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202031

3rd Year / Advance Diploma in Tool & Die Making
Subject : Hydraulics & Pneumatics

Time : 3 Hrs. M.M. : 50

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (5x1=5)

Q.1 Hydraulics is the study of _____.

a) Compressible Fluids
b) Incompressible Fluids
c) Ideal Fluids
d) Gaseous Fluids

Q.2 How is power transmitted in fluid power systems?

a) Power is transmitted instantaneously
b) Power is transmitted gradually
c) Both of the given
d) None of the given

Q.3 Pneumatic and other power systems can support three kinds of motion, they are _____.

a) Linear, reciprocating, and random motion
b) Linear, flowing and rotary motion
c) Linear, zigzag, and spiral motion
d) Linear, reciprocating and rotary motion

Q.4 The property of fluid by virtue of which it offer resistance to shear is called

a) Surface Tension b) Adhesion

c) Viscosity d) Specific gravity

Q.5 Centrifugal pump is started with its delivery value kept_____.

a) Fully open b) Fully closed

c) Partially open d) None of the above

Section-B

Note: Objective type questions. All questions are compulsory. (5x1=5)

Q.6 Hydraulics and pneumatics.

Q.7 Pressure head.

Q.8 Oil level gauge.

Q.9 Shuttle valve.

Q.10 Rotary motion actuator.

Section-C

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

Q.11 Differentiate between hydraulic and pneumatic systems.

Q.12 Head of water over the centre of an orifice of diameter 20mm is 1.25 m. The actual discharge through orifice is 0.85lit/sec. Find coefficient of discharge.

Q.13 Draw a neat sketch of rotary type air compressor with complete nomenclature.

Q.14 What is the significant of control valve flow characteristic? Explain selection of flow characteristics based on application with reason.

Q.15 Classify the actuators of control valves and explain any one in brief.

Q.16 Explain construction and working of shut off valve with neat sketch.

Q.17 Describe the selection criteria for a suitable cylinder.

Q.18 Explain the components of hydraulic systems.

Section-D

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

Q.19 Write the differences between single acting and double acting reciprocating hydraulic pumps. Explain the working of both with neat sketches.

Q.20 Draw the neat diagram and explain piston actuators and rotary valve actuator in detail.