

## Second Year

**ELECTRICAL TECHNICIAN****Second Year (P.C. 313/71)****Subject : Electrical Machines Lab****Paper - I****Time : 3 Hours****Max. Marks : 50****Section - I****1 x 40 = 40 Marks**

1. Identify the terminals of given DC shunt machine and measure the resistance of Armature and Field windings by multimeter/ohm meter (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
2. Identify the terminals of given DC compound machine and measure the resistance of Armature and Field windings by multimeter/ ohm meter (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
3. Connect, start the given DC shunt motor with 3-point starter (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
4. Connect, start the given DC shunt motor 4-point starter. (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
5. Identify the terminals of given 3-ph induction motor. (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
6. Connect, start the given 3-ph induction motor with DOL starter/star delta starter. (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
7. Connect, start the given 3-ph induction motor with Star delta starter. (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).

8. Connect, start the given 1-ph capacitor start induction motor with motor switch. (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
9. Connect, start the given 1-ph shaded pole motor with motor switch (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
10. Connect, start and run the Universal motor measure the speed with Tacho meter (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
11. Connect a 1-ph induction motor and observe the effect of addition of capacitor (Improvement of power factor). (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
12. Measure the power in RLC circuit (Consider capacitor type induction motor as load). (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
13. Observe the Currents and Voltages in 3-ph induction motor in each phase and line (Measurement of voltages and currents in 3-ph circuit/start-Delta load). (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).
14. Study the relation of voltage components of RLC series circuit. (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).

## Section - II

Record	<b>5 Marks</b>
Viva	<b>5 Marks</b>

**ELECTRICAL TECHNICIAN****Second Year**

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**MODEL QUESTION PAPER**

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**Subject : Electrical Machines Lab****Paper - I**

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**Time : 3 hours****Max. Marks : 50**

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**Section - I****1 x 40 = 40 Marks**

3. Connect, start the given DC shunt motor with 3-point starter (Aim, Tools and Materials, Circuit Diagrams, Procedure, Observations and Precautions).

**Section - II**

Record

**5 Marks**

Viva

**5 Marks**

**Note :** The serial numbers of the questions mentioned in are the serial numbers in question bank. In practical examination only the serial number of the questions will given, the examiner shall decode it with question bank and give the questions.

\* A batch of Students will be allotted four or five different questions

**ELECTRICAL TECHNICIAN****Second Year****PRACTICAL SCHEME OF VALUATION****Subject : Electrical Machines Lab****Paper - I****Time : 3 hours****Max. Marks : 50****Section I****1 x 40 = 40 Marks**

Aim, Tools, Materials and Equipments	:	5 Marks
Circuit diagram	:	5 Marks
Order of performing the experiment	:	8 Marks
Handling of tools	:	5 Marks
Utilization of materials	:	5 Marks
Procedure	:	5 Marks
Precautions	:	2 Marks.
Result/Appearance/Presentation	:	5 Marks

**Section II**

Record	:	5 Marks
Viva	:	5 Marks

**ELECTRICAL TECHNICIAN****Second Year (P.C. 313/72)****Subject : Domestic Appliances Lab****Paper - II****Time : 3 Hours****Max. Marks : 50****Section - I****1 x 40 = 40 Marks**

1. Test locate the rectify fault in given Electric room heater.
2. Dismantle replace the heating element in given Ordinary electric iron.
3. Test, locate and rectify fault in given Automatic electric iron.
4. Dismantle and replace the heating element given Electric stove.
5. Test the given Immersion water heater and replace the power cord.
6. Dismantle, re-assemble and identify parts in given Electric geyser.
7. Locate the fault in given Electric kettle.
8. Dismantle and change armature of given Electric Table fan.
9. Dismantle and change armature of given Electric ceiling fan.
10. Dismantle re-assemble the Electric room cooler.
11. Test and rectify the fault given Voltage stabilizer.
12. Test and rectify the fault given Emergency light.
13. Identify the fault and make proper connections and Fluorescent lamp.
14. Test and given table fan and make suitable rewinding for armature.

**Section - II**

Record

**5 Marks**

Viva

**5 Marks**

**ELECTRICAL TECHNICIAN****Second Year****MODEL QUESTION PAPER****Subject : Domestic Appliances Lab****Paper - II****Time : 3 hours****Max. Marks : 50****Section - I****1 x 40 = 40 Marks**

13. Identify the fault and make proper connections and Fluorescent lamp.

**Section - II**

Record

**5 Marks**

Viva

**5 Marks**

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**ELECTRICAL TECHNICIAN****Second Year****PRACTICAL SCHEME OF VALUATION****Subject : Domestic Appliances Lab****Paper - II****Time : 3 hours****Max. Marks : 50****Section I**

Aim, Tools, Materials and Equipments	:	5 Marks
Circuit diagram	:	5 Marks
Order of performing the experiment	:	8 Marks
Handling of tools	:	5 Marks
Utilization of materials	:	5 Marks
Procedure	:	5 Marks
Precautions	:	2 Marks
Result/Appearance/Presentation	:	5 Marks

**Section II**

Record	:	5 Marks
Viva	:	5 Marks



**ELECTRICAL TECHNICIAN****Second Year (P.C. 313/73)****Subject : Electrical Estimating and Utilization Lab****Paper - III****Time : 3 Hours****Max. Marks : 50****Section - I****1 x 40 = 40 Marks**

1. Making connections of 1-ph service mains, main board and distribution board (FOUR SUB CIRCUITS).
2. Making connections of 3-ph service mains, main board and distribution board (SIX SUB CIRCUITS).
3. Taking the measurement of college block and preparation of wiring layout.
4. Install a surface conduit wiring in a model building/class room, make the list materials.
5. Preparation of an estimate in standard proforma for installing 5-ph motor in a small work shop.
6. Preparation of estimate for main board, distribution board and motor and control panel for controlling of TWO 1-ph motors.
7. Preparation of estimate for main board, distribution board and motor control panel for controlling of a 1-ph motor and a 3-ph motor.
8. Prepare a detailed estimate to install a 3-ph, 5-wire OH distribution line along with street lights for 2-km length.
9. Prepare a single line diagram of for a model colony/village along with a making of transformer.
10. Preparation of detailed list of materials and accessories of plinth/pole mounted transformer.
11. Prepare a detailed estimate for installation of PA system in college ground.
12. Test the allotted wiring installation.

**Section - II**

Record 5 Marks

Viva 5 Marks

**ELECTRICAL TECHNICIAN****Second Year**

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**MODEL QUESTION PAPER**

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**Subject : Electrical Estimating and Utilization Lab****Paper - III**

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**Time : 3 hours****Max. Marks : 50**

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**Section - I****1 x 40 = 40 Marks**

6. Preparation of estimate for main board, distribution board and motor and control panel for controlling of TWO 1-ph motors.

**Section - II**

Record

**5 Marks**

Viva

**5 Marks**

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**ELECTRICAL TECHNICIAN****Second Year****PRACTICAL SCHEME OF VALUATION KEY****Subject : Electrical Estimating and Utilization Lab****Paper - III****Time : 3 hours****Max. Marks : 50****Section I****(1 x 40 = 40 Marks)**

Aim, Tools, Materials and Equipments	:	5 Marks
Circuit diagram	:	5 Marks
Order of performing the experiment	:	8 Marks
Handling of tools	:	5 Marks
Utilization of materials	:	5 Marks
Procedure	:	5 Marks
Precautions	:	2 Marks
Result/Appearance/Presentation	:	5 Marks

**Section II**

Record	:	5 Marks
Viva	:	5 Marks