Roll No……..….. **Total No. of Printed Pages: [01]**
Total No. of Questions: [09]

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