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**Sixth Semester B.Arch. Degree Examination, Nov./Dec. 2016**  
**Building Services - IV**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer FIVE full questions.**

- 1 List the Acoustical defects of Auditorium. Explain any four with sketches and remedial measures. (20 Marks)
- 2 a. Explain the following technical terms and how they contribute for the Reverberation time with examples.  
i) Reflection  
ii) Absorption. (10 Marks)
- b. List the factors influencing the absorption of energy explain (10 Marks)
- 3 Explain any five building materials with acoustical properties. (20 Marks)
- 4 a. Explain Sabine's formula. (10 Marks)
- b. Explain Eysing's formula. (10 Marks)
- 5 Write a shot note on :  
a. Sound insulation  
b. Sound masking  
c. Threshold of pain audibility  
d. Inverse square law. (20 Marks)
- 6 a. What is noise? Explain. (05 Marks)
- b. Explain types of sources of noise. (05 Marks)
- c. Write about acceptable noise levels. (10 Marks)
- 7 Explain Airborne noise and structure borne noise and controlling method. (20 Marks)
- 8 Write about industrial noise and controlling methods with sketches. (20 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.