

Roll No.....
Total No. of Questions: [09]

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B. Tech Civil Engg. (Semester – 8th)
MODERN MANUFACTURING PROCESSES
Subject Code: BMECO1-006
Paper ID: [18OE110706]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. Enlist the different types of Additive Manufacturing technologies.
- b. Define Rapid prototyping with suitable example.
- c. Differentiate between conventional and non-conventional machining processes.
- d. Why there is a specific requirements of advanced manufacturing processes now a day.
- e. Why there is a need of hybrid energy processes.
- f. What are the desirable features of Stereo-lithography resin?
- g. What are the components made by using micro-manufacturing techniques?
- h. Explain briefly the meal spinning process.
- i. Write a short note on methods used for welding of plastic materials.
- j. Write the principal of metal removal in Abrasive water-jet machining process.

Section – B

(5 marks each)

- Q2. Explain the working principle and details of process parameters of an FDM machine.
- Q3. Explain in detail the electrochemical discharge machining process.
- Q4. Which types of lasers are suitable for laser beam welding process? Give the limitations and applications of this process.
- Q5. Explain in detail the recent development in pattern and casting designing.
- Q6. Why thermal spraying coatings are widely used now a days.

Section – C

(10 marks each)

- Q7. Explain in detail the working of WEDM process and its technical and economic limitations as compare to the conventional cutting processes.
- Q8. (a) Describe the role of RP in product development.
(b) Explain in details the use of CAD/CAM in foundries technology. 5+5
- Q9. Write short note on any two of the following:
a. Friction stir welding its applications.
b. Working principal of Stereo-lithography system.
c. Different methods for producing powders. 5+5