



UNIVERSITY COLLEGE TATI (UC TATI)

FINAL EXAMINATION QUESTION BOOKLET

COURSE CODE : DTM 1042

COURSE : MANUFACTURING PROCESS

SEMESTER/SESSION : 1 - 2024/2025

DURATION : 2 HOURS

Instructions:

1. This booklet contains 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, raise your hands and ask the invigilator.

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

THIS BOOKLET CONTAINS 3 PRINTED PAGES INCLUDING COVER PAGE

QUESTION 1

There are five (5) common types of manufacturing processes:-

- a) **Name** common types of the manufacturing processes and give two (2) examples for each process. (10 marks)
- b) **Describe** between discrete product and continuous products. (5 marks)
- c) **Define** metallic and non metallic material. (5 marks)

QUESTION 2

- a) **Discuss** five (5) reasons why joining is an essential and important process in manufacturing and assembly operations. (10 marks)
- b) **Clarify** between these two (2) joining processes, fusion welding and brazing. (10 marks)

QUESTION 3

- a) **Classify** the different between hot and cold working processes. (5 marks)
- b) High force is needed in rolling process, and rolls forces can cause significant deflection and flattening of the rolls, but roll forces can be reduced by some methods, **give** five (5) methods to reduce the roll forces. (5 marks)
- c) Several rolling processes and mills have been developed to produced a specific family of product shapes. **Sketch** shape of roller needed to produce round-shape and H-shape. (10 marks)

QUESTION 4

Forging operations produce discrete parts and the parts have good strength and toughness, and are very reliable for high stressed and critical applications. Simple forging operations can be performed with a heavy hammer and an anvil.

- a) **Name** three (3) common types of forging processes and describe two (2) of them (sketch where appropriate). (10 marks)
- b) **Sketch** and name standard terminology for typical forging die. (10 marks)

QUESTION 5

The two main advantages of this extrusion and drawing processes are its ability to create very complex cross-sections and forms finished parts with an excellent surface finish.

- a) **Sketch** and name parts of direct extrusion process. (10 marks)
- b) **Sketch** typical drawing die used for drawing a round rod or wire and name each parts according to standard terminology. (10 marks)

-----End of Question-----

