F 3366 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch : Electrical and Electronics Engineering

EE 010 705—COMMUNICATION ENGINEERING (EE)

(New Scheme—2010 Admission onwards—Regular/Supplementary)

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 3 *marks.*

1. Compare AM and FM.
2. What is meant by composite video signal ?
3. What are the applications of pulsed radar ?
4. What is meant by Geostationary orbits ?
5. What is meant by M-Ary modulation ?

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*
Each question carries 5 *marks.*

6. Explain about ratio detector.
7. Briefly discuss about positive and negative modulation.
8. A low power short range radar is solid state throughout, including a low noise RF amplifier which gives it an overall noise figure of 4.77 dB. If the antenna diameter is 1 m., the IF bandwidth is 500 kHz, the operating frequency is 8 GHz and the radar set is supposed to be capable of detecting targets of 5-m^2 cross-sectional area at a maximum distance of 12 km. What must be the peak transmitted pulse power ?
9. With the help of block schematic, explain the earth station.
10. Determine (a) peak frequency deviation ; (b) minimum bandwidth ; (c) band for a binary FSK signal with a mark frequency of 49 kHz, a space frequency of 51 kHz and an input bit rate of 2 Kbps.

(5 × 5 = 25 marks)

Turn over

Part C

Answer **all** *questions.*
Each full question carries 12 *marks.*

11. Explain the working of superheterodyne FM receiver.

Or

12. Explain the working of Armstrong FM modulator.

13. Discuss in detail about the vestigial side band transmission and characteristics of colour transmission.

Or

14. (a) Discuss in detail about the SECAM and PAL transmitter and receivers. (10 marks)

(b) How is a colour picture tube able to display white ? (2 marks)

15. Discuss in detail about radio navigational aids.

Or

16. Explain in detail about continuous wave radar.

17. With a neat block diagram, explain a satellite communication system. What is the advantage of satellite communication ?

Or

18. Discuss in detail about the TDMA and FDMA.

19. Explain in detail about the BFSK.

Or

20. Explain about M-Ary phase shift keying. Compare M-Ary FSK and M-Ary PSK.

[5 × 12 = 60 marks]