

# VISION

*"To incorporate technical & professional skills in Mechanical Engineers to fulfill industrial & social needs".* 

#### <u>MISSION</u>

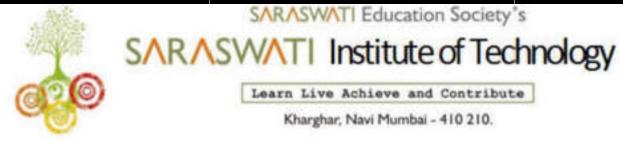
- To educate, guide, and mentor the students for academic excellence.
- To develop technical skills and discipline among the students as per the requirement of the industry.
- To impart ethics & social values by arranging social activities.

Subject Name: MEM (22343) Assignment No 1 Course Outcome: – C304.1

Questions.

- 1. Give detailed classification of Engineering Materials
- 2. Explain Different types of Crystal structures.
- 3. List and explain Physical and Mechanical properties of materials
- 4. What is microstructure? List and explain different types of microstructures.
- 5. Explain sample preparation process for etching and etchant used in the process.
- 6. Explain Brinell and Rockwell hardness testing method in detail.

Course coordinator: - Mr. Rahul Gondhali



### <u>VISION</u>

*"To incorporate technical & professional skills in Mechanical Engineers to fulfill industrial & social needs".* 

#### **MISSION**

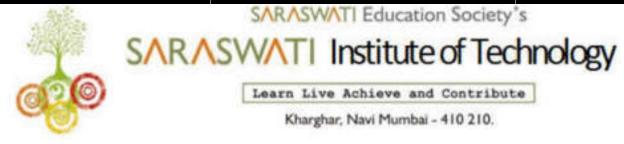
- To educate, guide, and mentor the students for academic excellence.
- To develop technical skills and discipline among the students as per the requirement of the industry.
- To impart ethics & social values by arranging social activities.

Subject Name: MEM (22343) Assignment No 2 Course Outcome: – C304.2

Questions.

- 1. Give detailed classification Steels.
- 2. Give properties of plain carbon and alloy steels.
- 3. Define concept of Phase, Pure metal, alloy and solid solution.
- 4. Explain Stainless Steel along with its advantages, disadvantages and applications.
- 5. Give composition of various types of steels.
- 6. Draw and explain Iron Carbide Equilibrium diagram.
- 7. Compare between Cold work steel, Hot work steel and High speed steel.

Course coordinator: - Mr. Rahul Gondhali



#### VISION

*"To incorporate technical & professional skills in Mechanical Engineers to fulfill industrial & social needs".* 

#### **MISSION**

- To educate, guide, and mentor the students for academic excellence.
- To develop technical skills and discipline among the students as per the requirement of the industry.
- To impart ethics & social values by arranging social activities.

Subject Name: MEM (22343) Assignment No 3 Course Outcome: – C304.3

# Questions.

- 1. Give detailed classification Cast Iron
- 2. What is specification of cast iron? Give Specification of White, Grey and nodular cast iron.
- 3. Give criteria for selection of cast iron for engineering applications.
- 4. How steels or materials are designated.
- 5. Give Designation and coding of cast iron as per BIS, ASME, EN, DIN.

Course coordinator: - Mr. Rahul Gondhali



# <u>VISION</u>

"To incorporate technical & professional skills in Mechanical Engineers to fulfill industrial & social needs".

### **MISSION**

- To educate, guide, and mentor the students for academic excellence.
- To develop technical skills and discipline among the students as per the requirement of the industry.
- To impart ethics & social values by arranging social activities.

Subject Name: MEM (22343) Assignment No 4 Course Outcome: – C304.4

# Questions.

- 1. Give classification of different alloys of Copper and Aluminium.
- 2. Give Composition, Properties and Applications of Bronze and Brass.
- 3. Compare Brass and Bronze.
- 4. Give Composition, Properties and Applications of Y-alloy, Duralium and Hindalium.
- 5. Compare Y-alloy, Duralium and Hindalium.
- 6. What are the various materials that are used for making beating.
- 7. Explain porous and self-lubricating bearings.

Course coordinator: - Mr. Rahul Gondhali



### <u>VISION</u>

*"To incorporate technical & professional skills in Mechanical Engineers to fulfill industrial & social needs".* 

### <u>MISSION</u>

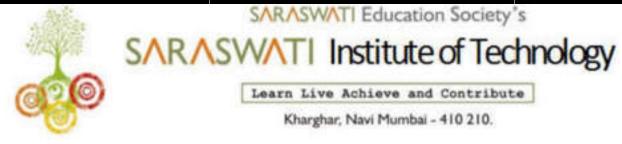
- To educate, guide, and mentor the students for academic excellence.
- To develop technical skills and discipline among the students as per the requirement of the industry.
- To impart ethics & social values by arranging social activities.

Subject Name: MEM (22343) Assignment No 5 Course Outcome: – C304.5

Questions.

- 1. What are Polymers? Give its types and characteristics.
- 2. Give Properties and Uses of Thermoplastic, Thermosetting plastics and rubber.
- 3. Give Properties and Uses ABS, Acrylic, Nylon and Vinyl.
- 4. List and explain various types of Rubbers along with their properties.
- 5. List and explain various types of Ceramics along with their properties.
- 6. List and explain various types of Composite Materials along with their properties.
- 7. What are Advance manufacturing materials such as Nano materials and Smart materials?

Course coordinator: - Mr. Rahul Gondhali



# <u>VISION</u>

*"To incorporate technical & professional skills in Mechanical Engineers to fulfill industrial & social needs".* 

### MISSION

- To educate, guide, and mentor the students for academic excellence.
- To develop technical skills and discipline among the students as per the requirement of the industry.
- To impart ethics & social values by arranging social activities.

Subject Name: MEM (22343) Assignment No 6 Course Outcome: – C304.6

Questions.

- 1. What is heat treatment process? What are the various heat treatment processes and their effects?
- 2. What is Annealing? Explain it in detail with temperature range, type and application.
- 3. What is Normalising? Explain it in detail with temperature range, type and application.
- 4. Explain purpose of Hardening process. Give its purpose, temperature range, type and application.
- 5. Explain Tempering process in detail.
- 6. What is case hardening? What are different Case hardening methods?
- 7. Explain with sketch Muffle type heat treatment furnace.
- 8. Explain box type furnace with schematic diagram.

Course coordinator: - Mr. Rahul Gondhali