B. TECH. (CBCS - 2014 COURSE) SEM –VIII (ELECTRICAL ENGG.) : SUMMER - 2018

SUBJECT: HIGH VOLTAGE ENGINERING

Day: **Tuesday** | **S-2018-4673** | Time: **02.30 PM TO 05.30 PM**

Date: **05/06/2018** | Max Marks : 60

N.B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Assume suitable data, if necessary.
4) Draw neat and labeled diagrams wherever necessary.

Q.1	**a)**	Explain Townsend's criteria for breakdown.	**(05)**
	b)	Explain breakdown in electronegative gases.	**(05)**
		OR	
Q.1	**a)**	What are the factors affecting corona and what are the effects of corona?	**(05)**
	b)	Explain vacuum insulation.	**(05)**
Q.2	**a)**	How to test transformer oil?	**(05)**
	b)	Explain conduction and breakdown in pure liquids.	**(05)**
		OR	
Q.2	**a)**	Explain pure liquids and commercial liquids.	**(05)**
	b)	Explain characteristics of liquid dielectric.	**(05)**
Q.3	**a)**	Explain breakdown in composite dielectric.	**(05)**
	b)	Explain electromechanical breakdown.	**(05)**
		OR	
Q.3	**a)**	Explain breakdown due to internal discharges.	**(05)**
	b)	Write a note on partial discharge.	**(05)**
Q.4	**a)**	Draw and explain standard impulse wave shape.	**(05)**
	b)	Explain multistage impulse generator.	**(05)**
		OR	
Q.4	**a)**	Explain half and full wave rectifier circuit for generation of high voltages.	**(05)**
	b)	Explain cascade transformer for generation of high voltage.	**(05)**
Q.5	**a)**	Explain Hall generators for D.C. measurement.	**(05)**
	b)	Explain Cathode-Ray-Oscillograph for voltage and current measurement.	**(05)**
		OR	
Q.5	**a)**	Explain electrostatic voltmeter.	**(05)**
	b)	Explain generating voltmeter.	**(05)**
Q.6	**a)**	Explain activities and studies in HV and UHV laboratories.	**(05)**
	b)	Explain grounding of impulse testing laboratories.	**(05)**
		OR	
Q.6	**a)**	Classify high voltage laboratories.	**(05)**
	b)	Draw and explain layout of High voltage laboratories.	**(05)**

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