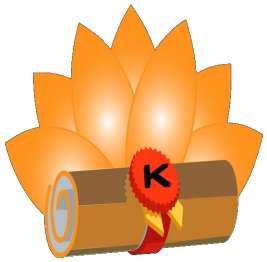
www.kamaldnp.com



KAMALDNP

kamaldnp.com • IT Training, Varanasi

PDF created by Raj Kamal using AI

Fluid Mechanics & Hydraulic Machinery Lab — Complete Syllabus

BTEUP Diploma in Mechanical Engineering • 3rd Semester • Session 2026–27

Subject 3.3 (Practical) • Total 100 Marks • 2 Credits

KAMALDNP

About this document: this is the complete official syllabus of the Fluid Mechanics & Hydraulic Machinery Lab (subject 3.3), the practical paper of the Mechanical 3rd semester — all 12 experiments, in the official order. The matching theory paper (subject 3.2) is covered in a separate syllabus PDF.

Examination Scheme

Code	Paper	Type	L – P	Credits	Internal	External	Total
3.3	Fluid Mechanics & Hydraulic Machinery Lab	Practical	0 – 4	2	Practical 60	Practical 40 (3 hrs)	100
Fluid Mechanics & Hydraulic Machinery Lab Total				**2**	**60**	**40**	**100**

What This Lab Aims To Do

In this lab you measure what the theory paper only describes: pressure heads with piezometers and manometers, discharge through venturi meters, orifice meters and a V-notch, pipe friction, and the working of hydraulic circuits, turbines and a centrifugal pump. The experiments follow the theory units in order — pressure measurement first, then flow measurement and Bernoulli's theorem, then hydraulic machines — so that each experiment confirms a result you have already studied on paper.

www.kamaldnp.com

List of Practicals (12 Experiments)

- Measurement of pressure head by employing (i) Piezometer tube, (ii) Single and double column manometer.
- To verify Archimedes' Principle.
- To find out the value of coefficient of discharge for a venturi meter. Measurement of flow by using venturi meter.
- To find out the value of coefficient of discharge for an orifice meter. Measurement of flow by using orifice meter.
- To find out the value of coefficient of discharge for V-notch.
- Verification of Bernoulli's theorem.
- To find coefficient of friction for a pipe (Darcy's friction).
- To study hydraulic circuit of an automobile brake.
- To study hydraulic circuit of a hydraulic ram.
- To study the working of a Pelton wheel Turbine.
- To study the working of a Francis turbine.
- To study a single stage centrifugal pump for constructional details and its operation to find out its normal head and discharge.

Reference Books

Reference books are not listed separately for this lab in the official syllabus. The reference books listed for the theory paper (subject 3.2, Fluid Mechanics & Hydraulic Machinery) cover the same topics and are the books to use for this lab.

KAMALDNP • kamaldnp.com • support@kamaldnp.com
Source: IRDT Kanpur NEP-2020 curriculum for the Diploma in Mechanical Engineering (Automobile), effective session 2025-26 (urise.up.gov.in). Topic lists follow the official syllabus; short explanations are the author's own plain-English summaries, not syllabus text. Please confirm with your own polytechnic for any local changes.