RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

SECOND YEAR [2017-20]

B.A. /B.Sc. FOURTH SEMESTER (January – June) 2019

Mid-Semester Examination, March 2019

Date : 26/03/2019

Time : 1pm – 2pm

ELECTRONICS (General)

Paper: IV

Full Marks: 25

Answer **any five** questions of the following**:** [5 × 5]

1. a) Differentiate between pulse analog modulation and pulse digital modulation techniques.
   b) Describe the PAM scheme in communication. [2+3]

2. a) What do you mean by sampling and quantisation?
   b) State the principle of DPCM technique. [2+3]

3. a) With a schematic diagram state how an AM transmitter can transmit signals.
   b) State some characteristics of electromagnetic wave. [4+1]

4. a) Discuss how layers of ionosphere help in communication.
   b) What are the uses of radio waves? [4+1]

5. a) Describe how ground wave communication takes place?
   b) Compare sky wave and space wave communication. [3+2]

6. a) In sky wave communication explain the terms critical frequency and skip distance.
   b) State secant rule. [4+1]

7. a) Define acceptance angle and numerical aperture.
   b) Find an expression for numerical aperture. [2+3]

8. a) Draw a schematic diagram of a LASER showing its basic components.
   b) Write a short note on Population inversion. [2+3]

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