

Noise Pollution

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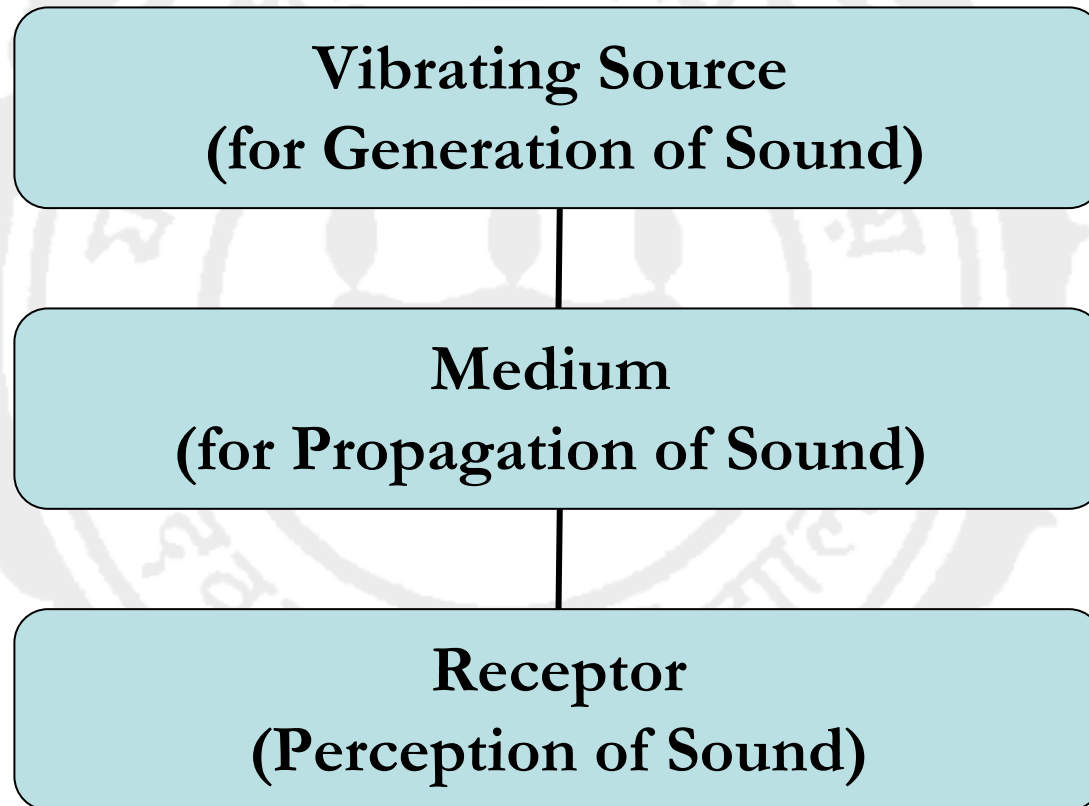
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Definition of Noise

- ❑ Noise is derived from the Latin word 'nausea' implying 'unwanted sound' or 'sound that is loud, unpleasant or unexpected', which may adversely affect the health and well being of individuals or population.
- ❑ Sound is defined as the perception of certain quality of mechanical vibration of substances, propagating through suitable medium (usually air) by human ear.

