

2112E134

DIPLOMA OF VOCATION
Mechanical Manufacturing
Subject: MOOC Online Course-III
(Manufacturing Process Technology I and II)
Subject Code: MC-401
Semester: Third
December 2021
Theory (External): 70 Marks
Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 2 marks.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 10 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

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SECTION -A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10x2=20 Marks)

- A. Differentiate between steel and Cast Iron.
- B. Define yield stress with the help of Stress-strain diagram of mild steel.
- C. Define shrinkage and Draft allowances with neat sketch.
- D. Define chip formation mechanism.
- E. Write the principle of Ultrasonic machining process.
- F. Explain the importance of friction force in rolling process.
- G. Name any two sheet metal Processes and explain their principle.
- H. Write advantages of non-conventional machining processes over traditional machining processes.
- I. Write the advantages of casting process over traditional machining processes.
- J. Discuss the main factors, which affect tool life.

SECTION -B (ESSAY TYPE QUESTIONS)
(5x10=50 Marks)

1. (a) Draw the Engineering stress- strain curve for Mild steel, Cast Iron and Aluminium and discuss main features of the curve. 5
(b) Broadly classify materials and write their mechanical, electrical, physical and thermal properties. 5
2. Explain Gating system and its component with diagram for sand casting. Also explain the function of each component. 10
3. Explain the principle of turning process with diagram. Also explain the main part of a turning machine. 10
4. (a) Explain the wear and failure in machining processes. 5
(b) Explain the Taylor tool life equation and write it's application. 5
5. Write the principle of Electric discharge machining process with diagram. Write the application of this process. 10
6. Explain
(a) Deep Drawing Process 5
(b) Extrusion Process 5
7. Write short note on
(a) Solidification and cooling process in casting 5
(b) Plastic Deformations 5
8. Write broad classification of non-conventional machining processes. Explain each in brief. 10

===END OF PAPER===