



**B.Tech. Degree VII Semester Examination in Civil Engineering**  
**(Habitat Engineering and Construction Management)**  
**May 2002**

**CE 706(B) ARCHITECTURAL ACOUSTICS**  
**(1995 Admissions)**

*Time: 3 Hours*

*Max. Marks: 100*

*(Answers to be supplemented with necessary sketches wherever essential)*

- I Explain the mechanism of sound reflection and related laws. Elaborate how well these reflections can be used in the acoustical control of various architectural spaces. (25)
- OR**
- II a) What are the units for measuring intensity of sound? Explain the effect of sound on man. (15)
- b) What sound criteria to be borne in mind while designing a school in busy high way? Sketch the landscaping scheme you will adopt for a school campus for the front yard between the main block and the high way. (10)
- III a) What are the common defects that occur in auditorium and highlight their causes and remedies? (15)
- b) Give suggestions for minimum acoustic treatment for a multipurpose hall to avoid echo indicating their location and type of treatment. (10)
- OR**
- IV Write short notes on:
- (i) Reverberation time
- (ii) Flutter echo
- (iii) Dead spot
- (iv) Articulation test
- (v) Room shape vs. Reverberation time. (5 x 5 = 25)
- V a) Define the terms 'sound' and 'noise'. How is environmental noise measured in relation to human activities?
- b) Sketch the means and methods one will adopt in the planning, design and layout of a building adjoining the main road to control noise. (25)
- OR**
- VI What are the sources of noise in ventilation systems? Explain the method you adopt to control the noise in ventilating ducts in multistoried buildings. (25)
- VII a) What are 'absorbers' in acoustic design? Explain them in detail with reference to the function. (10)
- b) With the help of a sketch how you can vary the absorption value of various spaces with in and outdoor. (15)

**OR**