

# AR423 **Building Services-II** (3-0-0)

(Acoustics)

To develop the knowledge and skill required for understanding acoustics in buildings and its integration with architectural design.

## **Module-1**

Introduction to architectural acoustics-characteristics and measurement of sound, frequency, intensity, decibel scale.

Acoustics and acoustical environment behavior of sound in an enclosed space. Principle of geometrical acoustics, different acoustical defects in auditoriums and its solutions; reverberation & reverberation time calculations-Sabine's formula and its interpretation, dead and live room.

## **Module-2**

Design of auditorium –size, shape, sitting arrangement design criteria for speech and music, acoustical correction, design and modification.

## **Module-3**

Open air acoustics: Free field propagation of sound, absorption from air and natural elements, effects of barriers, effects of landscape elements, design of open air theatre

## **Module-4**

Acoustical material: general description of acoustical materials –acoustical tiles, fibre board, acoustic plaster, composite materials etc –their use, selection criteria and construction methods.

## **References**

*A.B Wood, A textbook of sound.*

*T.M Yarwood, acoustics.*

*David Egan, Architectural acoustics.*

*Perich, Peter, Acoustics: Noise and Buildings.*