[M19CAD1104]
I M. Tech I Semester (R19) Regular Examinations
MATERIAL TECHNOLOGY
Department of Mechanical Engineering
MODEL QUESTION PAPER

TIME: 3Hrs.   **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
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		UNIT-I	CO	KL	M
1.	a).	Describe mechanism of plastic deformation.	1	2	8
	b).	Write a short not on slip and twinning.	1	2	7
		OR			
2.	a).	Explain the process of precipitation hardening.	1	2	8
	b).	What is the effect of strain and strain rate on super plasticity?	1	2	7
		UNIT-II			
3.	a).	Explain the importance of stress intensity factor in design.	2	2	8
	b).	Explain the work hardening behavior of ductile metals.	2	2	7
		OR			
4.	a).	What is creep rupture and how dose Larson-Miller parameter helps in dealing it?	2	2	8
	b).	Discuss Griffiths theory of brittle fracture.	2	2	7
		UNIT-III			
5.	a).	Differentiate high and low cycle fatigue.	3	2	8
	b).	Discuss varis features of fatigue fracture.	3	2	7
		OR			
6.	a).	What are srces of failure and discuss anyone procedure of failure analysis?	3	2	8
	b).	With a neat sketch explain rotating beam type fatigue measurement.	3	2	7
		UNIT-IV			
7.	a).	What are salient features of marging steel?	4	2	8
	b).	List t varis applications of dual steel.	4	2	7
		OR			
8.	a).	Write a short note on smart materials.	4	2	8
	b).	Discuss abt Ni and Ti Aluminides.	4	2	7
		UNIT-V			
9.	a).	Discuss molecular structures of any two polymeric materials.	5	2	8
	b).	What is the purpose of metallic coatings and mention varis procedures to apply coating.	5	2	7
		OR			
10.	a).	Write a short note on processing and application of CBN	5	2	8
	b).	List t varis properties of TaC	5	2	7

CO-CRSE TCOME   **KL-KNOWLEDGE LEVEL**   **M-MARKS**