



UNIVERSITY COLLEGE TATI (UC TATI)

FINAL EXAMINATION QUESTION BOOKLET

COURSE CODE : DTM 1042
COURSE : MANUFACTURING PROCESS
SEMESTER/SESSION : SEMESTER 1 – 2023/2024
TIME : 2.5 HOURS

Instructions:

1. This booklet consists of 5 questions. Answer **ALL** questions.
2. All answers should be written in answer booklet.
3. Write legibly and draw sketches wherever required.
4. If in doubt, ask the invigilator / Instructor.

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

THIS BOOKLET CONTAINS 3 PRINTED PAGES INCLUDING COVER PAGE

QUESTION 1

Manufacturing is the backbone and play an important role of any industrialized nation.

- Explain your understanding about manufacturing processes. (3 marks)
- Classify five (5) types of processing methods for materials and give example for each category. (5 marks)

QUESTION 2

It is impossible to manufacture a component such as engines, electronic equipments, computers, etc. as a single piece. One of the methods that they use in manufacturing industries is a joining process.

- Describe a joining process. (4 marks)
- Differentiate between welding and soldering. (4 marks)
- Sketch and classify five (5) basic joint variations for welding. (5 marks)
- Interpret the reasons that we used mechanical fastening. (4 marks)

QUESTION 3

Figure 1 is schematic illustrated a thread that used in mechanical assembly.

- Name the part label i, ii and iii. (3 marks)
- Classify three (3) common types of thread profile. (3 marks)
- Identify four (4) methods to produce the threads. (4 marks)

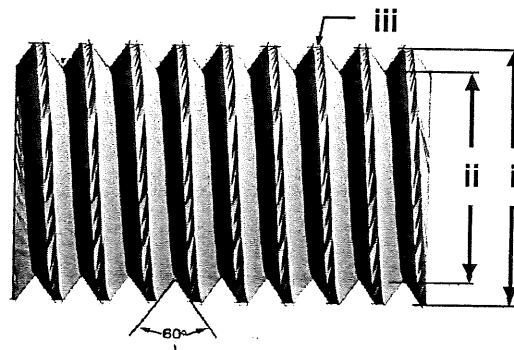


Figure 1

Forming, forging, rolling, extrusion, etc. are the methods used to manufacture steel product.

- d) **Differentiate** between elastic and plastic deformation of material. (5 marks)
- e) **Differentiate** between hot working and cold working process. (5 marks)
- f) **Interpret** the recrystallization process occur in deformation of materials. (5 marks)

QUESTION 4

Metal casting a one of the methods in manufacturing process to produce parts such as in automotive industry.

- a) **Describe** the definition of casting process. (5 marks)
- b) **Interpret** three (3) types of casting mould. (6 marks)
- c) **Interpret** the basic operations of Sand Casting. (6 marks)
- d) **Classify** three (3) products produce by hot rolling in Continuous Casting. (3 marks)
- e) **Identify** possible defects in Die Casting. (5 marks)

QUESTION 5

The processing of plastic can involve operations similar to those used to form and shape metals. Plastics also can be molded, cut, machined and joined.

- a) **Explain** two (2) categories of plastics. (6 marks)
- b) **Classify** three (3) types of moulds used in Injection Moulding. (3 marks)
- c) **Describe** the Blow Moulding process. (6 marks)
- d) **Classify** three (3) types of Blow Moulding. (3 marks)
- e) **Describe** the Thermoforming process. (7 marks)

-----END OF QUESTIONS-----

Rubric:

Criteria	Marks
All questions answered will be marked according to the answer scheme.	/100

