

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, December 2022**

**Course: Workshop Practices**  
**Program: B.Tech – APE (UP), Chemical**  
**Course Code: MEPD1003**

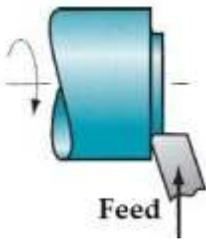
**Semester: I**  
**Time: 03 hrs.**  
**Max. Marks: 100**

**Instructions: Q 8 and Q 10 have internal choice.**

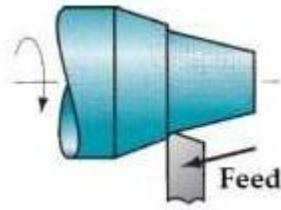
**SECTION A**  
**(5Qx4M=20Marks)**

S. No.		Marks	CO
Q 1	Identify the tools shown below:  (a)  (b)  (c)  (d)	4	CO2
Q 2	Explain two types of seasoning of timber.	4	CO1
Q 3	Identify the manufacturing methods suitable for the following products: a) Chisels b) Engine casing c) Railway tracks d) Aluminium wire with 1 mm diameter	4	CO1
Q 4	Briefly discuss the significance of polarity in arc welding.	4	CO1

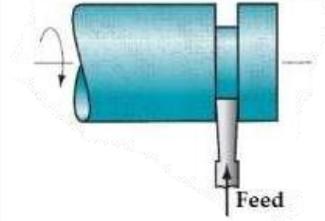
Q 5	Briefly discuss two advantages and two disadvantages of hot working process.	4	CO1
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 6	a) Explain pattern allowances with suitable sketches if applicable. b) Explain four properties of moulding sand.	6+4	CO1
Q 7	a) With the help of a detailed schematic diagram, describe the Electrical Discharge machining process. b) Differentiate the additive and subtractive manufacturing with suitable examples.	6+4	CO4
Q 8	Define forgeability. With the help of schematic diagrams, discuss the open die forging and closed die forging.  <b>OR</b> Write short notes on the following with suitable sketches: a) Deep Drawing, b) Swaging, c) Upsetting, d) Blanking	2+8  4x2.5	CO1
Q 9	a) Explain the following terms – tolerance, allowance, and deviation b) If the basic size is 50 mm, determine the allowances, tolerances and deviations. Determine the type of fit.  <div style="text-align: center;"> <p style="text-align: center;">Shaft 50.000 49.900 Hole 50.050 49.950</p> </div>	3+7	CO1
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	a) Describe the different types of electric resistance welding with the help of neat sketches. b) Describe the advantages and disadvantages of welded joints over other joints. c) Mention the reasons of coating provided on electrodes. Mention the composition of flux used for coating the electrodes in EAW.  <b>OR</b> a) Describe with neat sketches the process of Shielded Metal Arc Welding. Explain polarity used in arc welding process. b) Explain six different defects that may arise in welding. c) Differentiate soldering, brazing & welding.	8+6+6	CO2 CO1
Q 11	a) Identify the following operations that can be performed on a lathe machine	6+8+6	CO2 CO4



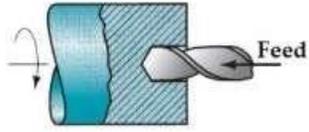
(a)



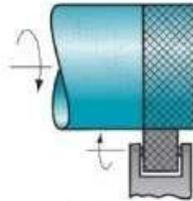
(b)



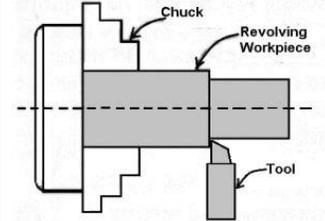
(c)



(d)



(e)



(f)

b) Explain the different types of feed used in lathe machine. Differentiate between 3-jaw and 4-jaw chucks.

c) Explain the need for CNC machining. Explain G – codes and M – codes.