S.No. 1878

12UEL05

(For the candidates admitted from 2012–2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Fifth Semester

Electronics and Communication

ELECTRONIC COMMUNICATION SYSTEMS

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. State inverse-square law.

2. Define critical frequency.

3. What is amplitude modulation?

4. Define the term : Modulation index.

5. What is meant by frequency deviation in terms of FM?

6. Mention the prime requirement of a frequency modulation generator.

7. Define the term : Fidelity.

8. What is noise figure of a receiver?

9. What do you mean by pulse position modulation?

10. List any two advantages of digital communication.

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Discuss briefly, the ionosphere and its effects.

Or

(b) Explain the term : Virtual height.

12. (a) Explain the need for modulation.

Or

(b) Obtain the power relations in the AM wave.

13. (a) Discuss briefly, the co-channel interference.

Or

(b) What do you mean by pre-emphasis? Explain.

14. (a) Write a note on image frequency rejection.

Or

(b) Describe the operation of radio detector circuit.

15. (a) State and explain sampling theorem.

Or

(b) Explain the principle of ASK. (Amplitude Shift Keying)

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Give a detailed account on space wave propagation.

17. Describe the operation of balanced modulator using (a) diode and (b) FET.

18. Explain the working of FM transmitter with a neat diagram.

19. Explain the working of Tuned Radio Frequency (TRF) receiver with a suitable diagram.

20. Explain the principle of PCM. Describe a PCM link with the help of a block diagram.

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