

- 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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**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)

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- 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)

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