

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII(OLD) • EXAMINATION – WINTER 2016

Subject Code: 172107**Date: 18/11/2016****Subject Name: Surface Coating Technology (Department Elective - I)****Time: 10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the importance of surface engineering. Discuss the basic aspects for the selection of a particular surface preparation method. **07**
- (b) What is anodizing? Explain aluminum anodizing process. **07**
- Q.2** (a) Classify phosphating and explain the theory of phosphating. **07**
- (b) Write note on phosphating tests. **07**
- OR**
- (b) Compare the Shot blasting and Hydroblasting surface preparation processes. **07**
- Q.3** (a) Explain Galvanizing Process and list advantages & application. **07**
- (b) Discuss chromating process and properties of coating. **07**
- OR**
- Q.3** (a) Discuss the process of chemical vapour deposition with advantages over other process. **07**
- (b) What are pickling and its need? Explain pickling process. **07**
- Q.4** (a) What is abrasive blasting? Explain different types in detail. **07**
- (b) Discuss plasma spray coating technique in detail with its application **07**
- OR**
- Q.4** (a) What is carburizing? Briefly discuss solid carburizing process. **07**
- (b) What is the scope of surface coating technology? Discuss the property requirement of coating. **07**
- Q.5** (a) Discuss the sputtering technique. **07**
- (b) Discuss ion implantation technique in detail with its application. **07**
- OR**
- Q.5** (a) Critically compare the Boronizing and Boronitriding processes. **07**
- (b) Explain Carbonitriding process. What is penetration depth? Mention factors affecting penetration depth. **07**
