

MASTER COPY

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28/12/22

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GRADE - IX

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COURSE OUTLINE

Ch#01 Occupational Health, Safety and Environment	30 Periods 10 =(T), 20 = (P)
Theme/Content	Activities/Practical
<ul style="list-style-type: none"> • Importance of health and safety • Hazards • Risk Assessment • PPE,S 	<ul style="list-style-type: none"> • Visit Power lab of your institute, identify potential hazards. List PPE available and required to work there. • Recognize the required tools, equipment,PPE' and consumable materials • Check working/ functioning of the tools/equipment ,PPE' sand materials for insulation • Use Personal protective Equipment (PPE) and Ensure safe handling of Equipment • Identify any potential hazards and take appropriate action to minimize the risk.
<ul style="list-style-type: none"> • Observing Occupational Safety and Health (OSH) 	<ul style="list-style-type: none"> • Demonstrate working on 400V live circuit using appropriate PPE. • Demonstrate first aid procedure for any victim of electric current • Perform cleaning and storing of tools/equipment after use. • Demonstrate the use of Personal Protective Equipment. • Keep work place clean and.
<ul style="list-style-type: none"> • Fire Extinguisher • What is fire • Types of fire • Types of fire extinguisher 	<ul style="list-style-type: none"> • Check the expiry date of Fire extinguisher • Operate Fire Extinguisher • Perform cleaning /storing of tools,/ equipment

Ch#2 Communication Skills	36 Periods 12 =(T), 24 = (P)
Theme/Content	Activities/Practical
Working inTeam	<ul style="list-style-type: none"> • Make a team of 5 students; check the wiring of class room Identify problems and resolve them through discussion and mutual agreement
Dealing withClients	<ul style="list-style-type: none"> • Make a team of five members, two of them are service provider and remaining three are clients. • Client requires some wiring in his office. The Service provider should discuss about the types of cable, cost and quality. Service provider and client should negotiate on the cost.
Basic IT Skills	<ul style="list-style-type: none"> • Make a Detail invoice for client and send it to him along with your company profile made in Power point, by email as per demand of Client received through email Save the Invoice in a separate folder in your PC for further work. • Prepare invoice in excel and word both formats. • Send a small presentation (PowerPoint) of your company along with this invoice.

Ch#3. Technical Drawing	36= Periods 12=(T), 24= (P)
Theme/Content	Activities/Practical
<ul style="list-style-type: none"> • Introduction of drawing • Drawing Instrument • Basic and Alphabet of lines 	<ul style="list-style-type: none"> • Identify drawing instruments • Draw basic lines and alphabets of drawing lines
<ul style="list-style-type: none"> • Geometrical Construction • Free Hand sketching • Multi view Drawing 	<ul style="list-style-type: none"> • Draw different types of circles, angles, quadrilaterals, triangles, polygons • Sketch geometrical shapes and models • Draw front, side and top view of simple model.

Ch#4. Measuring Instruments	15= Periods 5=(T), 10= (P)
Theme/Content	Activities/Practical
<ul style="list-style-type: none"> • Measuring system • Multimeters (Digital, Analog) • Differentiate between Analog and Digital multi meter 	<ul style="list-style-type: none"> • Identify the measuring instruments • Perform measurement with the help of multimeter • Select the measuring range on selector scale • Reset the scales • Use Clamp on meter

Ch#5. Electrical Wiring (Domestic)	48 Periods 10 =(T), 38 = (P)
Theme/Content	Activities/Practical
<ul style="list-style-type: none"> • What is Wiring • Type of wiring • Electrical Wiring diagram • Types of Cable with respect to core • Types of Cable joints • insulation of joints 	<ul style="list-style-type: none"> • Mark locations of the electrical points, PVC/steel conduit / trunk according to the wiring diagram. • Install electrical wiring as per drawing. • Demonstrate making of different cable Joints (Straight Joint,T Joint, Cross Joint, Married Joint) • Insulate cable joints
<ul style="list-style-type: none"> • Install Electrical Wiring 	<ul style="list-style-type: none"> • Install electrical wiring to control One lamp with one switch • Install electrical wiring to control Two lamps with two switches • Install electrical wiring to control three lamps with three switches • Install Electrical wiring of (Kitchen,bedroom, Drawingroom) • Install electric wiring of hotel pointcircuit. • Install the electrical wiring of multi storey electric bell circuits. • Install the electrical wiring of stair case circuit. • Perform Go down circuit • Identify various typesof wiring testers (Phase tester, Test lamp, AVO Meter, Megger • Prepare main board • Connect main board with wiring • Prepare a series test board
<ul style="list-style-type: none"> • Electrical Wiring Test instruments 	<ul style="list-style-type: none"> • Identify the testing equipment as per requirement of job. • Understand the following electrical wiring tests. <ul style="list-style-type: none"> ✓ continuity test ✓ Polarity test, ✓ short circuit test ✓ insulation test • Perform Earthling test.