Model Question Paper-1/2 with effect from 2022-23 (CBCS Scheme)

USN | | | | | | | | | | |

Fourth Semester B.E. Degree Examination

Subject Title Building Services- IV

TIME: 03 Hours **Max. Marks: 100**

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	Marks
Q.01	a	Explain the inverse square law of sound with suitable explanation and sketches, wherever necessary. Discuss its applications and limitations.	L3	15
	b	What is sound? Explain the term threshold of pain.	L1	5
		OR		
Q.02	a	Explain any four characteristics of sound in detail	L2	20
		Module-2		
Q. 03	a	Write in detail the function and components of a sound level meter. How is it designed to record the sound levels with respect to human hearing?	L1	10
	b	Explain the following sound absorbers in acoustics with sketches. (i) Acoustical or isolation blankets (ii) Acoustical plaster and sprayed on materials	L3	10
		OR		
Q.04	a	What are cavity or Helmholtz resonators? Explain in detail how they can be applied.	L2	10
	b	What are acoustical diffusers? What are the design guidelines for good sound absorption in a room?	L3	10
		Module-3		
Q. 05	a	Explain the principles of Greek theatres to achieve favorable acoustics. Compare how Roman theatres were different from Greek theatres.	L2	10
	b	Explain the considerations to arrive at shape and volume of an auditorium	L4	10
		OR		
Q. 06	a	Write down the considerations and suggest some acoustical strategies for: (i) Indoor sports hall (ii) Open plan offices	L4	10
	b	According to IS code 2526-1963, explain the distribution of acoustic materials in auditoriums.	L2	10

Module-4				
Q. 07	a	Explain the different types of noise transmission in buildings. Give examples wherever necessary.	L1	10
	b	A conference hall on the fifth floor of a building requires noise control strategies. Suggest appropriate details for: (i) Composite walls (ii) Floating floors	L3	10
OR				
Q. 08	a	What are the methods to achieve vibration isolation for mechanical noise from wall, floor and ceiling?	L3	12
	b	Explain Transmission Loss. Suggest methods to reduce noise at source	L1	8
Module-5				
Q. 09	a	Explain the significance of enclosures and barriers to control noise.	L3	10
	b	Suggest town planning level and site level strategies to mitigate noise.	L2	10
OR				
Q. 10	a	Write in detail how the noise of following sources can be controlled (i) Airports (ii) Railway stations	L4	20

*****