

00218

ILLUMINATION & ACOUSTIC

Term-End Examination

June, 2010

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

Time : 3 hours

Maximum Marks : 70

*Note : (i) All questions carry equal marks.
(ii) Attempt any five questions. 3 out of section - A
and 2 out of section - B.*

SECTION - A

1. What do you understand by the term "perception of light" ? Explain the role of "quantity of light", "eye system", "cone of vision" with suitable definitions of terms used. Illustrate using diagrams. 14

2. How is daylight necessary for work spaces ? What are the different design criteria to be considered while designing a space ? Which should have sufficient daylight in different seasons ? 14

3. Explain daylight factor method for daylight analysis. What is the role of interior finishes in highlighting the daylight condition ? Explain giving three examples. 14
4. What are various types of artificial lamps ? Explain their energy and light output characteristics. What considerations do you keep in mind while selecting lamps for energy efficiency ? 14
5. Explain lumen-method for determining artificial lighting from a given source. What is the role of mounting height with respect to indirect lighting ? Explain using illustrations or examples. 14

SECTION - B

6. What do you understand by sound intensity and decibel scale? Also, explain concept of frequency and wavelength. How does the above affect the design of a given space? Explain using any one space type as an example. 14
7. How are the acoustical considerations for an auditorium different from that of a conference hall? What is the role of sound reflections and absorption in both? 14
8. An auditorium is adjoining a high traffic road. What design measures would you recommend to control noise at the level of: 14
- (a) interior planning of the auditorium
 - (b) planning of exterior of the auditorium as well as the space between the auditorium and the road.
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