No. of Printed Pages : 2 188844
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2nd Sem, Level 4 / DVOC (Production Tech)
Subject : General Mechanical Engineering - I

Time : 2 Hrs. M.M. : 50

SECTION-A

Note: Very short questions. Attempt all ten questions. (10x1=10)

Q.1 Define stress and give its unit.

Q.2 What do you understand by modulus of rigidity?

Q.3 Define torque.

Q.4 Define rigid body.

Q.5 What is negative shear stress?

Q.6 Define hogging Bending moment.

Q.7 What is first system of pulleys?

Q.8 Define bevel gear.

Q.9 Give formula for discharge through pipes.

Q.10 Give statement of Bernoulli's theorem.

SECTION-B

Note: Short answer type questions. Attempt any six questions out of eight questions. (6x5=30)

Q.11 Explain How to calculate Shear force and Bending moment of a simply supported beam having a UDL of point load "W/m" on full length.

Q.12 Explain different types of belts.

Q.13 Derive the relation between the number of teeth and speed of two mating gears.

Q.14 Explain the construction and working of reciprocating pump.

Q.15 Explain the method of calculating the diameter of a pulley.

Q.16 Explain overhanging beam and its shear force and BM whenPoint Load W at end.

Q.17 Explain to measure flow by a venturimeter?

Q.18 Define terms

I) Darcys equation for Head loss due to friction

ii) Rigidity iii) Stiffness

SECTION-C

Note: Long answer type questions. Attempt any one questions out of two questions. (1x10=10)

Q.19 Explain the construction and working of Reaction turbine.

Q.20 Describe various types of stresses in bolted joints causing failure modes.