

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY

B.Tech. Summer 2018 - 19 Examination

Semester: 3
Subject Code: 03109203
Subject Name: Manufacturing Processes

Date: 28/05/2019
Time: 02:00pm to 04:30pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions - (Fill in the blanks, one word answer, MCQ-not more than Five in case of MCQ) (All are compulsory) (Each of one mark) **(15)**

1. Segmental chips are formed during machining
(A) Cast Iron (B) Mild Steel (C) High Speed Steel (D) High Carbon Steel
2. The main purpose of a boring operation, as compared to drilling, is to
(A) Drill a hole (B) finish the drilled hole (C) correct the hole (D) Enlarge the existing hole
3. Table contains _____ slots.
a. T- slots b. L- slots c. H-slots d. All of these
4. A twist drill is a
(A) Side Cutting Tool (B) End Cutting Tool (C) Front Cutting Tool (D) None
- 5 In Shaper machine , the ram speed of return stroke is _____
a. slow b. equal to forward stroke c. quick d. all of the above
6. _____ process squeezes metals into peaks and troughs with plastic deformation.
7. The centre lathes receive their power through _____.
8. Lathe bed is made of _____ material.
9. The process of beveling sharp ends of a work piece is called as _____.
10. The angle between the face and flank of the single point cutting tool is known as _____.
11. Internal gears can be made by _____.
12. The lead screw of a lathe has _____ threads.
13. The depth of cut in drilling is one half the drill diameter. True or false ?
14. The cutting tool in a milling machine is mounted on knee . True or false ?
15. The Lip angle of a single point cutting tool is usually 60° to 80°. True or false ?

Q.2 Answer the following questions. (Attempt any three) **(15)**

- A) Explain working of hydraulic shaper with neat sketch.
- B) Write short note on : Casting Defects.
- C) Explain with neat sketch up milling and down milling process. Describe its advantages and limitations.
- D) Explain Radial drilling machine with neat sketch.

Q.3 A) Write specification of centre lathe & Draw neat sketch of center or engine lathe. **(07)**

- B) Write various taper turning methods & explain any one and Write the difference between Capstan & turret lathe. **(08)**

OR

- B) Write the factors to be considered for selection of the grinding wheels & Explain working of cylindrical grinding machine **(08)**

Q.4 A) What is pattern? Explain Any five types of patterns with neat sketch. **(07)**

OR

- A) Classify the types of foundry furnaces. Describe cupola furnace with neat Sketch. **(07)**

- B) In a turning operation, the following tool life was given At a cutting speed= 25 m/min, feed= 0.2 mm/rev and depth of cut = 3 mm, the tool life was one hour. $VT^{0.12} f^{0.7} d^{0.3} = C$ Calculate the tool life if the cutting speed, feed and depth of cut are increased by 20 % individually and collectively. **(08)**