

22625

12223

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) List out factors influencing severity of shock. (Any four)
- b) State the maintenance to be carried out on breather used in transformer.
- c) State the classification of maintenance.
- d) State any two advantages of direct testing method.
- e) List out factors affecting life of insulation. (Any four)
- f) List out basic requirements of foundation. (Any four)
- g) List out contaminating agents of transformer oil.

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- 2. Attempt any THREE of the following :** **12**
- a) Prepare trouble shooting chart for 1 ϕ Induction motor (Any four troubles)
 - b) List out internal and external causes of failure of transformer.
 - c) List out do's and don'ts for electrical supervisors - (Any four each)
 - d) Explain any four factors that govern the foundation of transformer.
- 3. Attempt any THREE of the following :** **12**
- a) Describe a step by step procedure for rescuing electric shock affected person.
 - b) Describe the various factors affecting preventive maintenance schedule.
 - c) Describe procedure and objective of reduced voltage running up test on 3 ϕ Induction motor.
 - d) Prepare trouble shooting chart for following troubles in transformer.
 - i) Zero output voltage
 - ii) Low output voltage
 - iii) Oil temperature is very high
 - iv) Overheating of transformer winding.
- 4. Attempt any THREE of the following :** **12**
- a) List out safety precautions of be taken against electric fire.
 - b) Describe procedure for No. load and blocked rotor test to be carried out on 3 ϕ Induction motor with neat diagram.
 - c) List out Electrical and Magnetic fault (each four fault) in transformers.
 - d) Describe desirable properties of transformer oil (any eight)
 - e) Describe back to back test on 1 ϕ transformer with neat diagram.

- 5. Attempt any TWO of the following :** **12**
- a) List out routine, type and supplementary tests to be carried out on 3 ϕ Induction motor as per IS-4029-2010.
 - b) Describe open circuit test to be carried out on 1 KVA 230/110V transformer with diagram. Give the formula for calculating corrected case loss.
 - c) Prepare preventive maintenance schedule for 3 ϕ Induction motor.
- 6. Attempt any ONE of the following :** **12**
- a) State the use of following tools –
 - i) filler gauge
 - ii) Bearing puller
 - iii) Spirit level
 - iv) Growler
 - v) Dial Indicator
 - vi) Earth tester
 - b) List out Routine, Type and special test to be carried out on transformer as per IS 2026.
 - c) State necessity and Methods for revarnishing of insulation. Describe Vacuum impregnation method with neat diagram.
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