



MPT – Machine Tools Operations
T119

Wednesday, 21/7/2021

08:30 – 11:30 AM

Names

Index number

TVET NATIONAL EXAMINATION BTOF LEVEL 5, 2020-2021

QUESTIONS and ANSWERS BOOKLET

OPTION / TRADE: MECHANICAL PRODUCTION TECHNOLOGY

SUBJECT: Machine Tools Operations

SUBJECT: Machine Tools
ACADEMIC YEAR 2000-2001

[illegible]

NESA-2021 NESA-2021 NESA-2021 NESA-2021 NESA-2021 NESA-2021 NESA-2021 NESA-2021 NESA-2021 NESA-2021

[illegible]



TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

INSTRUCTIONS TO CANDIDATES: PART I (Answer Booklet)

1. A candidate should fill in the actual names and the index number on the cover of this questions and answer booklet on the provided place (Black Box).
2. It is illegal for a candidate to write any of his/her names, index number or a school name inside the answer booklet.
3. A candidate should check if all pages of the answer booklet are complete. No candidate should remove or tear any pages or part of it from the answer booklet.
4. A candidate should answer in the language in which the examination is set. (See page **(ii)**)
5. A candidate should sign on the sitting plan when submitting the answer booklet. He/she has also to check if the answer booklet is well sealed.
6. No extra paper is allowed in the examinations room. If a candidate is caught with it his/her results will be nullified.
7. No candidate is allowed to write answers not related to the subject being sat for, otherwise it will be considered as a cheating case.
8. Write your answers on the 12 lined pages (From page 1 of 12 to page 12 of 12).
9. Use the last non-lined pages as draft.
10. Results for any candidate who is caught in examination malpractices are nullified. The cheating can be recognized during examinations administration, marking exercise or even thereafter.

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

OPTION/TRADE: MECHANICAL PRODUCTION TECHNOLOGY

SUBJECT: Machine Tools Operations

DURATION: 3 hours

INSTRUCTIONS TO CANDIDATES: PART II (Question Paper)

The paper is composed of two (2) Sections as follows:

Section I: Attempt all the Twelve (12) questions (60 marks)

Section II: Attempt any Four (4) questions out of Six (6) (40 marks)

Allowed materials:

- Ruler or square
- Calculator

Note:

Every candidate is required to carefully comply with the provided assessment instructions.

Section I : Attempt all the Twelve (12) questions

(60 marks)

- 01.** Provide any five (5) elements of bill of quantity. **(5 marks)**
- 02.** Enumerate any five (5) types of turning machine. **(5 marks)**
- 03.** List down any five (5) specifications of Lathe machine. **(5 marks)**
- 04.** What are different factors influencing the selection of grinding wheel?
(5 marks)
- 05.** Identify any five (5) tools post used on Lathe machine. **(5 marks)**
- 06.** With a neat sketch, indicate different chips formed during metal cutting operation. **(5 marks)**
- 07.** What are methods of mounting work-piece during working on Lathe machine? **(5 marks)**
- 08.** With a neat sketch, illustrate different parts of Lathe carriage. **(5 marks)**
- 09.** Pinpoint any five (5) cutter holding devices of Milling Machine accessories. **(5 marks)**
- 10.** Differentiate a Horizontal Milling Machine from a Vertical Milling Machine. **(5 marks)**

11. Define the following properties of metals:

(5 marks)

- a) Ductility
- b) Malleability
- c) Hardness
- d) Resilience
- e) Machinability

12. Differentiate a Plain Milling Machine from a Universal milling Machine.

(5 marks)

Section II: Attempt any Four (4) questions out of Six (6) (40 marks)

13. a) Provide the classification of Lathe tools, with one example for each classification.

b) What are different kinds of shoulder turning? (10 marks)

