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Roll No.....

4th Sem, **Branch :** Mechanical

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 If intake air temperature of IC engine increases, its efficiency will (CO-5)

a) Increase b) Decrease
c) Remain same d) Depend on other factors

Q.2 A diesel engine works on (CO-3)

a) Flame Ignition b) Hot bulb ignition
c) Spark ignition d) compression ignition

Q.3 The float in the float chamber of carburettor in petrol engine controls (CO-2)

a) Flow of fuel
b) Flow of Air
c) Flow of fuel and Air
d) Level of fuel in the float chamber

Q.4 A carburettor is used in (CO-2)

a) Diesel engine b) Petrol engine
c) Steam engine d) None of the above

Q.5 For maximum economy, fuel ratio is (CO-2)

a) 15:1 b) 5:1
c) 6:1 d) 15:2

Q.6 In diesel engines, the injection pressure is of the order (CO-3)

a) 50-80 bar b) 100-200 bar
c) 275-300 bar d) 300-350 bar

Q.7 Water cooling is carried out by which of the following methods (CO-4)

a) Evaporative cooling system
b) Thermosyphone cooling system,
c) Forced circulation cooling system
d) Any one of these

Q.8 Compression ratio of a petrol engine lies in the range of (CO-1)

a) 2 to 4 b) 7 to 10
c) 14 to 20 d) None of these

Q.9 The number of working strokes per minute in case of four stroke IC engine will be equal to (CO-1)

a) 4 N b) 2 N
c) N d) N/2

Q.10 Compounding of steam turbine is done to (CO-6)

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

SECTION-B

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

Q.11 Cycle on which diesel engine works _____. (CO-1)

Q.12 The magneto ignition system is employed in _____. (CO-2)

Q.13 Closed cycle gas turbine uses hot air as the working medium. (True/False) (CO-6)

Q.14 Depending upon the type of fuel used, rockets are classfied as _____ and _____ (CO-7)

Q.15 Friction decreases the velocity of flow. (True/False) (CO-6)

Q.16 Incase of an induced draft cooling tower, the fan is provided on the _____ of the tower. (Top/Bottom) (CO-4)

Q.17 Morse test is used to measure I.H.P. Of _____ engine. (High speed/low speed) (CO-5)

Q.18 Volumetric efficiency is the measure of swept volume. (True/False) (CO-5)

Q.19 Radiator tubes are generally made of _____.(Brass/ Case iron) (CO-4)

Q.20 Mist lubrication is also called petroil lubrication. (True/ False) (CO-4)

SECTION-C

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

Q.21 Give a comparison of gas turbine with IC engine. (CO-7)

Q.22 Explain principle of operation of Ram Jet engine. (CO-7)

Q.23 What is steam turbine? Mention the main parts of steam turbine. (CO-6)

Q.24 Name various methods of governing of steam turbines. (CO-6)

Q.25 A single cylinder C.I. Engine working on two stroke cycle runs at 500 r.p.m.. The diameter of bore and stroke length is 10 cm each. If the mean effective pressure is 6.5 bar, calculate the I.P. Of the engine. (CO-5)

Q.26 Explain rope brake method to find B.H.P. Of an engine. (CO-5)

Q.27 Write some important alternative fuels. (CO-5)

Q.28 Explain the essential properties of a good lubricant. (CO-4)

Q.29 Name various method adopted in water cooling system. (CO-4)

Q.30 Draw a neat sketch of an injector and explain its working. (CO-3)

Q.31 Explain working of fuel feed pump with diagram. (CO-3)

Q.32 Describe simple carburetor and its limitations.(CO-2)

Q.33 Draw diagram of fuel supply system in petrol engine. (CO-2)

Q.34 Write notes on the following. (CO-2)

a) Air fuel ratio
b) Rich mixture
c) Chemically correct mixture
d) Lean mixture

Q.35 Explain diesel cycle with P-V diagram.(CO-1)

SECTION-D

Note : Long Answer type question. Attempt any two questions. (2x10=20)

Q.36 Compare petrol and diesel engine in detail. (CO-1)

Q.37 Explain constant pressure closed cycle gas turbine, P-V and T-S diagram and its working. (CO-7)

Q.38 Write a short note on the following. (CO-6)

a) Velocity compounding
B) Jet condenser

Note : Course outcome (CO) mentioned in the question paper is for official purpose only.