



## DEPARTMENT OF AUTOMOBILE ENGINEERING

### VISION

*“To develop technically skilled engineers with value-based education in automotive industry to face upcoming chances“.*

### MISSION

- *Understanding the need for regional automotive industries.*
- *Provide hands on skills for life long professional development.*
- *To create responsible students with sense of ethics & discipline.*

**Subject Name: Hydraulic and Pneumatic Controls (22650)**

**Date :-**

**Assignment No :- 1**

**Course Outcome: 602.1**

**Topic Name :- Overview of Fluid Mechanics**

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1. List and explain Types of Fluids
2. List and explain different types of Fluid Flows.
3. State law of continuity.
4. Explain with sketch construction and working of Pitot tubes. Show how the discharge is measured with it.
5. Classify fluids.
6. List two applications of the manometer.
7. State Bernoulli's theorem and give its assumption

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**Date of Submission :-**

**Assign By :- Mr. Rahul Gondhali**



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**Subject Name: Hydraulic and Pneumatic Controls (22650)**

**Date :-**

**Assignment No :- 2**

**Course Outcome: 602.2**

**Topic Name :- Hydraulic Devices**

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1. List Types of Pump and explain Centrifugal Pump with diagram.
  2. What are the head losses in pumps?
  3. Explain various faults and remedies in centrifugal pumps
  4. Explain with sketch construction and working of Single acting Piston pump
  5. What are the air vessels? Explain their function with advantages and disadvantages.
  6. Explain Cavitation in detail.
  7. Compare Centrifugal pump with Reciprocating pump.

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**Subject Name: Hydraulic and Pneumatic Controls (22650)**

**Date :-**

**Assignment No :- 3**

**Course Outcome: 602.3**

**Topic Name :- Miscellaneous Fluid Machines**

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1. List and explain various types of simple hydraulic devices.
2. Explain Hydraulic jack and Hydraulic press in detail.
3. State law of continuity.
4. Explain with sketch construction and working of Gear type Pump.
5. Explain with sketch construction and working of Vane type Pump.
6. Explain with sketch construction and working of Swash Plate type Pump.

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**Subject Name: Hydraulic and Pneumatic Controls (22650)**

**Date :-**

**Assignment No :- 4**

**Course Outcome: 602.4**

**Topic Name :- Basic Components of Hydraulic and Pneumatic System**

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1. List and explain various types of hydraulic actuators.
  2. Explain with sketch construction and working of Single acting and Double acting hydraulic cylinders.
  3. Explain with sketch construction and working of Vane type air motor.
  4. Give detailed classification of valves used in hydraulic and pneumatic systems.
  5. Draw symbol used for various types of valves used in hydraulic and pneumatic system.
  6. Explain with sketch construction and working of Sequencing Valve.
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**Subject Name: Hydraulic and Pneumatic Controls (22650)**

**Date :-**

**Assignment No :- 5**

**Course Outcome: 602.5**

**Topic Name :- Accessories of Hydraulic and Pneumatic System**

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1. List and explain type, function and construction of commonly used seals in pneumatic and hydraulic systems.
2. List and explain type, function and construction of full flow and Proportional type Filter and Strainer.
3. Explain with sketch construction and working of screen and mechanical type Pneumatic filters.
4. Explain FRL unit in detail.
5. What are the hoses and fittings used in hydraulic and pneumatic system.

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**Subject Name: Hydraulic and Pneumatic Controls (22650)**

**Date :-**

**Assignment No :-6**

**Course Outcome: 602.6**

**Topic Name :- Hydraulic, Pneumatic and Hydro-Pneumatic Systems**

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1. Draw diagram for Speed control of double acting cylinder using meter in circuit
  2. Differentiate between meter in and meter out circuit
  3. What is sequencing explain sequencing circuit
  4. Draw hydraulic circuit for milling machine
  5. Remedies and fault detection in hydraulic circuit
  6. What are you advantages and disadvantages of meter in and meter out circuit
  7. Draw circuit diagram for speed control of bidirectional air motor
  8. Draw circuit diagram for sequencing of two double acting cylinder
  9. Draw time delay operation circuit diagram
  10. Draw circuit diagram for speed control of double acting cylinder
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