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206ME010

Ph.D./M.S. (Engg.) by Research Degree Examination, Nov./Dec.2024
Surface Treatment and Finishing

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Define electroplating and explain its working with suitable sketch. **(10 Marks)**
b. Describe the Hot dip metal coating with sketch. **(10 Marks)**

OR

2 a. Explain the concept of chromium coating with sketch. **(10 Marks)**
b. Explain the Nickel plasma coating with suitable sketch. **(10 Marks)**

Module-2

3 a. Explain CVD metal spraying with sketch. **(10 Marks)**
b. Elaborate on surface preparation and mechanical properties of sprayed metals. **(10 Marks)**

OR

4 a. Explain FVD metal spraying with sketch. **(10 Marks)**
b. Elaborate on plasma coating. **(10 Marks)**

Module-3

5 a. Explain PVC coating with suitable sketches. **(10 Marks)**
b. Elaborate on spherodizing process in details. **(10 Marks)**

OR

6 a. Explain phosphate coating with suitable sketch. **(10 Marks)**
b. Elaborate surface coating testing methods. **(10 Marks)**

Module-4

7 a. Define heat treatment and list out its processes and also its applications. **(10 Marks)**
b. Explain the following:
i) Annealing ii) Normalizing. **(10 Marks)**

OR

8 a. Elaborate case hardening methods. **(10 Marks)**
b. Discuss heat treatment methods for gears spindles, cutting tools. **(10 Marks)**

Module-5

9 a. Explain hard facing coating process with sketch. **(10 Marks)**
b. Explain electro deposition techniques with sketch. **(10 Marks)**

OR

10 a. List out advantages, disadvantages and applications of electro deposition techniques. **(10 Marks)**
b. Elaborate on nano coating and its characterization. **(10 Marks)**

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