Elements of Sound



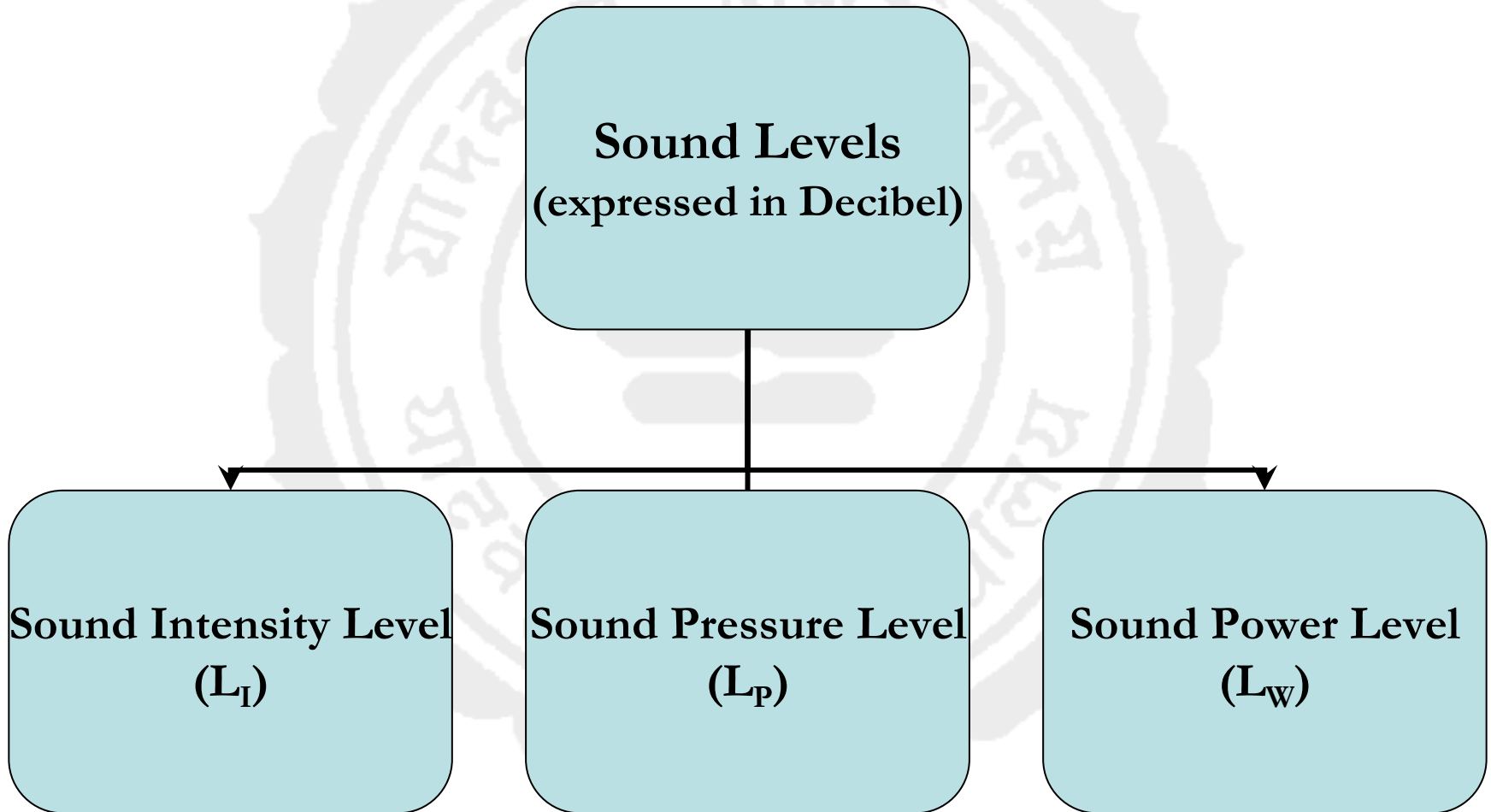
Sources of Noise Generation

- ❑ Industrial machineries
- ❑ Electrical and electronics appliances viz. television, music system and public address system
- ❑ Construction activities viz. driving of piles, dismantling old structures etc.
- ❑ Diesel Generator (DG) sets
- ❑ Transportation sources (Road traffic, locomotives, aircrafts etc.)

Effects of Noise

- ❑ Temporary Hearing Loss or Temporary Threshold Shift (TTS)
- ❑ Permanent Hearing Loss (ranging from slight impairment to total deafness)
- ❑ Psychological disorders (viz. nervous breakdown, annoyance due to rest and/or sleep interference)
- ❑ Physiological disorders (viz. digestive system disorder, cardio-vascular diseases, high blood pressure, head-aches, dizziness, inefficiency and insomnia)

Sound Levels



Sound Level Meter

- ❑ Sound levels are measured with the help of an instrument called 'sound level meter', which contains an accessory called 'calibrator', capable of generating reference sound.



Ambient Noise Standards in India

Area Code	Category of Area/ Zone	Limits in dB(A) Day Time	Limits in dB(A) Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Noise Pollution Control Strategies

- ❑ Enclosing the noise source or receptor
- ❑ Maintaining a suitable distance between the noise source and receptor
- ❑ Constructing barriers between the noise source and receptor as followed in the case of highways
- ❑ Avoiding construction in the zone of high level sound
- ❑ Positioning of openings away from noise sources
- ❑ Controlling noise at the point of generation by acoustics silencers and vibration isolators
- ❑ Ensuring proper maintenance of mechanical installations and machineries
- ❑ Substitution of old machines
- ❑ Use of personal safety measures viz. ear plug