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Reg. No. :

Name :

**Eighth Semester B.Tech. Degree Examination, November 2015
(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.

(10×4=40 Marks)

1. What is delay line canceller ? Explain.
2. A radar operates at a PRF of 1000 Hz with a pulse width of $2 \mu s$ and at an average power of 100 W. Find peak power and duty cycle.
3. List the salient features of ILS.
4. Two MTI radars are found to have blind speeds given by $V_{b2} = 20$ m/s of first radar and $V_{b3} = 30$ m/s of second MTI radar. If they operate at a wavelength of 3 cm, then find the ratio of PRFs of the radars.
5. What are the various television standards being used around the globe ? What are the standards being followed in India ?
6. Why is vertical scanning necessary in addition to horizontal scanning ?
7. Define the following terms in reference to colour TV system (i) Luminance and Chrominance (ii) Hue and saturation.
8. What are image frequencies and how do you eliminate them in a TV receiver ?
9. List the objectives of MPEG-4.
10. Explain the principle of JPEG compression technique.

P.T.O.



PART – B

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

(6×10=60 Marks)

Module – I

11. If a pulse radar operating with a peak power of 1 MW has the following parameters pulse width = $1.2 \mu\text{s}$, pulse repetition = 1 ms. Find (a) PRF (b) average power (c) duty cycle and (d) maximum range of the radar.
12. Draw the block diagram of MTI radar and explain.
13. Draw the block diagram of DME device and explain the principle of operation.

Module – II

14. A colour object having 100% red, 50% green and 25% blue is reproduced in a system of colour transmission and reception. What will be its brightness after it is reproduced? Will it be 62.25% of brightness of 100% white?
15. Draw a circuit diagram of video detector and video amplifier of a monochrome TV receiver and explain.
16. Draw the block diagram of a colour TV receiver and explain in brief the function of each block.

Module – III

17. Draw the functional block diagram of DUB- S_2 system and explain.
 18. Draw OFDM system model and explain the operation.
 19. Compare LCD and plasma display system in terms of :
 - a) Contrast ratio
 - b) Response time
 - c) Burn in
 - d) Colour intensity
 - e) Life time
 - f) Brightness
 - g) Resolution
 - h) Power consumption
 - i) Viewing angle
 - j) Reflection
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