**Centurion University of Technology and Management, Paralakhemundi**

**Sub- Transformer Manufacturing (CUEG 2093) (Domain)**

**Question Bank**

**Long Type Questions:**

1. Explain the construction and working principle of underground cables.
2. Discuss the advantages and disadvantages of underground cables compared to overhead lines.
3. Describe the different types of insulation used in underground cables and their properties.
4. Discuss the various factors affecting the selection of underground cables for different applications.
5. Explain the procedure for laying underground cables and the precautions to be taken during installation.
6. Discuss the methods of fault detection and location in underground cables.
7. Explain the concept of cable sheath bonding and its importance in underground cable systems.
8. Discuss the testing procedures for underground cables and the equipment used in cable testing.
9. Explain the various types of cable faults and their causes in underground cables.
10. Discuss the different methods of cable jointing and termination in underground cable systems.
11. Explain the construction and working principle of underground cables.
12. Discuss the advantages and disadvantages of underground cables compared to overhead lines.
13. Discuss the methods of fault detection and location in underground cables.
14. Explain the concept of cable sheath bonding and its importance in underground cable systems.
15. Discuss the testing procedures for underground cables and the equipment used in cable testing.
16. Explain the various types of cable faults and their causes in underground cables.
17. Discuss the different methods of cable jointing and termination in underground cable systems.
18. Describe the different types of insulation used in underground cables and their properties.
19. Discuss the various factors affecting the selection of underground cables for different applications.
20. Explain the procedure for laying underground cables and the precautions to be taken during installation.

**Short Type Questions:**

1. What is the purpose of cable grading in underground cables?
2. Define the term "cable capacitance."
3. What is the function of cable sheath in underground cables?
4. Name the different types of cable faults.
5. What is the importance of cable spiking in fault location?
6. Define the term "conduit" in the context of underground cables.
7. What are the advantages of using XLPE insulation in underground cables?
8. Explain the concept of "cable ampacity."
9. What is the role of surge impedance in underground cable systems?
10. Define the term "electromagnetic interference" in relation to underground cables.
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12. Define the term "cable capacitance."
13. What is the function of cable sheath in underground cables?
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**Numerical Answer Type Questions:**

1. Calculate the capacitance of an underground cable with a length of 2 km and a capacitance of 0.2 microfarads per kilometer.
2. Determine the voltage drop in a 3-phase underground cable system with a current of 500 A and a resistance of 0.1 ohms/km per conductor.
3. If the insulation resistance of an underground cable is measured as 10 megaohms, calculate the leakage current.
4. Determine the maximum fault current that a 3-core underground cable with a resistance of 0.05 ohms per kilometer can handle if the voltage level is 11 kV.
5. Calculate the inductance of a single-core underground cable with a length of 5 km and an inductance of 1 millihenry per kilometer.
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