Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–VII (NEW) EXAMINATION – WINTER 2020

Subject Code:2172107 **Date:21/01/2021**

Subject Name:Surface Coating Technology

Time:10:30 AM TO 12:30 PM **Total Marks: 56**

Instructions:

1. **Attempt any FOUR questions out of EIGHT questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1	**(a)**	Discuss the importance of surface engineering.	**03**
	(b)	Explain sand blasting process for surface preparation.	**04**
	(c)	Give a detailed classification of coatings with properties and applications of	**07**
Q.2	**(a)**	Give applications and limitations of anodizing.	**03**
	(b)	What is anodizing? Explain why anodizing is best suited for aluminum.	**04**
	(c)	What is phosphating? Explain the phosphating process.	**07**
Q.3	**(a)**	Explain, how properties get improved with carburizing.	**03**
	(b)	Explain factors affecting electrodeposition.	**04**
	(c)	Explain galvanizing in detail.	**07**
Q.4	**(a)**	Mention galvanizing process controlling factors.	**03**
	(b)	Write short note on chromizing.	**04**
	(c)	Discuss electroplating process with neat sketch of setup used.	**07**
Q.5	**(a)**	What is Boronizing process? List out applications.	**03**
	(b)	What do you mean by Surface composites? Explain how they differ from normal composites.	**04**
	(c)	Explain sputtering method of Physical vapour Deposition**.**	**07**
Q.6	**(a)**	Give the difference between physical vapor deposition and chemical vapor deposition.	**03**
	(b)	Explain how multicomponent deposition is carried out in physical vapor deposition.	**04**
	(c)	Explain ion implantation method.	**07**
Q.7	**(a)**	Mention factors affecting bond strength in thermal spray coating.	**03**
	(b)	Explain effect of spray gun on coating structure and properties.	**04**
	(c)	Explain plasma spray coating method. Give advantages and applications.	**07**
Q.8	**(a)**	Mention the advantages of thermal spraying over other coating techniques.	**03**
	(b)	Briefly discuss solid (pack) carburizing.	**04**
	(c)	Explain the thermal spray coating processes. Give its applications.	**07**

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