C 29183

Name.....

Reg. No.....

SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION JUNE 2012

EC 2K 705 (E)—TELEVISION ENGINEERING AND RADAR SYSTEMS

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

I. (a) Explain in brief interlaced scanning.

(b) Explain the basic principle of operation of CCD camera in brief.

(c) Explain luminance.

(d) Explain the formation of chrominance signal in colour TV.

(e) What are the general specifications of Digital TV ?

(f) Explain video bit reduction in brief.

(g) What is Doppler effect and Doppler frequency ?

(h) What are the various frequencies of RADAR operation and why these frequencies are preferred ?

(8 × 5 = 40 marks)

II. (a) Explain the video and sound signal modulation in television in detail.

Or

(b) Explain vestigial sideband transmission and VSB correction with diagrams.

III. (a) Explain with diagrams the operation of colour TV camera and picture tube.

Or

(b) Explain the principle of working of NTSC coder and decoder with diagrams.

IV. (a) (i) Explain the composite digital standards of Digital TV. (8 marks)

(ii) Explain the sampling structure of NTSC standard. (7 marks)

Or

(b) Explain the working of any one code distribution system with diagrams.

V. (a) Derive the radar range equation and write the significance of the equation.

Or

(b) Explain with diagrams the operation of moving target indicator radar.

[4 × 15 = 60 marks]