



Scheme of Valuation/ Answer Key (Scheme of evaluation (marks in brackets) and answers of problems/key)

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

Course Code: ME210

Course Name: METALLURGY AND MATERIALS ENGINEERING (MC)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any three questions, each carries 10 marks.

		Marks
1	a) 4 steps- 4 marks	(4)
	b) Any 5 systems-5 marks Unit cell-1 mark	(6)
2	a) Definition- Each 1 mark Example- Each 1 mark	(4)
	b) Equation- 1 mark no of atoms- 1 mark a-r relation-1 mark final answer- 1 mark	(4)
	c) Equation-1 mark Substitution- 1 mark	(2)
3	a) Diagram with explanation-3 marks each Direction of vector in each case- total 1 mark	(7)
	b) Explanation with diagram-3 marks	(3)
4	a) 4 classification with sketch- 2 marks each	(8)
	b) Equation-1 mark calculation-1 mark	(2)

PART B

Answer any three questions, each carries 10 marks.

5	a) Microstructure at 3 phase region- 2 marks each	(6)
	b) 1 mark each	(4)
6	2 main classification-2 marks , Any 2 processes-4 marks each	(10)
7	Figure-4 marks 3 stages- 2 marks each	(10)
8	a) 2 marks each	(4)
	b) HSS explanation-2 marks, Effect of alloying-4 marks.	(6)

PART C

Answer any four questions, each carries 10 marks.

9		Ductile-4 marks Brittle- 4 marks, Any 2 factors-2 marks	(10)
10		Figure-3 marks Explanation-4 marks Any 3 method-3 marks	(10)
11	a)	Each 1 mark	(2)
	b)	Definition-1 mark Expression-2 marks	(3)
	c)	Figure- 2 marks Explanation-3 marks	(5)
12		Structural changes- 3 marks each Figure- 1 mark	(10)
13	a)	Matrix phase- 2 Marks Fibre Phase- 2 Marks Functions-2 Marks	(6)
	b)	Explanation- 4 marks	(4)
14	a)	Each 2.5 marks	10)

