

S. B. Roll. No.....

ELECTRICAL MACHINES-II
5th Exam/Elect/4526/May'25
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

15x1=15

Q1. Do as directed.

- a. Stator
- b. Rotor
- c. Slip
- d. Cogging
- e. Mechanical losses.
- f. Which motor is generally used in tape recorders?
- g. Star-delta starter is normally used for induction motors from _____ to _____ H.P.
- h. Stator stampings are made of _____.
- i. When the induction motor is at standstill, the value of slip is _____.
- j. For the same rating, a _____ induction motor takes low starting current .
- k. A universal motor has _____ starting torque.
- l. In ceiling fans generally _____ motors are used.
- m. In electric clocks _____ motor is used.
- n. The starting torque of a capacitor motor is _____.
- o. Ball bearings offer less friction as compared to _____ bearings.

SECTION-B

6x5=30

Q2. Attempt any six questions.

- i. Define slip. What is its importance in induction machines?
- ii. Draw and explain torque slip curves of three phase induction motor.
- iii. Describe the main features of a double cage induction motor.
- iv. Describe the blocked rotor test on an induction motor. What data is obtained from this test?
- v. What are the causes of low power factor of three phase induction motor?
- vi. Explain the "double revolving field theory".
- vii. Explain construction of universal motor?
- viii. Describe the construction & working of Shaded pole motor.
- ix. Write note on hysteresis motor?

SECTION-C

3x10=30

Q3. Attempt any three questions.

- a. Explain the construction and working of a three phase induction motor.
- b. Explain in detail the working of Star-Delta starter with suitable diagram.
- c. Explain the various methods used for the speed control of an induction motor.
- d. Explain the construction & working of 1- phase AC Split phase capacitor start motor.
- e. Write a short note on the following:
 - i) Capacitor start and run motor
 - ii) Reluctance motor

S. B. Roll. No.....

ELECTRICAL POWER-I
5th Exam/Elect/8520/May'25
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Do as directed.

15x1=15

- a. _____ cost of hydro power station is lowest.
- b. Turbine converts kinetic & potential energy of steam into _____ energy.
- c. Load factor is the ratio of _____ & _____
- d. Which nuclear reaction occurs in Nuclear power plant for energy generation?
- e. A line which connects consumer to the supply is called _____
- f. Write any one advantage of transmitting electrical power at high voltage.
- g. Write the full form of ACSR.
- h. Step up sub stations are installed near _____
- i. KVA rating of equipment is _____ proportional to power factor.
- j. Name the various supporting structures for overhead lines.
- k. An over-excited synchronous motor on NO load is called _____
- l. Define Sag.
- m. When all the three phases are short circuited, the fault is called _____ fault
- n. Power loss in transmission lines is due to _____ of the line.
- o. Write the methods to improve power factor.

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. What are the salient features of Nuclear power plant? What are the requirements of site for installing Nuclear power plant?
- ii. Define the following terms: a) Fixed cost b) Load factor c) Demand factor.
- iii. Describe the importance of Sag in overhead lines.
- iv. Write a short note on ACSR conductor.
- v. Describe some of the components of a Pole mounted substation.
- vi. What are the advantages & disadvantages of outdoor sub-station?
- vii. Define power factor. What are the disadvantages of low power factor?
- viii. Write a short note on Pin type insulator.
- ix. Classify overhead transmission lines. Define voltage regulation of a transmission line.

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Explain various types of faults in overhead transmission system.
- b. Explain feeder, distributor & service mains. Draw a single line diagram showing these components.
- c. Explain the concept of corona effect in overhead transmission lines. Write the advantages & disadvantages of corona. What are the methods to reduce corona effect?
- d. What is the importance of non-conventional sources of energy in present scenario? Describe in detail about solar energy.
- e. An overhead line has a span of 150 m between two level supports; conductor weighs 0.62 kg per metre length. The allowable tension is 586 kg. Calculate the Sag if the wind pressure is 0.3685 kg per metre length.

Library

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ESTIMATING AND COSTING IN ELECTRICAL ENGINEERING
5th Exam/Elect/5526/May'25
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Fill in the blanks.

15x1=15

- a. In a staircase wiring _____ switches are used.
- b. PVC stands for _____.
- c. The fuse is always connected in _____ wire.
- d. ACSR stands for _____.
- e. The egg insulator is used at _____ wire.
- f. The size of conductor is based on _____ capacity.
- g. TRS stands for _____.
- h. SWG stands for _____.
- i. A _____ is a process used by organizations to invite bids for projects or the supply of goods.
- j. An induction motor takes _____ times the normal current at the start.
- k. DPIC stands for _____.
- l. A cable is specified as 23/76. The SWG of the cable is _____.
- m. The armoring is done on underground cable for _____ protection.
- n. A person who prepares estimate is called _____.
- o. After receiving quotations, a _____ statement is prepared.

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. Explain the purpose of estimating and costing.
- ii. Give the comparison between overhead and underground system.
- iii. Give the comparison between neutral and earth wire?
- iv. What is the difference between indoor and outdoor substation?
- v. What do you mean by comparative statement? Explain.
- vi. Enlist the components of overhead line and explain.
- vii. Discuss the points to be considered while designing wiring of domestic installation.
- viii. Write the advantages and disadvantages of conduit wiring.
- ix. Explain the method of earthing using G.I. pipe.

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Explain in detail different types of earthing systems.
- b. With a neat sketch of a 11Kv/0.4Kv pole mounted substation, explain all the major components.
- c. Explain the various wiring types with advantages & disadvantages of each type.
- d. Prepare an estimate for service connection to a single storey building is to be provided with single phase 230V, 50Hz having load of 5kw. The supply is to be given from overhead line 30 m away from building.
- e. What is the tender? Discuss about tender notice and make a proforma of tender notices.