KINGS
COLLEGE OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

QUESTION BANK

Subjectcode/ Name:ME2252/ MANUFACTURING TECHNOLOGY-II

Year/Sem: II / IV

UNIT-I THEORY OF METAL CUTTING

PART-A

1. What is tool signature.
2. What is side rake angle? And mention its effects?
3. What is clearance angle? And mention its types?
4. Explain the nose radius.
5. Sketch the orthogonal cutting.
6. What is shear plane?
7. What is cutting force?
8. What is chip and mention its different types?
9. Define machinability of metal.
10. Write Taylor's tool life equation.

PART-B

1. Explain orthogonal cutting and oblique cutting with its neat sketches and compare.
2. What is the tool life equation and state the factor affecting the tool life.
3. What is machinability? And explain.
4. Explain the various tool materials.
5. Write short notes on surface finish.
6. What are the different type of cutting fluids used in machining process
7. Write short notes tool wear.

UNIT-II CENTRE LATHE & SPECIAL PURPOSE LATHES

PART-A

1. What is swing diameter?
2. Write the specification of a typical lathe.
3. Write down the names of any four lathe accessories.
4. What is the application of air operated chuck?
5. Define the term ‘Concity”.
6. Write down the formula for calculating taper turning angle by compound rest method.
7. Define the term ‘Thread catching’.
8. Define automatic machine.
9. State the principal of multi spindle automats.
10. Classify multi spindle automats.

PART-B

1. Sketch a center lathe and mention various parts..
2. List various type of feed mechanisms and explain briefly about tumbler gear reversing mechanism with a sketch.
3. Explain taper turning operation in a lathe by a taper turning attachment. Discuss its advantages.
4. Explain the following methods of taper turning in a lathe.
5. (i) By swiveling the compound rest. (8)
   (ii) By a taper turning attachment. (8)
6. Explain the Working principle of capstan and turret lathes.
7. Explain the tooling layout for the production of a Hexagonal bolt in a capstan lathe..
8. Discuss the tooling layout for the production of a Hexagonal nut in Turret lathe..
9. Classify transfer machines. Sketch and explain the working of Swiss type automatic screw machine.What is the advantages of automatic machines.
10. Describe a typical single spindle automatic chucking machine.
11. Describe a typical single spindle automatic bar machine

12. Differentiate between parallel action and progressive action multi-spindle automatics.

UNIT-III OTHER MACHINE TOOLS

PART-A

1. Write down any four operations performed by a shaper.
2. Define feed and depth of cut.
3. What is the function of clapper block in a planner?
4. What are the differences between up milling and down milling .
5. Define “Face milling “.
6. Write down the rule for gear ratio in differential indexing.
7. How do you specify radial drilling machine.
8. Write down any four operations performed by a drilling machine.
9. What is meant by “Sensitive hand feed”?
10. Calculate the tap drill size to cut an internal thread for bolt of outside diameter 10mm,pitch 1.5mm and depth of the thread 0.61 pitch ?

PART-B

1. With a simple sketch, explain the working of the crank and slotted link quick return motion mechanism used in shaper.
2. Write down any four differences between shaper and planer..
3. Explain the Working principle of planer with a neat sketch.
4. How do you specify a planer.
5. Describe the working mechanism of a universal dividing head, with neat diagram.
6. With a neat sketch, indicate the various parts of an arbor assembly.
7. With a simple sketch, explain the principal parts and angles of a plain milling cutter .Explain them .
8. Explain the twist drill nomenclature and define various elements of twist drill.
9. With a simple sketch, explain the working of a vertical boring machine.
10. Explain the counter boring and counter ringing operation.
11. Explain the Working principle of a Jig boring machine with a neat sketch.

UNIT-IV ABRASIVE PROCESSES & GEAR CUTTING

PART-A

1. What is the process of self sharpening of the grinding wheel
2. What are the four moments in a cylindrical centre type grinding.
3. What is meant by centerless grinding.
4. Define the terms abrasive grains.
5. What is meant by grit or grains size.
6. Define the term grade used in grinding wheel.
7. what is open and dense structure
8. What is meant by dressing and truing
9. What is meant by honing
10. What is super finishing.

PART-B

1. What are the various methods of centerless grinding and each briefly?
2. Explain the external cylindrical grinding process and surface grinding process.
3. Explain the vitrified and resinoid bonding process.
4. Explain the operations of horizontal broaching machine with neat sketch.
5. Explain the gear cutting by a formed tool.
6. Differentiate between gear forming and generating
7. Explain the principle of operation of gearing hobbing operation what are the advantages of gear hobbing.
8. Give advantages and limitations of gear hobbing.

UNIT-V CNC MACHINE TOOLS & PART PROGRAMMING

PART-A

1. State the advantages of NC machines.
2. Draw the simple configuration of CNC machine
3. Mention the main different between CNC and DNC
4. What is the function of servo valve.
5. Define absolute and incremental programming.
6. What are the important steps to be followed while preparing part programming.
7. What is meant by MACRO
8. Define subroutine
9. What do mean by canned cycle
10. What is meant by APT programme

PART-B

1. List the various drive systems explain the principle of any two drive system.
2. Explain open loop and closed loop system
3. What is machining centers explain in detail
4. Explain various types of CMM
5. Explain the part programming procedure with a good example
6. List and explain G and M code for turning milling operations
7. Explain NC axis conventions.