

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (Sem.-4)
MANUFACTURING PROCESSES-II

Subject Code : BTME-405

M.code : 59133

Date of Examination : 12-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION 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. Answer briefly :

- a) Differentiate between the hot and cold forming.
- b) Enumerate the various rolling methods used in manufacturing industries.
- c) Differentiate between the edge bending and V bending operations.
- d) Explain the working principle of magnetic pulse forming process.
- e) Enumerate the various tool materials used in the production of cutting tools.
- f) What do you understand by progressive and combination dies?
- g) Enumerate the parts of twist drill.
- h) Enumerate the various types of milling operations.
- i) Differentiate between the cylindrical and surface grinding.
- j) What do you understand by simple indexing?

SECTION-B

2. Enumerate the various forging defects, giving neat sketches, and explain their causes and suggest the remedies for various forging defects

3. Explain extrusion process. Differentiate between the forward and backward extrusion giving neat sketches, advantages and disadvantages.
4. Describe the working principle, applications and advantages of powder metallurgy process, giving neat sketch. Also, discuss the advantages, disadvantages and applications of powder metallurgy process.
5. Explain the working principle, applications, advantages and limitations of up milling and down milling operations, giving neat sketches.
6. Discuss the working principle, applications, advantages and limitations of horizontal shaper, giving a neat sketch.

SECTION-C

7.
 - a) Explain the construction and working of open and close die forging operations, giving neat sketches.
 - b) Explain the working principle of following sheet metal forming processes with the help of neat sketches :
 - i) piercing,
 - ii) blanking,
 - iii) squeezing,
 - iv) coining,
8.
 - a) Describe the types of chips formed during machining operations, giving neat sketches and also, explain the conditions favouring formation of various types of chips.
 - b) Write a short note on various types of lubricants used in machining operations giving their characteristic features, advantages, disadvantages and applications.
9.
 - a) Discuss the nomenclature of tool geometry by describing various tool angles of single point cutting tool with the help of a neat sketch.
 - b) The following data were recorded while turning a work piece on a lathe :
 $V = 25\text{m/min}$; $f = 0.3 \text{ mm/rev.}$; $d = 2.0 \text{ mm}$; tool life, $T = 100 \text{ min}$. The following tool life equation is given for this operation $VT^{0.12} f^{0.7} d^{0.3} = C$. If V , f , d are all increased by 25% each & collectively. What will be their effect on tool life?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.