BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – Dip.ME-2021
Course Name – Advanced Manufacturing Process
Course Code - DME501
(Semester V)

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 full form of MRR
   a) Material Removal Rate
   b) Material Removal Rite
   c) Material Removal Ratio
   d) Material Removal Reverse

(ii) Select the G code that define rapid move
   a) G00
   b) G01
   c) G02
   d) G03

(iii) Choose the correct option
   a) NC machine program is stored in the punched tape
   b) NC machine program is not stored in the punched tape
   c) both of the option
   d) None of the option

(iv) Identify, the latest technology is a
   a) Manual Prototyping
   b) Virtual Prototyping
   c) soft prototyping
   d) Rapid Prototyping

(v) In additive Manufacturing, the full form of EBM is express as
   a) Electron Beam Melting
   b) Electron Beam Machining
   c) Electric beam machining
   d) Electron Beam Method

(vi) In the advanced machining processes, identify the full form of ECG
   a) Electro cardio graph
   b) Electro chemical grinding
   c) Electro chemical grooving
   d) Electric cathode grinding

(vii) The grinding wheel used in the ECG process is
   a) Positive charge
   b) Negative charge
   c) Neutral charge
   d) It can be classified into the above mentioned categories

(viii) Polymerization happens

a) When the light of appropriate wavelength falls on liquid photopolymer
b) when the light of short wavelength falls on liquid photopolymer
c) when the light of appropriate wavelength falls on solid photopolymer
d) when the light of appropriate wavelength falls on powder photopolymer

(ix) Diamond Micro Machining uses diamond as a cutting tool material because

a) Diamond has a high coefficient of friction
b) Diamond has low hot hardness
c) Diamond has a crystalline structure which allows to produce a very sharp cutting edges
d) Diamond has high hot hardness

(x) Non-Traditional machining is recommended for

a) Complex shapes
b) High surface quality
c) Low-rigidity structures
d) It can be classified into the above mentioned categories

(xi) Non-Traditional machining can also be called as

a) Contact Machining
b) Non-contact machining
c) Partial contact machining
d) Half contact machining

(xii) Identify, the different shielded plasmas used in PBM are

a) Gas-shielded plasma
b) Water-shielded plasma
c) Gas-shielded & Water-shielded plasma
d) It can not be classified into the above mentioned categories

(xiii) For a CNC machine command, S3820 means

a) Feed rate of 3820 mm per hour
b) Spindle speed of 3820 rpm
c) Move present tool to X + direction by 38.20 mm
d) Change over to tool no. 38 from 20

(xiv) _____ is the value of the voltage used in PBM process.

a) 0.1 - 20 V
b) 30 - 250 V
c) 300 - 400 V
d) 500 - 600 V

(xv) In a CAD Package, clockwise circular arc radius 5, specified from P1 (15, 10) to P2 (10, 15) will have its centre at

a) (10,10)
b) (15,10)
c) (15,15)
d) (10,15)

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Define plasma arc machining. (3)
3. Write the application of Laser beam machining. (3)
4. Draw the block diagram of NC machine and show the basic component. (3)
5. Explain the advantages of Abrasive Jet Machining. (3)
6. Define integrated automation. (3)

OR

Define Automation. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Compare EDM and USM process. (5)
8. Sketch the LBM Process and level all the parts. (5)
9. Explain the advantages of Fuse deposited modelling. (5)

10. Explain Cellular manufacturing system. (5)
11. Explain the Cellular manufacturing system. (5)
12. Explain the working procedure of ECM. (5)

OR

Sketch the EDM Process and level the all parts. (5)

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