

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025

Third Semester

Mechanical Engineering

ME3393 - Manufacturing Processes

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Classify molding machines and write its applications.	L2	1	2
2.	List the various pattern allowances.	L1	1	2
3.	Define the role flux in welding operation.	L1	2	2
4.	Differentiate between transferred and non-transferred plasma arc welding.	L4	2	2
5.	Why are a number of passes required to roll a steel bar?	L4	3	2
6.	What is meant by deep drawing?	L1	3	2
7.	Recall what the peen forming process is.	L1	4	2
8.	Briefly explain metal spinning.	L2	4	2
9.	Identify where duff moulding is used.	L1	5	2
10.	Name any four thermosetting plastics, used in industries.	L3	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a i Explain the working principle of CO ₂ casting.	L2	1	8
	ii Describe the preparation of sand moulding process.	L2	1	8
	Or			
	b i Explain lost wax - Investment casting processes with neat sketch.	L2	1	8
	ii Name any five sand casting defects and explain the remedies for those defects.	L2	1	8
12.	a Illustrate the process of preparing a welding joint for arc welding, including the choice of electrodes and coatings.	L3	2	16
	Or			
	b Given a scenario where thin sheet metals need to be joined quickly, which resistance welding process would you recommend and why?	L3	2	16

13.	a	Analyze the typical forging operations in the automotive industry. What factors influence the choice of forging processes for specific components?	L4	3	16
Or					
	b	Compare and contrast the defects commonly found in rolled parts versus those in forged components. What are the causes of these defects?	L4	3	16
14.	a	Analyze the advantages and limitations of hydroforming compared to traditional stamping processes. In what situations would hydroforming be preferred?	L4	4	16
Or					
	b	Compare and contrast different special forming processes, such as explosive forming and magnetic pulse forming. What are the unique applications of each?	L4	4	16
15.	a	Given a scenario where a complex part needs to be produced in high volumes, which molding process would you recommend and why?	L3	5	16
Or					
	b	Illustrate the application of blow molding in the production of plastic bottles. What factors influence the design of the mold?	L3	5	16