



**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING**

**MAKEUP EXAMINATION – JAN 2023**

**Course Code:** MEC 2013

**Date:** 28-JAN-2023

**Course Name:** Production Technique

**Time:** 09:30AM – 12:30PM

**Program** : B.Tech - MECH

**Max Marks:** 100

**Weightage:** 50%

**Instructions:**

- (i) Answer the questions to the point.
- (ii) All the questions must be answered, no choice is provided.
- (iii) Scientific and non-programmable calculators are allowed.

**Part A**

**Answer all the Questions. Each question carries ONE marks.**

**(20QX1M=20)**

1. Continuous chip can form during the cutting of
  - a) Ductile materials.
  - b) Any material at low cutting speeds.
  - c) Brittle materials
  - d) Any material at high depth of cut
2. Discontinuous chip can form during the cutting of
  - a) Ductile materials.
  - b) Any material at low cutting speeds.
  - c) Brittle materials
  - d) Any material at high depth of cut
3. Built-up-edge can form during the cutting of
  - a) Soft materials at high cutting speeds
  - b) Brittle materials at low cutting speeds
  - c) Hard materials at low cutting speeds
  - d) Soft materials at low cutting speeds
4. Shear angle in orthogonal cutting is the angle between the
  - a) Flank face and the shear plane
  - b) Rake face and the shear plane
  - c) Flank face and the machined surface
  - d) Rake face and the machined surface
5. Tool life criterion normally used for
  - a) Crater wear
  - b) Flank wear
  - c) Crater wear and Flank wear
  - d) Crater wear and Nose wear

6. Which of the following process is carried out to provide seating for head of screw?  
a) Counter boring b) Counter sinking c) Tapping d) None of the above
7. For lathe operations, work piece can be held  
a) Between centers c) On mandrel  
b) Either between centers or on mandrel d) None of the above
8. Slab milling can be performed more effectively by \_\_\_\_\_ milling machine.  
a) Horizontal b) Vertical c) Can't say anything d) None of the above
9. Straddle milling can be performed more effectively by \_\_\_\_\_ milling machine.  
a) Horizontal b) Vertical c) Can't say anything d) None of the above
10. Cutting T-slots can be performed more effectively by \_\_\_\_\_ milling machine  
a) Horizontal b) Vertical c) Can't say anything d) None of the above
11. For grinding nonferrous materials, the preferred abrasive is  
a) Any type of work Silicon carbide c) Aluminum oxide  
b) Diamond d) Cubic boron nitride
12. The grinding machine suitable for grinding cylindrical work pieces without actually fixing them in the machine  
a) Cylindrical grinding machine c) Surface grinding machine  
b) Centre less grinding machine d) Internal grinding machine
13. A taper may be defined as uniform gradual ----- along the length of the job  
a) Decrease b) Increase c) Increase or Decrease d) None of the above
14. The process of beveling sharp ends of a work piece is called as  
a) Knurling b) Grooving c) Facing d) Chamfering
15. The process of chamfering the entrance of a drilled hole is known as  
a) Counter-boring b) Counter-sinking c) Counter-fillet d) Trepanning
16. Gang milling is used for  
a) Large work pieces  
b) Small work pieces  
c) A number of milling cutters are used to cut simultaneously  
d) Only one milling cutter is used to cut heavy work piece
17. The machining operation used to enlarge an existing hole is termed as  
a) Drilling b) Boring c) Counter sinking d) Reaming
18. The operation to be used for obtaining smooth and close tolerance hole is  
a) Drilling b) Reaming c) Tapping d) Gun drilling

19. Grinding is a process used for
- Machining materials which are too hard for other machining processes
  - Close dimensional accuracy
  - High degree of surface smoothness
  - All the above
20. Among the conventional machining processes, the most efficient process is
- Turning
  - Grinding
  - Drilling
  - Milling

### **Part B**

**Answer 5 Questions. Each question carries EIGHT marks.**

**(5Qx8M=40)**

21. Explain in detail Orthogonal Cutting and oblique Cutting.
22. Explain in detail the types of chips.
23. With neat sketch explain crank and slotted lever mechanism in Shaper machine
24. With a neat sketch explain Abrasive jet Machining.
25. List the advantages and disadvantages of Water Jet Machining

### **Part C**

**Answer 4 Questions. Each question carries TEN marks.**

**(4Qx10M=40)**

26. Derive expressions for all the forces through Merchant cycle diagram.
27. With a neat sketch explain horizontal knee type milling machine.
28. List and explain any 5 Hand tools and accessories used for Forging Process.
29. With a schematic diagram explain Electron beam machining. List its advantages and disadvantages