## SECTION-D

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

Q.23 Water is flowing through a pipe having diamater 40 cm & 25 cm at sections A and B respectively. The rate of flow through pipe is 50 litres per second. The section A is 8m above datum and section B is 6m above datum. If pressure at section A is 45 $N/cm^2$, find the intensity of pressure of section B.

Q.24 Explain the working, construction and applications of pelton wheel turbine.

Q.25 What are the common faults and their remedies in hydraulic circuits.





**4th Sem / Mechanical, Mech ( Tool & Die)**

**Subject : Hydraulics and Pneumatics**

Time : 3 Hrs. M.M. : 60

## SECTION-A

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

Q.1 The SI unit of discharge is

a) m2/sec b) m3/sec

c) litres/sec d) $Kg/m^3$

Q.2 A large Reynolds number is an indication of

a) Smooth and streamlines flow

b) Laminar flow

c) Turbulent flow

d) Highly turbulent flow

Q.3 In a reaction turbine, water at inlet possesses

a) Only pressure energy

b) Only kinetic energy

c) Both pressure and kinetic energy

d) None of the above

Q.4 The density of water is 1000 kg/$m^3$ at

a) 0 degree Celsius b) 0 degree Kelvin

c) 4 degree Celsius d) 20 degree Celsius

Q.5 Venturimeter is bases on the principle of

a) Euler's equation of motion

b) Reynold's equation

c) Pascal's equation

d) Bernoullies equation

Q.6 The value of co-efficient of velocity is_____ compared to co-efficient of discharge.

a) Less than b) More than

c) Equal to d) Has no relation

## SECTION-B

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

Q.7 What is the function of lubricators?

Q.8 Define specific weight.

Q.9 Define wetted perimeter.

Q.10 The phenomena of slip occurs due to _____



Q.11 Vena Contracta section is formed at_____.

Q.12 Define Uniform Flow.

## SECTION-C

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

Q.13 Explain basic components of a Pneumatic system.

Q.14 Explain priming and its purpose.

Q.15 Describe the working and application of hydraulics accumulator.

Q.16 Derive an expression for coefficient of discharge in venturimeter.

Q.17 Differentiate between Laminar and turbulent flow with examples.

Q.18 Explain friction losses in pipes and expression for them.

Q.19 Explain the working of simple U-Tube manometer.

Q.20 Describe the working of Hydraulic Jack.

Q.21 Explain the working of reciprocating Pump.

Q.22 If 3-7$m^3$ of an coil weighs 34.25KN, find its specific weight, mass density and relative density.