8E4089

Roll No. : _____ Total Printed Pages : 3

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B. Tech. (Sem. VIII) (Main/Back) Examination, April/May - 2011
Electronics & Comm.
8EC2 Radar & TV Engineering

Time : 3 Hours] [Total Marks : 80
[Min. Passing Marks : 24

*Attempt any **five questions**, selecting **one question** from **each unit**. **All** questions carry **equal** marks. (Schematic diagrams must be shown wherever necessary.) Any data you feel missing suitably be assumed and stated clearly, Units of quantities used/calculated must be stated clearly.*

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. Nil 2. Nil

UNIT – I

1 (a) Explain different system losses that occurs in Radar System. How range and doppler measurement is done in frequency modulated CW Radar ? **6**

(b) What are the different limitation that effect the performance of MTI Radar ? **4**

(c) What is sequential lobing ? How sequential lobing and conical scanning helps in tracking radar ? **6**

OR

1 (a) With the help of neat diagram, explain the operation of amplitude comparison monopulse radar. **6**

(b) How detection of signal is done in presence of noise in Radar System ? **5**

(c) Explain the parameters on which radar range equation depends upon. **5**

UNIT – II

2 (a) What are the basic needs for a perfect Landing System ? 8

(b) With the help of neat diagram. Explain how radar direction finder operates. 8

OR

2 (a) Compare the merits and demerits of LORAN and TACAN system. 8

(b) Explain the principle of operation of range system. 8

UNIT – III

3 (a) Explain key features of a composite video signal. Draw neat diagram in support of your answer. 8

(b) What is kell factor ? Explain importance of horizontal resolution and video band width in T.V. 8

OR

3 (a) Which TV system is adapted in India ? What are the merits and demerits of SECAM and NTSC TV system ? 8

(b) Why scanning is needed in TV ? Compare interlaced scanning with rectangular scanning. 8

UNIT – IV

4 (a) Explain in detail how encoding of picture information is done in TV. What are the key standards for colour TV adopted in India ? 6

(b) What is chrominance modulation ? How it is achiened ? 6

(c) State the advantage of Yagi aerials that are properly used for TV reception. 4

OR

4 (a) What is meant by the following : station sync, system blanking, camera blanking, sync regenerator, genlock, slane lock ? 8

(b) Compare the design features of television transmittor employing high level modulation and low level modulation. 8

UNIT – V

5 (a) In what respects do the requirement of the antenna, the tuner and the deflection system in a color TV receiver differ from those of the monochrome. 6

(b) How EHT is generated in TV Receiver ? 5

(c) What are the common faults that occurs in TV Receivers ? 5

OR

5 (a) What are the methods of fine tuning in R.F. tunner ? Draw and explain the basic circuit of electronic tuning. What is automatic fine tuning ? 8

(b) What are the basic principle employed in HDTV and 3D-TV ? Compare the key features of HDTV and 3D-TV presently available in the market. 8