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Total No. of Questions: 18

Total No. of Pages : 02

B.Tech. (EE) PT (Sem.-9) HIGH VOLTAGE ENGINEERING Subject Code : BTEE-802 M.Code: 75643

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES :

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks 1. each.
- SECTION-B contains FIVE questions carrying FIVE marks each and students 2. have to attempt any FOUR questions.
- SECTION-C contains THREE questions carrying TEN marks each and students 3. have to attempt any TWO questions.

SECTION-A

Answer briefly :

- Write any four advantages of bundling of conductors 1. ter.cc
- 2. Define the corona.
- How is transformer insulation divide? 3.
- 4. Define the intrinsic strength of solid dielectric.
- 5. Write any four feature of epoxy resin insulation.
- Write any four name of insulating liquid used in high voltage equipments. 6.
- 7. Define the Pashert's law of gases.
- 8. Write the special features of high voltage rectifier valve.
- 9. Define the front and tail times of an impulse wave.
- 10. Write the name of different DC links.



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SECTION-B

- 11. Explain various theories related to breakdown in solids and liquid insulators.
- 12. Derive expression for (pd)min and Vbmin of pashen's law. Assume A = 12, B = 365, and $\gamma = 0.02$ 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. What is a trigatron? Explain its functions and operations.
- 15. Explain how a sphere gap can be used to measure the peak value of voltages? What are parameters and factors that influence such voltage measurements?

SECTION-C

- 16. Explain the principle and construction of an electrostatic voltmeter for HV measurements. What are its merits and demerits for high voltage AC measurements?
- 17. Discuss the effect of the following parameters on the break down strength of liquid : anker.com
 - a) Hydrastatic pressure
 - b) Solid impurities
 - c) Moisture content in the oil
- 18. Write short notes on the following
 - a) Radio interferences due to corona.
 - b) Cavitation and bubble theory for liquid breakdown.

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.