

S.No. 5332

16 SCCEL 4

(For candidates admitted from 2016–2017 onwards)

B.Sc. DEGREE EXAMINATION, APRIL 2022

Part III – Electronics - Major

PRINCIPLES OF COMMUNICATION SYSTEMS

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20)

Answer ALL questions.

1. What is meant by Space Wave?
2. Define skip distance.
3. What is meant by radiation pattern?
4. What is meant by Polarization?
5. What is the need for modulation?
6. State the advantages of FM over AM.
7. Define pulse code modulation.
8. Define AM Vestigial sideband

9. What is super heterodyne receiver?

10. What is Uplink Frequency?

PART B — ($5 \times 5 = 25$)

Answer ALL questions, choosing either (a) or (b).

11. (a) Define Virtual Height and Skip distance

Or

(b) Explain about the Maximum Usable Frequency.

12. (a) What is radiation resistance of an antenna?

Or

(b) Draw and explain about Parabolic array antenna.

13. (a) Compare AM and FM system.

Or

(b) Give Need for Modulation and advantages of modulation.

14. (a) What is single sideband modulation?

Or

(b) Define PAM with Diagram.

15. (a) Draw the block diagram of the TTRF. receiver

Or

(b) Explain about AGC.

PART C — ($3 \times 10 = 30$)

Answer any THREE of the following

16. Explain about Surface and sky wave propagation.

17. With necessary illustrations explain the radiation characteristics of Yagi Uda antenna.

18. Derive an expression for AM wave and its power relation.

19. What are the advantages of single side band modulation technique and explain any one method of SSB generation.

20. Explain briefly about detection and Automatic Gain Control.