



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology
Department of Mechanical & Automotive Engineering
UNIVERSITY EXAMINATION FOR:
Diploma in Automotive Engineering
EAU 2205: Engine Technology & Practice II
SPECIAL/ SUPPLEMENTARY EXAMINATION
SERIES: AUGUST 2019
TIME: 2 HOURS
DATE: Pick Date August 2019

Instruction to Candidates:

You should have the following for this examination

- *Student I.D. Card & Examination Pass*
- *Answer booklet*

This paper consists of **FIVE** questions divided into **TWO** sections. Attempt any **TWO** questions from section **A**, and any other **ONE** question from section **B**.

Maximum marks for each part of a question are as shown.

Do not write on the question paper.

SECTION A: THEORY

Attempt any TWO questions from this section

Question ONE

- Differentiate between a gilled tube radiator and a tubular radiator. **(4 marks)**
- State any **THREE** factors that influence the rate of cooling in an air-cooled engine. **(3 marks)**
- With the aid of a diagram, briefly describe construction and operation of a thermostat used in a liquid-cooled automotive engine. **(13 marks)**

Question TWO

- What is the main function of the SI fuel system? **(2 marks)**
- State any **TWO** advantages of electrical fuel pump over mechanical fuel pump as used in SI engine fuel system. **(2 marks)**
- State the functions of the following parts of a carburetor: **(3 marks)**
 - Carburetor body
 - Venturi
 - Fuel bowl

d) With the aid of a diagram, briefly describe the construction and operation of a variable-choke carburetor system. **(13 marks)**

Question THREE

a) State any **TWO** functions of the oil temperature regulator system in an automobile engine lubrication system. **(2 marks)**

b) State any **THREE** qualities of a good lubricant for automotive applications. **(3 marks)**

c) State the functions of the following parts of an engines lubrication system:

- i. Oil level gauge
- ii. Oil filters
- iii. Oil pressure indicator

(3 marks)

d) With the aid of a diagram describe how the forced feed type of lubrication system operates. **(12 marks)**

SECTION B: PRACTICE

Attempt any ONE question from this section

Question FOUR

A vehicle is brought to your garage for oil replacement. Describe the procedure you would follow to accomplish the task. **(20 marks)**

Question FIVE

Describe a typical procedure for replacing a faulty thermostat in a vehicles cooling system **(20 marks)**