



UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION
JANUARY 2010 SESSION

SUBJECT CODE : FVD 20203
SUBJECT TITLE : ENGINE TECHNOLOGY
LEVEL : DIPLOMA
TIME / DURATION : 9.00am – 12.00pm
(3 HOURS)
DATE : 05 MAY 2010

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. Please write your answers on the answer booklet provided.
4. Answer should be written in blue or black ink except for sketching, graphic and illustration.
5. This questions paper consists of TWO (2) sections. Section A and B. Answer ALL questions in section A. For sections B, answer TWO (2) questions only.
6. Answer all questions in English.

THERE ARE 4 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 60 marks)**INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.****Question 1**

- a) What is engine stroke? Can the stroke change the engine displacement and how?
(6 marks)
- b) Calculate the engine displacement (4 cylinders) in **cubic inch** and **litres** if the engine use 3.5 inch (bore), 3.0 inch (stroke).
(4 marks)
- c) Calculate the compression ratio if the engine is installed with 3.4 cu inch of cylinder head and 0.02 cu inch of gasket. Assume that it is zero deck clearance.
(3 marks)

Question 2

- a) What is the other name for diesel engine?
(2 marks)
- b) Name **four (4)** sequence stages combustion cycle.
(4 marks)
- c) Name **two (2)** types of fuel injection pump.
(4 marks)
- d) Name **five (5)** main components of the fuel system.
(5 marks)

Question 3

- (a) What is friction and explain greasy and viscous friction?
(5 marks)
- (b) Name **five (5)** types of horse power. Give formula to calculate mechanical efficiency.
(5 marks)
- (c) Name **four (4)** diagnostic tools and its purpose.
(2 marks)

Question 4

- a) What are the **three (3)** general stages in carburetion?
(6 marks)
- b) Name **five (5)** circuits in carburetor system and its purpose.
(10 marks)
- c) Name **two (2)** types of carburetor available in the Malaysia market?
(4 marks)

SECTION B (Total: 40 marks)**INSTRUCTION: Answer Two (2) questions only.****Please use the answer booklet provided.****Question 1**

- a) A Customer complaint that his engine produced **blue smoke**, from the complaint, please give a possible reason, justify the cause and solution to solve the customer's complaint.

(14 marks)

- b) Name the other **two (2)** smoke problems that can be produced by engine and clarify the problem.

(6 marks)

Question 2

- a) You are asked to produce the table result with data for engine compression test (dry and wet) to show that the engines need to overhaul.

(10 marks)

- b) Justify your answer.

(3 marks)

- c) List down the procedure to perform engine compression test.

(7 marks)

Question 3

- a) What is Turbocharger? Explain why is engine use it.
(10 marks)
- b) Describe how a boost control valve works and the benefits of having it.
(6 marks)
- c) What is the difference between Turbocharger and Supercharger?
(4 marks)

END OF QUESTION