

GUJARAT TECHNOLOGICAL UNIVERSITY**DIPLOMA ENGG.- IIIrd SEMESTER-EXAMINATION – MAY/JUNE- 2012****Subject code: 335504****Date: 31/05/2012****Subject Name: Fabrication Technology-1****Time: 02:30 pm – 05:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic

- Q.1** (a) Estimate the COST & weight of following sections and filling gaps in given table for 1 Meter / unit length (assume density/ sp. Weight of material = 7.85 gm/ cm³ Cost of raw-material = 75 RS./ kg)

DATA FOR T-SECTION :-

SR. NO.	DIMENSION IN MM				X-Sec AREA	VOLUME	WEIGHT	Total cost
	H	B	T _w	T _f	Cm ²	Cm ³	Kg/M	Rs.
1	150	150	10	10				

04

DATA FOR ANGLE :-

SR. NO.	DIMENSION IN MM			X-Sec AREA	VOLUME	WEIGHT	Total cost
	H	B	T	Cm ²	Cm ³	Kg/M	Rs.
1	65	65	8				

04

DATA FOR I- SECTION :-

SR. NO.	DIMENSION IN MM				X-Sec AREA	VOLUME	WEIGHT	Total cost
	H	B	T _w	T _f	Cm ²	Cm ³	Kg /M	Rs.
1	120	60	5	5				

06**Q.2**

- (a) Classify the cutting methods. Explain plasma cutting with neat sketch. **07**
- (b) Prepare a geometrical construction under following condition by using compass, ruler but without protector. Write the steps of construction **07**
- (1) Prepare a rectangle having a length L = 60 mm and width W = 40 mm by only
 - (2) Draw a perpendicular straight line in a given (line segment)
 $\overline{AB} = 100$ mm from point A (i.e. End point)

OR

- (b) Compare welded fabrications over other methods of manufacturing **07**

Q.3

- (a) Define and explain in brief the process of :- **07**
- 1) Lining,
 - 2) Leveling,
 - 3) Plumbing,
 - 4) Alignment,
 - 5) Erection tolerance.
- (b) List the fabrication operation work performed in structural fabrication workshop Explain in brief: **07**
- 1) Template preparation operation.
 - 2) Fastening method operation by fastening items.

OR

- Q.3** (a) Explain in brief vice with neat sketch. **07**

- (b) Draw neat sketch of miscellaneous tools and equipment used in fabrication shops **07**

Q.4

- (a) Explain in brief **07**
1) Storing, 2) Handling, 3) Stacking,
4) Color coding of structural steel.
- (b) 1) Explain safe and correct practice in bench work and fitting shops. **07**
2) Classify the files on various basis.

OR

- Q. 4** (a) Explain in brief with neat sketch:- **07**
1) Mechanical Fasteners (nuts and bolts).
2) List out the application of product of structural fabrication work.
- (b) Find the cost of job if the job having following dimensions and data. **07**
(If the cost of profile/commercial forms of metals = 70Rs./kg)
(Take density of material = 7.85 gm/ cm^3)
Pipe with O.D.= $\Phi 100\text{mm}$, I.D.= $\Phi 90\text{mm}$, length = 2 meter

Q.5

- (a) Prepare chart of commercial forms of metal for (Any -5) state their typical application **07**
- (b) Draw a neat sketch of the square frame made by following methods 90° fit-up and set-up. Prepare a bill of material (B. O. M.) for them also write the sequence of operation performed on it. **07**

OR

- Q.5** (a) Estimate the COST & weight of following sections and filling gaps in given table for 1Meter ./ unit length (assume density/ sp. Weight of material = 7.85 gm/ cm^3 Cost of raw-material = 60 RS./ kg) **07**

DATA FOR HEXAGONAL BAR :-

SR. NO.	DIMENSION A/F (ACROSS FLATE)	AREA	VOLUME	WEIGHT	Total cost
	MM	Cm^2	Cm^3	KG/M	Rs
1	120				

- (b) 1) Explain in brief : structural fabrication code and standards **07**
2) List the structural fabrication industries with their name of product to be manufactured/fabricated.
