

**8E4089**

Roll No. : \_\_\_\_\_

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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 achieved ? 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 transmitter 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

