



Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, May 2022			
Course: Workshop Practices Program: B.Tech (Multiple Programs) Course Code: MEPD1003		Semester: II Time: 03 hrs. Max. Marks: 100	
Instructions: Section-A Attempt all questions Section-B Attempt all questions, in Q8 answer any one Section-C Attempt all questions, in Q11 answer any one Make suitable assumptions whenever necessary			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	Explain the difference between blanking and punching as applicable to sheet metal operations.	4	CO1
Q 2	Enlist the different components of Gas welding equipment.	4	CO2
Q 3	Explain any four defects that can arise in sand casting.	4	CO1
Q 4	Differentiate between fusion and non-fusion welding processes along with one example of each process.	4	CO1
Q 5	Briefly discuss two advantages and two disadvantages of hot working process.	4	CO1
SECTION B (4Qx10M= 40 Marks)			
Q 6	a) With the help of a detailed schematic diagram, describe the Electrical Discharge machining process. b) Differentiate the additive and subtractive manufacturing with suitable examples.	6+4	CO4
Q 7	a) Identify the following pattern types:  <p style="text-align: center;">(i) (ii) (iii) (iv)</p>	4+6	CO2
Q 8	b) Explain two NDTs to detect defects in casting with neat sketch. Explain different types of extrusion processes with neat diagrams. Differentiate between extrusion and drawing.	10	CO1
OR			

	Define forgeability. With the help of schematic diagrams, discuss the open die forging and closed die forging.		
Q 9	<p>a) Name and explain fit and its types.</p> <p>b) If the basic size is 50 mm, find the allowances, tolerances and deviations. Determine the type of fit.</p>		<p>10 CO1</p>

SECTION-C
(2Qx20M=40 Marks)

Q 10	<p>a) Fig. below represents a job prepared from a uniform solid cylinder using lathe machine. Name the machining operations (1-6), as indicated in figure that have been carried out for preparing this job.</p>		<p>6+8+6 CO4</p>
	<p>b) Explain four accessories used with lathe machine with neat sketches as applicable.</p> <p>c) Explain the need for CNC machining. Explain what G – codes and M – codes are.</p>		
Q 11	<p>a) Draw a schematic diagram to show the setup used for electric arc welding (EAW) process.</p> <p>b) Briefly discuss the MIG (Metal Inert Gas) and TIG (Tungsten Inert Gas) welding processes using schematic diagrams.</p> <p style="text-align: center;">OR</p> <p>a) Explain the setup used for gas welding process. Briefly discuss the role of oxygen in gas welding process.</p> <p>b) Discuss the different types of flames used in gas welding process.</p>	<p>10+10 CO2</p>	