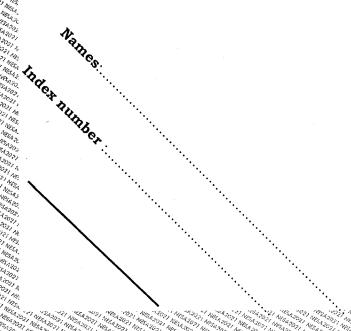


AES – Automotive Electrical Starting and Charging System T160

Wednesday, 21/7/2021 08:30 - 11:30 AM



## TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

### **QUESTIONS and ANSWERS BOOKLET**

OPTION/TRADE: AUTOMOBILE ELECTRICITY AND ELECTRONICS SYSTEMS

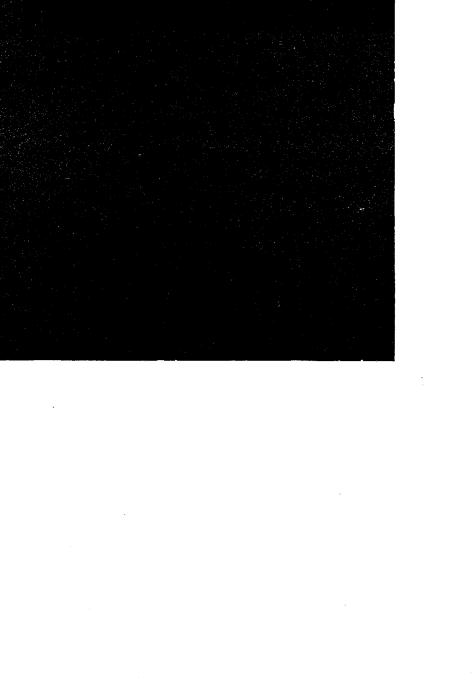
SUBJECT: Automotive Electrical Starting and Charging System

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
QUESTIONS	<del>                                     </del>		<del> </del>	-	┤—	╀-	<u> </u>	-	ļ		
Marks											
QUESTIONS	11	12	13	14	15	16	17	18	19	20	Total
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## TVET NATIONAL EXAMINATION, RTQF LEVEL 5, 2020-2021

## INSTRUCTIONS TO CANDIDATES: PART I (Answer Booklet)

- 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: AUTOMOBILE ELECTRICITY AND ELECTRONICS SYSTEMS

SUBJECT: Automotive Electrical Starting and Charging System

**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.** Describe the main purpose of motor vehicle charging system.

(5 marks)

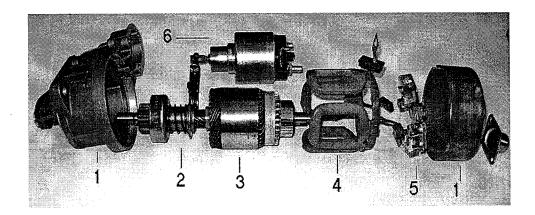
- **02.** Clarify the difference between a DC generator and an AC generator. (5 marks)
- **03.** With a help of sketch, show the flow of current through the rotor of an AC generator. **(5 marks)**
- **04.** Describe the main difference between the two (2) types of stator winding connections. **(5 marks)**
- **05.** Differentiate the **A** Field-circuit from **B** Field-circuit.

(5 marks)

- **06.** State any five (5) causes of Alternator noise. (5 marks)
- **07.** Enumerate any five (5) parts to inspect with the charging system. **(5 marks)**
- **08.** (a) What is the purpose of starting system?
  - (b) Define a starter motor.

(5 marks)

**09.** Give the classification of D.C motor according to the type of excitation. (5 marks)



- 11. Enumerate five (5) steps of removing a starter motor on the vehicle. (5 marks)
- 12. Give the procedures should be followed while performing starter bench Testing.(5 marks)

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

- 13. Enumerate any five (5) causes and their remedies of the charging system which is not charging. (10 marks)
- **14.** During disassembling of an alternator there are procedures that must be followed, state those procedures. **(10 marks)**
- **15.** Identify any (10) recommendations should be followed by using the jumper between two cars. (10 marks)
- **16.** Enumerate any five (5) main components of starting system and their functions. (10 marks)
- 17. List and explain five (5) components of starter motor.

(10 marks)

**18.** Describe the procedures to follow while disassembling a conventional starter motor. (10 marks)

Do not write anything on this page!

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