

Total No. of Questions : 10]

SEAT No. :

P4774

[Total No. of Pages : 2

[5561]-546

B.E. (Mechanical Engineering)

ADVANCED MANUFACTURING PROCESSES (Elective - IV)

(2015 Pattern) (Semester - II)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *All questions are compulsory i.e. Solve Q.1 or Q.2, solve Q.3 or Q.4, Solve Q.5 or Q.6, Solve Q.7 or Q.8, Solve Q.9 or Q.10.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

Q1) a) Explain with neat sketch forming and list their applications. [6]

b) Explain the construction and working of Ultrasonic welding. [4]

OR

Q2) a) Explain with neat sketch Magnetic pulse forming and list their applications. [6]

b) List applications of adhesive bonding. [4]

Q3) a) Explain with sketch working principle of Abrasive Water Jet machining with the process parameter. [6]

b) Explain the process of underwater welding. [4]

OR

Q4) a) Explain with sketch working principle of wire electric discharge machining with the process parameter. [6]

b) Write short note on welding of plastics and composites. [4]

Q5) a) Explain how the ultrasonic micro machining carried out. [6]

b) Explain the challenges in micro and nano fabrication process. [6]

c) Write short note on Lithography. [4]

OR

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- Q6)** a) Explain the need of micro machining. [6]
b) Explain the process of focused Ion Beam Machining. [6]
c) Write short note on Diamond micro machining. [4]

- Q7)** a) Explain in detail post processing of parts manufactured by additive manufacturing processes. [6]
b) Explain the generalized additive manufacturing process. [6]
c) Write application of additive manufacturing processes in aerospace industry. [4]

OR

- Q8)** a) What are factors which play important role while designing the object which is manufactured by additive manufacturing? [6]
b) Explain any one Additive Manufacturing process with its principle, process steps and materials. [6]
c) Write application of additive manufacturing processes in medical technology. [4]

- Q9)** a) Explain in detail the importance of material characterization. [6]
b) Explain operating principle of Scanning Electron Microscopes with neat sketch. [6]
c) Describe the applications of microscope. [6]

OR

- Q10)** a) Explain operating principle of Atomic Force Microscopes with neat sketch. [6]
b) Explain with sketch operating principle of X-Ray Diffraction Spectroscopy. [6]
c) Describe the applications of spectroscope. [6]

