

# CBCS SCHEME

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15ARC5.3

## Fifth Semester B.Arch. Degree Examination, Dec.2018/Jan.2019 Building Services - II

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing one full question from each module.*

### Module-1

- 1 a. What are the various sources of electricity generation? Explain with sketches. (12 Marks)  
b. What is the importance of electrical services and its implication on building design? (08 Marks)

OR

- 2 Write short notes on any four of the following:  
a. SUB-Station  
b. Transformers  
c. Ring Main Unit and Metering Panel  
d. AC and DC  
e. IS Rules  
f. Distribution System (20 Marks)

### Module-2

- 3 a. Explain with sketches various ON-site and OFF-site renewable energy systems. (12 Marks)  
b. What are the various methods of energy conservation techniques in electrical system? (08 Marks)

OR

- 4 Write short notes on any four of the following:  
a. H.T metering and sub metering panels  
b. Rising mains and sub mains  
c. UPS requirement  
d. Point wiring and point matrix  
e. Wiring installation system  
f. Wiring supply system (20 Marks)

### Module-3

- 5 a. What is earthing? Explain with neat sketch any one type of earthing system. (12 Marks)  
b. What are the basic NBC rules pertaining to the above? (08 Marks)

OR

- 6 Write short notes on any four:  
a. Fuses  
b. MCB and ELCB  
c. MCCB and ACB  
d. Lightning protection system  
e. Factors affecting selection of earthing system (20 Marks)

**Module-4**

7 Write short notes on any four:

- a. Led and CFL
- b. System of Luminaries
- c. Façade lighting
- d. Landscape lighting
- e. Laws of illumination

(20 Marks)

**OR**

- 8 a. What is lighting? What are the factors contributing to good lighting? List few recommended LUX levels/lumens. (10 Marks)
- b. Sketch and explain various methods to integrate day lighting with artificial lighting for a energy efficient building. (10 Marks)

**Module-5**

9 Explain the following extra low voltage systems (ELVS):

- i) Telephone
- ii) Data and cable TV network
- iii) Service provider requirement and automation
- iv) Point matrix for residences

(20 Marks)

**OR**

- 10 a. For a 2-BHK residence prepare an electrical layout and calculate electrical load showing the following:
- i) Light points
  - ii) Fans
  - iii) Power points
  - iv) Low voltage points
  - v) Distribution board and meter board
- (14 Marks)
- b. Calculate electrical load for the same. (06 Marks)

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