

S. D. COLLEGE OF ENGINEERING & TECHNOLOGY, MUZAFFARNAGAR  
DEPARTMENT OF MECHANICAL ENGINEERING  
MATERIAL ENGG. (KME 303)  
SEMESTER: III BRANCH: ME  
ASSIGNMENT-1

DOS:

- Q1. Write down the short note on Hume Rother's rules.
- Q2. State Gibb's phase rule. What is its importance?
- Q3. How are equilibrium diagram classified?
- Q4. Define the term 'Solid solution'. Give four examples of solid solution.
- Q5. Draw & explain eutectic phase diagram.

ASSIGNMENT-2

DOS:

- Q1:- Draw and explain the Fe-C equilibrium curve.
- Q2:- Draw and explain the TTT curve.
- Q3:- What is atomic diffusion? Explain the Fick's laws of atomic diffusion?
- Q4:- Explain various microstructures of steel and iron.
- Q5:-. What is hypo and hypereutectoid steel?

### ASSIGNMENT-3

#### DOS-

- Q1. Define the terms Slip and Twinning.
- Q2. Explain fatigue failure with S-N curve. Also explain endurance limit in the curve.
- Q3. What is a dislocation? What are different types of dislocation? Explain. Draw their neat sketches and mark burger vector in each case.
- Q4. Draw stress strain diagram for mild steel. Explain phenomenon of yielding and strain hardening in it.
- Q5. Explain Griffith's theory for brittle fracture.

### ASSIGNMENT-4

#### DOS-

- Q1:- What is Ferromagnetism?
- Q2:- What is insulating materials?
- Q3:- What do understand by dielectric materials?
- Q4:- Write about to the superconductive material sand their properties.
- Q5:-. What is Hard and soft magnetic materials?

## ASSIGNMENT-5

### DOS-

Q1:- What do you understand by composite materials?

Q2:- What are the properties and application of ceramics?

Q3:- Write down the various types of Carbon Nano tubes.

Q4:- Write down the type of plastics.

Q5:- Introduce the Nano materials and their potential application.

**CONCERNED FACULTY: MRADUL SHARMA**