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21ARC65

Sixth Semester B.Arch. Degree Examination, Dec.2025/Jan.2026 Building Services – IV (Acoustics & Noise Control)

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Explain the threshold of audibility and pain. (05 Marks)
b. Explain the inverse square law of sound with suitable sketches and explanation. Give a numerical example of inverse square law. (15 Marks)

OR

2 Describe room acoustics with reflection, absorption, echo, reverberation with sketches. (20 Marks)

Module-2

3 Define the following :
a. Speech Intelligibility
b. Speech Privacy and Attenuation
c. Acoustics Plaster
d. Gypsum Boards
e. False Ceilings as Sound Absorber (20 Marks)

OR

4 Describe various acoustical tools and measurements with appropriate sketches. (20 Marks)

Module-3

5 Explain transmission of noise in a multi-storied school building through sketches. (20 Marks)
6 Trace the origin and history of Greek and Roman theatres in terms of acoustics advancements (20 Marks)

Module-4

7 a. Explain air borne and structural borne noise with examples. (10 Marks)
b. How do you reduce structural and mechanical noise in buildings? Support with sketches. (10 Marks)

OR

8 a. Explain difference between sound and noise with examples. (05 Marks)
b. What are the various classification of Noise? Explain each of them with sketches if required. (15 Marks)

Module-5

9 What are the various sources of industrial noise pollution? Explain any 5 causes. (20 Marks)

OR

10 a. Discuss the ill-effects of noise pollution on human beings. (05 Marks)
b. Explain the strategies for dealing with noise at site and city planning level. (15 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, $42+8 = 50$, will be treated as malpractice.