

# GUJARAT TECHNOLOGICAL UNIVERSITY

## Diploma in Fabrication Technology

Semester: 3

**Subject Code**

**Subject Name** WELDING TECHNOLOGY PRACTICES - 1

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Sr. No.	Course content
1	<b>DEMONSTRATION &amp; STUDY ( REPORT / OBSERVATION WRITING ) :</b> <ol style="list-style-type: none"><li>1. Study &amp; demonstration of safety equipment in welding</li><li>2. Study &amp; demonstration of arc welding equipment.</li><li>3. Study &amp; demonstration of MMAW electrodes.</li><li>4. Study &amp; demonstration of electrode oven ( Stationary &amp; portable )</li><li>5. Study &amp; demonstration of welding position.</li><li>6. Study &amp; demonstration of effect of welding parameter on weld quality</li></ol>
2	<b>JOB PREPARATION ( WRITE SEQUENCE AND PARAMETERS OF OPERATION ) :</b> <ol style="list-style-type: none"><li>1. Job-1 MMAW practice in 1G / 1F &amp; 2G / 2F position.</li><li>2. Job-2 MMAW practice in 3G / 3F &amp; 4G / 4F welding</li><li>3. Job-3 Preparation of different types of weld joint.</li><li>4. Job-4 Weld edge preparation ( single / double – V , U , bevel, J etc. )</li></ol>
3	<b>SEMINAR &amp; PRESENTATION :</b> <ol style="list-style-type: none"><li>1. Prepare a Seminar using Power Point Presentation / Transparencies on the topic covered in syllabus / beyond the syllabus</li><li>2. Give 10 minutes presentation</li><li>3. Group discussion</li></ol>
4	<b>PREPARATION OF MODELS , CHARTS QUIZ COMPETITION &amp; SLOGANS ( GROUP / INDIVIDUAL )</b>
5	<b>INDUSTRIAL VISIT :</b> Term work content of industrial visit report should also include following <ol style="list-style-type: none"><li>a) brief detail of industry visited</li><li>b) Type, location, product, rough layout, human resource, etc of industry.</li><li>c) Details, description and broads specification of machinery / process observed.</li><li>d) Safety norms and precautions observed</li><li>e) Student on observation on industrial environment, culture and attitude</li><li>f) Any other detail /observation asked by accompanying faculty.</li></ol> Industrial visit of fabrication industry.
6	<b>SHEET &amp; SKETCH WORK</b>

7	<b>REPORT WRITING :</b> <ol style="list-style-type: none"> <li>1. Write a report on WPS, WPQ &amp; PQR for MMAW process as per ASME sec IX.</li> <li>2. Write a report on welding defects.</li> <li>3. Write a report on welding codes.</li> <li>4. Write a report on welding electrodes</li> <li>5. Write a report on submerged arc welding process ( SAW )</li> <li>6. Write a report on Electro slag welding process ( ESW )</li> <li>7. Write a report on arc blow</li> <li>8. Write a report on metal transfer</li> </ol>
8	<b>BEYOND SYLLEBUS ACTIVITIES ( DEVELOP CREATIVE &amp; INNOVATIVE IDEAS AMONG STUDENTS ) :</b> Display Article, Information, Sketch, under Knowledge Zone(K-Zone), Inspiration Zone(I-Zone) & Creative zone(C-Zone)
9	<b>LITERATURE SURVEY :</b> <ol style="list-style-type: none"> <li>1. Library Assignment</li> <li>2. Internet Surfing</li> <li>3. Refer Product Pamphlets</li> <li>4. Technical Magazines</li> </ol>
10	<b>SHOP TALK :</b> 10 minutes presentation on shop floor / laboratory during the preparation of job / laboratory experience by the students
11	<b>AUDIO VISUAL AIDS :</b> <ol style="list-style-type: none"> <li>1. Prepare Audio Cassette</li> <li>2. Photograph Lab Manual</li> <li>3. Technical Video Download</li> </ol>
12	<b>PAPER SOLUTION</b>
13	<b>SCHOOL WITHIN SCHOOL :</b> Guiding / Sharing /Mentoring the know-how by meritorious students to lower performing students.
14	<b>SELF LEARNING :</b> <ol style="list-style-type: none"> <li>1. Contact with field expert ,seniors, alumni and get further know-how individually or in a group.</li> <li>2. Read related book/magazine/article/literature and share the content.</li> </ol>

**Note :**

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 completion 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 content of industrial visit report should also include following
  - g) brief detail of industry visited
  - h) Type, location, product, rough layout, human resource, etc of industry.
  - i) Details, description and broads' specification of machinery / process observed.
  - j) Safety norms and precautions observed
  - k) Student on observation on industrial environment, culture and attitude
  - l) Any other detail /observation asked by accompanying faculty.
4. Term work also include experience logbook duly certified by subject teacher.