



**VELAMMAL**  
**INSTITUTE OF TECHNOLOGY**  
CHENNAI-601204

**QUESTION BANK**  
**ME 2252 MANUFACTURING TECHNOLOGY - II**  
**UNIT 3**

**PART-A**

1. Under what conditions planning operation would be preferred over other machining processes like milling, broaching, shaping etc.  
*(November/December 2007)*
2. What are the common work holding devices used on milling machines?  
*(November/December 2007).*
3. What is a shell mill? *(Nov/Dec 2005)*
4. Mention the operations performed by a planer. *(Nov/Dec 2005)*
5. How are shaping machines specified? *(May/June 2012,2013)*
6. State two major advantages of broaching. *(May/June 2012).*
7. What is deep hole drilling? State its applications. *(Nov/Dec 2011)*
8. What is climb milling? Mention its advantages. *(Nov/Dec 2011)*
9. What is the difference between up milling and down milling?  
*(Apr/May 2011).*
10. List any four applications of broaching machines. *(Apr/May 2011).*
11. How do you classify milling cutters? *( Apr/May 2010)*

12. Define broaching. (*Apr/May 2010*)
13. Define cutting speed, feed and machining time for drilling.  
(*Nov/Dec 2010*)
14. What is broaching? (*Nov/Dec 2010*)
15. What do you know about straight fluted drill and fluted drill?  
(*May/June 2009*).
16. What is up milling and down milling operations? (*May/June 2009*).
17. What is the difference between face milling and end milling?  
(*Nov/Dec 2009*).
18. List the types of driving mechanisms used in slotter for driving the ram  
(*Nov/Dec 2009*).
19. State the differences between a vertical shaper and a slotter.  
(*Nov/Dec 2008*)
20. Write the difference between drilling and tapping. (*Nov/Dec 2008*).
21. Mention the difference between shaper and planner. (*Apr/May 2008*)
22. List out the situation where reaming operation is required.  
(*Apr/May 2008*).
23. Differentiate a shaper and planner (*May/June 2006*)
24. Compare drilling and boring operation. (*May/June 2006*)
25. State the difference between up milling and down milling (*Nov/Dec 2013*)
26. State the use of Planner. (*May/June 2013*)

## PART B

1. a) State the advantages of Ward – Leonard drive. *(Nov/Dec 2007)*  
b) Explain with a sketch “Fast and loose pulleys” quick return mechanism of Planer table. *(Nov/Dec 2007)*
2. a) State the methods of holding milling cutters. *(Nov/Dec 2007)*  
b) Explain simple indexing, compound indexing and differential indexing  
With suitable examples. *(November / December 2007)*
3. State the advantages and limitations of broaching. *(Nov/ Dec 2007)*
4. a) Sketch and describe the basic types of milling cutters and milling operations. *(Nov/Dec 2005)*  
b) What are the differences among planer and shaper *(Nov/Dec 2005)*
5. a) With the help of a line diagram, describe the parts of a planning machine.  
Also explain the working of this machine. *(May/June 2012).*  
b) Sketch and briefly explain the following operations performed in milling Machine. *(May/June 2012).*
  - Plain milling, dovetail milling.
  - Face milling, End milling
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5. Sketch the following operations performed in drilling machine.  
*(May/June 2012).*
  - Drilling, Reaming

- Boring, Counter boring
- Counter sinking, Spot facing
- Tapping, Trepanning

Add one or two lines of explanation for each.

6. a) With a neat sketch, describe the working principle of a JIG boring machine. State its applications. *(Nov/Dec 2011)*

b) Describe the construction of the following milling cutters.  
*(Nov/Dec 2011)*

- Plain milling cutters.
- End mills.

7. a) What is radial drilling machine? Sketch and describe it. *(Nov/Dec 2011)*

b) Sketch and explain the hydraulic drive of a horizontal shaper. Also Enumerate any two advantages of hydraulic drive. *(Nov/Dec 2011).*

8. a) Sketch and explain the hydraulic drive of a horizontal shaper.  
*(Apr/May 2011).*

b) How will you cut the following types of surfaces on milling machines?

- Flat surfaces.
- Slots and Splines.

9. a) Sketch the quill mechanism. Write its main parts and their functions.  
*(Apr/May 2011).*

b) With the help of a neat sketch discuss the working of a surface broaching machine. *(Apr/May 2011).*

10. With the schematic sketch, explain the parts and working of a planer. Explain the features and their advantages over a shaper. *(May/June 2006)*

11. Sketch a milling cutter and explain the angles. *(May/June 2006)*

12. With suitable sketches, explain reaming and tapping. *(May/June 2006)*
13. Describe with a neat sketch the quick return mechanism of a shaper.  
*(May/June 2008)*
14. Explain the various drilling devices. *(May/June 2008)*
15. Differentiate the up milling from the down milling process.  
*(May/June 2008)*
16. Discuss about index milling, screw thread milling and end milling operation. *(May/June 2008)*
17. Explain the hydraulic drive of a horizontal shaper with neat sketch.  
*(Nov/Dec 2008)*
18. Sketch a twist drill. Write down its main parts and their functions.  
*(Nov/Dec 2008)*
19. Write short notes on reaming and boring operations. *(Nov/Dec 2008)*
20. Sketch and explain the mechanical feed drive of a horizontal shaper.  
*(Nov/Dec 2008)*
21. Difference between climb and conventional milling. Explain their characteristics. *(Nov/Dec 2008)*
22. Name and describe any four work holding devices or methods used in drilling machines. *(Nov/Dec 2008)*
23. Classify the various boring tools and explain how they are used for boring operations. *(Nov/Dec 2008)*
24. With some sketches explain the features of the major elements of a twist drill. *(May/June 2009)*
25. Explain different types of milling cutters. *(May/June 2009)*

26. Make a note on different types of work holding devices used in a slotting machine. *(May/June 2009)*
27. Explain the different types of table drive and feed mechanisms in a planning machine. *(May/June 2009)*
28. Describe the working of crank and slotted link mechanism. *(Nov/Dec 2010)*
29. Describe the principle of operation of a shaper with a neat sketch. *(Nov/Dec 2010)*
30. With a neat sketch explain the column and knee type milling machine and name its main parts. *(Nov/Dec 2010)*
31. With a line diagram, describe the construction of radial drilling machine. *(Nov/Dec 2010)*
32. What are the operations performed on a milling machine? *(May/June 2010)*
33. Explain different types of drilling machines with their specific features. *(May/June 2010)*
34. Discuss the various types of broaches. *(May/June 2010)*
35. Discuss the common work holding devices used on shapers, slotters and planer. *(May/June 2010)*
36. State the difference between shaper and planer. *(Nov/Dec 2013)*
37. State the difference between horizontal and vertical spindle column and knee type milling machines (use simple sketches) *(Nov/Dec 2013)*
38. Write a short note on BTA deep hole. *(Nov/Dec 2013)*
39. Write briefly about toll and cutter grinder. *(Nov/Dec 2013)*

40. List out the various milling operations. (*May/June 2013*)
41. Describe the working principle of column and knee type milling machine with a neat sketch. (*May/June 2013*)
42. With a neat sketch, explain the working of a vertical boring machine. (*May/June 2013*)
43. Explain the various operations performed by a broaching machine. (*May/June 2013*)