

RV College of Engineering®, Bengaluru
(Autonomous Institution affiliated to VTU, Belagavi)
Department of Industrial Engineering & Management

MANUFACTURING PROCESS (IM234AI)
UNIT-VI (Laboratory Work)

SCHEME OF CONDUCT AND EVALUATION

CLASS: III SEMESTER

YEAR: 2025_26

CIE MARKS: (Max.) : 50

SEE MARKS: (Max) : 50

SEE: 03 Hrs

Expt. No.	TITLE	No. of Classes	Max. Marks
1.	Sketches & uses of tools used in Foundry & Machine shop	1	20
Part - I - Sand Testing / Foundry			
2.	Determination of Grain Fineness Number (GFN) of given clay free sand sample using Sieve shaker.	1	20
3.	Evaluation of the Effect of moisture content on shear strength of given green sand.	1	20
4.	Preparation of core without using a pattern- Core making.	1	20
5.	Preparation of Split (Two pieces) Pattern - Pulley.	1	20
Part – II – Machine shop			
6.	Plain Turning, Grooving, Taper turning, Knurling, External thread cutting	1	20
7.	Plain Turning, Grooving, Knurling, Chamfering & Forming (Concave & Convex Turning)	1	20
8.	Spur Gear cutting using milling machine	1	20
9.	Helical Gear Cutting using milling machine	1	20
10.	Demonstration of Surface Grinding machine	1	20
	Demonstration of Non Destructive Testing Equipment's (Ultrasonic & Magnetic Particle Inspection)		
TEST		1	50
TOTAL			250

EVALUATION SCHEME:

CIE Marks = {Total Class marks (Max.200) + Test marks (Max.50)} Reduced to 50 Marks

Reference for conceptual foundation: P.N. Rao, *Manufacturing Technology: Foundry Forming and Welding*, TMH, 2nd Edition, 2003, ISBN: 0-07-463180-2.

Particulars of the Experiments Performed

CONTENTS

Sl. No.	Date	Experiments	Page No.	Marks Obtained	Signature of Staff
Part - I - Sand Testing / Foundry					
1.		Sketches & uses of tools used in Foundry & Machine shop	1 – 32		
2.		Determination of Grain Fineness Number (GFN) of given clay free sand sample using Sieve shaker.	33 – 37		
3.		Evaluation of the Effect of moisture content on shear strength of given green sand.	38 – 41		
4.		Preparation of core without using a pattern- Core making.	43 – 44		
5.		Preparation of Split (Two pieces) Pattern - Pulley.	45 – 46		
Part – II – Machine shop					
6.		Plain Turning, Grooving, Taper turning, Knurling, External thread cutting	47 – 48		
7.		Plain Turning, Grooving, Knurling, Chamfering & Forming (Concave & Convex Turning)	49 – 50		
8.		Spur Gear Cutting using Milling Machine	51 – 52		
9.		Helical Gear Cutting using Milling Machine	53 – 54		
10.		Demonstration of Surface Grinding machine	55 – 57		
		Demonstration of Non Destructive Testing Equipment's (Ultrasonic & Magnetic Particle Inspection)	58 – 59		
Test(50marks)					
Total					

CIE Marks (Reduced to 50)

$$= \{ \text{Total Class marks (Max.200)} + \text{Test marks (Max.50)} \} / 5$$