NESA NATIONAL EXAMINATION AND SCHOOL INSPECTION AUTHORITY

MPT – Technical and assembly Details Drawing

T122

Thursday, 29/7/2021

08:30 – 11:30 AM

Names: .....

Index number : .....

TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

QUESTIONS and ANSWERS BOOKLET

OPTION/TRADE: **MECHANICAL PRODUCTION TECHNOLOGY**

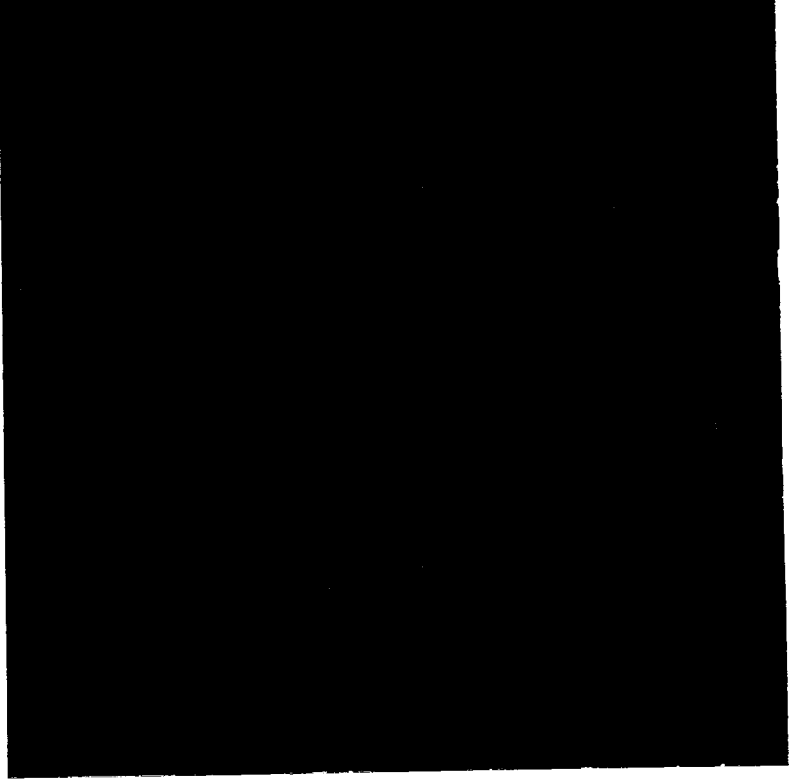
SUBJECT: **Technical and assembly Details Drawing**

ACADEMIC YEAR: **2020-2021**

Read carefully the instructions on page (i) & (ii).

FOR EXAMINER'S USE ONLY

QUESTIONS	1	2	3	4	5	6	7	8	9	10	Total
Marks											
QUESTIONS	11	12	13	14	15	16	17	18	19	20	Total
Marks											
QUESTIONS	21	22	23	24	25	26	27	28	29	30	Total
Marks											



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: Technical and assembly Details Drawing

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. List four (4) types of assembly drawings. **(5 marks)**

02. Name any five (5) types of drawing instruments. **(5 marks)**

03. Draw the conventional symbols of first angle projection and third angle projection. **(5 marks)**

04. **a)** Mention any two (2) functions of drawing instruments.

b) Indicate three (3) types of fits. **(5 marks)**

05. Provide an example of : a) Unilateral tolerance dimension

b) Bi-lateral tolerance dimension. **(5 marks)**

06. **a)** What do you understand by Scale?

b) List and explain the three (3) types of scale:

