

(For Reference only)

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**V Semester B.Arch. (CBCS 2015 Scheme) Examination**  
**Building Services - II (Electrical Services and Illumination)**

*Time: 03 Hours**Maximum Marks: 100***Instructions for Candidates**

1. All questions carry equal marks.
2. Answer total FIVE Full questions, taking ONE Full question from each Module
3. Support your answers with neat sketches.

		<b>Module 1</b>	
1	a	Briefly explain the importance of electrical services and its implication on building design.	8
	b	What is meant by Sub-stations? Describe different types of substations with reference to location.	12
		OR	
2	Write Short Notes on:		
	(i)	Various Codes, Acts and Standards governing electrical services in India.	5
	(ii)	Transformers and its types.	8
	(iii)	Electricity transmission and distribution system .	7
		<b>Module 2</b>	
3	a	How is electricity distributed inside building premises? Explain with sketches and line diagrams (Draw and explain with HT incomer to the consumer's main).	8
	b	What do you understand by 'uninterrupted power supply'? Explain the basic components of an 'uninterrupted power supply' system for a commercial building.	7
	c	Explain the onsite and offsite energy generation process through renewable sources.	5
		OR	
4	a	Explain lighting and electrical power supply measures that can help conserve electricity in buildings.	5
	b	What do you mean by 'LT Panel'? What are its various components?	8
	c	Explain any two types of wiring installation systems used in contemporary office buildings.	7
		<b>Module 3</b>	
5	a	Explain the need of protective devices in building electrical systems and their selection criteria.	8
	b	Explain the over current protection device- Miniature Circuit Breakers, Moulded Case Circuit Breaker with neat sketches.	12
		OR	

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6	a	Explain the importance of lightening protection system in the buildings. Explain the constraints, procedure and rules governing the same.	12
	b	Explain importance of earthing system in the buildings. Explain the plate earthing system in detail.	8
<b>Module 4</b>			
7	a	What type of lighting would you suggest for following applications? Justify your selection. (i) A conference hall (ii) An Art gallery (iii) A parking lot (iv) A drama stage.	12
	b	Explain luminaire efficacy and factors affecting it.	8
OR			
8	a	Write explanatory notes on the following: (i) Quantity of light, (ii) Lumen method of lighting calculation.	12
	b	What is meant by glare? Explain various methods of controlling glare occurring in interiors.	8
<b>Module 5</b>			
9	a	What is an Extra Low Voltage system?	5
	b	What are the modern types of Extra Low Voltage systems, explain any 3 of them in detail.	15
OR			
10	a	Prepare an electrical layout (showing light points, fan points, power points, meter boards, distribution boards, etc.) for a 2 bedroom house using Indian Standard notations. Support your design with necessary load estimations. Assume necessary data.	14
	b	Draw the circuit layout of a room contacting two lamps and one power socket outlet controlled by individual switches	6