QP CODE: 24900245

Reg No:.....

Name:.....

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

FIRST SEMESTER MGU-UGP (HONOURS) REGULAR EXAMINATION NOVEMBER 2024

First Semester

Discipline Specific Core Course - MG1DSCSDV100 - FUNDAMENTALS OF ACOUSTICS

(2024 ADMISSION ONWARDS)

Duration: 2 Hours Maximum Marks: 70

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

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

[Learning Domain][CO No(s)]

Part A
Very Short Answer Questions
Answer any ten questions
Each question carries 2 marks

1	What is a Transverse wave ?	[U]	[1]
2	What is sound ?	[U]	[1]
3	The device used to measure the sound pressure level ?	[U]	[1]
4	Why there is no sound in space ?	[U]	[1]
5	Factors that affecting the speed of Sound in Medium ?	[An]	[1]
6	what is the frequency of an sound wave ?	[U]	[1]
7	Define a harmonic sound.	[U]	[2]
8	Define timbre.	[U]	[2]
9	What is an echo?	[K]	[4]

10	What is the refraction of sound?	[K]	[4]
11	What is diffraction?	[K]	[4]
12	What is a critical band?	[K]	[6]

(10 × 2 = 20)

Part B

Short Answer Type Questions
Answer any six questions
Each question carries 5 marks

13	Explain the source, medium, reciever of sound ?	[U]	[1]
14	What is pitch ? How frequency related with pitch ?	[An]	[1]
15	Define medium density and its importance in sound transmission.	[U]	[3]
16	What is a wave Equation?	[U]	[1]
17	Describe the role of harmonics in determining the timbre of a sound.	[A]	[2]
18	what is law of reflection ?	[K]	[4]
19	Describe an example of diffraction in everyday life.	[A]	[4]
20	how we can sound proof a room ?	[A]	[5]
21	what is the function of eustachian tube?	[U]	[6]

(6 × 5 = 30)

Part C

Essay Type Questions
Answer any two questions
Each question carries 10 marks

22	Explain the differences between simple and complex sounds. How do harmonics and partials influence the richness and characteristics of complex sounds in everyday life?	[An]	[2]
23	Describe the stages of a sound envelope and explain how they influence the perception of a musical sound. How do these stages differ across various instruments?	[E]	[2]
24	Discuss the fundamental characteristics of a sound wave, including amplitude, frequency, wavelength, and velocity. Explain how each characteristic influences sound perception and propagation, providing examples to illustrate these concepts.	[An]	[1]

(2 × 10 = 20)

END OF THE QUESTION PAPER

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