(Pages : 2) **1994**

Reg. No. : .....

Name : .....

Eighth Semester B.Tech. Degree Examination, May 2013
(2008 Scheme)
08.802 – RADAR AND TELEVISION ENGINEERING (T)

Time: 3 Hours Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks.

1. Explain the working principle of line pulse modulator.
2. A radar operates at a peak power of 50 kW, pulse width of 0.8 ms and PRF of 1000 Hz, find average power and duty cycle.
3. List the applications of radar.
4. A radar signal takes 100 μ sec to travel towards the target and back. Determine the range of radar.
5. List the advantages of OFDM transmission scheme.
6. What are the functions of front porch and back porch ?
7. Why (G – Y) signal is not selected for transmission ?
8. Write the advantages of using negative modulation in TV system.
9. Why is it necessary to compress digital video and audio signals before transmission ?
10. Compare LCD and LED displays. **(10×4=40 Marks)**

P.T.O.

PART – B

Answer **any two** questions from **each** Module. **Each** question carries **10** marks.

Module – I

11. List at least ten factors that affect the radar operation.

12. Explain the role of loop antennas in radio direction finders. What is the need for service finder antenna system ?

13. A 10 GHz radar has the following characteristics : peak transmitted power = 250 kW, power gain of antenna = 2500, minimum detectable power = 10^{-14} Watts, cross sectional area of the radar antenna = 10 m^2. If this radar were to be used to detect a target of 2m^2 equivalent cross section, find the maximum range possible.

Module – II

14. Sketch the composite video signal with details.

15. Draw the block diagram of NTSC system and explain.

16. Draw the block diagram of RF tuner and explain.

Module – III

17. Explain the key features of MPEG-2 video format.

18. List and explain the technical specification of DVB-C transmitter.

19. Explain the working of Liquid crystal display with neat diagram. **(6×10=60 Marks)**
