

**Question no. 1 is compulsory. Answer any other two questions.**

**Neat to the point answers with appropriate labelled sketches will fetch due credit.**

1. Fill in the following blanks with appropriate word / words: — 1 x 7
  - (i) A \_\_\_\_\_ and clearly discernible reflected sound received at a point within the enclosure when any sound emanates from any part of that enclosure is defined as echo.
  - (ii) The number of sound vibrations passing through a given point in a second may be defined as the \_\_\_\_\_ of that sound wave.
  - (iii) Loudness is a sensation produced in human ear which depends on the \_\_\_\_\_ of sound and also its frequency.
  - (iv) The highest intensity of sound that can be perceived by an average human ear is its \_\_\_\_\_.
  - (v) Screening or barriers in the path of sound can create an \_\_\_\_\_, if the sound is of a high frequency.
  - (vi) The insulation of one brick thick wall having approximately 488 kg / sq cm is \_\_\_\_\_.
  - (vii) The audience factor considered for acoustical design of large halls is \_\_\_\_\_.
  
2. (a) What is the importance of sound absorption in acoustics? 2  
(b) Classify sound-absorbents and state the functions of each type. 12
  
3. (a) What may be the possible indoor sources of noise nuisance in educational buildings? 4  
(b) With regards to their contribution to air-borne noise, classify the rooms / spaces in an educational building with two examples of each. 10
  
4. Discuss strategies that are to be adopted regarding the *Internal Design* of an auditorium against noise nuisance. 14