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Name :

Reg. No:

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION, NOVEMBER 2013

Electronics and Communication Engineering

**EC 09 L015 - TELEVISION AND RADAR ENGINEERING
(2009 Scheme)**

Time : Three Hours

Maximum : 70 Marks

PART A

1. Define retrace time.
2. What are raster lines?
3. Determine the value of Y or luminance for the following R,G and B signals:
 $R = 0.8V$, $G = 0.6V$ and $B = 0.2V$
4. What is Doppler Effect?
5. What is blind speed? (5 x 2 = 10)

PART B

6. Explain horizontal and vertical scanning.
7. What is meant by reference black, black speed, pedestal, blacker than black?
8. What is color burst? How is it transmitted? What is its purpose?
9. Describe frequency interlacing.
10. Briefly describe the antenna parameters of a radar system.
11. With block diagram, explain the delay line cancellers. (4 x 5 = 20)

PART C

12. a) i) With neat sketch, explain the composite video signals.
ii) What is a diplexer bridge? Explain.
OR
b) With block diagram explain the monochrome TV receiver.
13. a) Describe the basic operation of a color television camera.
OR
b) With block diagram explain the color demodulator circuit.
14. a) Derive the radar range equation.
OR
b) i) With block diagram explain the radar system.
ii) Write notes on system losses and propagation effects in radar systems
15. a) Explain the CW radar and its types.
OR
b) Discuss in detail about Pulse Doppler MTI radars. (4 x 10 = 40)

