

- Q.28 What are the requirement of fuel injection system.  
(CO3)
- Q.29 Write various type of fuel nozzles in CI engine.  
Explain any two. (CO3)
- Q.30 Explain Morse Test? (CO5)
- Q.31 A two cylinder IC engine working on two stroke cycle is to develop an indicated power of 30kw at a speed of 1000r/min. If mean effective pressure is 6 bar find bore and stroke, assuming stroke 1.5 times the bore. (CO5)
- Q.32 What are alternative fuels? Explain any one. (CO5)
- Q.33 What are the advantages and limitations of jet condensers? (CO6)
- Q.34 What is the working principle of the rocket propulsion. (CO7)
- Q.35 Explain RAM JET with diagram in short. (CO7)

### SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Describe the magneto ignition system giving the sketch of complete ignition circuit. Compare it with battery ignition system. (CO2)
- Q.37 Draw the schematic diagram of a closed cycle gas turbine explain in brief? (CO7)
- Q.38 Explain pressure velocity compounding with neat sketch. (CO6)

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**5th Sem / Branch : Mech.**  
**Sub.: Thermodynamics-II**

Time : 3Hrs.

M.M. : 100

### SECTION-A

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

- Q.1 In Diesel engine, thermal efficiency lies in the range of:  
(CO5)  
a) 35-40% b) 15-20%  
C) 10-15% d) 80%
- Q.2 Which of the following is not a part of magneto ignition system (CO2)  
a) Condenser b) Circuit breaker  
c) Induction oil d) Battery
- Q.3 The compression ratio of a C.I. Engine is kept as (CO5)  
a) 6:1 to 11:1 b) 12:1 to 22:1  
c) 1:1 to 5:1 d) None of the above
- Q.4 Which of the following is not a type of nozzle? (CO3)  
a) Pintaux nozzle b) Pintle nozzle  
c) Single hole nozzle d) Surface nozzle
- Q.5 Crank case ventilation is the process of removing. (CO4)  
a) Water vapours b) Fuel vapours  
c) Combustion gases d) All of the above

- Q.6 An engine indicator is used to find (CO5)  
 a) B.P.                    b) I.P.  
 c) Volume                d) Temperature
- Q.7 In a four stroke cycle diesel engine, the charge during suction stroke consists of:  
 a) Only Air              b) Air and Fuel mixture  
 c) Only Fuel             d) None of the above
- Q.8 In case of impulse steam turbine (CO6)  
 a) There is enthalpy drop in nozzle  
 b) There is enthalpy drop in fixed and moving blades  
 c) There is enthalpy drop only in moving blades  
 d) None of the above
- Q.9 Advantages of gas turbine over I.C. Engines are (CO7)  
 a) It has low weight to power ratio  
 b) It is perfectly balanced  
 c) It is compact unit  
 d) All of the above
- Q.10 Mechanical efficiency of gas turbine as compare to internal combustion engine is: (CO7)  
 a) Higher                b) Lower  
 c) Same                  d) Unpredicted

### **SECTION-B**

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

- Q.11 Crank throw is equal to \_\_\_\_\_. (CO1)  
 Q.12 The fuel pump supplies petrol to the \_\_\_\_\_. (CO3)

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- Q.13 During idling the engine demands \_\_\_\_\_ mixture. (CO2)
- Q.14 \_\_\_\_\_ is used to atomize the fuel in diesel engine. (CO3)
- Q.15 Car/buses/truck use \_\_\_\_\_ cooling system. (CO4)
- Q.16 The engine will get overheated if fan belt loose. (True/False) (CO4)
- Q.17 Define indicated power. (CO5)
- Q.18 Morse test is used to measure the \_\_\_\_\_ of a \_\_\_\_\_ cylinder engine. (CO5)
- Q.19 In case of surface condenser the steam flows used the tubes and water surrounds them (True/False) (CO6)
- Q.20 Closed cycle gas turbine uses hot air as the working medium. (True/False) (CO7)

### **SECTION-C**

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

- Q.21 What do you mean by following terms. (CO1)  
 1. Stroke                2. Swept volume  
 3. Piston speed        4. Compression ratio
- Q.22 Write the main part of 4-Stroke diesel engine. (CO1)
- Q.23 Explain 4 stroke petrol engine with sketch? (CO1)
- Q.24 Write merits and demerits of simple carburetor. (CO2)
- Q.25 What are the main elements of a water cooling system? Explain any one. (CO4)
- Q.26 Explain pressure lubrication with neat sketch? (CO4)
- Q.27 Write the function of lubrication. (CO4)
- (3)                    171751