

Total No. of Questions : 4]

SEAT No. :

PB167

[6269]-381

[Total No. of Pages :1

T.E. (Mechanical Engineering) (Insem)

SURFACE ENGINEERING

(2019 Pattern) (Elective-II) (Semester - II) (302052-B)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4.*
- 2) *Neat diagrams must be drawn whenever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*
- 5) *Use of electronic pocket calculator is allowed.*

Q1) a) Define Surface Engineering. What are the characteristics of surface engineered components? State the applications of surface coated materials. [7]

b) Describe the mechanism of erosive wear? State the effects of various factors affecting erosive wear. [8]

OR

Q2) a) What is the most common form of corrosion? What are types of corrosion? [7]

b) Explain in detail the concept of Passivity with suitable example. [8]

Q3) a) Explain following salt spray tests in detail. [8]

i) Neutral Salt Spray Test.

ii) Acetic Acid Salt Spray Test.

b) Explain Electrochemical Methods of corrosion testing. [7]

OR

Q4) a) Define Corrosion. How is it prevented by modifying corrosive environment? Also mention special alloys used to prevent the corrosion. [7]

b) How metals are protected by cathodic protection? Explain Impressed Current Cathodic Protection in detail. [8]