are perfectly aligned. What is the coupling loss of numerical aperture are $NA_R = 0.26$ for emitting fiber?
(i) -0.828 dB (ii) -0.010 dB
(iii) -0.32 dB (iv) 0.32 dB

8 What does micro bending losses depend on?
(i) core material (ii) refractive index
(iii) diameter (iv) mode and wavelength

9 Indicate, Bluetooth is the wireless technology for_____ .
(i) local area network (ii) personal area network
(iii) wide area network (iv) pocket area network

10 Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?
(i) CDMA (ii) CSMA/CA
(iii) TDMA (iv) FDMA

Cont...

SECTION - B (35 Marks)

Answer ALL Questions
ALL Questions Carry EQUAL Marks (5 x 7 = 35)

11 a Determine the generation of AM signals.

OR

b Analyze briefly about VSB modulation techniques.

12 a Illustrate the detail^ about pulse position modulation.

OR

b Discuss about amplitude shift keying.

13 a Explain briefly three methods of beam focusing in TWTs.

OR

b Sketch a gunn diode construction and describe it briefly.

14 a Justify the fiber optic cable connectors and splices.

OR

b Evaluate the light transition in fiber optic communication.

15 a Elucidate the network connection establishment in Bluetooth technology.

OR

b Explain in details about network topologies.

SECTION - C (30 Marks!

Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 1 0 = 30)

16 Compare in details about frequency and phase modulation.

17 Determine the principles of TDMA with a sketch to show how the interlevelling of channels takes place.

18 Compare briefly the applications of multicavity klystron, TWT and magnetron.

19 Classify the fiber optic communication cables and explain briefly.

20 Differentiate the ZigBee technology from other wireless personal area netowork.

Z-Z-Z END