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Reg.No :

Name :

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP (HONOURS) REGULAR EXAMINATION March 2026
Fourth SEMESTER
Discipline Specific Elective (DSE) - MG4DSESDV200 - ELECTRO
ACOUSTICS
(2024 ADMISSION ONWARDS)

Duration: 2 hours

Maximum Marks: 70

***Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I)
and Appreciation(Ap)***

Students should attempt at least one question from each course outcome to enhance their overall outcome attainability.

Part A

Very short answer

Answer any **8** questions

Each question carries **2** marks

1. What is the symbol used for AC supply? [U] / [CO1]
2. What is the color code for left & right channel in RCA standard? [U] / [CO2]
3. What causes the proximity effect in cardioid microphones? [U] / [CO3]
4. Define on-ear headphones. [U] / [CO4]
5. What is a boundary microphone? [U] / [CO3]
6. What is a rectifier? [U] / [CO1]
7. State one factor that affects frequency response in cables? [U] / [CO2]
8. State the unit used to express microphone sensitivity. [U] / [CO3]

9. State one advantage of horn type loudspeakers. [U] / [CO4]

10. What is common mode rejection ratio (CMRR)? [U] / [CO1]

[2x8 = 16]

Part B

Short answer

Answer any **5** questions

Each question carries **6** marks

11. Explain the concept of stereophonic microphone systems. [U] / [CO3]

12. Explain the importance of frequency division in loudspeaker systems. [U] / [CO4]

13. Differentiate between line cable and speaker cable? [U] / [CO2]

14. Explain clipping distortion with a neat waveform diagram. How can it be minimized? [U] / [CO2]

15. Explain the working of a variable capacitance (condenser) microphone, highlighting the role of the diaphragm and backplate. [U] / [CO3]

16. Discuss the concept of loudspeaker directivity. [U] / [CO4]

17. Explain the relationship between voltage, current, and resistance ? [U] / [CO1]

[6x5 = 30]

Part C

Essay

Answer any **2** questions

Each question carries **12** marks

18. Discuss the advantages and limitations of OFC in audio communication? [U] / [CO2]

19. Explain highly directional microphones in detail. [U] / [CO3]

20. Explain in detail the concept of loudspeaker baffles and enclosures. [U] / [CO4]

[12x2 = 24]