14. Explain the function of the following Lathe Machine accessories:

a) Mandrels

b) Catch plate and carries

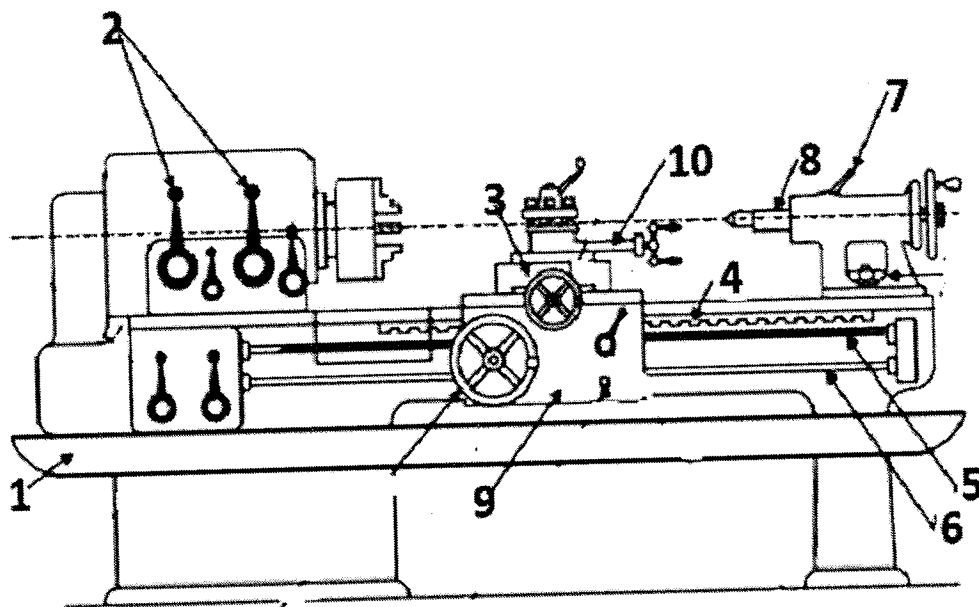
c) Face plates

d) Angle plates

e) Rests.

(10 marks)

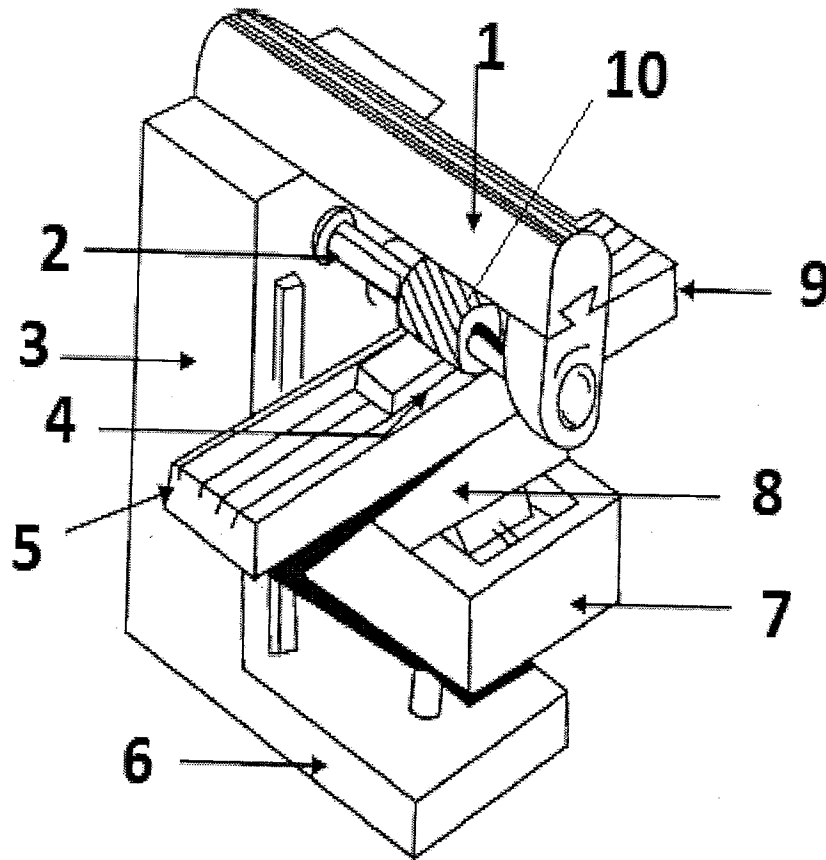
15. Name different components label on Centre lathe below: (10 marks)



16. With a simple sketch, explain the functions of different angles of a straight cutting tool used on Lathe machine. (10 marks)

17. Indicate the parts on the Milling Machine below:

(10 marks)



18. a) What do you understand by “indexing” in machine tools?

b) Identify the operations where indexing is adopted.

c) List down four (4) methods “indexing” can be achieved.

d) Pinpoint another name of indexing head.

(10 marks)

