CBCS SCHEME

USN | | | | | | | | | | |

21ARC65

Sixth Semester B.Arch. Degree Examination, June/July 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 Explain the following with neat sketches:
a. Inverse square law **(05 Marks)**
b. Equal contours of loudness **(05 Marks)**
c. States sabines law and its applications in interior spaces. **(10 Marks)**

OR

2 a. Define wavelength, velocity and amplitude of sound, explain the relationship between the 3 with a formula. **(10 Marks)**

b. What is reflection of sound? Explain the reflection of sound on concaves, convex and flat surfaces and acoustical defects related with each. **(10 Marks)**

Module-2

3 a. Explain the working of sound level meter with sketches. **(10 Marks)**

b. What type of materials and methods should be adopted for absorption of low frequency range sounds? Illustrate with appropriate sketches. **(10 Marks)**

OR

4 Explain the following terms:
- Speech intelligibility
- NRC
- Anechoic wedge
- Diffusers

With the real time usage of above to achieve better acoustics. **(20 Marks)**

Module-3

5 Explain the designing of lecture halls and auditoriums. Give examples of different types of auditoriums explaining their characteristics with suitable examples. **(20 Marks)**

OR

6 Explain acoustical features in Roman and Greek theatres with neat sketches. **(20 Marks)**

Module-4

7 a. What is flanking of sound? Explain with neat sketches flanking paths of sound in a building. **(10 Marks)**

b. What is Air Borne Noise? Mention different sources of Air borne noise. **(10 Marks)**

OR

8 Discuss the different types of structure borne of noise and explain methods of construction used in mitigation of structure borne noise, with suitable examples. **(20 Marks)**

Module-5

9 a. What are the different sources of industry noise? Explain with suitable examples. **(10 Marks)**

b. What is significance of sound transmission class value? **(10 Marks)**

OR

10 Discuss site planning strategies adapted by architects and urban planner to combat environmental noise. **(20 Marks)**

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