

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

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