Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester V

Course Code: MEC501 and Course Name: ICE

Time: 1 hour Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

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| Q1.  | Unit of Indicated Power is  |
| Option A: | Meter |
| Option B: | Pascal  |
| Option C: | Bar |
| Option D:  | Kilo Watt  |
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| Q2. | In BHARAT STAGE – IV how much should be the emission of PM (Particulate Matter) in Diesel vehicle  |
| Option A: | 0.02 (g/kwhr) |
| Option B: | 3.4 (g/kwhr) |
| Option C: | 0.2 (g/kwhr) |
| Option D: | 1.9 (g/kwhr) |
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| Q3. | Heat addition in Ideal Diesel cycle will take place at  |
| Option A: | Constant Volume  |
| Option B: | Constant Pressure |
| Option C: | Constant velocity  |
| Option D: | Constant Energy  |
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| Q4. | Calculate Heat Supplied by combustion fuel in Heat balance sheet if fuel consumption=0.0018kg/s, CV of fuel=43MJ/kg, Cooling water rate=0.44kg/s, water inlet |
| Option A: | 49 KJ/s |
| Option B: | 200 KJ/s |
| Option C: | 77 kJ/s |
| Option D: | 22 KJ/s  |
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| Q5. | Which sensor provide information to Electronic Control Module (ECM) for smooth working of vehicle.  |
| Option A: | Magnetic field sensor. |
| Option B: | Aperture sensor |
| Option C: | Focal length sensor  |
| Option D:  | Throttle Position sensor |
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| Q6. | The induction coil steps up low voltage current of 6 or 12 volts to high voltage current upto about |
| Option A: | 10,000 volts |
| Option B: | 17,000 volts |
| Option C: | 25,000 volts |
| Option D:  | 35,000 volts |
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| Q7.  | What is the main disadvantage of Hydrogen Fuel Cells as an alternative fuel. |
| Option A: | Storage  |
| Option B: | Production  |
| Option C: | Efficiency  |
| Option D:  | availability  |
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| Q8.  | Fuel injected in a four-stroke CI Engine |
| Option A: | At the end of suction stroke |
| Option B: | At the end of expansion stroke |
| Option C: | At the end of compression stroke |
| Option D:  | At the end of exhaust stroke |
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| Q9. | The cooling water is 162 kg, specific heat of water is 4.18, outlet water temp is 55 C and inlet water temp is 30, heat carried away by cooling water is  |
| Option A: | 15606 kJ |
| Option B: | 16929 kJ |
| Option C: | 17012 kJ |
| Option D:  | 18224 kJ |
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| Q10.  | During Expansion Stroke Piston moves from  |
| Option A: | Top Dead Centre to Bottom Dead Centre |
| Option B: | Bottom Dead Centre to Top Dead Centre |
| Option C: | Left Dead Centre to Right Dead Centre  |
| Option D:  | Right Dead Centre to Left Dead Centre  |
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| Q11.  | Which sensor is responsible for providing information to Electronic Control Module (ECM) about presence of oxygen in exhaust manifold to detect engines rich/lean reading. |
| Option A: | Temperature sensor |
| Option B: | Exhaust gas Oxygen sensor  |
| Option C: | Pressure sensor |
| Option D:  | ultrasonic sensor |
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| Q12.  | The advantage of Indirect Injection Combustion Chamber is |
| Option A: | Low Injection Pressure |
| Option B: | High Injection pressure |
| Option C: | Compact in Size |
| Option D: | Good cold starting performance |
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| Q13. | Detergents are oil additives used to |
| Option A: | Reduce viscosity |
| Option B: | Increase fire point |
| Option C: | Prevent sludge formation |
| Option D:  | Prevent foaming |
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| Q14.  | The main task of battery is  |
| Option A: | Supply electricity to the alternator  |
| Option B: | Act as a reservoir or stabilizer of electricity |
| Option C: | Supply electricity to the vehicle's electrical system at all times while the engine is running |
| Option D:  | Supply a large amount of power to turn the starter motor when the engine is being started |
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| Q15. | Peak pressure is observed in Pressure- Crack angle (P-θ) diagram in which phase of Combustion of SI engine  |
| Option A: | After Burning  |
| Option B: | Ignition Lag  |
| Option C: | Flame Propagation  |
| Option D:  | Chemical Delay  |
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| Q16.  | Turbochargers are generally |
| Option A: | Centrifugal compressors |
| Option B: | Reciprocating compressors |
| Option C: | Vane blowers |
| Option D:  | Roots blower |
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| Q17. | Cooling after compression is necessary to |
| Option A: | Increase the density of air |
| Option B: | Increase the inlet water temperature |
| Option C: | Increase Air fuel ratio |
| Option D: | Increase Exhaust Temperature |
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| Q18. | In ignition coil, the ratio between the number of turns of primary and secondary windings is about |
| Option A: | 1 to 50 |
| Option B: | 1 to 100 |
| Option C: | 1 to 200 |
| Option D:  | 1 to 400 |
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| Q19.  | In CI Engine the delay period is affected by |
| Option A: | Compression ratio |
| Option B: | Fuel Density |
| Option C: | Inlet Pressure |
| Option D:  | Outlet Water Temperature |
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| Q20. | An engine indicator is used to determine the following |
| Option A: | Speed |
| Option B: | Temperature |
| Option C: | Volume Of Cylinder |
| Option D: | M.E.P. And I.H.P. |
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| Q21. | Supercharger is  |
| Option A: | Exhaust driven |
| Option B: | air driven |
| Option C: | crank driven |
| Option D:  | motor driven |
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| Q22.  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is used to enable cold starting, without the use of a heater plug. |
| Option A: | Pintaux nozzle |
| Option B: | Multi hole injector |
| Option C: | Long stem injector |
| Option D:  | Pintle nozzle |
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| Q23. | Which of the following type of cooling system is used in motorcycles? |
| Option A: | Air cooling system |
| Option B: | Water cooling system |
| Option C: | Oil cooling system |
| Option D:  | Ice cooling system |
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| Q24.  | Spark Ignition Engine works on which fuel.  |
| Option A: | Diesel  |
| Option B: | Bio- Diesel |
| Option C: | Petrol |
| Option D:  | CNG |
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| Q25. | The magneto in an automobile is basically |
| Option A: | Transformer |
| Option B: | D.C. Generator |
| Option C: | Magnetic Circuit |
| Option D:  | A.C. Generator |