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09ARC6.3

Sixth Semester B. Arch Degree Examination, Dec.2017/Jan.2018

Building Services IV – Acoustics

Time: 3 hrs.

Max. Marks:100

**Note: 1. Answer any FIVE full questions.
2. Draw neat sketches wherever necessary.**

1. What is meant by acoustics? Explain how study of acoustics is important for an architect. (20 Marks)
2. Write short notes on the following :
 - a. Reflection from flat surface
 - b. Reflection from concave surface
 - c. Reflection from convex surface
 - d. Sound masking. (20 Marks)
3. What is sound absorption and sound absorption co-efficient? List the classification of absorbers and explain in detail with sketches. (20 Marks)
4.
 - a. Define reverberation and reverberation time. How does the Sabine's equation help the acousticians? (08 Marks)
 - b. Discuss the measures to be taken to control the RT in a lecture hall. (12 Marks)
5.
 - a. List the causes of indoor noise. How can architectural planning help in minimizing the same? Explain. (10 Marks)
 - b. Briefly describe transmission of noise and transmission loss. (10 Marks)
6.
 - a. What are the various urban noises? What measures can be taken through urban planning and urban design principles to control the same? (15 Marks)
 - b. Discuss in detail, the accepted noise levels. (05 Marks)
7. What causes noise in industrial building? Provide detailed explanation with sketches as applicable. (20 Marks)
8.
 - a. How would you control noise in following places :
 - i) airport ii) recording studio. (10 Marks)
 - b. Why road traffic is considered a menace for environment? Explain in detail. (10 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.