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Printed Pages : 2 **AR–805**

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 8558 Roll No.

B. Arch.

(SEM. VIII) EXAMINATION, 2006-07

ACOUSTICS

Time : 3 Hours] *[Total Marks : 50*

Note : *(1) Attempt any **five** questions.*

*(2) All questions carry **equal** marks.*

(3) In case of numerical problems assume data wherever not provided.

(4) Be precise in your answer.

1. What is sound? Discuss its properties in detail. **10**

2. Discuss general principles and factors which are important for good acoustical design. **10**

3. Discuss the behaviour of sound in an enclosure, with the help of examples and neat sketches. **10**

4. Explain the difference between Echo and Reverberation. Discuss reverberation time also. **10**

5. What is absorption of sound? Discuss the properties of good acoustical materials. **10**

6. Write short notes on any **four** : **10**

(a) Frequency and pitch of sound

(b) Intensity and loudness of sound

(c) Absorption coefficient

(d) Dead spots

(e) Composite absorbers

(f) Planning against outdoor noise.

7. A studio has the following inner dimensions : **10**

Length = 12 m, width = 8m and height = 4.5 m. The ceiling is provided with acoustic tiles having absorption coefficient of 0.35. Curtains in heavy folds, having absorption coefficient of 0.5 are provided on one of the short walls. The absorption power of other surfaces (such as doors, pelmets etc.) of the studio may be taken as 14.9 m^2 – sabins. It is decided to vary the reverberation time from 0.75 to 1 second by provision of revolving panels with central hinge. Compute the following :

(a) Extra absorption units required with each time of reverberation.

(b) Coefficients of absorbent material on both faces of revolving panel, and

(c) Area of wall panel.
