Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (ME) (2012 Onwards) (Sem.–4)

MANUFACTURING PROCESSES-II

Subject Code : BTME-405

M.code : 59133

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

Answer briefly :

Q1) Classify Metal Forming Processes.

Q2) Define "*Degree of drawing*"?

Q3) Write various variables in extrusion process.

Q4) What is elastic recovery or spring back?

Q5) What is '*Tool Signature*'?

Q6) How do you differentiate between orthogonal cutting and oblique cutting?

Q7) List the various methods of taper turning on lathe machine.

Q8) List down the various types of milling cutters.

Q9) Differentiate between drilling and boring.

Q10) What is meant by dressing and truing of grinding wheels?

SECTION-B

Q11) What are the various rolling defects? Discuss their causes and also state remedial measures.

Q12) Explain powder metallurgy process. Also discuss its advantages, limitations and applications.

Q13) Write the function of coolants and what is the effect of coolants on speeds and feed in metal cutting.

Q14) Draw a twist drill and explain various angles and terms related to twist drill.

Q15) Calculate the cutting time for cutting 150 mm long keyway using HSS end mill of 20 mm diameter having four cutting teeth. The depth of keyway is 4.2 mm. Feed per tooth is 0.1 mm and cutting speed is 38 m/min. Assume approach and over travel distance as half of the diameter of the cutter and a depth of 4.2 mm can be cut in one pass.

SECTION-C

Q16) a) Explain electro hydraulic forming process.

b) How press dies are classified? Explain them briefly.

Q17) What are different cutting tool materials? Explain the composition, applications, advantages and limitations of high speed steel, alloy carbon steel, diamond and CBN cutting tool materials.

Q18 a) Explain the five lathe machine operations.

b) Sketch the various shapes of grinding wheels and write their field of applications.

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.