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

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

- Q.1 What is the main shaft on an engine that controls the movement of piston?
a) Axle b) Drive shaft
c) Camshaft d) Crankshaft
- Q.2 The specific fuel consumption of a petrol engine of same power is
a) Same
b) More
c) Less
d) Less or more depending upon operation
- Q.3 The insulating body of a spark plug is made of
a) Dolomite b) Glass
c) Alumina d) Silica
- Q.4 The number of turns in the secondary winding of ignition coil is
a) 18000 b) 21000
c) 23000 d) 25000

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- Q.5 A carburetor is used in a
a) Tractor b) Steam engine
c) Bus engine d) Aeroplane
- Q.6 In the diesel engine, the injection pressure is of the order
a) 50-80 bar b) 100-200 bar
c) 250-300 bar d) 300-350 bar
- Q.7 Morse test is performed to find
a) B.H.P. b) I.H.P.
c) Efficiency d) None of these
- 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 Condenser is used with
a) A locomotive steam engine
b) Stationary steam engine
c) Steam turbine
d) Both B & C
- Q.10 Efficiency is more in case of
a) Steam engine b) Steam turbine
c) Gas turbine d) None of these

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Section-B

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

- Q.11 Cycle on which petrol engine works is _____.
- Q.12 A car engine works on two stroke cycle. (True/False)
- Q.13 What is use of piston rings?
- Q.14 Define the clearance volume.
- Q.15 The sequence of firing is known as firing order. (True/False)
- Q.16 What is use of fuel feed pump?
- Q.17 What is use of radiator?
- Q.18 The full form of I.H.P. is _____.
- Q.19 What is function of a nozzle?
- Q.20 Steam ejection is a _____ type of pump.

Section-C

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

- Q.21 Explain the terms applicable to I.C. engines:
a) Dead centres b) Crank throw c) Compression ratio.
- Q.22 Explain Diesel cycle.
- Q.23 Write a short note on Air-Fuel ratio.
- Q.24 Explain the working of battery ignition system.
- Q.25 Discuss CRDI fuel injection system.

- Q.26 Write the advantages of water cooling system in IC engine.
- Q.27 Write a short note on Rocket engine.
- Q.28 A single cylinder four stroke petrol engine runs at 1100 rpm. The diameter of the piston is 10cm and the stroke length is 16cm. The indicated mean effective pressure is 4.5 kg/cm^2 . Calculate the IHP of the engine.
- Q.29 Discuss the various pollutants emitted by diesel engine.
- Q.30 Explain pressure velocity compounding of steam turbine.
- Q.31 Explain bypass governing of steam turbine.
- Q.32 Compare the jet condenser and surface condenser.
- Q.33 Write the various applications of gas turbine.
- Q.34 Write a short note on cooling tower.
- Q.35 Explain the working of Turbo jet engine.

Section-D

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

- Q.36 Explain working of four stroke petrol engine with diagram.
- Q.37 Explain the working of injector and its different types.
- Q.38 Explain the various system of lubrication of IC engine.