

B. ARCHITECTURE PART I EXAMINATION, 2006

(2nd Semester)

ARCHITECTURE ACOUSTICS

Time : Three hours

Full Marks : 100

Answer any *five* questions.

All questions carry equal marks

1. Considering a source of sound in a live room, explain and deduce the expression for growth of intensity of sound in a live room.

Find the value of intensity after the lapse of long time interval.

20

2. a) What are the basic criteria to be considered to design a general purpose auditorium ?
b) Give a short outline how to design the ceiling and sitting arrangement in an auditorium.
c) Discuss with the help of a sketch that, balcony is an integral part of the auditorium. 4+8+8
3. a) Discuss the different criteria for a music room.
b) Narrate the requirements for performers and listeners in a music room. 10+10

[Turn over

[2]

4. Define the criteria for selection of a suitable place for a school building and give a sketch for selection of places for class rooms, play ground and auditorium, music room and justify your views. 20
5. a) Narrate the specific criteria for sound picture theatre and how does it vary from legitimate theatre.
b) Design an OAT (open-air theatre) to accommodate about 1000 listeners. Discuss the measures taken for sitting arrangement. 10+10
6. a) Discuss the criteria for a Recording Studio.
b) How does the Television studio differ from Recording studio ? What are the different arrangement and treatment you would carry for Television studios. 10+10
7. a) Define reverberation time. How will you choose the reverberation time in small and big auditorium.
b) Describe briefly how will you determine the reverberation time for a speech room.
c) How does the reverberation time varies with frequency, and what is the precautionary measure one must adopt to get uniform response. 6+6+8