

BITT POLYTECHNIC Ranchi-835217
Department of Electrical Engineering

Sub: - Maintenance of Electrical Machines

Sem- 5th (EE)

A. Objectives Questions

1) On what factors does the size of the induction motor depend?

- a. Power output
- b. Frequency
- c. Speed of rotation
- d. Both (A) and (C)
- e. All of these

2) On what factors is the rated voltage selected for an induction motor?

- a. Motor rating
- b. Starting current
- c. Fault levels of supply
- d. All of these
- e. None of these

3) What is the temperature limit for the storage of machines at site before installation?

- a. Temperature above + 25 °C
- b. Temperature above + 5 °C
- c. Temperature less than 10 °C
- d. Temperature above 15 °C

4) What is the main cause of harmful vibrations in the machine?

- a. Mechanically unbalanced rotor
- b. Bent or cracked shaft
- c. An excessively pulsating load
- d. All of these
- e. None of these

5) Which types of bearings are used for fractional HP motors?

- i. Sleeve bearing
- ii. Ball bearing
- iii. Roller bearing
- iv. Needle bearing

- a. i & ii only
- b. ii & iii only
- c. iii & iv only
- d. i, ii, iii & iv

6) Which type of cooling system is preferred for turbo alternators?

- a. Forced air
- b. Hydrogen
- c. Water cooled
- d. Only (b) & (c)
- e. All of these

7) On what type of bearing does the heavy power electrical machine rotate?

- a. Ball bearing
- b. Sleeve bearing
- c. Roller bearing
- d. Any of these

8) What is the maximum permissible voltage drop that can be sustained while starting an electrical rotating machine?

- a. 15 – 20 % of the rated voltage
- b. 20 – 25 % of the rated voltage
- c. 5 – 10 % of the rated voltage
- d. 0 – 5 % of the rated voltage

9) Which enclosures are preferred for preventing entry of falling water or dirt?

- a. Totally enclosed
- b. Drip splash or hose proof
- c. Open end bracket
- d. All of these

10) Which among these tests are performed periodically?

- a. Repair tests
- b. Maintenance testing
- c. Manufacturers tests
- d. All of these
- e. None of these

B. Short Answer Types Questions

1. Write short note on
 - a) Safety
 - b) major accident hazard
2. What are causes of electrical accidents? Write the preventive measure methods.
3. What are electrical shocks? Write precaution to be taken against electrical shock.
4. What is the method of treatment for electrical shock?
5. What are Causes of electrical fires? Write precaution to be taken to avoid fire.
6. What is routine, preventive and breakdown maintenance?
7. What are advantages of preventive maintenance?
8. Write down the factors affecting preventive maintenance schedule.
9. What is routine and preventive maintenance of 1 phase induction motors.
10. What is routine and preventive maintenance of 3 phase induction motors?

B. Long Answer Types Questions

1. Explain I.E. Act & statutory regulations for safety of persons and equipment working with electrical installation.
2. What is the preventive maintenance Synchronous Machines?
3. What is the preventive maintenance D.C machine?
4. Write the short notes tests on insulating oil (a) Acidity test (b) Sludge test (c) Crackle test (d) flash point test.
5. What is the preventive and routine maintenance of distribution transformers?

Solutions:-

1. d.
2. d.
3. d.
4. d.
5. a.
6. e.
7. b.
8. a.
9. b.
10. b.