

Tutorial MEM 360 (B)

Question 1:

- a) List the two operations that can be done using the lathe machine.
- b) With an aid of diagrams, differentiate between taper turning, profiling and threading process.

Question2:

- a) With an aid of diagrams, differentiate between taper turning, profiling and threading process.
 - b) Calculate the MRR or cutting time those statement below.
- ii) The technician needs to machine 150mm long rod bar from 65mm to 60mm diameter. The spindle, N is 500 rpm and axial speed of 250 mm/min. Calculate the MRR.

Question 3:

- a) Sand casting process is the most common and versatile. States six basic steps (of casting process) and illustrate sand casting with sketch.
- b) Misrun is one of pouring metal defects. Explain briefly this type of defect and state three (3) causes of it.
- c) States the different between expandable mold (sand casting) and permanent mold (die casting)

Material		
Size		
Surface Finish		
Cost		
Mold		

Question 4:

- a) Discuss porosity in casting and provide two (2) reasons why this defect occurred.
- b) Illustrate and label the defects that possibly occur due the following reasons below and give solution for each problem.
 - i. Moisture traps in the mold and lower venting system.
 - ii. Sand too coarse and high pouring temperature
 - iii. Metal unable to fill the mold cavity completely.