

CBCS SCHEME

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18ARC73

Seventh Semester B.Arch. Degree Examination, Jan./Feb. 2023

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. State inverse square law. Discuss its application and limitation. (10 Marks)
b. Define sound intensity. Explain decibel scales. (10 Marks)

OR

- 2 a. Explain the conditions which cause the following acoustic defects. Suggest corrective measures for the same. i) Focusing of sound ii) Flutter echo iii) Dead spots. (12 Marks)
b. State Eyring's formula and its application. (08 Marks)

Module-2

- 3 a. What is speech transmission index? What parameters assist in assessing the same? (08 Marks)
b. Explain the functioning of sound level meter. What does 'A' stand for in a reading of 35dB'A' on the sound level meter. (12 Marks)

OR

- 4 a. Suggest and explain suitable types of acoustic materials for the following spaces. i) Departmental stone ii) Lecture hall iii) Industrial building iv) Open office. (12 Marks)
b. What are NC curves? Explain. (08 Marks)

Module-3

- 5 a. Explain the principles of Greek theaters to achieve favorable acoustics. How are Roman theaters different from Greek theaters. (10 Marks)
b. Suggest strategies to achieve speech privacy in open office plans. (10 Marks)

OR

- 6 a. Explain considerations to arrive at volume and shape of an auditorium. (10 Marks)
b. What are the considerations to achieve favorable acoustic environment in i) Home theaters ii) Recording studios. (10 Marks)

Module-4

- 7 a. A multistoried office space is located on a busy arterial road. What are the different types of noises which need to be considered? (12 Marks)
b. Explain Transmission Loss. Suggest methods to reduce noise at source. (08 Marks)

OR

- 8 a. A conference hall on the fourth floor of building requires noise control strategies. Suggest appropriate detail for : i) Composite walls ii) Floating floors. (10 Marks)
b. What are the methods to achieve vibration isolation for mechanical noise from wall, floor, and ceiling? (10 Marks)

Module-5

- 9 a. What are the methods to reduce noise in industries due to i) Friction ii) Turbulence. (12 Marks)
b. Suggest traffic planning strategies for road traffic to reduce noise levels. (08 Marks)

OR

- 10 a. Explain the significance of enclosures and barriers to control noise. (10 Marks)
b. Suggest strategies at Town planning level and site level to mitigate noise. (10 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.