

## B.Sc. Semester-5 Examination

SE 305

Electronics (A)

March-2024

[Max. Marks : 70]

Time : 2-30 Hours]

**Instructions:** (1) All questions carry equal marks.  
 (2) Symbols used here have their usual meanings.  
 (3) Figures to the right indicate marks.

1 (A) With diagram explain construction, working & features of Moving coil Microphone. 07  
 (B) With diagram explain principle, construction & working of Condenser Microphone. 07  
**OR**  
 (A) With diagram explain construction, working & features of Ribbon Microphone. 07  
 (B) With diagram explain principle, construction & working Crystal Microphone. 07

2 (A) With diagram explain construction, working & features of Horn Loudspeaker. 07  
 (B) With diagram explain Cross-Over Circuits in detail. 07  
**OR**  
 (A) With diagram explain Bass Reflex Enclosure and Column Loudspeaker. 07  
 (B) With diagram explain Woofers and Tweeters. A tweeter has a cross over frequency of 5000 Hz. If the resistance of tweeter is  $25 \Omega$ , find the values of L & C of the cross over circuit. 07

3 (A) With figure explain recording system and playback system. 07  
 (B) Discuss about Solid-State LASER. 07  
**OR**  
 (A) Write a short note on Optical Memory Disc. 07  
 (B) With figure explain Video Disc Mastering and Replication. 07

4 (A) With diagram explain construction, working & features of Electret Microphone. 07  
 (B) With diagram explain construction, working & features of Electrodynamic Loudspeaker. 07  
**OR**  
 (A) Define Cardiod Microphone. 07  
 (a). The output voltage of a microphone is 5 mV Find the sensitivity below 1 V.  
 (b). The sensitivity of a microphone is 110 dB below 1 V Find the output voltage.  
 (B) Explain Selectavision (RCA) and Vide High Density. 07

5 Attempt any seven out of twelve. 14  
 (A) Ribbon microphone has distortion less than \_\_\_\_\_ %  
 (B) The capacitance of a parallel plate air capacitor is inversely proportional to the distance between the \_\_\_\_\_.  
 (C) Tie clip microphone is an \_\_\_\_\_ microphone.  
 (D) Wireless microphone (Cordless microphone) uses a small \_\_\_\_\_ transmitter.  
 (E) \_\_\_\_\_ converts electrical audio frequency signals into sound waves of the same frequency.  
 (F) Ideally the frequency response should be flat over the whole audio range ie. 16 Hz to \_\_\_\_\_.  
 (G) If size of baffle is much larger than half the wave length, it is known as \_\_\_\_\_ baffle.  
 (H) A closed wooden box with an opening in the front and the loudspeaker fixed in the box is known as an \_\_\_\_\_.  
 (I) Selectavision (RCA) is the \_\_\_\_\_ and the most basic of the three video disc formats.  
 (J) In playback system, a high-pass filter separates the video information and the filters have a crossover frequency at \_\_\_\_\_ MHz.  
 (K) The TS laser has higher power output with \_\_\_\_\_ threshold current.  
 (L) In optical memory discs, the disc is split into a series of tracks, which vary from about 35 to \_\_\_\_\_.