

SCSVMV UNIVERSITY

DEPARTMENT OF MECHANICAL ENGINEERING

SUBJECT NAME : MANUFACTURING TECHNOLOGY-II

SUBJECT CODE : EBM4DT055

QUESTION BANK

UNIT-1

PART-A

1. What is Grinding?
2. Briefly classify the Grinding Process.
3. How grinding wins over the cutting operations.
4. Briefly explain the theory of Grinding.
5. What are the different types of Precision Grinders?
6. What are Abrasives? And mention their types.
7. Name different types of bonding.
8. What is wheel Glazing?
9. What is Wheel Loading?
10. Explain what is Wheel Dressing?
11. What is the effect of temperature on Grinding?
12. Explain the role of Grinding Fluids.
13. Differentiate the Cylindrical and Surface Grinding.
14. Define Grinding Ratio.
15. What is Honing?
16. What is lapping?
17. Name some other methods used for getting very fine surfaces in the components.
18. How does Honing differ from grinding?
19. Explain how to specify the Grinding Wheel.
20. Distinguish between the Spraying and Electroplating.
21. Name the various factors considered for selection of Grinding Wheel.
22. Name the various fine finishing Machines.
23. Classify the Abrasives.
24. Name the different types of bonds used in Grinding process.
25. What is Electroplating?
26. State two advantages of Grinding over other cuttings processes.
27. Name few work holding devices for grinding.
28. Why Centreless grinders are called specialized machines for cylindrical parts?
29. What is meant by Dressing of Grinding Wheel?
30. What is Super Finishing?
31. What do you mean by Loading of Grinding wheel.
32. State difference between Wheel Truing and wheel Dressing.
33. What do you mean by Galvanizing?

PART-B

ANSWER THE QUESTIONS BROADLY:

1. What are Abrasives and what are the properties that are needed and how they are manufactured.
2. Discuss the following properties of Grinding Wheels.
i) Grade ii) Structure
3. Explain construction and working of Cylindrical Grinder with neat sketch. Also state its advantages.
4. Explain the Centreless Grinder with neat sketch. State the advantages over the cylindrical Grinder.
5. Describe the working principle of Surface Grinder with sketch.
6. Explain the Internal Grinding Process with relevant sketch.
7. Explain the Honing and Lapping for getting fine finishing.
8. Broadly explain how to balance and install the grinding wheel setup.
9. Explain the various factors considered for Grinding Wheels and also explain how to specify the Grinding Wheel Specification.
10. With neat sketch explain the principle and procedure for Electroplating Operation.
11. Name and briefly explain the various types of Grinding Processes.
12. With neat sketch explain the working of metal spraying process.
13. With the help of suitable diagrams describe the following processes. i) Grinding of Gear Tooth. ii) Grinding of Tools and Cutters.
14. Explain the principle and applications of the following fine finishing processes.
i) Honing ii) Electroplating.
15. Describe the following gear finishing processes. Draw neat sketches of them. I)
i) Gear Shaving and ii) Gear lapping.
16. What are the feeds given in surface grinding? Draw a horizontal spindle Reciprocating surface grinder and explain its functions.
17. Explain the construction and working of Super Finishing Process with neat Sketch.
18. What are the materials normally be worked by the honing process? Mention the Accuracy possible by the honing process.

UNIT-2

PART-A

SHORT ANSWER QUESTIONS:

1. Classify the Gear Manufacturing Process.
2. What is Gear Hobbing?
3. Name some Gear Finishing Process.
4. How Gear Shaping is done?
5. Name the two types of cutters used in Gear Shaping.
6. The only generation method for cutting of internal gears is -----.
7. What are the different feeding methods in hobbing?
8. What is meant by Cold Drawing Process?
9. What is need of Gear Finishing Process?
10. Define the Various Gear Terminologies.
11. When do you prefer Gear shaping process for generating a gear?
12. What is the basic principle of Gear hobbing Process?
13. State any three differences between Gear hobbing and Gear Milling.
14. What is meant by Gear lapping?
15. Mention few applications of gear stamping process.
16. Mention the processes generally used for finishing of gears.
17. What is Gear Broaching?
18. State the Applications of Gear Broaching.

PART-B

ANSWER THE QUESTIONS BROADLY:

1. Explain the Gear Tooth Terminology with suitable sketch.
2. Explain the process of Gear Milling and Give the advantage and Disadvantage over other methods.
3. Explain the construction and working of Gear Hobbing Machine with neat sketch.
4. Explain the Gear Shaping Process with neat sketch.
5. Explain the Gear Shaving and Gear Honing process.
6. Briefly explain the Gear Stamping, Cold Drawing, Rolling and Sintering with neat sketch.
7. Explain Gear Hobbing with neat sketch. Also mention the importance of Gear Hobbing.
8. With a simple sketch explain the procedure of milling a spur gear using horizontal milling machine.
9. What is meant by Gear Grinding? State and explain the methods of Gear Grinding. Also narrate two advantages of the same.

