

# ENGINEERING AND TECHNOLOGY GROUP

TRADE: ELECTRICAL

TERM ONE SYLLABUS (2021-22)

PAPER 1          ELEMENTS OF ELECTRICAL TECHNOLOGY (THEORY)

## D.C.MOTORS

CONSTRUCTIONS,WORKING,PRINCIPLES,TYPES OF MOTORS-SERIES,SHUNT,COMPOUND AND APPLICATIONS OF DIFFERENT TYPES OF MOTORS(FRACTIONAL HORSE POWER).STARTING METHODS AND NEED OF STARTERS FOR D.C. MOTORS,SPEED CONTROL METHODS AND SPEED REVERSE METHOD OF D.C.MOTORS,COMMON FAULTS,THEIR CAUSES,TESTING AND REPAIR (NO DERIVATION).

## DIODES

TYPES OF DIODES, ITS SYMBOLS, WORKING AND ITS V-I CHARACTERISTICS OF DIODES, SPECIFICATIONS AND RATINGS, DIODES AS RECTIFIER ITS TYPES(HALF WAVE AND FULL WAVE) ZENER DIODE AND L.E.D.

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PAPER 2 ELECTRICAL DOMESTIC APPLIANCES II (THEORY)

## ELECTRIC FANS

TYPES OF FANS: CELLING FAN, PEDESTAL FAN, FRESH AIR FAN, TABLE FAN, BRACKET FAN, EXHAUST FANS, CONSTRUCTIONS, WORKING, PRINCIPLES, CHARACTERISTICS AND APPLICATIONS OF ELECTRIC FANS, COMMON FAULTS AND CAUSES, TESTING AND REPAIRS, INSTALLATION OF BRACKET FAN AND EXHAUST FAN.

## ELECTRIC MIXER

CONSTRUCTIONS, WORKING, PRINCIPLES, SPECIAL CHARACTERISTICS AND APPLICATIONS OF ELECTRIC MIXER, COMMON FAULTS AND CAUSES, TESTING AND REPAIRS, SERVICEING, MAINTENANCE AND OVERHAULING OF ELECTRIC MIXER.

## ELECTRIC WASHING MACHINES

CONSTRUCTIONS, WORKING, PRINCIPLES, SPECIAL CHARACTERISTICS AND APPLICATIONS OF DIFFERENT TYPES OF WASHING MACHINES, COMMON FAULTS AND CAUSES, TESTING AND REPAIRS, SERVICEING, MAINTENANCE AND OVERHAULING OF ELECTRIC WASHING MACHINE.

## HAIR DRYER

CONSTRUCTION AND WORKING, PRINCIPLES OF HAIR DRYER, COMMON FAULTS AND CAUSES, TESTING AND REPAIRS.

## ROOM COOLER

CONSTRUCTION, WORKING DETAILS OF ROOM COOLER, COMMON FAULTS AND CAUSES, TESTING AND REPAIR, INSTALLATION OF ROOM COOLER.

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PAPER 3

MATERIALS AND WORKSHOP PRACTICE- II (THEORY)

## **ASSEMBLY SHOP**

TOOLS, MACHINES, EQUIPMENTS AND INSTRUMENTS REQUIRED FOR ASSEMBLY SHOP, THEIR WORKING AND USE, PLANNING LAYOUT AND SETTING OF AN ASSEMBLY SHOP, RULES AND METHODS OF SEQUENTIAL ASSEMBLY OF APPLIANCES , SAFETY PRECAUTIONS AND MEASURES IN ASSEMBLY SHOP, UP KEEPING OF ASSEMBLY SHOP.

## **TESTING LABORATORY**

TOOLS AND INSTRUMENTS REQUIRED FOR TESTING LABORATORY , THEIR WORKING AND USE, PLANNING LAYOUT AND SETTING OF A TESTING LABORATORY , METHODS OF TESTING CONTINUITY, OPEN CIRCUIT, SHORT CRICUIT, EARTH FAULT IN OPEN WIDING AND CLOSE WINDING, METHODS OF MEASURING RESISTANCE, INSULATION RESISTANCE, VOLTAGE, CURRENT, POWER CONSUMPTION, TEMPRATURE AND SPEED, SAFETY PRECAUTIONS AND MEASURING IN TESTING LABORATORY, UP KEEPING OF TESTING LABORATORY

## **REPARING SHOP**

TOOLS, MACHINES, EQUIPMENTS AND INSTRUMENTS REQUIRED FOR REPARING SHOP, THEIR WORKING AND USE, PLANNING, LAYOUT AND SETTING OF REPARING SHOP, RULES AND METHODS OF REPARING, SERVICEING AND OVERHAULING OF DOMESTIC APPLIANCES , SAFETY PRECAUTIONS AND MEASURES IN REPAIRING SHOP, UP KEEPING OF REPAIR SHOP.