

Model Question Paper-1 with effect from 2019-20 (CBCS Scheme)

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Fourth Semester B.E. Degree Examination Material Science18CH44

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			*Bloom's Taxonomy Level	Marks
Q.01	a	Give Different classification of Engineering Materials.	L1	10
	b	With neat diagram, explain Bragg law and powder method of x-ray diffraction.	L2	10
OR				
Q.02	a	What are chemical bonds? Explain different types of primary and secondary bonds.	L2	10
	b	Define the terms i) Ionization Potential ii) Electron affinity and Electro negativity iii) Structure of silicates iv) Periodic table	L1	10
Module-2				
Q. 03	a	How Crystal imperfections are Classified? list	L1	05
	b	Explain Point imperfection in detail with neat sketches.	L2	10
	c	Explain Edge dislocations with neat sketches.	L2	05
OR				
Q.04	a	Explain binary phase diagram with neat sketch	L2	08
	b	Explain T.T.T Diagram with the help of neat diagram.	L2	12
Module-3				
Q. 05	a	Explain Plastic Deformation and Elastic deformation in detail.	L2	10
	b	Explain Voigt Kelvin and Maxwell models with neat sketches.	L2	10
OR				
Q. 06	a	Explain the following terms i) Annealing ii) Austempering iii) Carburising iv) Nitriding	L2	20
Module-4				
Q. 07	a	How corrosion is classified? Explain	L2	10

	b	What are the different factors influencing corrosion rate?	L2	10
OR				
Q. 08	a	What are the different methods of corrosion prevention? Explain	L2	12
	b	What is Passivity? explain	L2	08
Module-5				
Q. 09	a	Explain i) Aluminium and its alloy ii) Copper and its alloys	L2	10
	b	Discuss Tin, Zinc and its alloys briefly	L2	10
OR				
Q. 10	a	What are ceramic materials ? Classify and give their applications	L2	10
	b	Explain Additives used for polymers, plastics, fibres and elastomers.	L2	10

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.

QUESTIONS	CO'S	PO'S
1	1	1 and 6
2	1	1 and 6
3	2	1 and 6
4	2	1 and 6
5	3	1 and 6
6	3	1 and 6
7	4	1 and 6
8	4	1 and 6
9	5	1 and 6
10	5	1 and 6