TED (21) -5023A
(Revision- 2021)

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, NOVEMBER - 2023

MODERN PRODUCTION PROCESSES

[Maximum Marks : 75] [Time : 3 hours]

PART–A

I. Answer **all** the following questions in one word or sentence. Each question carries 1 mark. **(9x1=9 marks)**

		Module Outcome	Cognitive level
1	Name the devices which holds, supports and locates the workpiece but not guides the cutting tool to perform a specific operation.	M1.01	R
2	What is CVD stands for?	M1.03	R
3	Write ***one*** non-conventional machining process comes under mechanical energy based.	M2.01	R
4	In chemical machining is material removal takes by……	M2.02	R
5	Identify a non-conventional machining process to produce parts with complex and irregular shapes.	M2.03	U
6	Name the advanced computer-controlled machine tool that can be used for performing different machining operations on a single machine.	M3.01	R
7	What does STL stand for in Rapid prototyping?	M3.03	R
8	Name one example of a CNC machine that adopts Point-to-point systems.	M4.01	R
9	The robot designed with Cartesian coordinate system has……. number of linear movements.	M4.03	R

PART B

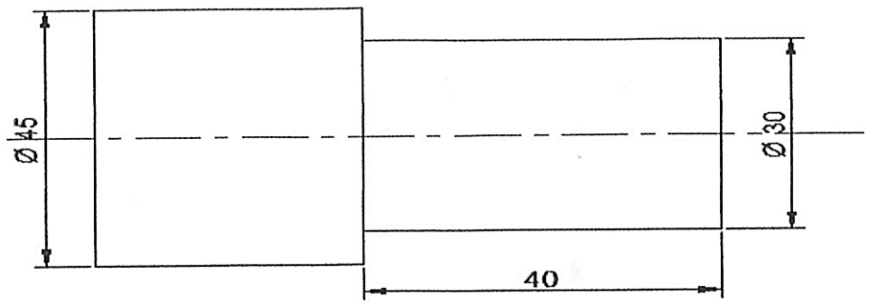
II. Answer **any Eight** questions from the following. Each question carries 3 marks. **(8x3=24)**

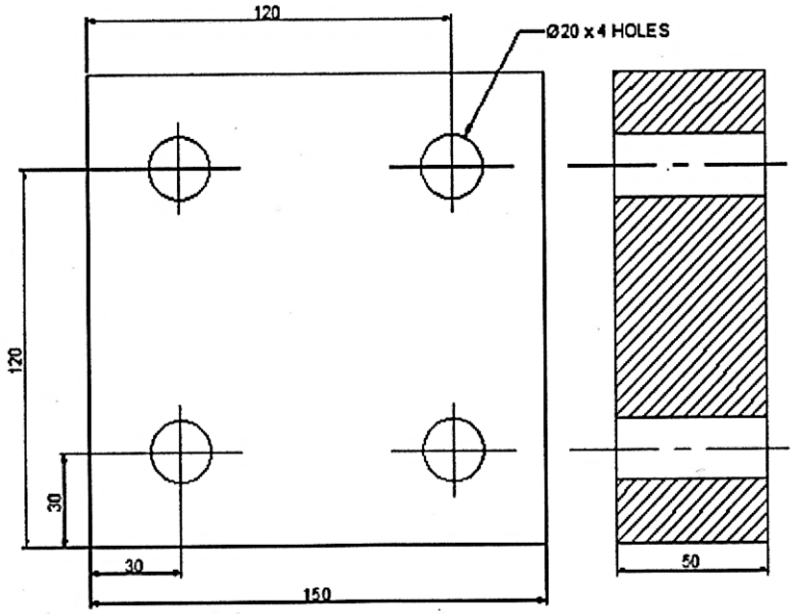
		Module Outcome	Cognitive level
1	Describe the advantages of jigs and fixtures in production.	M1.01	R
2	List various stages of powder metallurgy process.	M1.02	R
3	What is metal spraying?	M1.03	R
4	Describe the working principle of EDM.	M2.02	R
5	Provide two practical applications for each of the following non-conventional machining processes:(a)EDM (b)USM (c)LBM	M2.03	A
6	Illustrate the block diagram of CNC Machine.	M3.01	R
7	What is part program?	M3.02	R
8	Show the structure of a part program.	M3.02	R
9	What is Rapid prototyping?	M3.03	R
10	Define group technology.	M4.02	R

PART C

Answer **all** questions from the following. Each question carries 7 marks.

(6x7=42marks)

		Module Outcome	Cognitive level
III	Explain the working of indexing jig with neat sketch.	M 1.01	U
	OR		
IV	Explain the procedure of Physical Vapour Deposition process with a neat sketch.	M1.03	U
V	Explain the classification of non-conventional machining processes with examples.	M2.01	U
	OR		
VI	Describe the key steps, equipment setup and practical manufacturing applications employed to achieve specific machining goals of the AWJM process.	M2.02	A
VII	Explain the process of Laser beam Machining with a neat sketch.	M2.02	U
	OR		
VIII	Compare conventional and non-conventional machining processes.	M2.03	U
IX	Prepare a CNC part program to make a machine component as shown in figure from a 45 mm diameter mild steel rod. Set the spindle speed for 1000 RPM and a feed rate of 0.2 mm/rev. Write the important functions used in the program. 	M3.02	A
	OR		
X	Prepare CNC part programming for drilling 4 holes on a 150 X 150 X 50 mm MS plate. The feed rate is 100 mm/ min. and spindle rotate at 1200 rpm. Write the important functions used in the program.	M3.02	A

			
XI	List ten benefits of Computer Aided Manufacturing.	M4.01	U
	OR		
XII	List various layouts of Flexible Manufacturing System and explain any three with line diagrams.	M4.02	U
XIII	Explain Direct Numerical Control.	M4.01	U
	OR		
XIV	Illustrate various types of robotic joints.	M4.03	U

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