

Total No. of Questions: 09

B.Tech. (ME) (2011 Onwards) (Sem. – 4)

MANUFACTURING PROCESSES-II

M Code: 59133

Subject Code: BTME-405

Paper ID: [A1215]

Time: 3 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. a) What is metal forming?
b) Write the various applications of extrusion process.
c) List the advantages of forging of metals.
d) What is explosive forming?
e) What is 'tool signature'?
f) How is piercing different from blanking?
g) Write the name of lathe accessories.
h) List down the various types of milling cutters.
i) What is spot facing drilling operation?
j) What is broaching?

SECTION B

2. Explain tube drawing process with the help of suitable diagrams.
3. Explain forging defects, their causes and remedies.
4. Enumerate the factors affecting tool life. Briefly explain the effect of each factor.
5. Sketch the geometry of a single point cutting tool and mark the important angles on it.
6. A 160 mm long 15 mm diameter rod is reduced to 14 mm diameter in a single pass straight turning. If the spindle speed is 450rpm and feed rate is 225 mm/min, determine material removal rate and cutting time.

SECTION C

7.
 - a) Discuss various methods used to produce metal powders.
 - b) Classify and explain various types of rolling mills.
8.
 - a) Explain the various coolants used in machining? Give their applications.
 - b) Explain the composition, advantages and limitations of high carbon steels, cemented carbides, high speed steel and ceramics cutting tool materials.
9.
 - a) Differentiate between up milling and down milling.
 - b) Sketch and explain the various methods of surface grinding.