EM Technical Drawing sheets (TD sheets)

*Instructions*

✔ There are total 6 T.D. sheets. *Half imperial drawing sheets*. You can buy from near by stationary shop. It is not compulsory to buy the drawing sheet having printed nameplate. We have nameplate stamp with the college.

✔ Use Scale, Pencil, Stencil and pro-circle to draw diagrams and lettering. *No free hand diagram or lettering is allowed*

✔ Leave 1 cm border from all sides.

✔ *Use pencil only*. Pen (dot pen / ink pen / coloured sketch pen) is not allowed

✔ TD sheet data given in PDF form on pace website and what's app group.

*Note*

Keep these TD sheets properly. It is the part of EM term work required for *XII std Board practical examination*
<table>
<thead>
<tr>
<th>NO.</th>
<th>NAME</th>
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<th>DATE C</th>
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<tr>
<td>1.</td>
<td>ELECTRICAL SYMBOLS</td>
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<td>2.</td>
<td>AC MOTOR STARTER</td>
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# Electrical Symbols

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<td>18.</td>
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## Electrical Symbols

- **NO.**: Number
- **NAME**: Name of the electrical component
- **SYM**: Symbol for the electrical component
AC MOTOR STARTERS

DOL STARTER

1. 3 PHASE SUPPLY
2. ICTP SWITCH
3. FUSE
4. NVC
5. CONTACTS
6. 3 PHASE I. M.
7. BIMETALLIC STRIP
8. OLC

STAR DELTA STARTER

1. 3 PHASE SUPPLY
2. ICTP SWITCH
3. ROTOR
4. CHANGE OVER SWITCH
5. START
6. RUN

AUTO TRANSFORMER STARTER

1. 3 PHASE SUPPLY
2. ICTP SWITCH
3. SUPPLY
4. AUTO TRANSFORMER
5. START
6. RUN

PACE JUNIOR SCIENCE COLLEGE
ANDHERI / BORIVALLI / DADAR / THANE / POWAI / NERUL

COMM. NAME:

COMP. NAME:

SHEET NO.

SCALE: ELECTRICAL MAINTENANCE

ROLL NO.: STD. / DIV.:

ALL DIMENSIONS ARE IN MM

CKD BY:

BRANCH:
DC MOTOR STARTERS

3 POINT STARTER

4 POINT STARTER

STARTER WITH NLR

STARTER FOR SERIES MOTOR

BLOCK DIAGRAM SHOWING 3 POINT STARTER

OLC : OVER LOAD COIL
NVC : NO VOLTAGE COIL
Z-ZZ : SHUNT FIELD WINDING
S1-S2 : SERIES FIELD WINDING
A-AA : ARMATURE
NLR : NO LOAD RELEASE
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Scale: 1:1
MEASURING INSTRUMENTS

MOVING IRON ATTRACTION TYPE METER

- Scale
- Pointer
- Controlling System
- Bobin
- Coil
- Spindle
- Iron Piece
- Air Friction Damping
- Air Chamber

MOVING IRON REPULSION TYPE METER

- Pointer
- Spindle
- Bobin
- Coil
- Damping
- Controlling System

PERMANENT MAGNET MOVING COIL METER

- Diam
- Pointer
- Spindle
- Spring
- Permanent Magnet

DATE: PACE JUNIOR SCIENCE COLLEGE ANDHERI / BORIVALI / DADAR / THANE / POWAI / NERUL
COMM.:
COMP.:
NAME:
SHEET NO.:
SCALE: ELECTRICAL MAINTENANCE
ROLL No.:
STD. / DIV.:
ALL DIMENSIONS ARE IN MM
 CKD BY: BRANCH: