FEDS FAIRVIEW EDUCATIONAL SERVICES LTD

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Air Conditioning

PRACTICE PAPER ONLY

Test Paper One / Time allowed 90 mins

To be completed by the student

Student Name _____ **Date** __ / __ /2020

School/Provider _____

To be completed by the School Invigilator/Coordinator/Tutor

I confirm that this assessment was completed by the student named above as a closed book exercise under exam conditions

Invigilator Name_____

Invigilator Sign_____

Assessed By _____ **Date** __ /__ / 2020

Assessor's Stamp

Assessors Note: Materials relate to unit standard 15373-30565

SAMPLE ASSESSMENT INSTRUCTIONS

PLEASE MAKE SURE TO READ AND SIGN THIS SECTION

ASSESSMENT INSTRUCTIONS

- Before starting this assessment you should have achieved a mark of at least 80% for your workbook.
- Use a black or blue ball point pen. (do not use pencil)
- Write your full name on the cover page.
- This is a closed book assessment, so you cannot bring any reference material in, or seek help from anyone else.
- You need to answer all the questions.
- Read the questions carefully, and give detailed answers when asked to.
- You must complete the assessment under exam conditions.
- To achieve the unit standard you must show competency for each outcome.

Complete the following by circling Yes or No as appropriate:

Are you ready to be assessed? **Yes** **No**

Have the assessment instructions these been explained to you? **Yes** **No**

Do you understand the assessment instructions? **Yes** **No**

Have you all the materials/resources that you need for this assessment? **Yes** **No**

Please sign to acknowledge that you have read these instructions and are ready to be assessed.

Student Signature: _____ Date: _____

You must complete the assessment instructions on Page 2 before starting this assessment!

ELEMENT ONE
Demonstrate knowledge of the principles of refrigeration.

1. Explain the following terms

Radiation

_____

_____

_____

Convection

_____

_____

_____

Conduction

_____

_____

_____

2. Explain the purpose of the following components

Evaporator

_____

_____

_____

Compressor

_____

_____

_____

Expansion Valve

_____

_____

_____

Condenser

_____

_____

_____

3. Complete the following sentences.

Latent heat or _____ refers to the amount of _____ _____ (BTU) that a liquid will absorb without getting _____ when changing state from a liquid to a gas.

Latent heat of _____ is the amount of heat energy a liquid will absorb from the time it reaches its boiling point until it changes state to a gas.

Latent heat of _____ is heat energy released when water vapour condenses to form liquid droplets.

4. What is the function of the Receiver/Drier?

_____

_____

_____

5. What are the main points of 'The Ozone Layer protection Act '?

_____

_____

_____

_____

_____

_____

6. What are the dangers of handling refrigerant and what pre-cautions should be taken if skin contact is made?

_____

_____

_____

_____

_____

_____

ELEMENT TWO
Demonstrate knowledge of refrigerants used for automotive air conditioners.

1 What type of refrigerant is in use today?

_____

2. What type of refrigerant has been used in the past and why has it been discontinued?

_____

_____

_____

3. What type of oil is used in the R-134a system?

_____

4. Which system runs higher pressures?

_____

5. What precautions must be observed when transporting and storing refrigerants?

_____

_____

_____

_____

_____

_____

6. What are the differences in the charging ports of the new and old systems?

_____

_____

_____

_____

7. Name the components that require checking or replacing when completing a refrigerant conversion?

_____

_____

_____

8. What label must be fitted to a vehicle following a service/repair on an air/conditioning system and what information must be recorded?

