

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Fabrication Technology

Semester : 4

Subject Name: Practices in Welding technology – 2

Sr. No.	Course Content (Description of Laboratory Experience)
1.	DEMONSTRATION & STUDY (REPORT / OBSERVATION WRITING) 1. GTAW welding machine 2. PAW welding machine . 3. GMAW welding machine . 4. FCAW welding machine 5. Welding defects. 6. Welding distortion. effect of welding parameter (GTAW/GMAW) on weld quality. 7. WPS, PQR & WPQ for GTAW process 8. Safety equipment in welding
2.	JOB PREPARATION (WRITE SEQUENCE AND PARAMETERS OF OPERATION) 1. Job-1 GTAW practice in 1G / 1F & 2G / 2F position. 2. Job-2 PAW practice in 1G / 1F & 2G / 2F position. 3. Job-3 GMAW practice in 1G / 1F & 2G / 2F position. 4. Job-4 FCAW practice in 1G / 1F & 2G / 2F position..
3.	SEMINAR & PRESENTATION 1. Prepare a Seminar using Power Point Presentation / Transparencies on the topic covered in syllabus / beyond the syllabus 2. Give 10 minutes presentation 3. Group discussion
4.	PREPARATION OF MODELS , CHARTS QUIZ COMPETITION & SLOGANS (GROUP / INDIVIDUAL)
5.	INDUSTRIAL VISIT Term work content of industrial visit report should also include following a) Brief detail of industry visited b) Type, location, product, rough layout, human resource, etc of industry. c) Details, description and broads specification of machinery / process observed. d) Safety norms and precautions observed e) Student on observation on industrial environment, culture and attitude f) Any other detail / observation asked by accompanying faculty. Industrial visit of fabrication industry
6.	SHEET & SKETCH WORK

7.	REPORT WRITING 1. Gas Tungsten Arc Welding process (GTAW) 2. Gas Metal Arc Welding process (GMAW) 3. Plasma Arc Welding process (PAW) 4. Flux Cored Arc Welding process (FCAW) 5. Welding consumables GTAW, GMAW, PAW, FCAW 6. Welding defects (Causes & Remedies) GTAW, GMAW, PAW, FCAW & Special welding processes 7. WPS, WPQ & PQR for GTAW process as per ASME sec IX. 8. Special Welding Processes • Laser Beam Welding. (LBW) • Electron Beam Welding. (EBW) • Ultrasonic welding. • Underwater welding. • Explosive welding. • Stud welding. 9. Distortion, its types, causes & remedies 10. Various Welding Applications like • Structural. • Vertical storage tanks. • Pressure vessel. • Piping and pipe lines. • Power generating plants. • Chemicals plants. • Ships. • Railways. • Automotives. • Machinery construction. • Process plant. 11. Standard Devices & Mechanized CO2 Welding
8.	BEYOND SYLLEBUS ACTIVITIES (DEVELOP CREATIVE & INNOVATIVE IDEAS AMONG STUDENTS) Display Article, Information, Sketch, under Knowledge Zone(K-Zone), Inspiration Zone(I-Zone) & Creative zone(C-Zone)
9.	LITERATURE SURVEY 1. Library Assignment 2. Internet Surfing 3. Refer Product Pamphlets 4. Technical Magazines
10.	SHOP TALK 10 minutes presentation on shop floor / laboratory during the preparation of job / laboratory experience by the students
11	AUDIO VISUAL AIDS 1. Prepare Audio Cassette

	2. Photograph Lab Manual 3. Technical Video Download
12	PAPER SOLUTION 1. Write Paper Solution of Last Five Examination Papers
13	SCHOOL WITHIN SCHOOL 1. Guiding / Sharing /Mentoring the know-how by meritorious students to lower performing students.
14	SELF LEARNING 1. Contact with field expert, seniors, alumni and get further know-how individually or in a group. 2. Read related book/magazine/article/literature and share the content.
15	LIVE LEARNING 1. Prepare student for live learning. 2. Study activities through powerful observation. 3. Make them aware and to form a habit to Learn at any place, any time & from any person.

NOTES:

1. Term work report content of each experience should also include following.
 - a) Experience description/ data and objective.
 - b) A skill which is/are expected to be developed in student after competition of experience.
 - c) Drawing of experience / set up with labels / nomenclature to carry out the experience.
 - d) The specification of machine / equipment / devices / tools / instruments/items / elements which is / are used to carry out and to check experience.
 - e) Process parameters / set up settings values applied to carry out experience
 - f) Steps / process description to execute the experience.
 - g) Observation
 - h) Information on resented machine / equipment / devices / tools/ instrument/ item available. In market to carry out the experience.
 - i) Special / additional notes or remarks.
2. Term work report of student of regular more should exclude distance learning manual, photocopy, printed content, etc. focus should be on developing the term work as original efforts of student.
3. Term work also include experience logbook duly certified by subject teache