

**MODEL QUESTION PAPER (CBCS 2015 SCHEME) (For Reference only)**

Note: The model question paper highlights the overall distribution of marks and provides generic examples of questions set with reference to the modules & syllabus.

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15ARC7.3

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**VII Semester B.Arch. (CBCS 2015 Scheme) Examination ..... 2018**

**BUILDING SERVICES - IV**

*Time: 03 Hours*

*Maximum Marks: 100*

**Instructions for Candidates**

1. All questions carry equal marks.
2. Answer FIVE Full questions, taking ONE question from each Module
3. Provide relevant sketches wherever necessary.

		<b>Module 1</b>	
1	a	With suitable example and values, explain Inverse Square Law and relationship of sound power level, sound intensity level and sound pressure level.	12
	b	Explain briefly the auditory response of human ear to sound and distinguish between loudness and intensity.	8
<b>OR</b>			
2	a	Explain the terms "Physical Acoustics" and "Geometrical Acoustics" with figures & Ray diagrams.	8
	b	Explain the various acoustical defects possible in enclosed spaces with its causes & remedies.	12
		<b>Module 2</b>	
3	a	Explain the function of a sound level meter with a sketch and labelling its parts. Explain the concept of frequency weighting (A, B, C - weighting) in the sound level meter.	10
	b	Explain Sound Articulation Index and Speech Intelligibility relating the two.	10
<b>OR</b>			
4	a	Explain the sound absorbing characteristics of the following with sketches and graphs: (i) Porous materials (ii) Cavity resonators	10
	b	Explain the concept of variable sound absorbs with examples and sketches, highlighting its suitability of certain auditoriums.	10

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		<b>Module 3</b>	
5	a	Explain characteristic differences between speech & music.	10
	b	What are the design considerations for a lecture theatre versus the auditorium meant for orchestra.	10
<b>OR</b>			
6	a	Explain behaviour of sound traversing in open air and the acoustical requirements for an open air theatre.	12
	b	With plans and sections of an enclosed hall, explain the necessity and way of arranging a sound reinforcement system.	8
		<b>Module 4</b>	
7	a	Explain difference between sound & noise with examples. What are the various classification of noise. Explain each one.	12
	b	Explain the methods of controlling the air-borne noise in buildings.	8
<b>OR</b>			
8	a	Explain with sketches the various constructional details you would employ for sound isolation in buildings.	12
	b	What are the ways of isolating noise from machinery.	8
		<b>Module 5</b>	
9	a	Explain the various sources of industrial noise.	8
	b	Explain with sketches various methods to mitigate noise in a mechanical industry.	12
<b>OR</b>			
10	a	Discuss the ill effects of noise pollution on human beings.	8
	b	Explain the strategies for dealing with noise at site and city planning level.	12