

# CBCS SCHEME

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15ARC73

## Seventh Semester B.Arch. Degree Examination, Dec.2019/Jan.2020 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 sound and distance inverse square law with a diagram along with a numerical example. (15 Marks)  
b. Define threshold of audibility and pain. (05 Marks)

OR

- 2 a. Explain the behavior of sound in an enclosed space with neat sketches. (12 Marks)  
b. How do the shape and volume of the room affect acoustical performance. (08 Marks)

### Module-2

- 3 Explain the following sound absorbent in acoustics with sketches (if necessary)  
a. Acoustical plaster and sprayed on materials. (10 Marks)  
b. Carpets and fabrics.  
Briefly describe the advantages, disadvantages and fixed/installation methods for same. (10 Marks)

OR

- 4 Explain the following sound absorbents in acoustics with sketches (if necessary)  
a. Prefabricated acoustical units.  
b. Acoustical Blankets or isolation blankets.  
Briefly describe the advantages, disadvantages and fixed/installation methods for the same. (20 Marks)

### Module-3

- 5 Elaborate on the architectural design consideration involved in acoustical design. (20 Marks)

OR

- 6 Explain in detail the acoustical design requirements for,  
a. A Motion Picture Theatre (10 Marks)  
b. Open Air Theatre. (10 Marks)

### Module-4

- 7 Explain in detail the factors responsible for "environmental noise" in urban areas with examples and suggest the remedial measures to overcome such noises for a peaceful living. (20 Marks)

OR

- 8 a. Explain "Air Borne Noise" and "Structure Borne Noise" with examples. (10 Marks)  
b. Describe single leaf partition and multiple leaf partition with neat sketches. (10 Marks)

### Module-5

- 9 a. What are the various sources of industrial Noise pollution? Briefly explain any five causes. (12 Marks)  
b. Mention the various methods to be employed to reduce the same. (08 Marks)

OR

- 10 Write short notes on the measures to be taken to reduce the noise pollution along with the acceptable noise levels for the below listed.  
a. Air Traffic (07 Marks)  
b. Railways (06 Marks)  
c. Roadways. (07 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.