

BACHELOR OF ARCHITECTURE (B ARCH)

Term-End Examination

June, 2014

**BAR-059 : ARCHITECTURAL SCIENCES &
SERVICES - IV (ENERGY SYSTEMS AND HVAC)**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks. Draw sketches wherever necessary. Assume missing data suitably if any.

1. Discuss and draw the electrical distribution systems for the following :
 - (a) Two storeyed building 7
 - (b) A multi storeyed building 7

2. (a) Define electric load of a room. Discuss the method of calculating electric load of a building. 7
(b) Suggest the electric installations and fixtures for a drawing room of 7.50×4.50 m. Also calculate the electric load. 7

3. Write short notes on : (Any two) 7x2
 - (a) Electric circuit for a staircase lighting
 - (b) Role and working of MCB
 - (c) Principles of street lighting

4. Discuss the role of fire regulations in physical planning of various types of public and multistoreyed buildings. Also discuss the various fire warning systems. 14

 5. Explain the following with neat sketches :
 - (a) Fire staircase - material, location and use. 7
 - (b) Escape chutes - material, location and use. 7

 6. (a) What do you understand by HVAC systems also discuss about the noise generated by these systems. 7
(b) Explain in brief the supply air and return air ducting systems. 7

 7. Define comfort zone. Explain the various set of parameters for comfort zone for different seasons. 14

 8. (a) Draw a cross - sectional detailed sketch of a moving walkway. 7
(b) Draw and discuss the design of lift banks for carrying capacity and travel time. 7
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