

# RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, SEPTEMBER 2020

SECOND YEAR [BATCH 2018-21]

ELECTRONICS (General)

Paper : IV

Date : 29/09/2020

Time : 11.00 am – 1.00 pm

Full Marks : 25

## Answer all the questions

[5×5]

1. a) Differentiate between analog communication, pulse analog communication and pulse digital communication. [2]
- b) Describe the scheme of pulse amplitude modulation or PAM with suitable schematic diagram. Also draw a schematic diagram of a PAM demodulator. [2.5+0.5]
2. a) State the need of sampling in digital communication. What do you mean by Nyquist rate? [1+1]
- b) Describe the scheme of pulse code modulation or PCM. What is quantisation and quantisation error? [2+1]
3. a) Write short note on ASK. Also draw the ASK modulation and demodulation schematic diagram. [3]
- b) Differentiate between ASK, FSK and PSK. [2]
4. a) What is spontaneous emission and stimulated emission? Describe i. Population Inversion, ii. Optical resonator, iii. Numerical aperture. [1+1.5]
- b) How do you classify optical fiber? Explain with definition and suitable diagram. [2.5]
5. a) What is the difference between LED and avalanche photo diode? Explain briefly. [3]
- b) Write a short note on LDR. [2]

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