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4th Sem / Mechanical Engg.

Subject : Thermodynamics - II

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The cycle used in petrol engines

a) Otto cycle b) Brayton cycle

c) Diesel cycle d) Carnot cycle

Q.2 In water cooling system thermostat works at _____ degree centigrade

a) 160 C b) 80 C

c) 40 C d) 25 C

Q.3 The purpose of a fuel feed pump in a diesel engine

a) To pressurize the fuel for injection

b) To regulate the air-fuel mixture.

c) To control engine speed

d) To cool the engine

Q.4 Compression ratio of petrol engine lies in range of

a) 6-10 b) 10-16

c) 16-20 d) All of above

Q.5 The morse test is used for assessing the performance of

a) Steam turbines b) IC Engine

c) Compressor d) All of the above

Q.6 Delaval turbine is example of

a) Impulse turbine b) Condenser

c) Nozzle d) Turbine wheel

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Fill in the blanks with appropriate terms.

Q.7 The _____ cycle is the ideal cycle for gas turbines .

Q.8 The battery coil ignition system is employed in _____.

Q.9 The function of a thermostat in a cooling system is to regulate the _____of the engine.

Q.10 Morse test is used to calculate the _____ of multi cylinder engine.

Q.11 The full form of MPFI is _____.

Q.12 The compounding of turbines is done in order to _____speed of rotor.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Describe the working principle of a two-stroke petrol engine.

Q.14 Explain the ideal characteristics of a lubricants which is used in IC engines.

Q.15 Differentiate between diesel engine and petrol engine.

Q.16 Explain:-

a) Indicated power

b) Brake power

c) Mechanical efficiency

d) Volumetric efficiency

Q.17 Compare open and closed cycle gas turbines

Q.18 Explain Ram jet engine and its applications.

Q.19 Name all the types of steam nozzles and explain any one

Q.20 Explain battery ignition coil system ?

Q.21 Explain Air cooling system used in I.C. Engines.

Q.22 Explain Rocket engine and its application.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the working principle of carburetor. Name the types of carburetor.

Q.24 Derive the thermal efficiency of petrol engine working on Otto cycle

Q.25 a) What is the purpose of supercharging and explain any one type of supercharge used

b) Compare between Impulse and Reaction Turbine.