

## **1.5. ELECTRICAL SAFETY AND PRECAUTIONS**

A man who works in the electrical department must be carefully handled the work without any damage to the equipments and also workers. Because accident may occur heavy loss. He must know all the operations of electrical equipments. Otherwise wrongly handled the equipments will cause heavy loss. Electrical accident may occur only due to carelessness. Due to this, workers will get injured, damaged equipments will cause loss, because the work was stopped. To avoid this, electrical workers must follow the rules and regulations when working.

### **1.5.1. Electrical Precautions**

- Before he use the equipments, he must know the operation of that equipments. Electrical connections are made properly according to the definition.
- Only the trained and efficient person is allowed to operate, testing and repairing the machine.
- A person works in the electric post and tower post must wear the safety belt and glouse.
- If the situation is occur, the man who works on the ladder, the other persons helps to capture the ladder for safety. If it is essential, then the post and the ladder must be tied with a rope for safety purpose.
- After earthing the overhead lines by discharge rod, then the work will continue.
- Check the condition of all the hand tools, supply wires operated in current and also to check the earth wire is in good condition.
- To remove the plug point pin from the socket by the proper way, cannot pulling the wire.
- After the main switch is off, fuse wire must be changed. Depending upon the load, sufficient ampere fuse wire is provided.
- All the hand tools used in electrical works must be insulated.
- During made up of wiring, switch is always connected in phase line.
- If any fault occur in the electrical equipment in the houses, it will be checked and repaired after the equipment is totally disconnected from the supply.
- Ex. Fan, Grinder, Mixie etc.
- Safety equipments existing in the electrical circuit is not removed due to any reasons.
- If fire occurs in the electrical circuit, immediately the main switch is turned to off position. For extinguishing the fire any one of the following i.e. carbon-di-oxide extinguisher, dry power extinguisher can be used. Soda acid extinguisher is not used at any cost. Water is not used to extinguish the fire because it conducts electricity and cause severe accident.
- If any person getting electric shock because of touch the electric wire, immediately the supply is disconnected. The person is removed from the wire by the use of dry stick, dry wooden plank and dry cloth etc.

- Sweating hand is not used to switch ON or work on the electric supply. If the person has sweating on the hand continuously, he must wear the glove.
- The switch is in OFF position. Before to turn ON the switch to check if anybody is working in that electrical circuit.

The above points are used for electrical workers and they can be work without any damage.

### 1.5.2. Electrical Shock

Human body has a electrical conducting property. Without sweating of human body the resistance is approximately  $80000\Omega$ (Ohms) and during sweating resistance of the human body is approximately  $1000\Omega$ (Ohms). If we touch the current carrying conductor, the current is conducted through our body to earth. So the electrical circuit is closed and we get electric shock due to this, nervous structure heart, lungs and brain are affected. If the current is heavy, death may occur. Therefore we though the current is essential,if it is used wrongly, it will cause heavy loss. i.e. death loss. 13/263

To prevent this electrical shock, we know about the methods of preventive cares and protective methods for safety precautions.

### 1.5.3. Preventive method to avoid electric shock

- The Operation of electrical equipments must be known.
- Damaged wire is not used for wiring works or electrical connection.
- The Electrical Instruments used for connections (i.e. switch,plug,pushings) is not having any scratch or breakable, If it is in such a way that it must be replaced by new one.
- Requirement hand Tools are used in proper way
- The hand tools are insulated essentially.
- Proper earthing is provided.
- If the supply is taken from the socket, only the plug top is used. To avoid, the supply is taken by inserting the wire with stick in the socket.
- Depending upon the load, rated ampere fuse wire is used.
- The electrical equipment is repaired after the main switch is off.
- For any reason do not operate by overcoming the safety rules.

The electrical shock may be avoided for following the above methods in a proper way.