



THE COUNCIL OF COMMUNITY COLLEGES OF JAMAICA

ASSOCIATE OF SCIENCE EXAMINATION

SEMESTER II – 2016 MAY

PROGRAMMES: AUTOMOBILE REPAIRS AND ENGINEERING

**COURSE NAME: AUTO AIR CONDITIONING
CODE: (AUTO2402)**

YEAR GROUP: ONE

DATE: MONDAY, 2016 MAY 2

TIME: 9:00 A.M. – 12:00 NOON

DURATION: 3 HOURS

EXAMINATION TYPE: FINAL

This Examination paper has 5 pages

INSTRUCTIONS:

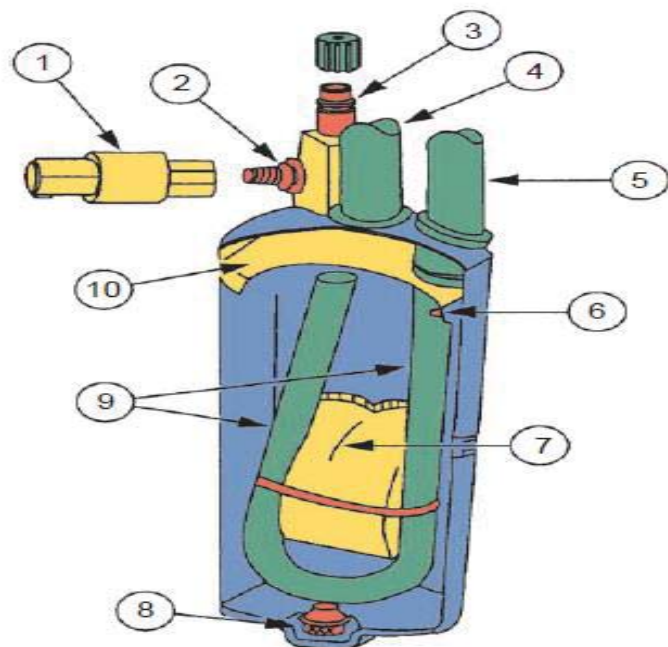
SECTION B: ANSWER ANY THREE (3) QUESTIONS FROM THIS SECTION.

SECTION B

*Instructions: Answer any **THREE (3)** questions from this section.*

Question 1

- A. Define air conditioning. *(6 marks)*
- B. What is meant by the term refrigeration? *(4 marks)*
- C. What is the name and purpose of the component in **figure 1** below? *(5 marks)*
- D. Label the parts of the component in the figure. *(10 marks)*



(Total 25 marks)

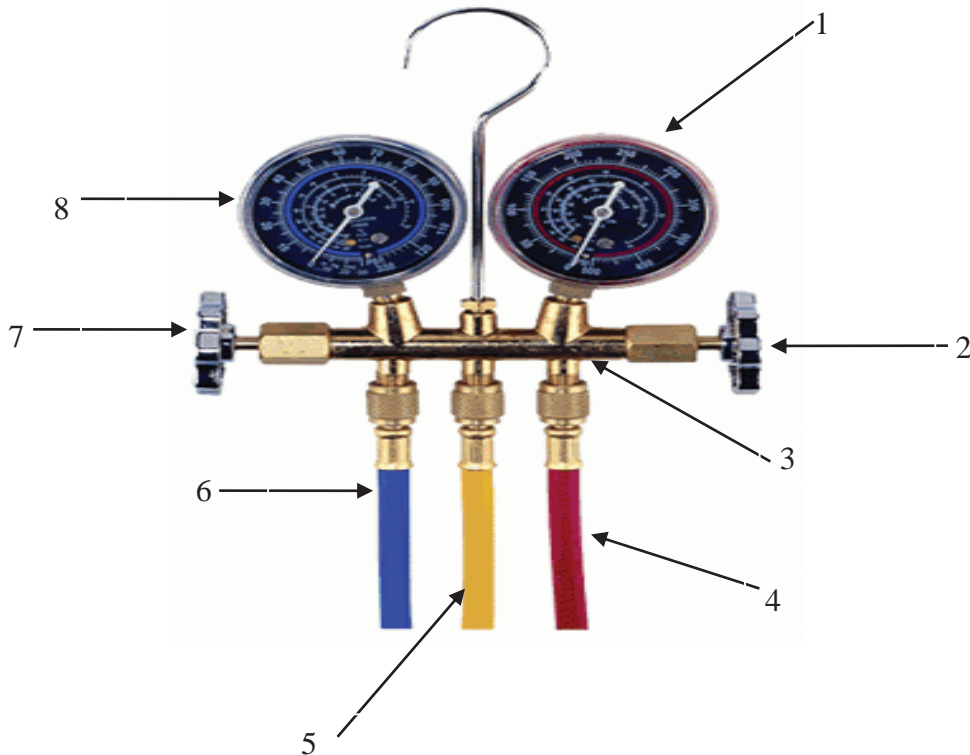
Question 2

- A. Name **FIVE (5)** types of A/C compressors used on motor vehicles. (5 marks)
- B. What are the **FOUR (4)** phases through which the refrigerant passes? (4 marks)
- C. What are the **FOUR (4)** basic functions of Automotive A/C systems (4 marks)
- D. What does the abbreviation 'BTU' stand for? What is it used for? (3 marks)
- E. List **FIVE (5)** basic routine inspection checks that should be carried out on an A/C system. (5 marks)
- F. What is the function of the compressor in automotive A/C systems? (4 marks)

(Total 25 marks)

Question 3

- A. What is meant by the term Enthalpy? *(2 marks)*
- B. What is the name of the instrument in the picture below? Label the instrument below. *(9 marks)*



- C. What is the reason given for R134A refrigerant being less harmful to the Ozone layer than R12? *(3 marks)*
- D. List **THREE (3)** PPE that should be worn when servicing an A/C system. *(3 marks)*
- E. List **EIGHT (8)** service rules of an A/C system. *(8 marks)*

(Total 25 marks)

Question 4

The compressor, condenser, receiver/drier, expansion valve and evaporator are **five** basic components of one type of A/C system. Explain the operation of an air conditioning system that uses an expansion valve. Give details of the cycle of events as the refrigerant moves through the system.

(Total 25 marks)

Question 5

The compressor, condenser, accumulator, orifice tube and evaporator are five basic components of one type of A/C system. Explain the operation of an air conditioning system that uses an orifice tube. Give details of the cycle of events as the refrigerant moves through the system.

(Total 25 marks)

END OF EXAMINATION