



UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION
JANUARY 2010 SESSION

SUBJECT CODE	: FVD 10103
SUBJECT TITLE	: ENGINE FUNDAMENTAL
LEVEL	: DIPLOMA
TIME / DURATION	: 4.00pm – 6.00pm (2 HOURS)
DATE	: 28 APRIL 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 answer 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. Sections A and B. Answer **ALL** questions in section A. For section B, answer **TWO (2)** questions only.
6. Answer all questions in English.

THERE ARE 2 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 50 marks)

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

- Q1 a) Give 3 major functions of Camshaft. (6 marks)
- b) There are four types of combustion chamber. Select two of them and draw the shape of each chamber. (4 marks)
- c) List the major differences between an overhead valve and an overhead camshaft? (4 marks)
- Q2 a) In a four stroke engine, how many degrees of crankshaft and camshaft are needed to complete in one complete cycle? (4 marks)
- b) What happen during Intake stroke in the four stroke Diesel engine? (4 marks)
- c) Give 3 differences between two stroke diesel engine and two stroke petrol engine. (6 marks)
- Q3 a) Name **four** functions of the lubrication system in an automotive engine (8 Marks)
- b) Explain the differences between a mono-grade oil and a multi-grade oil. (2 marks)
- c) Name **four** components of the lubrication system. (4 marks)
- d) Name **two** types of cooling system in automotive engine (2 marks)
- e) Explain **two** purposes of the thermostat in the cooling system. (4 marks)
- f) What are the functions of the ignition system? (2 marks)
- h) What is the ideal air-fuel ratio for the normal running petrol engine? (2 marks)
- l) List four fuel circuits carburetor system and it functions. (8 marks)

SECTION B (Total: 30 marks)**INSTRUCTION: Answer TWO (2) question only.****Please use the answer booklet provided.****Question 1**

- (a) Explain briefly what the piston clearance is. (7 marks)
- (b) List the parts that are attached to and installed in the cylinder block (8 marks)

Question 2

- (a) Explain the operation of two stroke cycle diesel engine. (7 marks)
- (b) Explain the operation of two stroke cycle petrol engine (8 marks)

Question 3

- a) Give the advantages and disadvantages of air cooled cooling system. (5 marks)
- b) Give the advantages and disadvantages of liquid cooled cooling system. (5 marks)
- c) Name two types of liquid cooling system in automotive. (5 marks)

Question 4

- (a) Explain the operation of ignitions system (5 marks)
- (b) Sketch the diagrams of ignitions system (5 marks)
- (c) Name three (3) main functions of the ignition system. (5 marks)

END OF QUESTION