Name: **Enrolment No:**	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2021

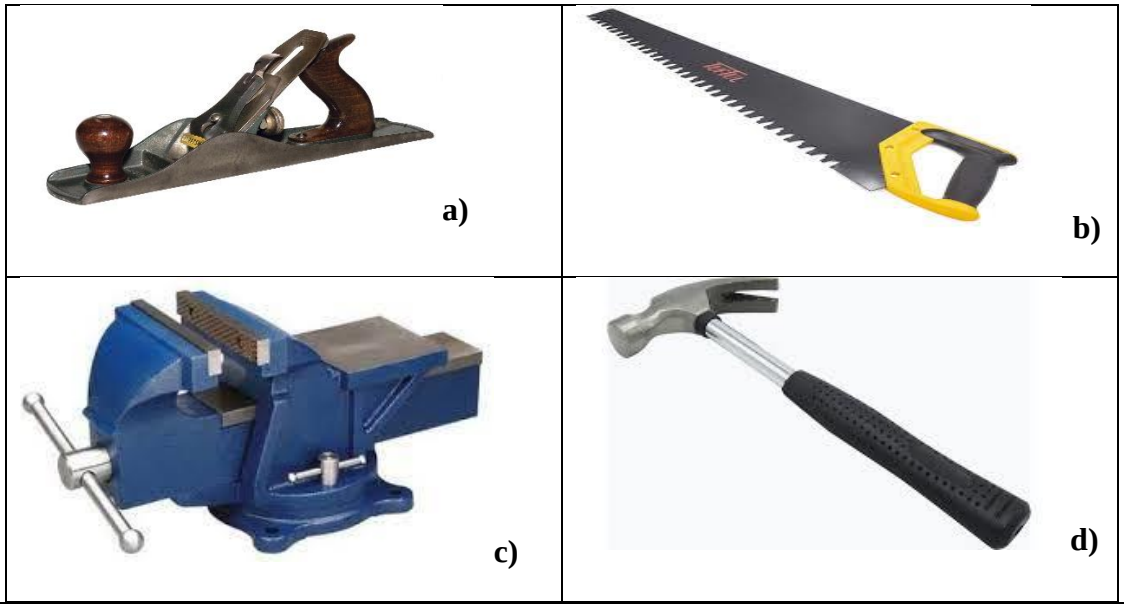
Programme: B. Tech All Branches — **Semester : I**

Course Name: Workshop Practices — **Max. Marks : 100**

Course Code: MEPD 1003 — **Max. Time : 03 Hours.**

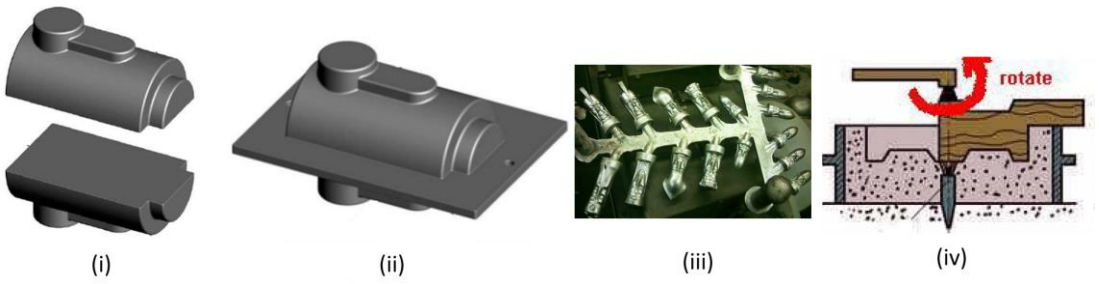
SECTION A (20 Marks)

1. **All questions are compulsory in this section.**
2. **Total 05 questions are there in this section and each question is of 4 Marks.**
3. **Short answer type questions.**

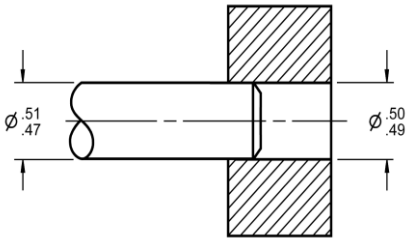
Q1	Identify the hand tools as shown in below Images:  **a)** **b)** **c)** **d)**	**4**	**CO2**
Q2	Name the processes suitable for manufacturing following products: a) Chisels…… b) Steel bar with hexagonal cross-section……. c) Airplane engine ……. d) Aluminum wire with 1 mm diameter……..	**4**	**CO1**
Q3	Describe briefly about the seasoning of wood. Name the types of seasoning.	**4**	**CO1**
Q4	Differentiate between fusion and non-fusion welding processes along with one example of each process.	**4**	**CO2**
Q5	Name & briefly explain any four properties of moulding sand.	**4**	**CO1**

