C 41207 **(Pages : 2)** **Name.....**

Reg. No.....

FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2023

Electronics

ELE 4C 05—COMMUNICATION ELECTRONICS

(2019 Admission onwards)

Time : Two Hours Maximum : 60 Marks

Section A

Answer the following questions (1-12) *each carrying* 2 *marks.*

1. Describe the relationship between the carrier frequency and the upper and lower side band frequencies in AM.
2. What are the three essential elements of any communication system ?
3. What is meant by the envelope of an AM waveform ? What is its significance ?
4. What is modulation index of an FM wave ?
5. Why Armstrong method of FM generation known as indirect method ?
6. What is AFC ?
7. Define Pulse Amplitude Modulation.
8. How Pulse width modulation differ from Pulse Position modulation ?
9. What is the need for digital modulation ?
10. Define information capacity of a channel.
11. How is baud rate related to the transmission bandwidth in FSK ?
12. How does PM differ from PSK ?

(Ceiling : 20 Marks)

Section B

Answer the following questions (13-19) *each carrying* 5 *marks.*

13. Obtain the equation to find the modulation index of an AM wave. What is its significance ?
14. With diagrams, explain FM detection using PLL.

Turn over

15. Distinguish between FM and PM.
16. Explain TDM.
17. Explain demodulation of PWM.
18. Explain the generation of QPSK signal ?
19. Explain non coherent detection of FSK.

(Ceiling : 30 Marks)

Section C

Answer any **one** *question* (20-21) *each carrying* 10 *marks.*

20. Explain with block diagrams any one method for generating FM.
21. List the steps involved in PCM generation.

(1 × 10 = 10 marks)