



मोतीलाल नेहरू राष्ट्रीय प्रौद्योगिकी संस्थान इलाहाबाद,

प्रयागराज -211004, उत्तर प्रदेश, भारत

**Motilal Nehru National Institute of Technology  
Allahabad Prayagraj-211004 [India]**

**Mechanical Engineering Department  
Mid Semester Examination 2023**

Programme Name: B. Tech

Semester: II

Course Code: MEN12602

Course Name: Workshop & Manufacturing Processes

Groups: I-L

Student Reg. No.:

--	--	--	--	--	--	--	--	--	--

Duration: 9:30 - 11:00 am

Max. Marks: 50

**Instructions: (Related to Questions)**

1. Figures to the right indicate the full marks.
2. Attempt **all the** questions.

Q. No.	Questions	Marks	Mapped to CO number
Q 1	Explain the following: <ul style="list-style-type: none"><li>• Process layout</li><li>• Product layout</li><li>• Toughness</li><li>• Refractoriness</li><li>• Hot strength</li></ul>	10	1, 2
Q 2	a Describe the classification of manufacturing process. Give the required process in sequences to make the bolt from iron ore.	6	1
	b What is high speed steel and where is it used?	4	1
Q 3	a What are alloy steels? Why alloying is done?	5	1
	b Classify the engineering materials in detail?	5	1
Q 4	a Discuss the composition of moulding sand and their effect on the properties of moulding sand.	6	2
	b Write the function of core and steps involved in its making.	4	2
Q 5	Discuss the reasons and remedies of casting defects.	10	2



मोतीलाल नेहरू राष्ट्रीय प्रौद्योगिकी संस्थान इलाहाबाद,  
प्रयागराज- 211004 ,उत्तर प्रदेश ,भारत

**Motilal Nehru National Institute of Technology  
Allahabad, Prayagraj-211004 [India]**

**Mechanical Engineering Department 42  
End Semester Examination 2023**

Programme Name: B. Tech

Semester: II

Course Code: MEN12602

Course Name: Workshop & Manufacturing Processes

Groups: I-M

Student Reg. No.: 20222068

Duration: 9:30 - 12:00 am

Max. Marks: 60

**Instructions: (Related to Questions)**

1. Figures to the right indicate the full marks.
2. Attempt any six questions.

Q. No.	Questions	Marks	Mapped to CO number
Q 1	Describe the following:	10	
a	Grey-cast iron and its applications	2	1
b	Upset forging and its applications	2	3
c	Functions of runner and riser	2	2
d	Factors which affect the feed and depth of cut	2	4
e	Stiffness and its significance	2	1
Q 2	a Describe the cast iron, and its classifications and applications.	5	1
	b Write the role of materials in manufacturing and what are the steps for materials selection?	5	1
Q 3	a What is recrystallisation? Why is it important in metal forming process?	5	3
	b Describe a suitable process for production of a hollow tube with help of a neat sketch?	5	3
Q 4	a Draw cross-sectional view of two box mould to present its various components.	5	2