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BAR-039

BACHELOR OF ARCHITECTURE (B.Arch.)

Term-End Examination

00163

December, 2018

BAR-039 : ARCHITECTURAL SCIENCES AND SERVICES – II (ILLUMINATION AND ACOUSTICS)

Time : 3 hours *Maximum Marks : 70*

Note : *Question number **1** is **compulsory**. Answer any **four** questions from the rest. Use of scientific calculator is permitted.*

1. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Munsell System

(b) Visual Acuity

(c) Maintenance Factor

(d) Diffraction of Sound

(e) Sound Masking

(f) Reverberation of Sound

(g) Illumination

2. Explain with diagram, the effect of adding sound absorption treatment to rooms. How are the following corrections achieved using sound absorbers ? *14*

(a) Reverberation control

(b) Noise reduction

(c) Echo control

3. List down and explain the acoustical parameters affecting the perception of speech in a lecture room and the design solutions for the same. *14*

4. What is meant by impact isolation ? What are the various floor-ceiling construction methods for impact isolation ? *14*

5. Explain how building forms and orientation can provide sound isolation from external noise. *14*

6. What is a skylight ? Explain with a neatly labelled diagram, the design of a skylight based on factors like

(a) daylight distribution, and

(b) interior surface reflection. *14*

7. What are shading devices ? Describe the design of shading devices for various building orientations. *14*
