

CBCS SCHEME



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18ARC73

Seventh Semester B. Arch. Degree Examination, Dec.2025/Jan.2026

Building Services - IV

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 terms Sound and Distance, inverse square law with neat sketches. (08 Marks)
- b. What is Sound Reverberation and Reverberation Time? Explain Sabine's and Eyring's formula relevant in this connection. (12 Marks)

OR

- 2 Define the following :
- a. Pitch and Sound Intensity (05 Marks)
- b. Threshold of audibility and pain (05 Marks)
- c. Acoustics anomalies in an auditorium support with sketches. (10 Marks)

Module-2

- 3 a. Explain the function of a sound level meter with sketches and labelling its parts. (10 Marks)
- b. Explain sound articulation index and speech intelligibility relating the two. (10 Marks)

OR

- 4 a. Explain the sound absorbing characteristics of the following with sketches.
- Porous Materials
 - Cavity Resonators
- (10 Marks)
- b. Explain the concept of variable sound absorbs with examples and sketches, highlighting its suitability of certain auditoriums. (10 Marks)

Module-3

- 5 Elaborate on the design considerations for a lecture theatre versus the auditorium intent for orchestra with neat sketches. (20 Marks)

OR

- 6 Discuss history of Greek and Roman theatres. What are the design differences between both theatres. Explain/elaborate with neat sketches. (20 Marks)

Module-4

- 7 Explain machine isolation and staggered wall STVD construction with neat sketches. (20 Marks)

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.

OR

- 8 What is environmental noise control? Explain mass law and design principles for reduction at and near source with sketches. (20 Marks)

Module-5

- 9 Describe the Role of architects and urban planners in shaping the urban sound scape with sketches. (20 Marks)

OR

- 10 Explain the various sources of industrial noise pollution. What are its effect on workers? Give brief details about the methods in which the pollution can be controlled. (20 Marks)

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