

BACHELOR OF VOCATION
Tool and Die Manufacturing
Subject: Workshop Technology
Subject Code: CBME-101
Semester: First
January 2021
Theory (External): 35 Marks
Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number

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SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10x1=10 Marks)

- A In the selection of optimal cutting conditions, the requirement of surface finish would put a limit on which of the following
- (a) The maximum feed
 - (b) The maximum depth of cut
 - (c) The maximum speed
 - (d) The maximum number of passes
- B With HSS tools, highest cutting speed is used while machining
- (a) Cast iron
 - (b) Mild steel
 - (c) Brass
 - (d) Aluminum
- C The cutting tool material normally used for turning steel of very high hardness is
- (a) HSS
 - (b) Tungsten carbide
 - (c) CBN
 - (d) Diamond
- D Dry and compressed air is used as cutting fluid for machining
- (a) Steel
 - (b) Aluminum
 - (c) Cast iron
 - (d) Brass
- E For taper turning on centre lathes, the method of swiveling the compound rest is preferred for
- (a) Long jobs with small taper angles
 - (b) Long jobs with steep taper angles
 - (c) Short jobs with small taper angles
 - (d) Long jobs with steep taper angles
- F The purpose of helical grooves in a twist drill is to:
- (a) Provide a space for chip removal
 - (b) Provide rake angle for the cutting edge
 - (c) Both (a) and (b)
 - (d) None of the above



- G Gear cutting on a milling machine using an involute profile cutter is a
- (a) Gear forming process
 - (b) Gear generating process
 - (c) Gear shaping process
 - (d) Highly accurate gear producing process

- H In 3-2-1 principle of fixture design, 3 refers to number of:
- (a) Setups possible
 - (b) Clamps required
 - (c) Positions on primary face
 - (d) Locating positions

- I Reaming is primarily used for achieving
- (a) Higher MRR
 - (b) Improved dimensional tolerance
 - (c) Fine surface finish
 - (d) Improved positional tolerance

- J Which of the following grinding machine will give a better result for rough machining?
- (a) Fine grain
 - (b) Coarse grain
 - (b) Very fine grain
 - (d) None of the above

SECTION -B (ESSAY TYPE QUESTIONS)
(5x5=25 Marks)

- Q1 Define the term manufacturing process and explain its types.
- Q2 Draw a neat sketch showing the various angles in different views of single point cutting tool. Also differentiate between orthogonal cutting and oblique cutting.
- Q3 Sketch and explain various methods of turning a taper in Lathe machine.
- Q4 List the various tool materials used in industry. State the advantages and disadvantages of each material.
- Q5 Explain the working of TIG welding with a neat sketch and also write its application.
- Q6 What is 'deep hole drilling'? What difficulties are encountered while drilling deep holes with the use of twist drills on conventional drill presses?
- Q7 Write short notes on:
(a) Various operations that can be performed on lathe machine.
(b) Grinding wheels
- Q8 Explain the working principle of milling. How milling machines can be classified. Explain vertical milling machine with a neat diagram.

*******END OF THE PAPER*******

