

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID-SEMESTER EXAMINATION SP/2025)**

**CLASS: B.ARCH.
BRANCH: ARP**

**SEMESTER: IV
SESSION: SP/2025**

**SUBJECT: AR252 BUILDING SERVICES - II (ELECTRICAL & LIGHTING)
TIME: 02 Hours**

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper, etc., if applicable, will be supplied to the candidates
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Q.1(a)	What are the different sources of energy generation?	[2]	1 2
Q.1(b)	Discuss the role of the transformer in electrical distribution systems.	[3]	1 1
Q.2(a)	Define 'Earthing', why it is needed in the buildings?	[2]	3 2
Q.2(b)	Explain briefly the typical arrangement of Plate Earthing using proper sketches.	[3]	2 1
Q.3(a)	Explain the general principles of planning of an electrical wiring installation.	[2]	2 3
Q.3(b)	Discuss briefly the three types of domestic wiring system, also discuss about the advantages and disadvantages of each of them?	[3]	2 1
Q.4(a)	Differentiate between Overhead lines and Underground cables.	[2]	3 2
Q.4(b)	Explain the distribution system of electricity starting from grid generation to an individual House.	[3]	3 1
Q.5(a)	Discuss in detail the following types of domestic wiring: (i) Batten wiring, (ii) Conduit wiring	[2]	2 1
Q.5(b)	Explain the schematic electrical layout plan for one 2 BHK flat in a building, showing the wiring diagram and the different installations.	[3]	3 3

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