

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (OLD) - EXAMINATION – SUMMER 2018

Subject Code:172107

Date:28/04/2018

Subject Name:Surface Coating Technology (Department Elective - I)

Time:02:30 PM to 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.

- Q.1** (a) Explain importance of surface engineering and basic aspects for the selection of surface preparation method. **07**
(b) Explain sputtering method of Physical vapour Deposition. **07**
- Q.2** (a) Explain chemical vapor deposition in detail. **07**
(b) Explain working of shot peening process and advantages. **07**
- OR**
- (b) Compare sand blasting, shot blasting and hydro blasting process for surface preparation. **07**
- Q.3** (a) Explain chromating and its factors affecting. **07**
(b) Describe anodizing process and its applications. **07**
- OR**
- Q.3** (a) Describe the process steps for conversion coating conversion coating. **07**
(b) Explain plasma spray coating method. Give advantages and applications. **07**
- Q.4** (a) Explain hot dip galvanizing process and process controlling factors. **07**
(b) Explain working and setup of electroplating. **07**
- OR**
- Q.4** (a) Explain electroless plating and its types. **07**
(b) What is ion implantation? Describe the use of ion beam implantation in surface modification. **07**
- Q.5** (a) What is carburizing? Briefly discuss solid (pack) carburizing. **07**
(b) What do you mean by diffusion coating? Explain the carbonitriding process. **07**
- OR**
- Q.5** (a) Critically compare the Boronizing and Boronitriding processes. **07**
(b) Describe PVD by evaporation. Explain how Multicomponent deposition is carried out in PVD. **07**
