

III- SEM- MECH/AUTO/AERO/DIP. IN MECH./MECH. MAIN./MECH. PROD./
MECH (I.I.)-2019(W)

Th. 3-ENGINEERING MATERIAL.

Full Marks: 80

Time: 3 Hours

Answer any Five Questions including Q No. 1 & 2
Figures in the right hand margin indicates marks

1.	<p>Answer ALL the questions.</p> <ul style="list-style-type: none">a. What is composite material?b. What is the average number of atoms in BCC FCC and HCP crystal?c. What is particle reinforced and fiber reinforced composites?d. Write the composition of bronze.e. Name various heat treatment processes.f. What do you mean by tempering?g. Write down the uses of stainless steel.h. Define Crystal imperfection in solids.i. What do you mean by toughness and hardness?j. Write the composition of Muntz metal and cartridge brass.	2 x 10
2.	<p>Answer any SIX questions.</p> <ul style="list-style-type: none">a. Give some examples of nickel alloys. Write down preparation of Inconel.b. What do you mean by Polypropene? Write down its properties and uses.c. What is the reason of point defects? Classify the point defects and give the reason how they are formed.d. What is cyaniding process of hardening? Write down its characteristics.e. What do you mean by atomic packing factor? Derive APF for BCC and FCC.f. What do you mean by invariant reaction? Write down invariant reactions in Fe-C equilibrium diagram.g. What is polymerization process? Classify the polymerization process.	5x6
3.	<ul style="list-style-type: none">a. What is the purpose of heat treatment?b. What is the effect of various alloying elements such as CR, Mn, Ni, V, Mo, and W?	02 03

	c. Explain Surface hardening process & briefly explain about Carburizing & Nitriding.	05
4.	a. What is an alloy?	02
	b. Write the properties and application of thermoplastic polymers.	03
	c. Describe the composition properties and uses of tin based bearing material.	05
5.	a. What is an iron based spring material?	02
	b. Explain different types of point defects.	03
	c. Explain advantages and disadvantages of Annealing and Normalizing.	05
6.	a. What do you mean by Twinning?	03
	b. Explain the Iron-Carbon equilibrium diagram with salient micro constituents of iron and steel.	07
7.	a. What is phase diagram?	02
	b. State various causes of dislocation.	03
	c. state composition and properties of duralumin and γ -alloy	05

<http://www.sctevtonline.com>

Whatsapp @ 9300930012

Your old paper & get 10/-

पुराने पेपर्स भेजे और 10 रुपये पायें,

Paytm or Google Pay से