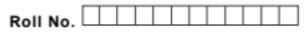


www.FirstRanker.com

www.FirstRanker.com



Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (Electrical & Electronics Engg.) (2013 & Onwards) (Sem.-7) HIGH VOLTAGE ENGINEERING

Subject Code : BTEE-802

M.Code : 75827

Time : 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Write briefly :

- Define the tuned power line.
- 2. Derive the expression of bipolar corona loss.
- 3. State the principle of insulation co-ordination
- 4. Enlist any four converter station equipment.
- 5. Explain the term electron attachment in gases.
- 6. Write any four name of insulating liquid used in high voltage equipments.
- Define 1st ionization coefficient.
- 8. Define the tripping and contact of impulse generator.
- 9. Define the front and tail times of an impulse wave.
- 10. Define the intrinsic strength of solid dielectric.

1 M-75827



FirstRanker.com

www.FirstRanker.com

SECTION-B

- Explain the different scheme used for shunt compensation in EHV lines using electrical circuit and phase diagram.
- State and explain Paschen's Law. Derive expression for (pd) min and Vbmin. Assume A = 12, B = 365, and γ = 0.02 for air. Determine (pd)min and Vbmin.
- 13. How is a lossy dielectric represented in the form of a circuit model explain it in detail?
- 14. Indicate the solid insulation application in a) power cable b) power transformer.
- An electrostatic voltmeter has two parallel plates. The movable part is 10 cm in diameter. With 10 kV between the plates, the pull is 5 × 10-3 N. Determine the change in capacitance for a movement of 1 mm of movable plate.

SECTION-C

 Why is a Cock-Craft Walton circuit preferred for voltage multiplier circuits? Explain its working with a schematic diagram.

let.com

- 17. Discuss the effect of the following parameters on the break down strength of liquid :
 - a) Hydrastatic pressure
 - b) Solid impurities
 - c) Moisture content in the oil
- 18. Write short notes on the following :
 - a) Series and shunt compensation in EHV lines
 - b) Thermal breakdown of composite dielectrics.

hand

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

2 M-75827

(S2)-495



www.FirstRanker.com