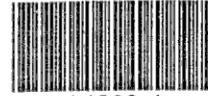


- (b) Mention the different electrical tests done on isolators and circuit breakers.
- (c) Explain with neat diagram how wide band circuit can be used for measuring partial discharge.

—x—

Printed Pages : 4



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(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 120651

Roll No.

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B. Tech. (IV Sem.) Even Semester

SPL. THEORY EXAMINATION, 2014-15

HIGH VOLTAGE ENGINEERING

Time : 2 Hours]

[Total Marks : 50

Note:(i) Attempt All questions.

(ii) All questions carry equal marks.

1. Attempt any four parts of the following : $3.5 \times 4 = 14$

(a) Describe the basic process of ionization of a gas, Also discuss about the factors affecting ionization process.

- (b) What do you know about time lag in ionization?
What are its components?
- (c) What is meant by Townsend's discharge?
Explain its main features.
- (d) What are commercial liquid dielectrics? How are they different from pure liquids?
- (e) State and explain Paschen's law.
- (f) What do you mean by intrinsic strength of a solid dielectric?

2. Attempt any two parts of the following: $6 \times 2 = 12$

- (a) Draw a typical impulse current generator circuit and explain its operation and applications.
- (b) Draw a labeled diagram of van de Graaf generator and explain its working in detail.

- (c) A Cockcroft-Walton type voltage multiplier has eight stages with capacitances all equal to $0.05 \mu\text{F}$, the supply transformer secondary voltage is 125 KV at a frequency of 150 Hz. If the load current to be supplied is $5 \mu\text{A}$, find (i) the percentage ripple (ii) the regulation.

3. Attempt any two parts of the following: $6 \times 2 = 12$

- (a) Discuss method of measuring high impulse currents.
- (b) Explain with neat diagram how rod gaps can be used for measurement of high voltage. Compare its performance with a sphere gap.
- (c) Discuss in detail about electrostatic voltmeter. What are its advantages and limitations for high voltage measurement?

4. Attempt any two parts of the following: $6 \times 2 = 12$

- (a) Discuss various tests carried out for a bushing.