

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

- Q1 Classify the manufacturing Processes and discuss the various factors for selection of a manufacturing process for a given product.
- Q2 Explain different types of chips produced during metal machining with neat sketches.
- Q3 Write and explain the various operations that can be performed on Lathe machine. Also explain the taper turning attachment for turning a taper.
- Q4 Sketch a double column vertical boring machine and explain its working.
- Q5 Explain the working of MIG welding with a neat sketch and also write its application.
- Q6 Define the reaming operation and discuss in detail various types of reamer.
- Q7 Write short notes on:  
(a) Specification and selection of cutting fluids.  
(b) Selection of a Grinding wheel.
- Q8 Sketch and explain the working of a plain column and knee type milling machine.

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

**BACHELOR OF VOCATION**  
**Mechanical Manufacturing**

**&**  
**Mechatronics**

**Subject: Workshop Technology**

**Subject Code: ME-505**

**Semester: Second**

**July 2022**

**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. Rake angle of a cutting tool can be defined as
- Angle between flank face and normal to the machined surface
  - Angle between rake face and flank face of a cutting tool
  - Angle between rake face and normal to the machined surface
  - Angle between flank face and machined surface
- B. Continuous chip can form during the cutting of
- Any material at high depth of cut
  - Ductile materials
  - Brittle materials
  - Any material at low cutting speeds
- C. Consider the following tool materials
- HSS
  - Cemented carbide
  - Ceramics
  - Diamond
- The correct sequence of these materials in decreasing order of their cutting speed is
- 4,3,1,2
  - 4,3,2,1
  - 3,4,2,1
  - 3,4,1,2
- D. The fuel gas that has the highest flame temperature (heat capability) in gas welding is
- Propane
  - Propylene
  - Hydrogen
  - Acetylene
- E. The indexing of the turret in a single-spindle automatic lathe is done using
- Geneva mechanism
  - Ratchet and Pawl mechanism
  - Whitworth mechanism
  - Rack and pinion mechanism
- F. Grinding wheel is said to be loaded when the:
- Metal particles get embedded in the wheel surface blocking the interspaces between cutting grains
  - Bonding material comes on the surface and the wheel becomes blunt
  - Work piece being ground comes to a stop in cylindrical grinding
  - Grinding wheel stops because of very large depth of cut
- G. The rake angle in a twist drill
- Varies from minimum near the dead centre to a maximum value at the periphery
  - Is maximum at the dead centre and zero at the periphery
  - Is constant at every point of the cutting edge
  - Is a function of the size of the chisel edge
- H. Which one of the following sets of tool or tools and processes are normally employed for making large diameter holes?
- Boring tool
  - Gun drill and boring tool
  - Boring tool and trepanning
  - none of these
- I. Gang milling is a
- Milling process for generating hexagonal surfaces
  - Process of cutting gears
  - Process in which two or more cutters re used simultaneously
  - Milling operation combined with turning
- J. Which of the following is not correct for the jigs?
- They increase the rate of production
  - They enable quick setting of work
  - They do not guide the tool
  - They increase the machining accuracy