



43241

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – Dip.ME-2024

Course Name – Advanced Manufacturing Process

Course Code - DME40111

(Semester IV)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Choose the advanced machining process from the given option.
 - a) Conventional lathe
 - b) Conventional milling
 - c) AJM
 - d) None of the option
- (ii) Select the machining process that used the ultrasonic sound.
 - a) PAM
 - b) CM
 - c) WJM
 - d) USM
- (iii) Select the stand of distance for AJM from the given option.
 - a) 0.5-15 MM
 - b) 0.6-0.8 MM
 - c) 0 MM
 - d) 100 MM
- (iv) Select the disadvantage of ECM from the given option.
 - a) Workpiece must not be electrically conductive.
 - b) workpiece must be electrically conductive
 - c) workpiece must be wood
 - d) workpiece must be plastic.
- (v) Choose the materials that can be machined using Electro discharge machining.
 - a) Heat resistant alloys
 - b) Super alloys
 - c) Carbides
 - d) All of the option
- (vi) Choose the range of diameter values obtained by drilling using EDM.
 - a) 0.01 to 0.05 mm
 - b) 0.1 to 0.5 mm
 - c) 1 to 5 mm
 - d) 10 to 15 mm
- (vii) Choose the wavelength value of Ruby laser used in Laser beam machining.
 - a) 633 nm
 - b) 694 nm
 - c) 600 nm
 - d) 6000 nm
- (viii) Select the machining process where transducer is used.
 - a) USM
 - b) ECM

- c) EDM d) PAM
- (ix) Identify the abrasive used in AJM from the given option.
- a) SiC b) PVC
c) RRC d) MCV
- (x) Select the non-traditional machining process that uses electrical energy for material removal.
- a) USM b) EDM
c) ECM d) EBM
- (xi) Select the process where no tool wear occurs.
- a) USM b) EDM
c) ECM d) EBM
- (xii) Identify the machining process that uses high-velocity abrasive particles.
- a) AJM b) EDM
c) ECM d) EBM
- (xiii) Choose the non-traditional process in which dielectric fluid is used.
- a) AJM b) EDM
c) ECM d) EBM
- (xiv) Choose the approximate temperature of the plasma arc used in PAM.
- a) 2,000–3,000°C b) 11,000–30,000°C
c) 40,000–50,000°C d) 5,000–7,000°C
- (xv) Select the major limitation of plasma arc machining.
- a) Low temperature b) Low material removal rate
c) Poor dimensional accuracy and surface finish d) Cannot machine metals

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Classify the non-traditional machining process. (3)
3. Write the working mechanism of Electric discharge Machining. (3)
4. State the safety precautions needed for Plasma arc machining. (3)
5. Name the steps in Chemical machining process. (3)
6. Explain the disadvantages of ultrasonic machining. (3)

OR

Explain the disadvantages of water jet machining. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the advantages, drawback and application of LBM. (5)
8. Describe the process parameters of USM. (5)
9. Define Lapping and Honning. (5)
10. In an Electrochemical Machining process, a current of 1000 A is passed through an electrolyte for 10 minutes. The electrochemical equivalent (ECE) of the work material is 0.0003 g/C. Calculate the mass of material removed. (5)
11. Explain the basic differences between USM and EDM. (5)
12. Write the application of compressor, Nozzle and transducer. (5)

OR

Write the advantages and limitation of Precision Machining. (5)
