

C.U.SHAH UNIVERSITY**Summer Examination-2018****Subject Name: Manufacturing Process - I****Subject Code: 4TE04MPR1****Branch: B.Tech (Mechanical, Automobile)****Semester: 4****Date: 01/05/2018****Time: 10:30 To 01:30****Marks: 70**

Instructions:

- (1) Instructions written on main answer book are strictly to be obeyed.
 - (2) Draw neat diagrams and figures (if necessary) at right places.
 - (3) Assume suitable data if needed.
 - (4) Question number 1 is compulsory.
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Q-1**Attempt the following questions:****(14)**

- a) Which of the following is not included in forming and shaping process?
 - a) rolling
 - b) forging
 - c) sheet forming
 - d) broaching
- b) Which of the following processes are included in finishing?
 - a) honing and welding
 - b) polishing and lapping
 - c) coating and milling
 - d) molding and plating
- c) Which of the following is included in basic machine tools?
 - a) lathe machine
 - b) production milling machine
 - c) production drilling machine
 - d) none of the mentioned
- d) Which of the following is the type of lathe machine?
 - a) capstan
 - b) turret
 - c) both capstan and turret
 - d) none of the mentioned
- e) Machine tools can be classified as _____
 - a) geometric shape of the work piece
 - b) number of the work piece
 - c) function of the machine
 - d) all of the mentioned
- f) Lathe is primarily used for producing ____ surfaces.
 - a) flat
 - b) curve
 - c) taper
 - d) none of the mentioned
- g) The gear connections on a lathe _____
 - a) always compound
 - b) always simple



- c) may be simple or compound
d) none of the mentioned
- h)** In a compound train, the stud carriers _____ gears.
a) 1
b) 2
c) 3
d) 4
- i)** Tapping attachment is included in _____ method of tool holding devices.
a) by chucks
b) by a sleeve
c) by directly fitting in the spindle
d) none of the mentioned
- j)** Milling machine can hold _____ cutters at a time.
a) only one
b) only two
c) only three
d) none of the mentioned
- k)** The knee is _____ adjustable on the column in horizontal column and knee type milling machine.
a) horizontally
b) vertically
c) can't say anything
d) none of the mentioned
- l)** In column and knee type milling machine, the table can be moved _____.
a) only up
b) only down
c) both up and down
d) none of the mentioned
- m)** Which types of cutting parameters are there in shaper?
a) feed
b) depth of cut
c) machining time
d) all of the mentioned
- n)** The larger diameter of shaft is 125 mm and smaller diameter of the shaft is 95 mm. Find the taper. Assume that length of the job and taper is same.
a) 30
b) 15
c) 60
d) none of the mentioned

Attempt any four questions from Q-2 to Q-8.

- Q-2** (a) Why turning is produced on a surface? How it is produced on a lathe. **7**
(b) Discuss with neat sketch the type of belt-drives used in machine tools. **7**
- Q-3** (a) Describe in brief an engine lathe. **7**
Find out the time required for one complete cut on a piece of work 350 mm long and 50 mm in diameter. The cutting speed is 35 meters per minute and the feed is 0.5 mm per revolution.



	(b) List the basic parts of lathe. Discuss with neat sketch function and construction of any two parts.	7
Q-4	(a) List the main parts of a column and knee type milling machine? Explain construction and working of Arbon with neat sketch.	7
	(b) Discuss with neat sketch the whitworth quick return mechanism in shaper.	7
Q-5	(a) Draw and explain the construction and working of precision boring machine.	5
	(b) Give classification of precision grinders. Explain with neat sketch working of swing frame grinders.	5
	(c) Describe the types of slotters in brief. How is slotter differing from shaper?	4
Q-6	(a) List the standard clamping devices used in planning machine. Explain planning of horizontal surfaces with neat sketch.	5
	(b) Discuss the broaching methods in details.	5
	(c) Differentiate between a reciprocating saw and a band saw.	4
Q-7	(a) Compare and differentiate Shaper and Planer.	7
	(b) Discuss the construction and working of vertical broaching machines.	4
	(c) Explain with neat sketch gang milling operation.	3
Q-8	(a) Draw and explain the followings: (i) Countersinking (ii) Spot facing (iii) Tapping	7
	(b) Discuss in detail the selection of grinding wheels.	7

