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Total No. of Questions: 09

Total No. of Pages: 02

B. Tech. (ME) (Sem. 4)
MANUFACTURING PROCESSES -II
Subject Code: BTME-405
Paper ID: A1215

Time: 03 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

1. Section A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. Section B contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. Section C contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION A

1. Define:
 - a) What are the advantages of using a collect chuck in lathe?
 - b) Write the applications of shapers.
 - c) How the different drilling machines are classified?
 - d) Why negative rake angle is normally employed for cutting hard and strong materials?
 - e) Name the factors that contribute to crater wear of tool.
 - f) Explain, how built-up edge on a cutting tool is undesirable?
 - g) Enumerate the essential requirements of a tool-material.
 - h) List the two major advantages and limitations of powder metallurgy process.
 - i) Define the Rolling process.
 - j) List the advantages and disadvantages of extrusion process.

SECTION B

2. Sketch and contrast the two milling methods of machining flat surfaces.
3. Sketch and discuss a typical Internal Broach. Write the advantages and limitations of broaching process.
4. Discuss the various techniques used for the measurement temperature in the cutting zone.

5. Define "powder metallurgy" process. Discuss the various methods of powder manufacture.
6. Compare extrusion and rolling processes.

SECTION C

7. Define the term "Machinability". Discuss the various types of chips produced during metal machining. Why are discontinuous chips preferred over continuous type?
8. Discuss the various types of cutting fluids. What are the main functions of cutting fluid?
9. With the help of neat sketches explain the following:
 - (a) Deep drawing process
 - (b) Explosive forming
 - (c) Open die forging