



DBY-003-1152003

Seat No. _____

M. Sc. (Electronics) (Sem. II) (CBCS)

(W.E.F. 2016) Examination

July - 2022

Digital Communication System : Paper-7

(New Syllabus)

Faculty Code : 003

Subject Code : 1152003

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All questions carry equal marks.
(2) The figures on right hand side indicate marks.

- 1** Answer the following : (Any **seven**) **14**
- (1) Write the difference between analog and digital modulation.
 - (2) Define the bit rate and information capacity.
 - (3) Which digital modulation technique is simplest one? Why?
 - (4) Write the mathematical expression for frequency deviation in FSK.
 - (5) In which condition the widest bandwidth occurs in case of FSK?
 - (6) Define digital transmission.
 - (7) What is pulse modulation?
 - (8) What is delta modulation?
 - (9) What is time division multiplexing?
 - (10) What is frequency division multiplexing?
- 2** Answer the following : (Any **two**) **14**
- (1) Explain information capacity, bits, bit rate and baud. **7**
 - (2) Explain M-ary encoding and minimum bandwidth. **7**
 - (3) Explain ASK and FSK in detail. **7**

- 3** Answer the following : **14**
- (1) Write a note on Binary Phase-Shift Keying (BPSK). **7**
 - (2) Write a note on Quaternary Phase-Shift Keying. **7**

OR

- 3** Answer the following : **14**
- (1) Explain PCM with the simplified block diagram of a single-channel, simplex PCM transmission system. **7**
 - (2) Write a note on PCM sampling. **7**
- 4** Answer the following : **14**
- (1) Explain the quantization and folded binary code. **7**
 - (2) Discuss about the linear versus nonlinear PCM codes. **7**
- 5** Answer the following : (Any **two**) **14**
- (1) Explain the single-channel (DS-O-level) PCM transmission system with block diagram. **7**
 - (2) Explain two-channel PCM-TDM system with block diagram. **7**
 - (3) Explain the basic functions of a telephone set. **7**
 - (4) Explain the functional block diagram of a standard telephone set. **7**
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