

BACHELOR OF TECHNOLOGY (C.B.C.S.) (2020 COURSE)
B.Tech.Sem - V MECHANICAL : WINTER- 2022
SUBJECT : COMPUTER INTEGRATED MANUFACTURING

Day : Monday

Time : 02:30 PM-05:30 PM

Date : 12/12/2022

W-24508-2022

Max. Marks : 60

N.B.

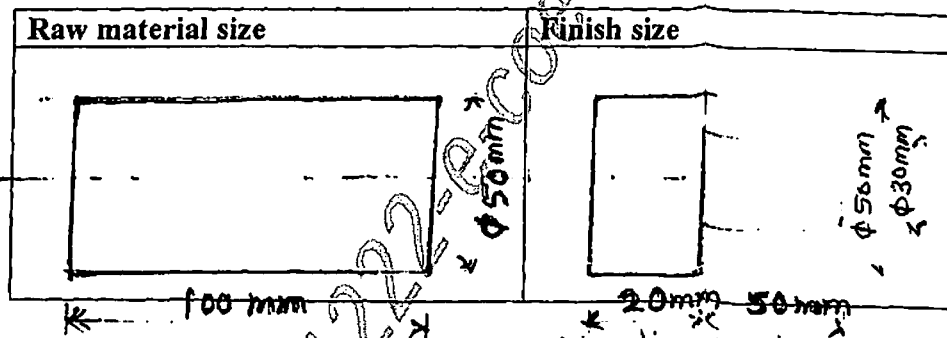
- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Use of non-programmable calculator is **allowed**.
- 4) Assume suitable data **WHEREVER** necessary.
- 5) Draw neat diagram **WHEREVER** necessary.

- Q.1** a) Describe with neat sketch Ultrasonic Machining Process(USM) with its application. (07)
b) List the characteristic of machining obtained by EDM and ECM. (03)

OR

- Q.1** a) Give the principle of electrochemical machining list out its merits and limitations. (07)
b) Compare EDM and ECM. (03)

- Q.2** a) Compare CNC machining with conventional machining. (05)
b) Write down the CNC program for following component (Assume suitable data if required.) (05)



OR

- Q.2** a) What is APT programming? Explain the characteristics of APT programming. (05)
b) What do you mean by absolute positioning and incremental positioning in CNC programming with the help of suitable example explain it. (05)

- Q.3** a) Explain Fused Deposition Method (FDM) with neat sketch. List its advantages and limitations. (07)
b) Give the classification of Additive manufacturing processes. (03)

OR

- Q.3** a) Explain Sterolithograph (SLA) with neat sketch. List its advantages and limitations. (07)
b) List out the characteristics required for metal powder in additive manufacturing processes. (03)

- Q.4** a) Explain the elements of CIM system which contribute for enhancement of quality of product. (05)
b) Explain CIM wheel and relevance of each component. (05)

OR

- Q.4** a) Define the islands of Automation and their significance. (05)
b) What is a communication matrix? Explain in details. (05)

PTO

Q.5 Explain the role of computer control system in effective implementation of Flexible Manufacturing System (FMS). (10)

OR

Q.5 Define Group technology. What are different group technology layouts? Explain role of group technology in FMS with suitable example. (10)

Q.6 a) Differentiate between variant and generative process planning. (05)
b) What is process capability induces? Explain its importance in CAPP. (05)

OR

Q.6 a) Explain CAM-I process planning system with example. (05)
b) Explain MIPLAN process planning system with example. (05)

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