Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA ENGINEERING – SEMESTER –III • EXAMINATION – WINTER-2015

Subject Code: 3335503 **Date: 04/ 12/2015**

Subject Name: Material & Metallurgy

Time: 10:30 AM TO 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Each question carry equal marks (14 marks)**

Q.1	(a)	Classify the engineering materials in chart form	**07**
	(b)	Explain chemical composition, properties and application of Malleable Cast Iron.	**07**
Q.2	(a)	Define the term "Steel". Explain classification of steel.	**07**
	(b)	Explain effect of different alloying element on properties of steel.	**07**
		OR	
	(b)	Compare Cast Iron, Wrought Iron, Mild Steel And Hard Steel.	**07**
Q.3	(a)	What is Bronzes? List different bronzes and explain chemical composition, properties and application of any two.	**07**
	(b)	Compare ferrous and non ferrous metal.	**07**
		OR	
Q.3	(a)	Write properties and applications of plastic.	**07**
	(b)	List different types of composite materials and explain any one.	**07**
Q.4	(a)	Write brief note on cladded materials	**07**
	(b)	Write definition of (1) Crystal (2) Structure (3) Space lattice (4) Until cell (5) Ion (6) Atom (7) Bonds	**07**
		OR	
Q. 4	(a)	Draw neat sketch of IC diagram and write three important reactions.	**07**
	(b)	Draw neat sketch of TTT diagram.	**07**
Q.5	(a)	Define the term "Solid Solution". Explain different types of solid solution with neat sketch.	**07**
	(b)	Explain procedure for preparing micro test specimen.	**07**
		OR	
Q.5	(a)	Explain Normalizing process in brief with neat sketch.	**07**
	(b)	Write brief note on ASME Sec-2.	**07**

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