



UNIVERSITI KUALA LUMPUR
MALAYSIA FRANCE INSTITUTE

FINAL EXAMINATION
JANUARY 2011 SESSION

SUBJECT CODE : FVD20203
SUBJECT TITLE : ENGINE TECHNOLOGY
LEVEL : DIPLOMA
DURATION : 12.30pm – 2.30pm
(2 hours)
DATE / TIME : 12 MAY 2011

INSTRUCTIONS TO CANDIDATES

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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 question paper consists of TWO (2) sections. Section A and B. Answer all questions in Section A. For Section B, answer ONE (1) question only.
 6. Answer all questions in English.

THERE ARE 3 PRINTED PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 65 marks)

INSTRUCTION: Answer ALL questions.
Please use the answer booklet provide.

ANSWER ALL THE QUESTION**Question 1**

- a) What is friction and explain greasy and viscous friction?
(5 marks)
- b) Name four techniques to increase volumetric efficiency.
(8 marks)
- c) Calculate the engine displacement (4 cylinders) in **cubic inch and liters** if the engine use 5.74cm (bore), 49.2cm (stroke).
(10 marks)
- d) Calculate the compression ratio if the engine is installed with 5.58cm³ of cylinder head. Assume that the deck clearance is zero.
(7 marks)

Question 2

- a) Name **four** diagnostic tools and its purpose.
(2 marks)
- b) Describe **three** types of engine noise, how **to identify** it, and how to eliminate the noise and then **correct** each of problems.
(3 marks)

Question 3

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

Question 4

- a) What are the three general stages in carburetion?
(6 marks)
- b) Name five circuits in carburetor system and its purpose.
(10 marks)
- c) Sketch one of carburetor circuit and name all the components.
(5 marks)
- d) Name two types of carburetor available in the Malaysia market?
(4 marks)

SECTION B (Total: 35 marks)**INSTRUCTION: Answer ONE (1) question only.****Please use the answer booklet provided.****Question 1**

What does **blue, black and white** smoke indicate regarding engine trouble? Suggest the best diagnostic tool to diagnose the above problem and explain how to operate and the procedure of the said tool.

Question 2

- a) Define the meaning of Naturally Aspirated Engine and Forced Aspirated Engine.
(4 marks)
- b) What is Turbocharger? Explain the operation of the turbocharger.
(10 marks)
- c) Sketch and name the entire system of Turbocharger show the direction flow.
(10 marks)
- d) What is turbo lag and how can it be reduced? Give two solutions.
(6 marks)
- e) What is the difference between Turbocharger and Supercharger?
(5 marks)

END OF QUESTION