



Instructions to candidates

Duration: Three (03) hours

Number of questions: Six, (06)

Mark allocation: 60 marks

Answer all questions

1.
 - a. What is an "Accident".? (01 Mark)
 - b. List out the 5 (Five) types of common accidents. (2.5 Marks)
 - c. List 5 (Five) general causes of accidents. (2.5 Marks)
 - d. Name 2 (Two) types of personnel protective equipment (PPE) which can be used for following purposes.
 - i. Eye and face protection
 - ii. Respiratory protection
 - iii. Hearing protection
 - iv. Head protection
 - v. Hand protection(04 marks)

2.
 - a. Briefly explain the term " Manufacturing" as a technological process. (02 Marks)
 - b. List out 4 (Four) basic manufacturing processes. (01 Mark)
 - c. List out 2 (Two) uses of cutting fluid. (01 Mark)
 - d. What are the 3 (Three) factors to be considered when choosing a cutting fluid.? (1.5 Marks)
 - e. Briefly describe 3 (Three) characteristics which cutting tool material must possess. (4.5 Marks)



- 3.
- a. List out 4 (Four) lathe tools. (01 Mark)
 - b. What is the main function of "Headstock" in a lathe machine.? (01 Mark)
 - c. Figure 01 in the next sheet shows a lathe machine. Label the parts according to the given numbers. (3.5 Marks)
 - d. Figure 02 in the next sheet shows a machined part by using a lathe machine. The maximum diameter of the machined part is 20mm. Name the lathe operation which is suitable to produce the shape according to the given numbers. (2.5 Marks)
 - e. Briefly, explain the difference between three jaw chuck and four jaw chuck. (02 Marks)
- 4.
- a. List 2 (Two) types of milling machines. (01 Mark)
 - b. Briefly explain the working principle of milling machine. (02 Marks)
 - c. Briefly describe the difference between up milling and down milling with the help of suitable sketches (02 Marks)
 - d. List out 4 (Four) types of milling cutters. (02 Marks)
 - e. Briefly, describe 2 (two) types of work holding devices in milling machine. (03 Marks)
- 5.
- a. Name the welding positions. (01 Mark)
 - b. Write down 2 (Two) advantages and 2 (Two) disadvantages of welding. (02 Marks)
 - c. Write 5 (Five) applications of Shielded Metal Arc Welding (SMAW). (2.5 Marks)
 - d. Name and sketch the types of oxy – acetylene welding flames. (4.5 Marks)

6.

- a. Briefly, explain the term "Grinding" in related to engineering workshop. (01 Mark)
- b. List out all the facts that should be considered in the selection of grinding process and machine for a particular application. (02 Marks)
- c. Name 4 (Four) types of operation that can be performed in a shaper machine. (02 Marks)
- d. Briefly, explain the drilling process with steps. (05 Marks)

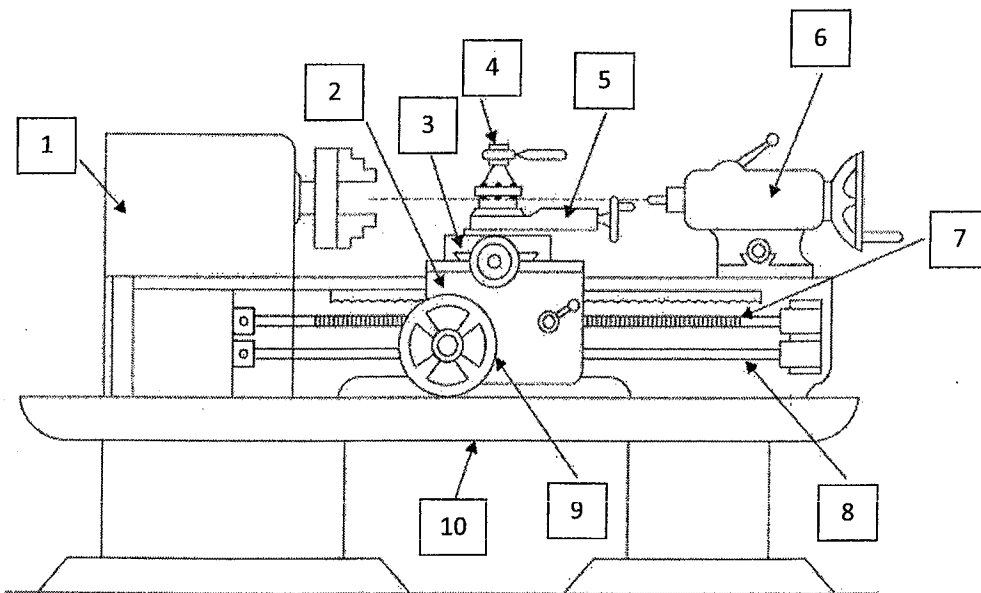


Figure 01 – Lathe machine

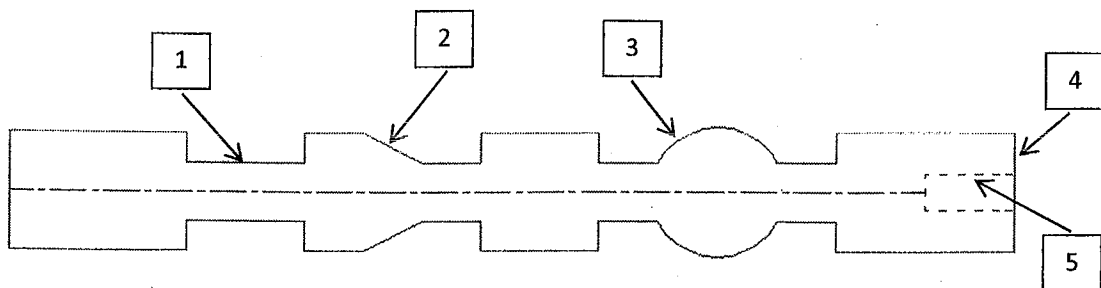


Figure 02 – Front view of the machined Part

