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Total No. of Printed Pages: [01]

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B. Tech ME (Semester: 5th)
MODERN MANUFACTURING PROCESSES
Subject Code: BMECO1006
Paper ID: [18OE112306]

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) What is the difference between HERF and HVF?
- b) What are different types of explosives used in explosive forming
- c) Explain the principle of Electro hydraulic forming
- d) What is the purpose of abrasives in ECG?
- e) What is Briquetting?
- f) What is difference between Mixing and Blending in Powder metallurgy?
- g) What is working principle of underwater welding
- h) What are the applications of additive manufacturing in medical industry
- i) Differentiate between Wire EDM and conventional EDM
- j) What is working principle of 3D printing?

Section – B

(5 marks each)

- Q2) Why non-traditional processes are used, discuss parameters that should be taken into consideration while selecting a particular process.
- Q3) Describe working principle of an Electro chemical grinding process also states its advantages disadvantages and applications.
- Q4) What do you mean by sintering? Discuss factors in brief which control sintering
- Q5) Describe metal spinning write its product applications Differentiate between cold and hot spinning
- Q6) What is working principle of ultrasonic welding draw its schematic diagram and also discuss its advantages and applications

Section – C

(10 marks each)

- Q7) What are common welding processes of plastic, discuss these in detail with neat sketches
- Q8. With the help of diagram discuss the 'shell moulding' method its advantages, disadvantages and product applications
- Q9. Write short note on any two of the following:
 - (i) Stereolithographic
 - (ii) Rapid prototyping and its importance
 - (iii) Use of CAD/CAM in foundries