i. Reducing scale
ii. Full scale
iii. Enlarging scale. **(5 marks)**

07. Define the following terms:

a) a clearance fit

b) An interference fit

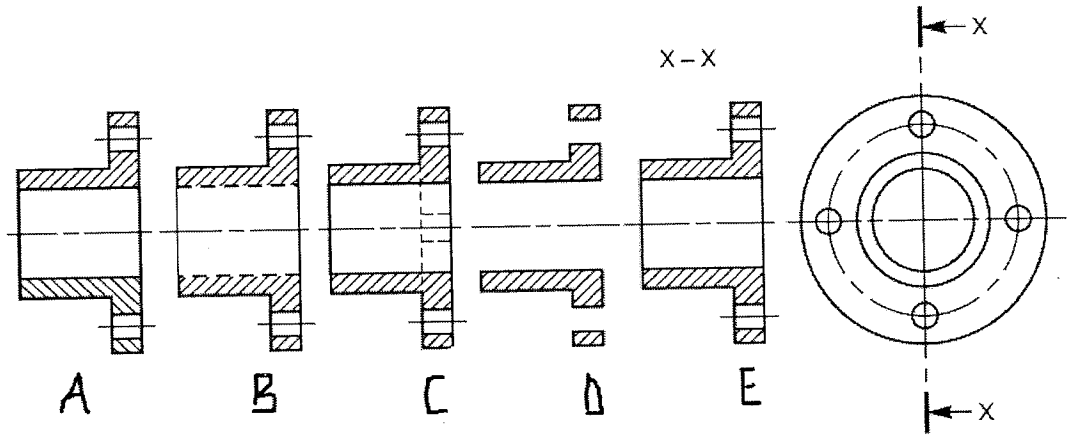
c) a transition fit

d) the shaft basis

e) Hole basis. **(5 marks)**

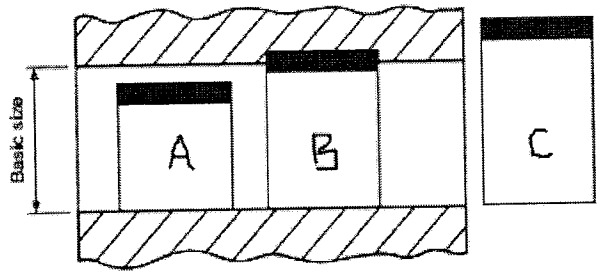
08. List the elements to be considered while obtaining a projection. **(5 marks)**

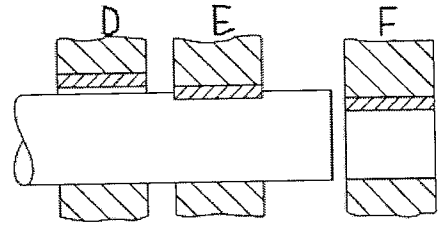
09. Mention the drawing section which is correct in the following images:
(5 marks)



10. State any five (5) lines used in technical drawing and their usages.
(5 marks)

11. Name the following types of fits:
(5 marks)





12. Draw a regular pentagon of 60 mm diameter and show the procedures to be followed.
(5 marks)

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

13. a) Give the meaning of each element of the following dimension:

Ø 30H7/g6

b) Referring to the tolerance, a part is specified in millimeters as 10±0.02, give the range in which the acceptable part will fall.

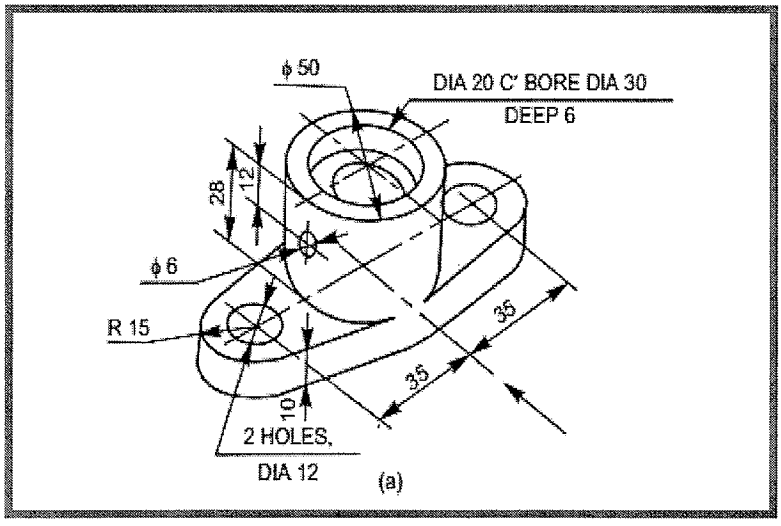
(10 marks)

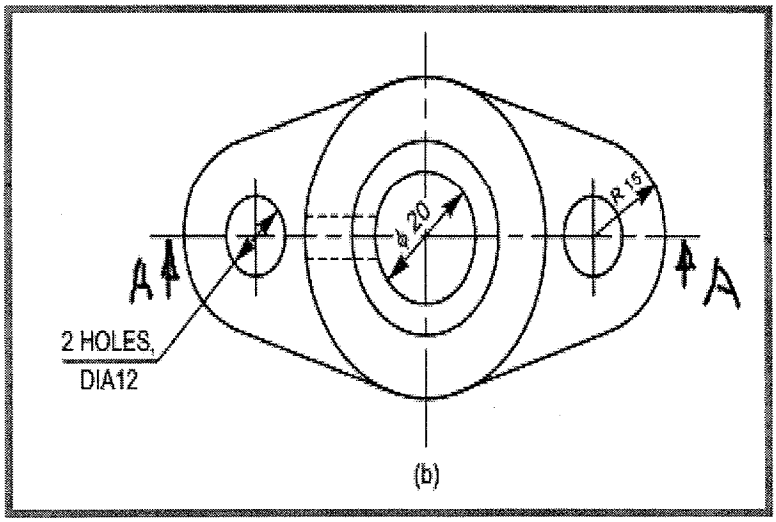
14. What is the general information in detail drawing? **(10 marks)**

15. Differentiate first angle projection from third angle projection. **(10 marks)**

16. Differentiate hole basis from shaft basis system. **(10 marks)**

17. Draw the view in direction A-A in the following sectioned isometric object: **(10 marks)**





18. A cube of 45 mm side rests with a face on HP such that one of its vertical faces is inclined at 30° to VP. A section plane, parallel to VP cuts the cube at a distance of 15 mm from the vertical edge nearer to the observer. Draw its top and sectional front view. **(10 marks)**

NESA2021