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Branch -mechanical          semester-3<sup>rd</sup>

Subject-Engg, material

(Ch-01)          (2marks)

- 1.what is alloys? Gives Two example?
- 2.Define ferrous and non ferrous metals?
- 3.Define corrosion with example?
- 4.what is material's reliabilit?

(10marks)

- 1.Describe physical properties of material's?
- 2.Describe chemical properties of materials?

(Ch-02)

(5marks)

- 1.writedown the characteristics and application of ferrous material's?
- 2.classification of alloys?
- 3.Define steel, and classification of steel?
- 4.Define classification of tool steel?
- 5.Describe composition of tool steel?

(Ch-03)

(2marks)

- 1.what is critical point?
- 2.what is triple point?
- 3.Define cooling curve?
- 4.Define degree of freedom?

(10marks)

- 1.Draw and explain iron carbon phase diagram.

(Ch-04)

(2marks)

- 1.Define crystal imperfections?

2.classification of crystal with diagram? (5marks)

3.what is ideal crystal? (2marks).

4.Define classification of imperfections? (5marks)

(10marks)

1.explain point defects and types of point defects with diagram?

2.Define line defects with diagram?

3.Define effect of imperfections on material's properties?

4.Difference between slip and twinning? (5marks)

(Ch-05)

(2marks)

1.Define heat treatment?

2.Define different heat treatment process? (10marks)

3.Define Annealing process?

4.Define Normalizing process?

5.Define hardening process?

6.Define tempering process?

7.Describe briefly surface hardening process?

8.Difference between carburising and nitriding?

9.Define hardenability of steel?.

(Ch-07)

1.what is bearing material? (2marks)

2.Define Babbitt?

3.classification of bearing material? (5marks).

4.Define Composition and uses of different type of bearing material? (5marks)

5.Define properties of Bearing material? (5marks)