

**4th Sem. Branch : Mech. CNC, Mech, Adv. Manuf.
Tech, Mech Engg (CAD/CAM Dsg & Robotics)
Sub. : Thermodynamics-II/I.C. Engines**

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Lean air fuel mixture is required for
a) Starting b) Idling
c) Acceleration d) Cruising
- Q.2 The function of ignition coil in battery ignition system is to
a) Increase the current b) Increase the voltage
c) Reduce sparking d) All of the above
- Q.3 Solid injection is also known as
a) Airless injection b) Rigid injection
c) Brittle injection d) Plastic injection
- Q.4 The ignition temperature of diesel fuel is about
a) 750°C b) 60°C
c) 400°C d) 50°C
- Q.5. Evaporative cooling is used for
a) Heavy trucks b) Stationary engines
c) Scooters d) None of the above

- Q.6 Most commonly used lubricant in IC engine is
a) Animal oil b) Vegetable oil
c) Mineral oil d) Synthetic oil
- Q.7 The number of working strokes per minute in case of four stroke I.C. Engine will be equal to
a) $4N$ b) $2N$
c) N d) $0.5N$
- Q.8 Steam turbines are governed by following method
a) Reheating governing b) Regenerate governing
c) Bypass governing d) None of the other
- Q.9 Mechanical efficiency of gas turbine as compared to internal combustion engine is
a) Higher b) Lower
c) Same d) None of the above
- Q.10 Turbo propelled engine resembles in construction to
a) Steam engine b) Diesel engine
c) Both d) None of the above

SECTION-B

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

- Q.11 Expand CRDI.
- Q.12 The compression ratio of petrol engine varies from _____.
Q.13 Carburetor is used in _____ engine.
Q.14 The airless injection is also known as _____.

- Q.15 A lubricant should have _____ volatility..
- Q.16 The full form of CNG is _____.
- Q.17 The difference between indicated power and brake power is called _____.
- Q.18 When the cross sectional area of the nozzle increases continuously from entrance to exit it is called _____.
- Q.19 Define Carburetor.
- Q.20 Define Air Fuel Ratio.

SECTION-C

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

- Q.21 Explain Carnot cycle with diagram.
- Q.22 Compare two stroke and four stroke engines.
- Q.23 Define carburetion and explain the factors affecting carburetion.
- Q.24 Explain MPFI in petrol injection system.
- Q.25 Explain fuel injection pump and fuel injector.
- Q.26 What is lubrication? Name the types of lubrication system.
- Q.27 The diameter and stroke length of an I.C. Engine is 15cm and 20cm. Determine the swept volume.
- Q.28 What is the necessity of cooling system?
- Q.29 Give the relative advantages of water cooling system over air cooling system.
- Q.30 Explain the working of rope brake dynamometer with the help of neat sketch.
- Q.31 Explain Morse test and its purpose.

- Q.32 Write the functions of steam condenser.
- Q.33 What is compounding of steam turbines. Name different methods of compounding.
- Q.34 Write a short note on rocket engine.
- Q.35 What is the difference between supercharging and turbo charging?

SECTION-D

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

- Q.36 Explain Four Stroke CI engine in detail.
- Q.37 Explain battery ignition system with the help of neat sketch.
- Q.38 Explain closed cycle constant pressure gas turbine with the help of neat sketch.