MORNING

06 OCT 2023

Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09] [Total No. of Pages: 2]

Uni. Roll No. .....

Program: B.Tech.
Semester: 4th
Name of Subject: Modern Manufacturing Processes
Subject Code: PCME-109
Paper ID: 16199
Scientific calculator is Allowed

Time Allowed: 03 Hours **Max. Marks: 60**

NOTE:

1) Parts A and B are compulsory
2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
3) Any missing data may be assumed appropriately

Part – A **[Marks: 02 each]**

Q1.

a) Write down the abrasives used in the ultrasonic machining process.

b) Write down the applications of Shell mould casting.

c) What is the role of dielectric medium in EDM?

d) Explain the principle of Explosive Forming.

e) Give the limitations of Additive Manufacturing.

f) What are the disadvantages of EBW?

Part – B **[Marks: 04 each]**

Q2. Explain the factors that should be considered during the selection of an appropriate Non-conventional Machining process for a given job.

Q3. Explain the working principle of Laser Beam Welding.

Q4. Explain the factors on which selection of a resist for use in Chemical Machining.

Q5. Explain the working principle of Vacuum Moulding with the help of a neat sketch.

Q6. Discuss the effect of process parameters on the material removal rate in water jet machining.

P.T.O.

Q7. Explain the working principle of electro-hydraulic forming with the help of a neat sketch.

Part – C

[Marks: 12 each]

Q8. Explain in detail the constriction and principle of friction stir welding.

OR

Explain the limitations, advantages and application of additive manufacturing.

Q9. Explain Principle, Construction and Working of Ultrasonic machining with the help of diagram.

OR

Glass is being machined at a MRR of 8 mm3 /min by Al2O3 abrasive grits having a grit dia of 200 μm. If 150 μm grits were used, what would be the MRR?

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