SECTION B (40 Marks)

1. **All questions are compulsory in this section.**
2. **Total 04 questions are there in this section and each question is of 10 Marks.**
3. **Write brief notes.**

<table>
<tr><td>Q6</td><td>a) Identify the following pattern types:
 

(i) (ii) (iii) (iv)

b) Briefly describe any three casting defects with neat sketch.</td><td>4+6</td><td>CO1</td></tr>
<tr><td>Q7</td><td>a) Name & Explain the Fit & its type with suitable example.
b) If basic size is 50. Find the following
 

<table><tr><td></td><td>Shaft</td><td>Hole</td></tr><tr><td>Limits</td><td></td><td></td></tr><tr><td>Tolerance</td><td></td><td></td></tr></table>
<table><tr><td>Maximum Clearance</td><td></td></tr><tr><td>Minimum Clearance</td><td></td></tr></table></td><td>10</td><td>CO2</td></tr>
<tr><td>Q8</td><td>a) Discuss the need of Nontraditional machining process. How it is useful as compare to conventional machining processes?
b) With the help of a detailed schematic diagram, describe the abrasive water jet machining process.</td><td>10</td><td>CO4</td></tr>
<tr><td>Q9</td><td>Name the allowances used while making a pattern. Briefly discuss why shrinkage allowance and draft allowance is provided in patterns.

OR

Define forgeability. With the help of schematic diagrams, discuss the open die forging and closed die forging.</td><td>10</td><td>CO1</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
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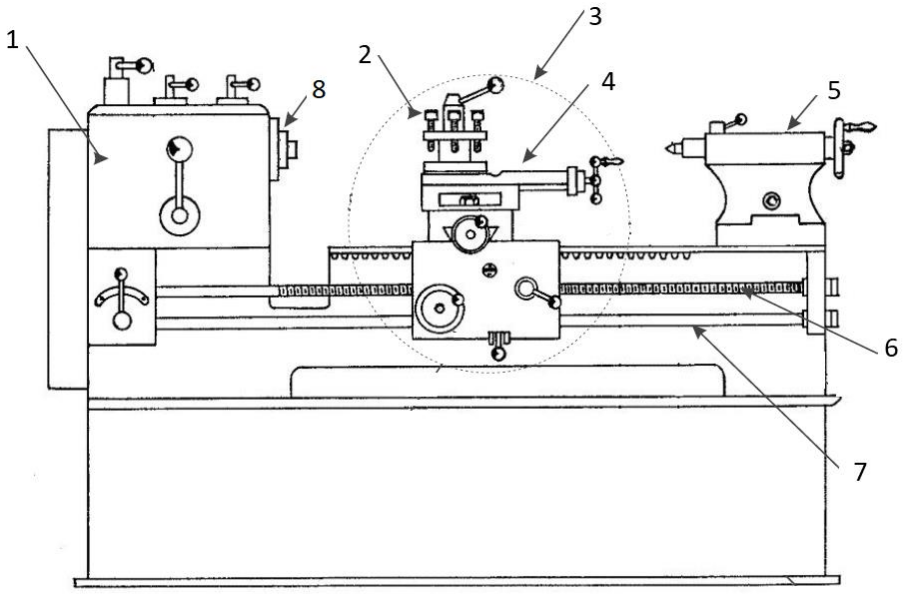
SECTION C (40 Marks) **1. There are two questions of 20 marks each with an internal choice in 1 question.** **2. Write long answers.** **3. Assume any missing data if required.**			
Q10	a) Draw a schematic diagram to show the setup used for electric arc welding (EAW) process. b) Briefly discuss the MIG (Metal Inert Gas) and TIG (Tungsten Inert Gas) welding processes using schematic diagrams. **OR** a) Explain the setup used for gas welding process. Briefly discuss the role of oxygen in gas welding process. b) Discuss the different types of flames used in gas welding process.	**10+10**	**CO2**
Q 11	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.  b) Briefly discuss the difference between a 3-jaw chuck and 4-jaw chuck. c) Differentiate the additive & subtractive manufacturing with example.	**8+6+6**	**CO4**