

BACHELOR OF ARCHITECTURE (BARCH)

Term-End Examination

June, 2012

BAR-059 : ENERGY SYSTEMS AND HVAC

Time : 3 hours

Maximum Marks : 70

*Note : Attempt **any five** questions. All questions carry equal marks. Draw sketches wherever necessary.*

1. (a) Discuss the electrical distribution systems in a residential building. Draw neat sketches also. 7
- (b) Discuss, with neat sketches, the various systems for electrical wiring in a high rise building. 7
2. (a) Define electric load of a building. 7
- (b) Draw the electrical layout for an Architects' office of three room, one conference hall and one toilet and also calculate the electric load of the suggested fixtures. 7
3. (a) Write down the measures to be taken for electrical fittings during construction to avoid adverse impact on structure. 7
- (b) What is the difference between neutral and earthing ? Discuss. 7

4. (a) Discuss with neat sketches, the various methods of earthing in a building. 7
(b) Write down the difference between single - phase and three - phase supply of electricity. 7
5. Discuss the various fire regulations for various type of residential and public - low and high rise buildings. 14
6. (a) Discuss, with neat sketches, the various types of fire alarm systems with their principles of working. 7
(b) Discuss, with neat sketches, various types of fire fighting system with their appropriate uses. 7
7. (a) Define Psychometric chart. Explain the significance of the chart in designing air conditioning load. 7
(b) Define comfort zone. Explain the reason of variable parameters as per variable seasons. 7
8. Write short notes on (*Any two*) : 7x2=14
(a) Moving walkways - sketch
(b) Escape chute
(c) Layout of two-way switch
-