

QUESTION BANK ON MANUFACTURING TECHNOLOGY

(MECHANICAL ENGINEERING - 4TH SEM)



PREPARED BY

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Short Questions - (2 marks , 3 marks)

1. Write down the composition of H.S.S
2. Name any four widely used tool materials.
3. Arrange various tool materials in descending order according to their hot Hardness.
4. Write down the applications/use of various tool materials.

Long Questions - (7 marks , 10 marks)

1. Write down the physical properties and use of any four tool material.

CHAPTER-2

CUTTING TOOLS

Short Questions - (2 marks , 5 marks)

1. What do you mean by speed, feed and depth of cut ?
2. What are coolants and lubricants? Give examples.
3. What are the basic required properties of lubricants and coolants ?
4. With neat sketch explain the cutting action of chisel,hacksaw blade ,dies and reamer.

Long Questions - (7 marks , 10 marks)

1. With neat sketch explain various turning tool geometry and purposes of various tool angles.

CHAPTER-3
LATHE MACHINE

Short Questions -

1. What are the various operations that can be performed in a lathe ?
2. What do you mean by (a) Facing (b) Knurling ?
3. What are the major components of a lathe machine ?
4. What are the material used for manufacturing lathe bed and why ?
5. What is multiple tool holder ?
6. How do you specify a lathe ?
7. Why it is called as an “ Engine Lathe” ?
8. What are the limitations of an engine lathe ?
9. What is parting off operations ?
10. What is taper turning ?
11. What is an universal chuck (3jaw,4 jaw) ?
12. Write down about tumbler gear mechanism.

Long Questions - (7 marks , 10 marks)

1. With neat sketch show various components of a lathe and briefly explain their functions.
2. What is taper turning ? Write down various methods of taper turning with figure.
3. Differentiate between a capstan lathe and a turret lathe with figure .
4. Differentiate between an engine lathe and capstan- turret lathe.
5. Draw the tooling layout for preparation of a hexagonal bolt and bush.

CHAPTER-4

SHAPER

Short Questions - (2 marks , 3 marks)

1. Write down the application of a shaper machine.
2. What are the major components of a shaper machine?
3. How do you specify a shaper ?
4. What is speed ,feed and depth of cut for a shaper ?

Long Questions - (7 marks , 10 marks)

1. With neat sketch show various components of a shaper and explain their functions.
2. Explain the automatic table feed mechanism for a shaper (Ratchet and pawl mechanism)
3. Explain working and construction of Tool head.
4. Explain quick return mechanism through sketch.

CHAPTER-5 -

PLANNING MACHINE

Short Questions - (2 marks , 5 marks)

1. Write down the application of a planner.
2. What are the major components of a planner ?
3. Write about various tool supports for a planner.
4. Write about various clamping methods of works through sketch.

Long Questions - (10 marks)

1. Write down the difference between shaper and a planner.

2. With neat sketch show various components of a planner and their functions.
3. Explain table feed mechanism.

CHAPTER-6 - MILLING MACHINE

Short Questions - - (2 marks , 5 marks)

1. What are the various types of milling machine ? Classify milling machines.
2. What are the various operations performed by milling machine ?
3. What are the major components of a CNC milling machine ?
4. How a CNC milling machine different from that of manual one ?
5. Write about various work holding attachments with figures.
6. What is up milling and down milling explain ?

Long Questions - (7 marks , 10 marks)

1. Briefly explain the construction and working of (a) simple dividing head
(b) Univesal dividing head
2. Write and explain procedures for a simple and compound indexing.

CHAPTER-7 SLOTTER MACHINE

Short Questions - (2 marks)

1. What are the tools used in a slotter ?
2. What are major components of a slotter ?
3. What are major functions of a slotter ?

Long Questions - (10 marks)

1. Write down the construction and working of a slotter machine with neat sketch .

CHAPTER-8

GRINDING MACHINE

Short Questions - (2 marks , 3 marks)

1. Write down the significance of grinding operation.
2. What are the abrasives used for making a grinding wheel ?
3. How many types of bonding are there ? What is the role of bonding agent ?
4. How do you specify a grinding wheel Give examples ?
5. Why soft materials are grind with hard materials and vice versa ?

Long Questions - (7 marks , 10 marks)

1. Briefly explain the manufacturing methods of grinding wheels.
2. Briefly write the various criteria for selection of a grinding wheel.
3. What do you mean by Grit, Grade and structure ?
4. Briefly explain the working of (a) Cylindrical grinder (b) Surface grinder
(c) centreless grinder

CHAPTER-9

INTERNAL MACHINING OPERATIONS

Short Questions - (2 marks , 3 marks)

1. What is the difference between drilling and boring ?
2. What are the advantages of broaching ?
3. What are the applications of broaching ?

Long Questions - (7 marks , 10 marks)

1. Briefly explain pull type and push type broaching with neat sketch.
2. With neat sketch explain the working of
(a) Bench drilling M/C (b) Pillar drilling M/C (c) Radial drilling M/C

CHAPTER-10

SURFACE FINISH,LAPPING

Short Questions - (2 marks)

1. Define surface finish

Long Questions - (7 marks , 10 marks)

1. Describe the process lapping and explain its specific cutting significance.