_____

_____

9. What would happen if the wrong oil is used in a system?

_____

_____

_____

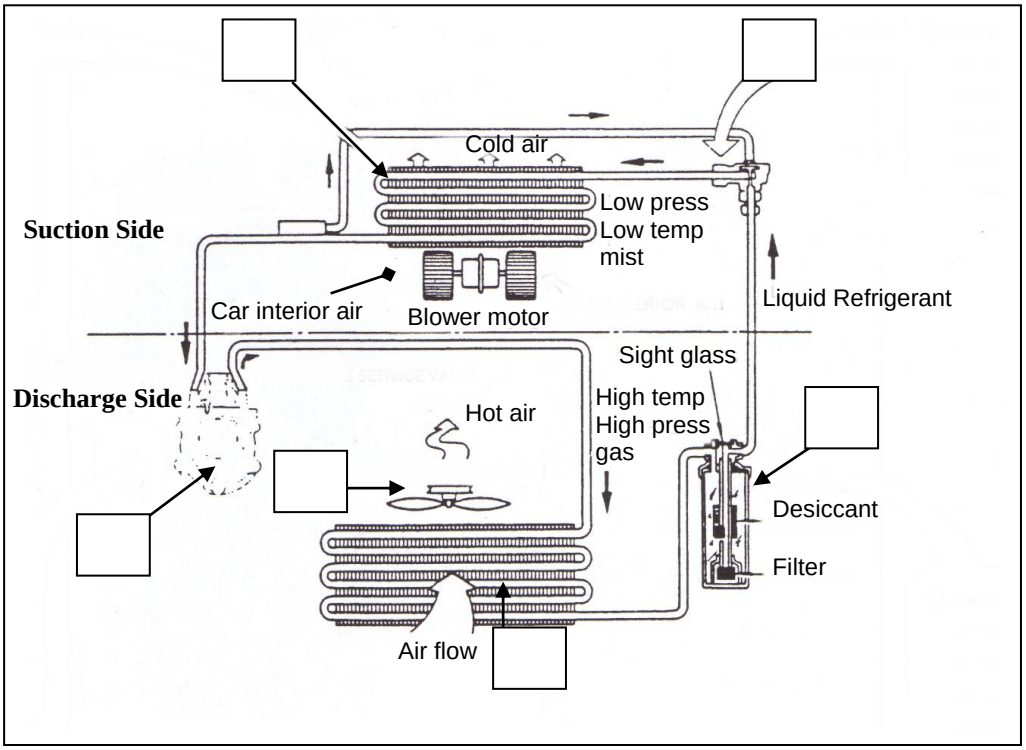
10. A large amount of bubbles or oil streaks on the inside if the receiver drier sight glass is an indication of what?

_____

_____

ELEMENT THREE

Demonstrate knowledge of an automotive air conditioning system.



1. The above diagram is an illustration of an air/conditioning system. Insert the numbers of the following components in the boxes provided and explain their function.

1. Receiver Drier

_____

_____

_____

2. Compressor

_____

_____

_____

3. Evaporator

_____

_____

_____

4. Condenser

_____

_____

_____

5. Expansion Valve (TX Valve)

_____

_____

_____

2. Give two methods of detecting leaks?

1. _____

2. _____

3. How should you store PAG (Polyalkene Glycol) oil?

_____

_____

4. Before a system can be re-gassed it must be evacuated and any old refrigerant must be recovered. Then the system must be filled with refrigerant. Explain the procedure involved?

_____

_____

_____

_____

_____

_____

_____

_____

_____

6. Why might it be necessary to flush the air conditioning system?

_____

_____

_____

7. After an air/conditioning failure certain components may need to be replaced. Name three of these?

_____

_____

_____

8. If the low side gauge reading is 40psi and high side reading is 250psi what could be the possible cause?

_____

_____

_____

9. What colours are the low and high pressure hoses on a recovery recycling station?

_____

_____

_____

10. Is it possible to connect hoses from the old R12 system onto the newer R134a system?

_____

ELEMENT FOUR
Demonstrate knowledge of safe working practices when working on an air conditioning system.

1. When handling refrigerants what protective safety gear would be needed?

_____

_____

_____

2. If refrigerant is splashed into your eyes what steps must be taken?

_____

_____

_____

3. Explain why it is important to ensure that there is adequate ventilation when handling refrigerant.

_____

_____

_____

4. What first aid action should be taken if refrigerant is splashed onto skin?

_____

_____

_____

5. In the event of a refrigerant spill what action should be taken?

_____

_____

_____

6. Provide a safety precaution when working on high pressure systems?

_____

_____

_____

7. What dangers are present when working on a running engine and rotating components?

_____

_____

_____

8. When recovering and storing refrigerant what safety precautions should be taken?

_____

_____

_____

9. When testing and repairing a high voltage electrical system on a motor vehicle what precautions should be taken?

_____

_____

10. What poisonous gas will be produced if refrigerant is exposed to an open flame?

_____

11. What component of refrigerant can lead to ozone depletion?

_____

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