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ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV/ DEC 2024

DEPARTMENT OF INDUSTRIAL ENGINEERING

3<sup>rd</sup> Semester

ME23C02 - MANUFACTURING PROCESSES

(Regulation2023)

Time:3hrs

Max. Marks: 100

CO1	Explain the working principles of various metal casting processes
CO2	Categorize and select the appropriate metal joining process.
CO3	Compare the working principles of bulk deformation of metals.
CO4	Suggest suitable sheet metal forming processes for production of Engineering Components.
CO5	Explain the manufacturing of plastic components.

BL – Bloom's Taxonomy Levels

(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

**PART- A(10x2=20Marks)**  
(Answer all Questions)

Q.No.	Questions	Marks	CO	BL
1	List the main advantage of CO <sub>2</sub> Mould	2	1	L2
2	What is the use of Core	2	1	L2
3	Different the Pressure and Non Pressure welding	2	2	L2
4	Discuss Fusion welding process	2	2	L3
5	What is meant by Hot working process	2	3	L2
6	Write the types of forging hammer	2	3	L2
7	Brief about special forming process	2	4	L2
8	Define magnetic pulse forming	2	4	L2
9	Write the characteristics of Plastic	2	5	L3
10	Classify the types of compression moulding	2	5	L2

**PART- B(5x 13=65Marks)**  
(Restrict to a maximum of 2 subdivisions)

Q. No.	Questions	Marks	CO	BL
11 (a)	Describe the Shell casting process with neat sketch	13	1	L3
OR				
11 (b)	Explain the casting defects in the metal casting process	13	1	L2
12 (a)	Describe the Classification of welding Process	13	2	L4
OR				
12 (b)	Express the principles and types of Resistance welding	13	2	L2
13 (a)	i) Compare the hot working and cold working process ii) Explain the working of Pneumatic hammer	6 7	3	L5 L3
OR				
13 (b)	Describe the rolling of metals and types of rolling with neat sketch	13	3	L4
14 (a)	Describe the i) Hydro mechanical forming process ii) Explosive metal forming process	6 7	4	L4 L5
OR				
14 (b)	Explain the Formability of sheet metal with example	13	4	L5

15 (a)	Describe the Injection moulding process of plastic component with neat sketch	13	5	L3
OR				
15 (b)	i) Explain the Typical industrial applications of transfer molding ii) Describe the Blow-molding process	6 7	5	L3

**PART- C(1x 15=15Marks)**  
(Q.No.16 is compulsory)

Q. No.	Questions	Marks	CO	BL
16.	i) Explain the steps involved in green sand moulding process with a neat sketch ii) Compare the Submerged arc welding with Traditional gas welding process	8 7	1 2	L2 L5

