

BACHELOR OF ARCHITECTURE (B.Arch.)

Term-End Examination

June, 2017

00290

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

Time : 3 hours

Maximum Marks : 70

*Note : Question no. 1 is **compulsory**. Attempt any **four** from the rest. All questions carry equal marks.*

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1. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) VAV
 - (b) Fire Alarm
 - (c) Two-Way Switch
 - (d) Service Lift
2. Prepare an electrical floor plan for a studio apartment and develop a wiring layout for the same. Keep provisions for 1 washing machine, 1 geyser and two window ACs, in addition to usual appliances and lights. Indicate the number of circuits to be provided in the panel. Specify the size of wire for the service entry and the conduit size.

14

3. Discuss the different types of fire extinguishing systems recommended by National Building Code. *14*

 4. Discuss the importance of earthing in a building. Describe the fire safety programme followed in and around a typical high rise office block. *14*

 5. Describe the method of calculating air-conditioning load of any building. Discuss the general principles. Also, enumerate the working of a 'heat pump'. *14*

 6. Discuss the basic criteria for lift design in a multi-storied office building with reference to 'return travel time' and 'lift bank'. *14*
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