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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)