

Total No. of printed pages = 5

Et-601/CE&M/6th Sem/2017/N

**CONSUMER ELECTRONICS
AND MAINTENANCE**

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

PART – A

Marks – 25

1. Fill in the blanks : 1×10=10
- (a) A microphone converts _____ wave in to
_____ signals of the same frequency.
- (b) A carbon microphone has a high _____ ratio.
- (c) An electrodynamic loudspeaker used as an
_____ .
- (d) A woofer has good response at _____
frequency.
- (e) All tape recorders use pre-emphasis and
de-emphasis to reduce _____ and _____.

[Turn over

- (f) CD player uses a _____ oscillation.
- (g) A stereo sounds system gives _____ dimensional sound effect.
- (h) _____ heat penetrates the material more than convention heat.
- (i) Blue, green and red are _____ color.
- (j) The luminance signal is given by $y = \underline{\hspace{2cm}}$.

2. State whether the following statement are true or false : $1 \times 10 = 10$

- (a) A crystal microphone is bi-directional.
- (b) A cross over network is a filter network.
- (c) Public address system use horn type loudspeaker.
- (d) During play back erase head is not active.
- (e) Pinch roller keeps the play back away from capstan.
- (f) In a stereo, the two channels have separate amplifiers.
- (g) The aspect ratio is 3 : 4.
- (h) A balun is a step down transformer.
- (i) VCR uses a rotary transformer.
- (j) A microphone should not be very sensitive.

3. Multiple choice questions :

1×5=5

- (i) The audio frequency range is
- (a) 5 Hz to 1 KHz
 - (b) 50 Hz to 20 KHz
 - (c) 16 Hz to 20 KHz
 - (d) 0 Hz to 20 KHz
- (ii) Which of the following microphones work on the principle of piezoelectric effect
- (a) Carbon
 - (b) Condenser
 - (c) Crystal
 - (d) Moving coil
- (iii) Dolby a system of noise reduction divides the total audio spectrum in to
- (a) 8 frequency bands
 - (b) 4 frequency bands
 - (c) 2 frequency bands
 - (d) None of the above
- (iv) Present day stereophonic system have
- (a) Only CD playback facility
 - (b) Only tape playback facility
 - (c) Both CD and tape playback facility
 - (d) None of the above

- (v) In a picture tube, the video signal is applied to
- (a) Cathode
 - (b) Grid
 - (c) Any anode
 - (d) Either cathode or grid.

PART – B

Marks – 45

1. Mention the parameters on which the quality of a microphone depends. 4
2. What are the characteristics of a good loudspeaker? 4
3. Differentiate between microphone and loudspeaker. 2
4. Explain the tape transport mechanics with proper diagram. 5
5. Draw the complete block diagram of a monochrome television receiver. 4
6. How does stereophonic system differ from monophonic system? 5

7. Draw a neat sketch of YAGI UDA antenna with proper labelling. 3
8. Mention four common faults of radio receiver and their remedies. 4
9. Write a note on washing machine. 5
10. Draw the block diagram of a VCR. 4
11. What do you mean by pre-emphasis and de-emphasis? 5