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BAR-059

BACHELOR OF ARCHITECTURE (B.Arch.)

Term-End Examination

00053

June, 2018

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

Time : 3 hours *Maximum Marks : 70*

Note : *Part 'A' is **compulsory**. Attempt any **two** questions from Part 'B'. Attempt any **two** questions from Part 'C'.*

PART A

1. (a) Write short notes on the following : *2×5=10*

(i) Return Travel Time

(ii) LEDs

(iii) Conduit Wiring

(iv) Fire Extinguishers

(v) Overload

(b) Describe in detail, the electrical distribution systems in a 2 BHK residence. Support your answer with detailed sketches. *10*

PART B

*Attempt any **two** questions :*

2. (a) How does an MCB function ? Explain the usage and functional advantages over the conventional fuse. *7*

(b) Differentiate between HT and LT power supply. Which are the various electrical systems involved in these ? *8*

3. (a) What is an AHU ? Explain its functions. *7*

(b) Explain various fire escape systems involved in planning of building design. Support your answer with layout plans for the same. *8*

4. (a) Comment on vertical transportation systems for high rise buildings. Differentiate between lifts and escalators with respect to the installations and advantages. *8*

(b) Write in detail about sprinkler systems and their activation mechanism. *7*

PART C

*Attempt any **two** questions :*

5. Give in detail, layouts for main and sub distribution systems of electrical supply in any building. *10*

6. Describe the design of lifts with the parameters mentioned below : *10*

(a) Carrying capacity

(b) Grouping of lifts

7. What is HVAC ? What are its various components ? Explain the functioning of its various components. *10*