

C 44426

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**SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, JUNE 2013**

**EC 09 L15—TELEVISION AND RADAR ENGINEERING**

**(2009 Scheme – Supplementary)**

Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.*

1. What is a vestigial sideband modulation ?
2. What is a CCD camera ?
3. Define Raster lines.
4. What is a RADAR ?
5. Define frequency modulation.

(5 × 2 = 10 marks)

**Part B**

*Answer any four questions.*

6. Describe sequential horizontal scanning.
7. Describe negative transmission and positive transmission.
8. Determine the value of Y for the following R, G and B signals :  
 $R = 0.8 V$ ,  $G = 0.6 V$  and  $B = 0.2 V$ .
9. Describe the working of a vertical blocking oscillator.
10. What is minimum detectable signal ? Explain.
11. Explain a scope and PPI display.

(4 × 5 = 20 marks)

**Part C**

*Answer all questions.*

12. (a) With neat sketch, explain the various components of a composite video signal.

*Or*

- (b) With block diagram, explain the TV receiver.

**Turn over**

13. (a) Describe the basic operation of a colour television camera.

*Or*

(b) Draw the block diagram of the colour decoding circuits in a colour television receiver and briefly describe the decoding operation.

14. (a) Explain the RADAR block diagram.

*Or*

(b) Derive an expression for the radar range equation.

15. (a) With block diagram, explain the CW Radar.

*Or*

(b) Explain pulse doppler MTI radar.

(4 × 10 = 40 marks)