

**8E4089****8E4089**

**B.Tech. (Sem.VIII) (Main/Back) Examination, April/May - 2012**  
**Electronics & Communication**  
**8EC2 Radar & T.V. 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.

**UNIT - I**

1. (a) What's the necessity of delay line canceller? Describe various types of delay lines used in MTI radar. **8**  
 (b) Draw the block diagram of frequency modulated CW radar and explain its application in measurement of range. **8**

**OR**

1. (a) With the help of neat diagram explain the working of pulse doppler radar also write its applications and advantages. **8**  
 (b) Explain in brief : **4**  
 (i) Blind speed  
 (ii) Staggered pulse repetition frequencies.  
 (c) A pulse doppler radar has a carrier frequency of 9GHz and PRF of 400Hz. Find its blind doppler frequencies and the radial velocity of target which would be undetected by the radar. **4**

**UNIT - II**

2. (a) Briefly explain the operation and various components of the LORAN Hyperbolic Navigational Electronic System. **8**  
 (b) Draw the block diagram of Tactical Air Navigation (TCAN) and explain its principle and operation. **8**

**OR**

2. (a) Why a perfect Landing system is required ? Explain the concept of Microwave Landing System. Also write its limitation and advantages. **12**  
 (b) Write the applications of DME system. **4**

**UNIT - III**

3. (a) What's blanking ? Draw Horizontal and Vertical blanking pulses. Showing width of various sections and application. **8**  
 (b) Explain the need of serration in vertical blanking pulse. **4**  
 (c) Explain the need of pre equalizing and post equalizing pulses. **4**

**OR**

3. (a) Draw the constructional diagram of plumbicon camera tube and show the formation and elimination of red halo. **8**
- (b) Explain the working principle of LCD and compare it with plasma display panels. **8**

**UNIT - IV**

4. (a) Explain the characteristics of color light i.e.  
(i) Luminance  
(ii) Hue  
(iii) Saturation  
in brief and also give the details of chrominance modulation. How it is achieved? **12**
- (b) Define the general characteristics and uses of Log periodic Antennas in T. V. reception. **4**

**OR**

4. (a) Discuss the advantages of vestigial side band in transmission of video signals. **4**
- (b) Compare the television transmitters employing high level modulation and low level modulation. **4**
- (c) Draw a block diagram of monochrome T.V. transmitter. **8**

**UNIT - V**

5. Write short note on any two : **16**
- (i) Direct Broadcast Satellite (DSB) system
- (ii) HDTV
- (iii) 3-D TV

**OR**

5. (a) Compare the different types of AGC (Automatic Gain Control) circuits with block diagram and applications. **8**
- (b) Explain the working of sync separation circuit to separate the Horizontal and Vertical sync pulses in composite video signal. **8**