

School of University Polytechnic

**Diploma in Mechanical Engineering
Semester End Examination - Jul 2024**

**Duration : 180 Minutes
Max Marks : 100**

Sem IV - N1DL402B - Hydraulics and Hydraulic Machines

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

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| 1) | Define Specific Gravity. | K1(2) |
| 2) | Explain Hydraulic coefficients. | K2(4) |
| 3) | Explain Non -Newtonian fluid. | K2(6) |
| 4) | Explain the types of fluid flow . | K3(9) |
| 5) | Derive the expression for measurement of velocity through pitot tube. | K3(9) |
| 6) | Explain the Reynolds's experiment with neat diagram. | K5(10) |
| 7) | Explain with the help of diagram the construction and working of centrifugal pump. | K4(12) |
| 8) | Determine the viscosity of a liquid having kinematic viscosity 6 stokes and specific gravity 1.9 . | K5(15) |
| 9) | Enunciate Newton's law of viscosity.Explain the importance of viscosity in fluid motion.What is the effect of temperature on viscosity of water and that of air? | K5(15) |
| 10) | A differential manometer is connected at two points A and B of two pipes as shown in figure .The pipe A contains a liquid of sp. Gr. =1.5 while pipe B contains a liquid of sp. Gr. =0.9 . The pressures at A and B are 1kgf/cm^2 and 1.80kgf/cm^2 respectively. Find the difference in mercury level in the differential manometer. | K6(18) |

