

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL - 2025**

MODERN PRODUCTION PROCESS

[Maximum marks: 75]

[Time: 3 Hours]

PART A

I. Answer all the following questions in one word or one sentence. Each question carries 1 mark.

(9 x 1 = 9 Marks)

| | | Module outcome | Cognitive level |
|---|--|----------------|-----------------|
| 1 | Name any two drill jigs. | M1.01 | R |
| 2 | The process in which metallic powders are heated below their melting temperature to achieve bonding is called | M1.02 | R |
| 3 | Name the non-conventional machining processes, which need a dielectric fluid for machining. | M2.02 | R |
| 4 | Expansion of the term ECM. | M2.02 | U |
| 5 | is a device for the storage and tool change required in the automated machining process of CNC machining centre. | M3.01 | R |
| 6 | The miscellaneous functions in a CNC program are identified by the letter | M3.02 | R |
| 7 | Expansion of the term FMC. | M4.02 | R |
| 8 | fixtures are used for machining parts which must have machined details evenly spaced. | M1.02 | R |
| 9 | Expansion of the term SCARA. | M4.02 | U |

PART B

II. Answer any eight questions from the following. Each question carries 3 marks.

(8 x 3 = 24 Marks)

| | | Module outcome | Cognitive level |
|---|--|----------------|-----------------|
| 1 | State the advantages of Jigs and fixtures. | M1.01 | U |
| 2 | Name any three types of organic coating. | M1.02 | R |
| 3 | State the disadvantages of electric discharge machining. | M2.03 | R |
| 4 | State the advantages of Non-traditional machining. | M2.03 | R |
| 5 | List any three types of machining centers. | M3.01 | R |
| 6 | State the advantages of CNC machines. | M3.01 | R |
| 7 | List the type of joints used in robots. | M4.03 | R |

| | | | |
|----|---|-------|---|
| 8 | List the classification of CNC machines based on axis. | M3.01 | U |
| 9 | List the applications of AGV. | M4.02 | R |
| 10 | List the function of following preparatory functions; (i) G00 (ii) G81 (iii) G90 | M3.02 | U |

PART C

Answer all questions. Each question carries seven marks.

(6 x 7 = 42 Marks)

| | | Module outcome | Cognitive level |
|------|--|----------------|-----------------|
| III | Compare the functions of Jig and Fixtures. OR | M1.01 | U |
| IV | Explain the Physical Vapour Deposition technique with a neat sketch. | M1.03 | U |
| V | Illustrate the working of an Ultrasonic Machining process with the help of a neat sketch. OR | M2.02 | A |
| VI | Illustrate the working of a Laser beam machining with the help of a neat sketch. | M2.02 | A |
| VII | Explain the various components of NC machine with the block diagram. OR | M3.01 | U |
| VIII | Explain 3D printing and its application. | M3.03 | U |
| IX | List the components of FMS. OR | M4.02 | U |
| X | List the applications of industrial robots. | M4.03 | U |
| XI | Explain the significance of non-conventional machining process and their classification. OR | M2.01 | U |
| XII | Illustrate the working of a ECM process with the help of a neat sketch and describe its applications. | M2.02 | A |
| XIII | Explain the role of the elements of CIM. OR | M4.01 | U |
| XIV | Explain the robotic parts and its working. | M4.03 | U |