UNIT-3

PART-A

SHORT ANSWER QUESTIONS:

1. What is Tool Wear and explain briefly.
2. What are the principal objectives of good tool design?
3. What is the formula used for calculating the Tool Life?
4. Classify the Tool Wear.
5. Name three important requirement of Cutting Tool Material.
6. List the Cutting Tool Material.
7. What is Insert? State the advantages over conventional types.
8. What is use of Coated Tools?
9. What are Cermets?
10. Differentiate the Single Point and Multi point Cutting tools.
11. What is the need of Cutting Fluids?
12. What are Cutting Fluids?
13. How are the cutting fluids classified?
14. Name some cutting Fluids along with its applications.
15. What is Chatter?
16. State the various factors that affect the Tool Life.
17. What are Static Deformation and Dynamic Deformation?
18. Name the materials commonly used to make Cutting Tools.
19. What is Hot Hardness? Why should cutting tools have this property?
20. What is the purpose of Rake Angle in single point cutting tool?
21. What do you mean by Chatter in machining Process?
22. State the three types of High Speed Steel.

PART-B

ANSWER THE QUESTIONS BROADLY:

1. Give the requirement of Tool Materials, their compositions, properties and method of Production.
2. Define Tool Life and how it is linked to Tool wear.
3. What are properties of Good Cutting Tool? And explain their functions.
4. Explain the effects of Vibration and Chatter.
5. Explain the different Tools of Drilling machine and Milling machine.
6. Name the different Tool Materials and their composition.
7. State the reasons for Tool wear? Also explain the two basic types of Tool Wear.
8. What are Form Tools? Explain its types and application.
9. Explain the Functions of Cutting Fluids. Also explain the classification of cutting fluids.
10. What are the factors that affect Tool Life? Briefly explain the effect of any three factors.

11. Explain the effects of Static and dynamic deformation in machining process.
12. Briefly explain the structural Vibration and Chatter Vibration in cutting.
13. Enumerate the characteristics of Ceramic Tool Materials.

UNIT-4

PART-A

SHORT ANSWER QUESTIONS:

1. What is Metrology?
2. Define Line Standards and End Standard?
3. What is Sine Bar Principle?
4. What is Interchangeability?
5. Define Selective Assembly.
6. What is Comparator? List the types.
7. What are Slip Gauges?
8. What is least Count?
9. What is use of Autocollimator?
10. What is the need of Surface Finish in Engineering Components?
11. Briefly explain the Surface Measurement Techniques.
12. Explain the function of Limit gauges.
13. State few applications of profile Projector.
14. State the principle of pneumatic Comparator.
15. Mention the functions of Sine Bar, Gauge Block and Angle gauges.
16. What is meant by Surface Roughness?
17. How will you measure the Surface Roughness?
18. State the advantages and limitations of Sine Bar.
19. State the advantages of electrical comparator over others.
20. What is CMM?

PART-B

ANSWER THE QUESTIONS BROADLY:

1. Explain the Line Standard and End Standard with suitable examples.
2. Explain Limit, Fits and Tolerance with neat sketch.
3. Explain how Angular Measurement is done.
4. What are Slip Gauges? And explain their uses.

5. What are Comparators? Explain the working of each one with suitable sketch.
6. Explain the working of Profile Projector with neat sketch. State their advantages.
7. Explain Autocollimator with neat sketch. State their advantages.
8. Explain the working of pneumatic comparator with neat sketch. Also state few applications of pneumatic comparator.
9. What is an Auto collimator? What are its applications? Explain the optical system of auto Collimator.
10. Briefly discuss about Surface Roughness Measurement Methods.
11. Explain construction and working of an Interferometer with neat sketch.
12. With a diagram, describe how sine bar is used to measure the taper angle of a shaft.
13. Explain briefly the meaning of RMS in connection with surface Roughness.

UNIT-5

PART-A

SHORT ANSWER QUESTIONS:

- 1 Name some Electronics Components.
2. What is Wafer?
3. What is PCB?
4. What is Photolithography?
5. What is Plastic?
6. What are Thermoset and Thermoplastics?
7. Name some Plastic Molding Process.
8. What is Transfer Moulding?
9. What is FRP?
10. State the applications of FRP Materials.
11. What are Composites?
12. What is Electronic fabrication?
13. State some properties of Plastic materials.
14. Name the steps for the manufacture of Printed Circuit Boards.
15. Explain the few advantages of FRP.
16. Name any two types of packing Technologies.
17. Name any four Thermoplastics and state their applications.

PART-B

ANSWER THE QUESTIONS BROADLY:

1. Explain various steps involved in fabrication of Integrated Circuits.
2. Explain film deposition and its methods.
3. What is Oxidation Techniques? Explain the same broadly.
4. What is etching and how useful in PCB?
5. Give Properties of Plastics, Structure and Polymerization.
6. Write short notes on i) Thermo Plastics ii) Thermo Sets.
7. Explain how Plastics are moulded.
8. Explain how FRP components are made.
9. What is soldering? Explain the procedure for insertion of Electronic Components.
10. Explain the method of Wafer fabrication and Photolithography in Electronic Fabrication.
11. Explain the Injection Moulding with neat sketch. Also explain few advantages and limitations of the same.
12. Write short notes on i) Photo lithography in Electronic fabrication. And ii) Composite materials.
13. Explain the Rotational Moulding process with neat sketch.
14. Explain briefly the wafer preparation process.