

- Q.28 What is exhaust smoke analysis? Enlist standard emission norms.
- Q.29 What are the different types of alternate fuels used in IC engine? Explain briefly each.
- Q.30 Draw P-V diagram of diesel cycle along with its processes.
- Q.31 Write at least five differences between petrol engine and diesel engine.
- Q.32 Explain at least five properties of good lubricant.
- Q.33 Discuss about various parameters of testing of an engine.
- Q.34 What do you understand by overhauling? Explain briefly.
- Q.35 Describe the various method of reducing the pollution in IC engine.

Section-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x10=20)

- Q.36 Describe the working of different components of fuel system in diesel engine with diagram.
- Q.37 Discuss any two tests used for testing of an IC engine in detail.
- Q.38 Explain the various operations of an Otto cycle in detail.

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**4th Sem. Branch: Agri. Engg.
Sub : I.C. Engine / Farm I.C. Engines**

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice Questions. All Questions are compulsory. (10x1=10)

- Q.1 A diesel engine works on _____.
 a) Spark ignition b) Hot bulb ignition
 c) Compression ignition d) Flame ignition
- Q.2 The process of breaking up of a liquid into fine droplets by spraying is called.
 a) Atomization b) Carburation
 c) Ionization d) Vaporization
- Q.3 A 100 cc engine has following parameter as 100 cc is :
 a) Total cylinder volume b) Swept volume
 c) Rated power d) Fuel tank capacity
- Q.4 The maximum temperature of IC engines varies from :
 a) 500-700 °C b) 700-1000 °C
 c) 1000-1400 °C d) 1500-2000 °C
- Q.5 The temperature at which fuel flows to cease is called:
 a) Fire point b) Cloud point
 c) Pour point d) Flash point

- Q.6 The specific fuel consumption of diesel engine is :
- Less than in the petrol engine
 - More than in the petrol engine
 - Same as petrol engine
 - Incomparable with petrol engine
- Q.7 Viscosity of lubrication oil is measured by :
- Hygrometer
 - Thermometer
 - Viscometer
 - Hydrometer
- Q.8 Thermostat valve is used in :
- Air cooled engine
 - Water cooled engine
 - Steam engine
 - All of these
- Q.9 The thermal efficiency of CI engine is :
- Higher than SI engine
 - Equal to SI engine
 - Lower than SI engine
 - None of these
- Q.10 The Motoring test on IC engines is conducted to measure:
- BHP
 - IHP
 - FHP
 - All of these

Section-B

Note: Objective type questions. All questions are compulsory. **(10x1=10)**

- Q.11 The compression ratio of diesel engine varies from _____ to _____.

- Q.12 The camshaft runs at half the speed of crankshaft. (T/F)
- Q.13 The injectors and fuel injection pump are the main components of diesel engine. (T/F)
- Q.14 In Otto cycle, compression and expansion process are adiabatic. (T/F)
- Q.15 Piston pin is also called _____.
- Q.16 Define bore.
- Q.17 Thermostat valve starts open at which temperature.
- Q.18 Names of alternate fuel of IC engines.
- Q.19 ASTM stands for _____.
- Q.20 Write function of crankshaft.

Section-C

Note: Short answer type Questions. Attempt any twelve questions out of fifteen Questions. (12x5=60)

- Q.21 Explain the working principle of Wankle engine.
- Q.22 Write down the working of micro fuel injection system.
- Q.23 What are the different components of an air intake system?
- Q.24 What is thermostat valve? Also write down its functions.
- Q.25 Draw the various components of lubrication system and labeled them.
- Q.26 Discuss about types of air cleaners in detail.
- Q.27 What are the necessities of cooling of an IC engine? Also write down different types of cooling systems.