

# 22625

**23124**

**3 Hours / 70 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Assume suitable data, if necessary.
- (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
- (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. Attempt any FIVE of the following :** **10**
- a) Classify electrical equipments with regard to protection against electric shock.
- b) Explain the term routine maintenance in brief.
- c) State any two advantages of preventive maintenance.
- d) Explain routine test for measurement of DC resistance of winding in Induction Motor.
- e) List out any four contaminating agents of insulating oil.
- f) List out the different methods of testing of electrical machines.
- g) State the factors affecting life of insulation.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Describe any one method of providing Artificial Respiration.
  - b) State internal and external causes for failure of equipments.  
(Four points under each type)
  - c) With a neat diagram, explain the procedure for blocked rotor test of a single phase induction motor.
  - d) State the requirements for static machine foundations.
- 3. Attempt any THREE of the following :** **12**
- a) State any six precautions to be taken to avoid fire due to Electrical reasons.
  - b) Write down the factors affecting preventive maintenance schedule and explain them in brief. (any four points)
  - c) List out any four tools used in maintenance of electrical machines. Also write their function.
  - d) Explain the meaning and cause for -
    - i) Mechanical fault
    - ii) Electrical fault
    - iii) Magnetic fault
- 4. Attempt any THREE of the following :** **12**
- a) List out any four dos and don'ts for electrical supervisors.
  - b) Explain with diagrams the synchronous impedance method of finding regulation of alternator.
  - c) Describe with neat diagram, the impulse test on power transformer.
  - d) State and explain any four important properties of transformer oil.
  - e) State the meaning of phasing out test ? When is it required ? Explain the method of carrying out this test in brief.

- 5. Attempt any TWO of the following :** **12**
- a) Describe no load test of three phase induction motor with a neat diagram.
  - b) Prepare Trouble shooting chart for three phase transformer.
  - c) Write down maintenance schedule of distribution transformer as per ISS10028 – 1981
- 6. Attempt any TWO of the following :** **12**
- a) Prepare Trouble shooting chart for 3 phase slip ring induction motor.
  - b) With a neat diagram explain the procedure to conduct Back-to-Back method on two single phase transformers to find its efficiency.
  - c) Describe vacuum impregnation method of varnishing with its neat diagram.
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