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

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 A compression ignition engine works on

- a) Otto cycle
- b) Diesel cycle
- c) Carnot cycle
- d) Rankine cycle

Q.2 A four stroke cycle is used in

- a) Motorcycle
- b) Scooter
- c) Aeroplane
- d) Buses

Q.3 Lean air-fuel mixture is required for

- a) Starting
- b) Idling
- c) Cruising
- d) Acceleration

Q.4 The ignition temperature of a diesel fuel is about

- a) 210°
- b) 450°
- c) 600°
- d) 800°

Q.5 The engine parts sparingly to be lubricated are

- a) Piston and piston ring
- b) Main bearing
- c) Guides and stem of valve
- d) Camshaft bearing

Q.6 Stroke of an I.C. engine is equal to

- a) Half the crank radius
- b) Crank radius
- c) Twice the crank radius
- d) Four times the crank radius

Q.7 Morse test is performed to find

- a) Efficiency
- b) B.H.P of an engine
- c) I.H.P of an engine
- d) Thermal efficiency

Q.8 Steam at exit from the nozzle has

- a) Low pressure high velocity
- b) Low pressure low velocity
- c) High pressure low velocity
- d) High pressure high velocity

Q.9 Compounding of steam turbine is done by

- a) Reduce the rotor speed
- b) Reduce the blade friction
- c) Balance the motor
- d) None of these

Q.10 The ramjet engine has

- a) Single compressor unit
- b) Double compressor unit
- c) No compressor unit
- d) Either (a) & (b)

SECTION-B

Note: Objective type questions. All questions are compulsory. $(10 \times 1 = 10)$

- Q.11 Cycle on which petrol engine works is _____
- Q.12 A single cylinder diesel engine has two valves (True/False)
- Q.13 Fuel pump supplies petrol to _____
- Q.14 During idling, the throttle valve is fully opened (True/False)
- Q.15 Most of the multi cylinder diesel engine in our country use _____ pumps.
- Q.16 Overcooling of an engine is harmful (True/False)
- Q.17 Brake test is used to measure _____ of an IC engine.
- Q.18 Friction decreases the velocity of flow (True/False)
- Q.19 Bleeding process involves additional cost of the plant (True/False)
- Q.20 A gas turbine works on _____

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. $(12 \times 5 = 60)$

- Q.21 What do you understand by IC engine? How IC engine are classified?
- Q.22 Give location, function and material for the following part of an engine:
- 1) piston rings
 - 2) Crankshaft
 - 3) connecting rod.

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- Q.23 Write the function of a carburetor.
- Q.24 Compare the battery and magneto ignition system.
- Q.25 Write a short note on spark plug.
- Q.26 Write the functions of cooling system in IC engine.
- Q.27 Explain the construction and working of a radiator.
- Q.28 Explain the working of splash and pressure lubrication system.
- Q.29 Explain the method of finding BHP by rope brake dynamometer.
- Q.30 Explain the heat balance sheet.
- Q.31 Explain steam nozzle and its types.
- Q.32 Compare the impulse and reaction turbine.
- Q.33 Write the various applications of a gas turbine.
- Q.34 Write a short note on turbojet engine.
- Q.35 Give the comparison of a gas turbine with IC engine.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. $(2 \times 10 = 20)$

- Q.36 Explain the working of four stroke petrol engine with diagram.
- Q.37 Explain construction and working of CRDI system with diagram.
- Q.38 What is governing? Explain various methods of governing of steam turbine.

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