


Name:			
Enrolment No:			
UPES End Semester Examination, December 2024			
Course: Automotive Manufacturing Processes Program: B.Tech ADE Course Code: MEAD3022		Semester: V Time : 03 hrs. Max. Marks: 100	
Instructions:			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	Define HAZ and draw a neat sketch identifying the various HAZ zones.	4	CO1
Q 2	Define forging and discuss the forgeability of materials.	4	CO1
Q 3	Explain the differences between press forging and machine forging.	4	CO1
Q 4	Explain the differences and similarities between punching and blanking.	4	CO1
Q 5	Discuss the similarity and differences in lapping and honing.	4	CO1
SECTION B (4Qx10M= 40 Marks)			
Q 6	Describe how welding polarity affects deep and shallow penetration in welding and provide applications for each.	10	CO3
Q 7	Discuss the formation of residual stresses in castings and propose a post processing solution to overcome residual stresses.	10	CO3
Q 8	Define recrystallization temperature and highlight its significance in material processing.	10	CO2
Q 9	Describe the procedure of centrifugal casting and its applications. Or Illustrate and explain the various steps involved in investment casting.	10	CO2

SECTION-C
(2Qx20M=40 Marks)

Q 10	Discuss the various factors that can influence the quality of weld in Friction Stir Welding.	20	CO4
Q 11	Explain the role of open-die and closed-die forging and illustrate the forging sequences for manufacturing a connecting rod. Or Discuss the effects of welding heat on metals and the effects of atmospheric air on welding.	20	CO2