
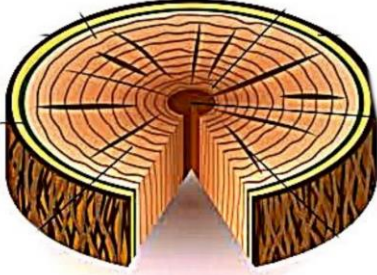
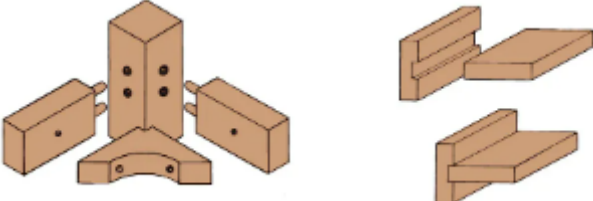


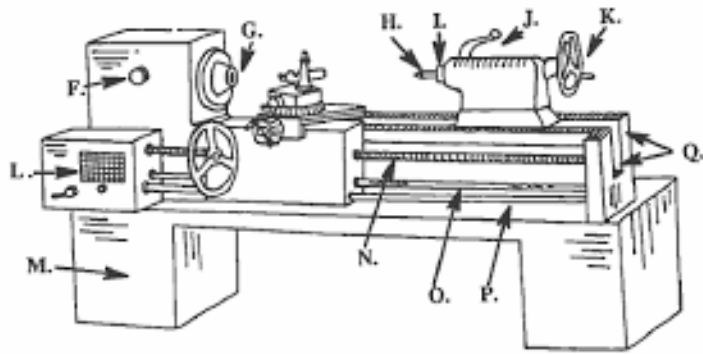
Name: Enrolment No:	
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UPES End Semester Examination, May 2024		Semester: II Time : 03 hrs. Max. Marks: 100
Course: Workshop Practices Program: B.Tech BE+BT+FT Course Code: MEPD 1003		
Instructions:		

SECTION A			
(5Qx4M=20Marks)			

S. No.		Marks	CO
Q 1	Distinguish and label the specific regions of the timber as depicted in the figure below? Elaborate on the various techniques used for seasoning timber?	4	CO2
<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: left; margin-right: 20px;"> <h2 style="margin: 0;">STRUCTURE OF A TREE</h2> </div>  </div>			
Q 2	What is the purpose of the rolling process in metalworking? Describe the basic principle of the rolling process. What are the main types of rolling mills used in industrial applications?	4	CO3
Q 3	Explain the difference between cold drawing and hot drawing? Discuss the factors that influence the quality and efficiency of the drawing process.	4	CO4
Q 4	Describe the function of a ladle in the foundry process. How does a crucible contribute to the melting process in a foundry? Explain the purpose of molding flask in foundry operations. What role does a sprue cutter play in the casting process?	4	CO1

Q 5	What is shrinkage allowance in casting processes, and why is it necessary? How is shrinkage allowance determined for a specific casting material? Explain the difference between solidification shrinkage and pattern shrinkage?	4	CO1
SECTION B (4Qx10M= 40 Marks)			
Q 6	What is green sand, and how is it prepared for casting purposes? Explain the composition and properties of silica sand used in casting? What are the advantages and disadvantages of using green sand in the casting process? what role does water play in green sand casting, and how is its moisture content regulated?	10	CO4
Q 7	Define limits, fits, and tolerances in the context of engineering and manufacturing. What factors influence the selection of appropriate limits and fits for a given application? Explain the difference between clearance fit, interference fit, and transition fit. How are the limits of size determined for a mechanical part?	10	CO3
Q 8	In the provided figures (a) and (b), identify the joints and name the different sections of each joint. Explain the advantages and disadvantages of these joints. Additionally, mention at least two applications for each type of joint. 	10	CO2
Q 9	What is Abrasive Jet Machining (AJM) and how does it differ from traditional machining processes? Describe the basic principle of AJM and how abrasive particles are propelled to perform material removal. What are the main components of an AJM setup, and how do they function together?	10	CO5
SECTION-C (2Qx20M=40 Marks)			
Q 10	In the provided figure of a lathe machine, could you meticulously identify and delineate the various components comprising the machine? Subsequently, explain the specific function, role, and significance of each component within the context of facilitating the diverse range of operations executed on the lathe. Describe the process of turning on a lathe machine and discuss its applications in machining. What is facing in lathe operations, and how does it differ from turning?	20	CO5



(OR)

What is weldability, and why is it an important consideration in material selection for welding applications? Provide examples of industries or applications where welding offers significant advantages over other joining methods and explain why. What are the primary advantages of welding over other joining processes, such as mechanical fastening or adhesive bonding? What are the main limitations or challenges associated with welding as a joining process?

Q 11

(a). Discuss the primary steps involved in the traditional sand-casting process and explain its significance in the production of metal components. Explain the concept of pattern making in foundry processes and discuss its role in achieving accurate casting shapes. Describe the significance of gating and risering systems in the sand casting process?

(b). Discuss the difference between open die forging and closed die forging processes, highlighting their respective advantages and limitations. Explain the concept of hot forging and cold forging, and discuss the factors influencing the choice between the two processes.

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CO3