

2112E036

DDIPLOMA OF VOCATION
Mechanical Manufacturing
Subject: Hydraulics and Pneumatics
Subject Code: ME-505
Semester: Fifth
December 2021
Theory (External): 35 Marks
Time: 03 Hours

- 20
- (c) Maximum piston size
 - (d) Maximum cylinder size

SECTION -B (ESSAY TYPE QUESTIONS)
(5x5=25 Marks)

1. What do you mean by viscosity of a fluid and what is the unit of viscosity.
2. How you can measure atmospheric pressure?
3. With a neat sketch explain the working principle of Bourdon tube pressure gauge.
4. What do you mean by Pascal's law also discuss its engineering applications?
5. Explain various types of fluid flows in a hydraulic system.
6. Which types of losses occurs when fluid is flowing through a pipe or through a closed conduit.
7. Explain working principle of hydraulic brake with neat sketch.
8. Compare hydraulic and pneumatic system and explain three engineering applications of each system.

==END OF PAPER==

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

SECTION -A (SHORT/OBJECTIVE TYPE QUESTIONS)

(10x1=10 Marks)

- A. The ratio of specific weight of a liquid to the specific weight of pure water at a standard temperature is called:
(a) Density
(b) Specific gravity
(c) Compressibility
(d) Surface tension
- B. Falling drops of the water become spheres due to property of
(a) Surface tension
(b) Compressibility
(c) Capillarity
(d) Viscosity
- C. A manometer is used to measure
(a) Atmospheric pressure
(b) Pressure in pipe and channels
(c) Pressure in venturimeter
(d) Difference of pressures between two points in a pipe
- D. 1 cubic meter meter of water weighs
(a) 100 litres
(b) 250 litres
(c) 500 litres
(d) 500 litres
- E. A flow in which liquid particles have a definite path and the paths of individual particles do not cross each other is called:
(a) Steady flow
- (b) Uniform flow
(c) Streamline flow
(d) Turbulent flow
- F. Force per unit length is the unit of
(a) Surface tension
(b) Compressibility
(c) Capillarity
(c) Viscosity
- G. Barometer is used to measure:
(a) Velocity of liquid
(b) Atmospheric pressure
(b) Pressure in pipes and channels
(d) Difference of pressure between two points in a pipe
- H. Principle of hydraulic brake is
(a) Pascal's law
(b) Ohm's law
(c) Archimede's principle
(d) Newton's law
- I. Poise is the unit of
(a) Surface tension
(b) Viscosity
(c) Density
(d) Fluid flow
- J. Which parameter is used to design hydromotor
(a) Maximum pressure
(b) Maximum oil saving