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09ARC6.3

Sixth Semester B. Arch. Degree Examination, June/July 2016
Building Services - IV

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions, choosing THREE form Part – A and any TWO from Part – B.***

PART – A

1 a. Explain acoustics and elaborate how acoustics plays a major role while designing and planning. **(10 Marks)**

b. Explain inverse square law through a neat sketch and derivations. **(10 Marks)**

2 Explain the following with short notes and neat sketches :

a. Sound foci
b. Flutter echo
c. Whispering gallery
d. Frequency of sound. **(20 Marks)**

3 Explain the following with short notes and sketches :

a. Decibel scale
b. Loudness
c. Threshold of audibility and pain
d. Sound masking. **(20 Marks)**

4 An art school wants to construct a multipurpose auditorium in its campus. So suggest a design ideas for an efficient multipurpose auditorium for a capacity of 500 seating. Draw a neat sketches of plan, sections, with interior surface treatment, assuming suitable technical data. **(20 Marks)**

5 Explain the following with notes and sketches :

a. Porous materials
b. Panel absorbers
c. Cavity resonators
d. Variable absorbers. **(20 Marks)**

PART – B

6 a. Explain noise and classifications. Write the causes for environmental noise in urban areas with examples. **(10 Marks)**

b. Suggest the remedial measures to avoid unwanted sound in noisy areas. **(10 Marks)**

7 Explain the following :

a. Air borne noise
b. Structure borne noise
c. Noise masking
d. Sound insulation. **(20 Marks)**

8 Explain as how would you control noise in the following places with neat sketches.

a. Airports
b. Railway stations
c. Bus terminals
d. Hospitals. **(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.