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Mech, Prod., GE, CAD/CAM, CNC, Print making Tech., Mech (Fabrication Tech.)
Subject : Pr. of Therm. Engg.

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 Pressure is an _____ property(Intensive/Extensive).

Q.2 One bar of pessure =_____ Pa

Q.3 Write value of universal gas constant.

Q.4 Write full form of N.T.P.

Q.5 Isobaric is process in which _____ is constant.

Q.6 Name any one constant enthalpy thermodynamic process.

Q.7 Write characteristics gas equation.

Q.8 C_p/C_v=_____

Q.9 Name any two water tube boiler.

Q.10 Vane type compressor is _____. (positive displacement/negative displacement)

SECTION-B

Note: Very Short answer type questions. Attempt any ten questions out of twelve. 10x2=20

Q.11 Define Thermodynamic state.

Q.12 State Boyle"s law.

Q.13 Write expression for Fouier's Law.

Q.14 Write any two uses of compressed air.

Q.15 List any two accessories of a Boiler.

Q.16 Define dryness fraction.

Q.17 Define Ideal gas.

Q.18 Draw P-V diagram for Rankine Cycle.

Q.19 Define internal energy.

Q.20 List any two uses of steam.

Q.21 Define specific Heat.

Q.22 Write formula of work done during isothermal process.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. 8x5=40

Q.23 Explain isolated type thermodynamic system in brief.

Q.24 A vessel of capacity $3m^3$ has 10 kg of an ideal gas having molecular wt. of 20 at 25^0C, find the pressure of the gas.

Q.25 Describe that Clausis and Plank statements of 2^{nd} law of thermodynamic are complimentary to each other.

Q.26 Write a SFEE for a compressor.

Q.27 Write the importance of triple point.

Q.28 List various functions of low water high steam pressure valve.

Q.29 List benefits of rotary compressor.

Q.30 The initial pressure of $2m^3$ of gas is 200 N/m^2. If the gas is compressed isothermally to a pressure of 400 N/m^2, then find out the work done during the process.

Q.31 Explain in brief the convention mode heat transfer.

Q.32 Give any four applications of compressed air.

SECTION-D

Note: Long answer type questions. Attempt any three out of four questions. 3x10=30

Q.33 Explain construction and working of Babcock and Wilcox boiler with neat and clean diagram.

Q.34. Derive an expression for work done and heat transfer during a Polytropic thermodynamic process.

Q.35 Differentiate between rotary compressor and reciprocating compressor.

Q.36 Write short note on following

a) Importance Mollier Chart

b) PPM of second kind.