

22625

12526

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 answer 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) State any four activity should be taken if person gets an electric shock.
- b) State the four advantages of preventive maintenance.
- c) State which factors consider while developing preventive maintenance schedule.
- d) Define :-
- i) Routine Test
- ii) Type test.
- e) State any four methods of cleaning of insulation of electrical machines.
- f) List the different methods of testing of electrical machines.
- g) List out factors affecting on life of insulation material.

P.T.O.

- 2. Attempt any THREE of the following: 12**
- a) What precaution should be taken to avoid fire due to electrical reasons?
 - b) With the help of neat diagram explain the phasing out test on three phase Transformer.
 - c) Explain the use of each tool.
 - i) Bearing puller
 - ii) Growler
 - iii) Sprit level
 - iv) Megger
 - d) What are different routine and type test of three phase transformer as per Indian standards?
- 3. Attempt any THREE of the following: 12**
- a) State different methods of artificial respiration and explain Nielson's method shortly.
 - b) Describe the various factors affecting preventive maintenance schedule.
 - c) Explain with neat circuit diagram to perform No-load and Blocked rotor test on three phase Induction motor.
 - d) What are the factors to be considered in designing of the machine foundation?
- 4. Attempt any THREE of the following: 12**
- a) State factors on which severity of shock depends?
 - b) Explain the procedure for leveling and alignment of electrical machines.
 - c) Explain the trouble shooting chart of three phase transformer for following trouble:
 - i) Overheating
 - ii) Humming Noise
 - iii) Sagging
 - iv) Rusting of tank

- d) State different causes of contamination of transformer oil.
- e) Explain how SC test is performed on single phase transformer and how its result will find?

5. Attempt any TWO of the following: 12

- a) What are the basic requirements of foundation for
 - i) Static machines
 - ii) Rotating machines
- b) Draw and explain the procedure for back to back test on transformer (Sumpner's test)
- c) List the internal and external causes for failure of electrical equipment in details.

6. Attempt any TWO of the following: 12

- a) List out the Routine test and Type test to be carried out on three phase induction motor as per IS-4029-1967 and IS 325-1961. Explain any one in detail.
 - b) A short circuit test was carried out to find impedance and load losses on a 1 KVA, 230/115 V, 1 phase transformer and following are the observations on primary side:
Isc = 4.35 A, Vsc = 9 V, Wsc = 35 W, Room temp, =30°C
Then to find :-
 - i) Impedance at 75°C
 - ii) Impedance voltage at 75°C
 - iii) Copper losses at 75° C
 - c) Explain the following test for transformer oil :- (Any two with neat diagram)
 - i) Crackle test
 - ii) Dielectric strength test
 - iii) Acidity test
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