



**UNIVERSITI KUALA LUMPUR**  
**MALAYSIA FRANCE INSTITUTE**

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**FINAL EXAMINATION**  
**SEPTEMBER 2014 SEMESTER**

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**SUBJECT CODE** : FVD35302  
**SUBJECT TITLE** : VEHICLE SERVICE AND MAINTENANCE  
**LEVEL** : DIPLOMA  
**TIME / DURATION** : 2.00 PM – 4.00 PM  
(2 HOURS)  
**DATE** : 30 DECEMBER 2014

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**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 one side of the paper.
3. Please write your answers in the answer booklet provided.
4. Answers should be written in blue or black ink except for sketching, graphic and illustrations.
5. This question paper consists of **TWO (2)** sections. Section A and B. Answer all questions in Section A. For Section B, answer **TWO (2)** question only.
6. Answer all questions in English.

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**THERE ARE 5 PRINTED PAGES OF QUESTIONS, EXCLUDING THIS PAGE.**

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

- (a) Preventive maintenance is important to extend the lifetime of a vehicle and reduce the maintenance cost. Explain how it should be implemented. (5 marks)
- (b) List **FIVE** (5) item need to be checked at least twice a year involving performing certain services to a vehicle on a regular basis and before there is any sign of failure. (5 marks)
- (c) Define engine tune-up? Describe three important procedure of engine tune-up? (4 marks)
- (d) Define these term for battery application:
- i. Charging
  - ii. Discharging
  - iii. Parasitic load
- (6 marks)

**Question 2**

- (a) State the differences between conventional battery, low maintenance battery and free maintenance battery. (6 marks)
- (b) Describe the procedure to measure electrolyte for battery. (5 marks)
- (c) Translate this rim code:  
**10 ½ JJ x 18 5 120 20** (5 marks)
- (d) Explain the advantage of multi-grade lubrication oil. (4 marks)

**Question 3**

- (a) Explain the importance of additive in Automatic Transmission Fluid  
(4 marks)
- (b) Describe the correct procedure of changing Automatic Transmission fluid by using ATF flush machine.  
(8 marks)
- (c) Describe what will happen to the boiling point of coolant if the percentage of coolant is too high.  
(4 marks)
- (d) Identifies the causes of slow warm up that is related to cooling system.  
(4 marks)

**SECTION B (Total: 40 marks)****INSTRUCTION: Answer TWO (2) questions.****Please use the answer booklet provided.****Question 4**

- (a) A vehicle had a dead battery and needed to be jump started by another vehicle. The jump start had damaged several electronic components.
- i. Give **TWO** (2) possible causes of this problem.  
(4 marks)
  - ii. Explain necessary solutions that should be taken in order to solve the problem.  
(4 marks)
- (b) A vehicle with a manual transmission seems to have clutch slipping symptom during acceleration. When shifting the car into gear and step on to gas pedal and the vehicle speed slowly catches up to your engine RPM.
- i. Explain the possible cause for this problem.  
(2 marks)
  - ii. Identify necessary solutions that should be taken in order to solve the problem.  
(4 marks)
- (c) Describe the procedure of jump start for battery booster.  
(2 marks)
- (d) Define the tyre rating: (**P 185/ 80 B 19 88 V**) and find the actual tyre height.  
(4 marks)

**Question 5**

- (a) An engine has been using mineral lubrication oil and the engine oil appears to be light brown or whitish.
- i. Identify the possible cause for this problem.  
(2 marks)
  - ii. State the necessary solutions to solve the problem.  
(4 marks)
- (b) A vehicle with automatic transmission has a slight transmission leak. Lately, when the engine is cold, the transmission seems to slip when accelerating.
- i. Explain the possible cause for this problem.  
(2 marks)
  - ii. Identify the necessary corrections that should be taken in order to solve the problem.  
(4 marks)
- (c) Describe **FOUR** (4) advantages of synthetic lubrication oil.  
(4 marks)
- (d) Explain the procedure to check manual axle lubricant.  
(4 marks)

**Question 6**

- (a) Tyre on vehicle is wearing on the center of tyre tread. The alignment angle has been checked, and all adjustments are within specification. The alignment shop mechanics said this is normal.
- i. Identify the possible cause of this problem.  
(2 marks)
  - ii. State the necessary corrections that should be taken in order to solve the problems.  
(4 marks)
- (b) A car with 75000 kilometers on it seems to produce white smoke came from the exhaust system. The blue or gray smoke keeps coming from the exhaust when the car starts. The smoke does not disappear after the car is warmed. The smoke may has a bluish tint on it.
- i. State the possible causes of this problem.  
(2 marks)
  - ii. Explain the necessary corrections that should be taken in order to solve the problems.  
(4 marks)
- (c) Explain to inspect the condition of timing belt in camshaft and valve drives mechanism.  
(2 marks)
- (d) Describe the procedure to perform wheel balancing for light allot wheel.  
(6 marks)

**END OF QUESTION**