

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI(NEW) – EXAMINATION – SUMMER 2019****Subject Code: 2163901****Date:10/05/2019****Subject Name: Coating technology****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.

MARKS

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| Q.1 | (a) Define Laser Cladding. | 03 |
| | (b) Explain Conductive Coating with some Applications. | 04 |
| | (c) Describe Surface Engineering and Hence Explain (i) Changing Surface Metallurgy (ii) Changing Surface Chemistry (iii) Adding a Surface Layer. | 07 |
| Q.2 | (a) Describe Ellipsometry for Characterization of Nanocoating . | 03 |
| | (b) Write Full form of DLC and Hence write Applications of DLC films. | 04 |
| | (c) Describe Laser Surface Alloying and Its Mixing Mechanism. | 07 |
| | OR | |
| | (c) Explain Organic Coating and Anodizing. | 07 |
| Q.3 | (a) Define Electrophoretic Deposition. | 03 |
| | (b) What is Anti-Friction Coating? Write its Applications | 04 |
| | (c) Write a short note on Galvanizing and its types. | 07 |
| | OR | |
| Q.3 | (a) Describe Anti-Scratch Coating and How it Works Briefly. | 03 |
| | (b) Describe Wear and Its type briefly. | 04 |
| | (c) Explain Wear and Wettability of Surface. | 07 |
| Q.4 | (a) Explain Non-Metallic Coating. | 03 |
| | (b) Define Coating. Write its Advantages and Disadvantages. | 04 |
| | (c) Describe Sol-Gel Coating and Radiation Cured Coating. | 07 |
| | OR | |
| Q.4 | (a) Define Electron Beam Hardening and its Uses. | 03 |
| | (b) Explain Basic Setup of Laser Cladding With Diagram. | 04 |
| | (c) Describe Surface Tension and Contact Angle. Write Application of coating. | 07 |
| Q.5 | (a) Explain ion Beam Implantation. | 03 |
| | (b) Describe Electroplating and it's Working Principle. | 04 |
| | (c) Describe Working Principle, Types and Application of Electrophoretic Deposition. | 07 |
| | OR | |
| Q.5 | (a) What are Applications of Nanocoating? | 03 |
| | (b) Describe Metallic Coating. | 04 |
| | (c) Mention and Describe any two Techniques used for Characterization of Coating. | 07 |
