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BAR-039

00761

ILLUMINATION & ACOUSTIC

Term-End Examination

December, 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 from section - A
and 2 from section - B.

SECTION - A

1. What is the criteria for qualitative & quantitative requirements of illumination in, say, hotel and educational buildings? Explain the concept of Lux levels and lumens with respect to the above. **14**
2. How do you determine requirements of number of lamps for artificial lighting? What do you understand by "Coefficient of utilization" and "maintenance factor". **14**

3. What do you understand by energy efficient lighting? 14
- (a) Give examples of indoor lighting fixtures and outdoor lighting fixtures (lamp types).
 - (b) Explain how the planning of a building is affected by the above.
4. What is the impact of natural lighting on heat load? Why do we recommend daylight use for energy conservation? 14
5. What are the design and technical considerations for daylight planning? Explain daylight factor method. 14

SECTION - B

6. Explain the different measures for noise control in hospital buildings. What is the role of spatial planning in the case of hospital buildings? 14
7. Explain the acoustical qualities & characteristics of a good lecture room. What is role of reverberation time in acoustics? How do you ensure suitable absorption for maintaining reverberation time? 14
8. Explain terms "Noise reduction", "Sound absorption", "decibels scale", "sound intensity" and "Sound refraction". Explain with examples. 14
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