

BACHELOR OF ARCHITECTURE (B.Arch.)

Term-End Examination

00385

December, 2014

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

Time : 3 hours

Maximum Marks : 70

Note : Attempt any **five** questions. All questions carry equal marks.

1. What do you understand by the following : 14
 - (a) Sky component
 - (b) Externally reflected component
 - (c) Internally reflected componentHow would you determine each of these ?

2. Explain lumen method of artificial lighting.
What is the role of mounting height ? How do you determine the impact of indirect lighting while deciding mounting height ? 14

3. What are the characteristics of good lighting in a hospital ? Give ideas about typical strategies to get good daylighting in hospital wards and other areas. 14

4. Write short notes on the following : *5+4+5=14*
- (a) Glare and its control in upper floors of a high rise building.
 - (b) Surface reflectance in architectural design.
 - (c) Luminous flux and their distribution in various luminaires.
5. What is the impact of sky conditions on daylight utilization ? Explain with particular reference to overcast and clear sky conditions. *14*
6. What types of sound absorption materials would you use for an auditorium, a generator room and a corridor ? Explain their role in controlling noise in these areas. *14*
7. Discuss the problems of structure borne noise in buildings. Explain with examples and suggest possible solutions. *14*
8. What do you understand by 'Noise Reduction', 'Sound Absorption' and 'Reverberation Time' ? Discuss their relevance in building design and functions. *14*
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