



UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION
JANUARY 2011 SESSION

SUBJECT CODE : FVD10303/ FVD 11203
SUBJECT TITLE : AUTOTRONIC 1
LEVEL : DIPLOMA
TIME / DURATION : 3.30pm – 5.30pm
(2 HOURS)
DATE : 12 MAY 2011

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper **CAREFULLY**.
 2. This question paper is printed on one sides of the paper.
 3. Please write your answers in 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 and Section B.
 6. Answer all questions in English.
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THERE ARE 5 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A: (Total: 40 Marks)**INSTRUCTION: Answer ALL questions.****Please use the objective answer sheet provided.**

1. In an electric circuit, the common point is the place where...
 - A. voltage divides
 - B. heat is a problem
 - C. insulation thickness
 - D. feed current divides

2. The three basic electric problems are...
 - A. open, closed, grounded
 - B. short, long, closed
 - C. short, open, closed
 - D. short, open, ground

3. A jumper wire may be used in the following ways **EXCEPT**...
 - A. to test a battery
 - B. to check for poor grounds
 - C. to supply current directly to the load
 - D. to bypass a wire or other part of the circuit

4. Technician A says the quickest way to check for voltage in an electronic circuit is to use a 12 volts test light.
Technician B says the safest way to check for voltage is to use electronic circuit tester or digital logic probe. Who is right?
 - A. A only
 - B. B only
 - C. Both A and B
 - D. Neither A nor B

5. A voltage that is fluctuating or pulsating should be measured with...
- A. a digital voltmeter
 - B. a digital multimeter
 - C. a test light
 - D. an analog voltmeter
6. The battery is an electrochemical device. This means the battery...
- A. makes chemicals by electronic means
 - B. uses chemicals to provide electricity
 - C. has non-chemical plates
 - D. does not use an electrolyte
7. The battery performs the following **EXCEPT**...
- A. supplies current to crank the engine
 - B. supplies current when the charging system cannot handle the load
 - C. supplies current to the ignition system with the engine off
 - D. supplies current to the ECM while the engine is off
8. On a top-terminal battery, the negative terminal post is...
- A. smaller than the positive terminal post
 - B. the same size as the positive terminal post
 - C. larger than the positive terminal post
 - D. non of the above
9. The stationary magnetic field in the starting motor is produced by the...
- A. field windings or permanent magnets
 - B. brushes and commutator
 - C. armature windings and commutator bars
 - D. relay or solenoid
10. The overrunning clutch performs all the following **EXCEPT**...
- A. transmits cranking torque to the engine
 - B. damages the armature if it fails to lock
 - C. prevents the engine from driving the pinion
 - D. acts as a one-way clutch

11. No cranking and no lights when the key is turned to START may be caused by the following **EXCEPT**...
- A. burned out light bulbs
 - B. an open circuit
 - C. a dead battery
 - D. an open fusible link
12. The alternator part that produces an alternating current is...
- A. rotor field coil
 - B. stator windings
 - C. regulator
 - D. load circuit
13. If the engine cranks slowly but does not start, a possible cause is...
- A. a discharged battery
 - B. low temperature
 - C. driver has run-down the battery trying to start
 - D. all of the above
14. All of the following are locations for the voltage regulator **EXCEPT**...
- A. in the engine compartment
 - B. in the alternator
 - C. on the battery
 - D. in the ECM
15. Technician A says the fan behind the alternator drive pulley pushes air into the alternator through holes in the drive-end frame. Technician B says the fan pulls air in through hole in the slip-ring end frame. Who is right?
- A. A only
 - B. B only
 - C. Both A and B
 - D. Neither A nor B

16. All these may indicate overcharging **EXCEPT**...
- A. a flickering charge-indicator light
 - B. a flashing charge-indicator light
 - C. a CHECK ENGINE light on
 - D. a trouble code stored in the ECM
17. The cause of no output from the alternator could be...
- A. an open diode
 - B. an open field winding
 - C. an open stator winding
 - D. all of the above
18. The contact point distributor has two major tasks...
- A. to advance and retard the spark
 - B. to distribute the high voltage surges and switches the current to the coil on and off
 - C. to distribute the battery voltage and switches the current to the spark plugs on and off
 - D. to provide centrifugal advance and vacuum advance
19. Technician A says the spark occurs when the contact points open. Technician B says the spark occurs when the coil magnetic field collapses.
Who is right?
- A. A only
 - B. B only
 - C. Both A and B
 - D. Neither A nor B
20. The headlamp switch controls the vehicle ...
- A. interior lights, exterior lights and headlamps
 - B. turn signals, dome lights and courtesy lights
 - C. brake lights, backup lights and hazard warning lights
 - D. all of the above

SECTION B (Total: 60 Marks)**INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.**

1. With an aid of a diagram, explain the operation of the conventional ignition system which use the contact point.
(15 marks)

2. Explain with an aid of a diagram the chemical reaction inside the battery during the discharging process.
(15 marks)

3. How are you going to use a digital multimeter to check the voltage, current and resistance? Explain in detail the procedures, connection and safety.
(15 marks)

4.
 - a) Explain how do you check the alternator FUNCTIONING if you don't have the tester.
(5 marks)

 - b) What are the consequences of testing the alternator without using the proper tools?
(5 marks)

 - c) Explain the advantage and disadvantage of doing shortcut.
(5 marks)

END OF QUESTION