

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BARCH
BRANCH: ARCH.**

**SEMESTER: V
SESSION : MO/2018**

SUBJECT : AR5301 BUILDING SERVICES - III (ELECTRICAL & LIGHTING)

TIME: 1.5 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 30.
 2. Candidates may attempt for all 30 marks.
 3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. The missing data, if any, may be assumed suitably.
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- Q1 (a) Explain briefly the criteria for location and requirement of substation. [2]
(b) What are the different sources of Renewable and Non-renewable energy? [3]
- Q2 (a) Explain the general principles of planning of an electrical wiring installation. [2]
(b) Draw the symbols for electrical installations in buildings for the following- [3]
i) Two way switch
ii) Conduit on surface
iii) Concealed conduit
iv) Earthing
v) Bracket fan
vi) Fire alarm indicator
- Q3 (a) Draw a sketch of Hydroelectric Power Plant and highlight the different part of it? [2]
(b) Write short note on the following: [3]
(i) Transformer (ii) Distribution Box
- Q4 (a) Define 'Earthing'. Why it is needed in the buildings? [2]
(b) Explain the schematic electrical layout plan for one 2 BHK Flat of a multi-storeyed building, [3]
Showing the single line wiring diagram and the different installations.
- Q5 (a) How is power Transmitted? Differentiate between Overhead lines and Underground cables? [2]
(b) What is Glare? Explain the various types of glare. [3]
- Q6 (a) Explain briefly the general principles of openings to afford good daylighting. [2]
(b) Discuss briefly three types of domestic wiring. [3]

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