

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Workshop Practices

Semester: II

Programme: B. Tech. ADE, ASE, ASE-AVE, CIVIL-ID, E&EC, ELECTRICAL, FSE, GIE, GSE, ME.

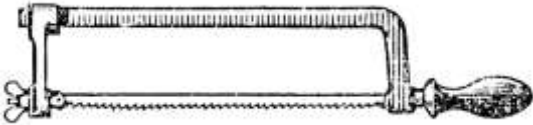

Course Code: MEPD 1002

Time: 03 hrs

Max. Marks: 100

Instructions: Choice in Q 6,9 & 10. Internal choice in Q 11 & 12. Do not over-attempt.

SECTION A: 20 marks

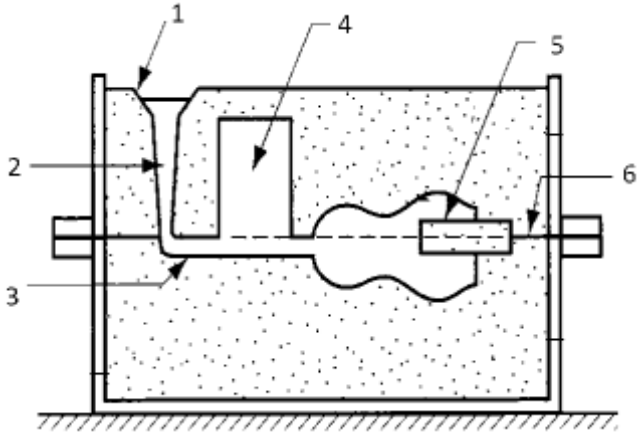
S. No.		Marks	CO
Q 1	<p>(a)  (b) </p> <p>Name the two saws (a) and (b) as shown above. Also mention which is used for metal cutting/wood cutting.</p>	4	
Q 2	<p><i>Recrystallization temperature is used to distinguish between cold and hot working processes. Briefly describe the changes that occur in the material at recrystallization temperature.</i></p>	4	
Q 3	<p>Discuss two advantages and two disadvantages of cold working with respect to hot working.</p>	4	
Q 4	<p>With the help of diagram, show the roll configuration for a 4-high rolling mill and a tandem rolling mill.</p>	4	
Q 5	<p>Name the processes suitable for manufacturing following products:</p> <ul style="list-style-type: none">a) Hammer headsb) Flat steel sheet with 3 mm thicknessc) Copper wire with 1 mm diameterd) Engine blocks	4	

SECTION B: 40 marks

Q 6	<p><u>Answer any ONE of the following:</u></p> <p>a) Briefly describe the difference between open die and closed die forging with the help of a schematic diagram.</p> <p style="text-align: center;">OR</p> <p>b) With the help of schematic diagram, discuss the difference between direct and indirect extrusion process.</p>	8	
-----	---	---	--

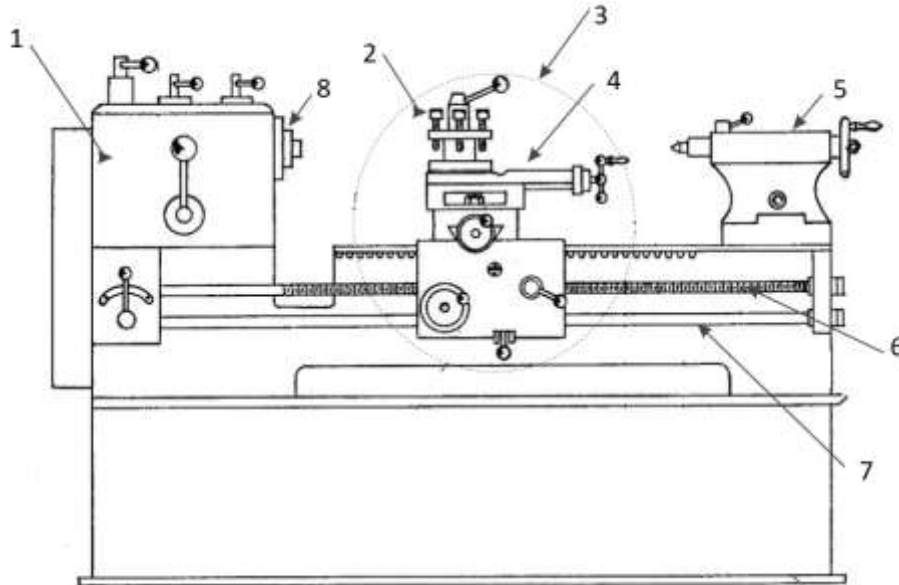
Q 7	Discuss the differences between subtractive manufacturing and additive manufacturing processes.	8	
Q 8	With the help of a detailed schematic diagram, describe the abrasive jet machining process.	8	
Q 9	<u>Answer any TWO of the following:</u> a) Draw a schematic diagram to show the setup of electric arc welding (EAW). b) During EAW, why are the electrodes coated with flux? c) Briefly discuss the differences between soldering, brazing and welding.	4+4	
Q 10	<u>Answer any ONE of the following:</u> a) Briefly discuss the MIG (Metal Inert Gas) and TIG (Tungsten Inert Gas) welding processes. <p style="text-align: center;">OR</p> b) Discuss the different types of flames used in gas welding process.	8	

SECTION-C: 40 marks

Q 11	<p>a) Figure given below is a representation of cope and drag mould used in foundry practice. Label the parts 1-6 as shown in the figure.</p>  <p><u>Answer any TWO of the following:</u></p> <p>b) Describe any two pattern allowances. c) List the properties required in moulding sand. d) Briefly describe the following defects that may appear during metal casting: Blow holes, Misrun and Penetration Defect</p>	6	7+7
------	---	---	-----

Q 12

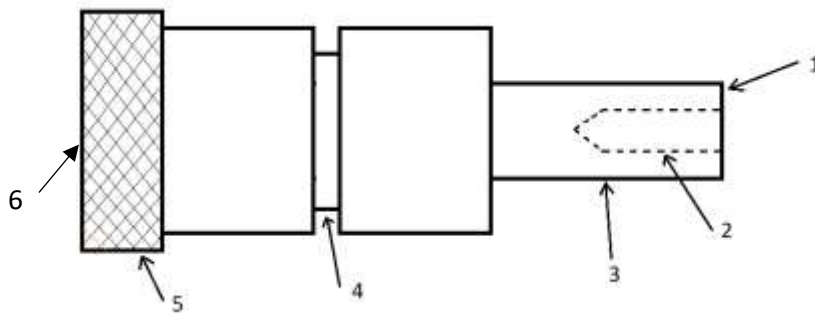
a) Label the various parts (1-8) of lathe machine as shown in the figure below:
Note: Part no. 3 represents a collection of different components lying inside the marked circle.



8

Answer any TWO of the following:

a) Fig. below represents a job prepared from a uniform solid cylinder using lathe machine. Name the five machining operations (1-6), as indicated in figure, that have been carried out for preparing this job.



6+6

b) Discuss the difference between 3-jaw chuck and 4-jaw chuck.

c) Define the following parameters with respect to machining operation on a lathe machine: Cutting speed, Feed rate and Depth of cut.