RV Educational Institutions ®
RV College of Engineering ®
Autonomous Institution Affiliated to Visvesvaraya Technological University, Belagavi
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Academic year 2023-2024 (Odd Sem)

DEPARTMENT OF
MECHANICAL ENGINEERING
CIE I (SPARK)

Date	**16th January 2024**	Maximum Marks	**50**
Course Code	**ME232AT**	Duration	**90 Minutes**
Course Name	**MATERIALS SCIENCE FOR ENGINEERS**	Sem: 3	

Q. No.	Questions	M	BT	CO
1.	a) Describe Pauli exclusion principle and Hund's principle.	05	2	1
	b) With the help of neat sketches explain all the primary bonds with examples.	05	2	1
2.	Differentiate conductors, semiconductors, and insulators with the help of neat sketches and give examples.	10	3	1
3.	a) Calculate Atomic packing factor for HCP unit cell.	04	4	1
	b) Define the following with respect to solid materials: i) crystal structure ii) unit cell iii) Atomic Packing Factor.	06	1	1
4.	Explain the properties and applications of metals and polymers. Give two examples each.	10	2	1
5.	a) Write the classification of defects.	02	2	1
	b) Explain the mechanism of edge dislocation and screw dislocation with suitable sketches	08	2	1

BT-Blooms Taxonomy, CO-Course Outcomes, M-Marks

Marks Distribution	Particulars		CO1	CO2	CO3	CO4	L1	L2	L3	L4	L5	L6
	TEST	Marks	50	-	-	-	06	30	10	4		

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