

- a) Drilling
- b) Reaming
- c) Boring
- d) Tapping
- e) Counter boring

Q.29 How do you specify the following boring machines:

- i) A vertical boring machine
- ii) A horizontal boring machine (CO4)

Q.30 Describe the working of a shaper with the help of diagram. (CO5)

Q.31 What are steps taken before starting the work on a planer? (CO5)

Q.32 Explain the working principle of a slotter with the help of neat sketch and label the important parts. (CO5)

Q.33 What factors do you consider while selecting a cutting fluid? (CO6)

Q.34 Describe the properties of a good lubricant. (CO6)

Q.35 What is lubrication and describe the factors on which its importance depends. (CO6)

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Write a short note on heat produced during cutting and what are its effects on a tool. Using a neat labeled diagram show the geometry of a single point cutting tool. (CO5)

Q.37 What are the various cutting parameters of Lathe? (CO4)

Q.38 How drilling machines are classified? Explain the terms cutting speed, feed, depth of cut and machining time in drilling operation. (CO4)

(**Note:** Course outcome/CO is for office use only)

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202454/122454

**5th Sem / Branch : Mechatronics**

**Subject:- Manufacturing Processes**

Time : 3Hrs.

M.M. : 100

### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Which of the following statement is correct? (CO-01)

- a) An accident is a mishap which causes some injury to the person, damage to machines, tools and equipment, which results in loss of production
- b) 10% accidents occur due to human causes
- c) 88% accidents occur due to mechanical failure
- d) All of the above

Q.2 Surface plate is used to check the trueness of flat surfaces (CO-02)

- a) True
- b) False

Q.3 Three jaw chucks are also called as \_\_\_\_\_ (CO-02)

- a) Self centered chuck
- b) Self balancing chuck
- c) Self regulating chuck
- d) Self stable chuck

Q.4 The cutting tool used for making holes in solid material is called the \_\_\_\_\_ (CO-04)

- a) Boring
- b) Twist drill
- c) Slotting
- d) single point tool

- Q.5 The reaming and boring process can be done on many general purpose machine. (CO-04)  
 a) Lathe                                      b) Milling  
 c) Drilling                                      d) By both a & c
- Q.6 Which machine is used to machine internal and external diameters as well as to face large workpiece that are axi-symmetrical? (CO-04)  
 a) Vertical Boring                      b) Milling  
 c) Shaping                                      d) Lathe
- Q.7 The low production machine most commonly used machine in view of flexibility and easier setup. (CO-03)  
 a) Planar type milling setup  
 b) Column and Knee type milling machine  
 c) Bed type milling machine  
 d) Rotary table type milling machine
- Q.8 \_\_\_\_\_ is the milling cutter holding device. (CO-03)  
 a) Arbor                                      b) Adaptor  
 c) Collect                                      d) Indexing stock
- Q.9 Transformer oil is used as cutting fluid for machining. (CO-06)  
 a) True                                      b) False
- Q.10 Coolant and lubricants will increase the tool. (CO-06)  
 a) Hardness                                      b) Life  
 c) Working range                      d) None of these

### SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Cutting tool should maintain its hardness. (True/False) (CO-01)

- Q.12 In lathe machine tail stock is mounted on right hand side of the machine. (True/False) (CO-02)
- Q.13 For a single point cutting tool, feed is expressed in \_\_\_\_\_ (CO-02)
- Q.14 Chuck is a \_\_\_\_\_ device for the job. (CO-02)
- Q.15 Collets, angle plates and mandrels are \_\_\_\_\_ of lathe. (CO-02)
- Q.16 Feed is the rate of \_\_\_\_\_ per revolution of drill. (CO-04)
- Q.17 The cutting tool used in shaping machine is \_\_\_\_\_. (CO-05)
- Q.18 Write any one safety precautions to be observed while drilling. (CO-04)
- Q.19 Write two functions of a cutting fluid. (CO-06)
- Q.20 Mineral oils are composed of \_\_\_\_\_. (CO-06)

### SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Explain the various elements indicated while specifying 'tool signature' for tool bits. (CO1)
- Q.22 What do you mean by HSS? Explain the various types of HSS and its advantages. (CO1)
- Q.23 Describe the working principle of Lathe machine. (CO2)
- Q.24 Give a comparison of capstan and turret lathe. (CO2)
- Q.25 Describe the two methods of milling machine. (CO3)
- Q.26 Explain various job holding devices used on a milling machine. (CO3)
- Q.27 Draw a neat sketch of a twist drill. Label nomenclature of its parts and various angle on the sketch. (CO4)
- Q.28 Explain the following operations performed on drilling machine: (CO5)