

For Electrician, Fitter, Diesel Mech., and Welder TP-25hrs & TT-7 hrs. per WEEK

For COPA TP- 30hrs. & TT-6 hrs. per WEEK

LESSON PLAN (FOR RELATED THEORY PART)

TRADE : Welder		SEM:	I	YEAR-1
LEARNING OUTCOME	W- 20	Brass – Types – Properties and welding methods Copper types – Properties and welding methods.	EXERCISE NO	LESSON NO (REF TO PRACTICAL):

DAY (1)	Hrs (2)	Major topics/Lesson Title (Reference syllabus) (3)	Details of each day plan (Explanation) /Sub topics (Reference NIMI book) (4)	Text and media content to be displayed for viewing (5)	Media nature (ie., 2D image/ 3D image / animation video/ Simulation etc.,) (6)	Whether Direct teaching or digital video for self learning (7)	Type of assessment Assessment (like Quiz, Identify, Fill in the blank, MCQ, etc.) (8)
1	1 Hr	Properties and composition of brass	Combination of copper & zinc 60% & 40 85% & 15%	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
		Brass welding by gas	Oxy-Acetylene method - use oxidising flame	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
2	1 hr	Problem in brass welding	Before melting the copper and zinc - evaporation	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
3		Flux	1)During brass welding borax paste is 2) flux increases with the	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
4	1 hr	Arc welding	We use flat position to avoid Slag exclusion and we use D.C current with electrode positive. the DC RP – Use. (SMAW) Process TIG SMIG process also suitable.	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
5	1 Hr	Pre Heating / Post Heating	For thick welding plate we preheat the thick plates to avoid the evaporation of zinc	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
6	1 Hr	Properties of Copper	A non ferrous metal of Red colour, fibrous in nature melting point 1083 C	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
7		Welding of copper	Both process by gas and arc welding	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
8	1 Hr	For oxy-acetylene	OAW process one or two nozzle number higher than used in mild steel. Neutral	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
9		Silver rod for copper	Deoxidising type filler rod. low melting temperature than base metal.	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
10	1 Hr	Cleaning	Job and filler rod must be clean. To remove the oxide layer on metal surface.	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
11		Backing bar	Heavy metal support plate used	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games
12		Peening	Aster weld to avoid distortion we do peening (i.e. slight hammering on welded piece.) that is also called stress relieving.	Text & Images	PPT Slides	Direct teaching /Video	Quiz , Assignment, Games