PAPER ID-411418

Roll No: | | | | | | | | | | | | | |

BTECH
(SEM IV) THEORY EXAMINATION 2023-24
MANUFACTURING PROCESSES

TIME: 3 HRS **M.MARKS: 70**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION: A

1. Attempt *all* questions in brief. **2 x 7 = 14**

Q. No.	Questions	Marks
a.	What do you understand by Manufacturing?	2
b.	Define allowance.	2
c.	What is rake angle?	2
d.	Define Tool life.	2
e.	What is glazing?	2
f.	What is HAZ in arc welding? D	2
g.	What do you mean by a Non-Traditional Manufacturing Process?	2

SECTION: B

2. Attempt any *three* of the following: **7 x 3 = 21**

a.	Differentiate between drawing and deep drawing. Explain the various defects along with reasons that can occur while drawing.	7
b.	What do you understand by Tool geometry? Explain the various angles along with the designation of the given tool in terms of the ASA reference system	7
c.	What are the main differences between Cylindrical and centerless grinding	7
d.	What are the specific advantages and disadvantages of resistance welding	7
e.	Explain the working principle of EDM with a neat diagram. Also, write the advantages and disadvantages of EDM.	7

SECTION: C

3. Attempt any *one* part of the following: **7 x 1 = 7**

a.	What do you understand by powder metallurgy? What are the advantages and disadvantages of following also give some applications of PM?	7
b.	What do you understand by the Rolling process? Derive the expression for the Force, Work and Power during analysis of the Rolling.	7

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4. Attempt any one part of the following: 7 x 1 = 7

a.	What is Machining? Explain the various types of chip formation during the machining of a workpiece.	7
b.	A single-point cutting tool with 12º rake angle is used to machine a steel workpiece. The depth of cut, i.e., uncut thickness is 0.81mm and the chip thickness under orthogonal machining conditions is 1.8 mm. Find the shear angle.	7

5. Attempt any one part of the following: 7 x 1 = 7

a.	Explain the following in brief Lapping b) Honing	7
b.	What are the wear mechanisms of the grinding wheel? Discuss in brief	7

6. Attempt any *one* part of the following: 7 x 1 = 7

a.	Why sometimes welding joints fail during use? Give precautions to enhance the life of weld joints.	7
b.	Discuss the TIG and MIG welding in detail with the help of neat and clean diagrams	7

7. Attempt any one part of the following: 7 x 1 = 7

a.	What is Laser? Explain the Principle of LBM with a neat diagram.	7
b.	Explain the working principle of Abrasive JET Machining with a neat diagram. Why abrasive particles are not recycled in abrasive jet machining? Explain in brief.	7

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