



GOVERNMENT POLYTECHNIC, KORAPUT
DEPARTMENT OF MECHANICAL ENGINEERING

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| Discipline: MECHANICAL ENGG | Semester: 4TH | Name of the Teaching Faculty: <i>B. SAJ SANTOSH .</i> |
| Subject: FLUID MECHANICS | No. of days/per week class allotted: 4 | Semester From date: <i>20/4/22</i> To Date: <i>03/8/22 .</i> No. of Weeks: 15 |
| COURSE OUTCOMES | Students will develop an ability towards 1. Comprehending fluid properties and their measurements 2. Realizing conditions for floatation 3. Applying Bernoulli's theorem | |
| Week | Class Day | Theory/Practical Topics |
| 1 ST | 1 ST | Introduction to fluid mechanics, properties of fluid |
| | 2 ND | Properties of fluid |
| | 3 RD | Numericals on properties of fluid |
| | 4 TH | Viscosity |
| 2 ND | 1 ST | Viscosity |
| | 2 ND | Numericals related viscosity |
| | 3 RD | Surface tension & related numerical |
| | 4 TH | Capillarity & related numerical |
| 3 RD | 1 ST | Pressure, pressure head, pascal's law |
| | 2 ND | Concept of atmospheric pressure, vacuum pressure, gauge pressure |
| | 3 RD | Pressure measuring instruments |
| | 4 TH | Pressure measuring instruments |
| 4 TH | 1 ST | Bourdeon tube pressure gauge |
| | 2 ND | Numericals |
| | 3 RD | Numericals |
| | 4 TH | Numericals & Revision |
| 5 TH | 1 ST | Hydrostatic pressure |
| | 2 ND | Total pressure, centre of pressure on immersed bodies |
| | 3 RD | Continued... |
| | 4 TH | Numericals |
| 6 TH | 1 ST | Numericals |
| | 2 ND | Archmedes principle, buoyancy, metacentre |
| | 3 RD | Metacentric height |
| | 4 TH | Concept of flotation |
| 7 TH | 1 ST | Types of fluid flow |
| | 2 ND | Continuity equation |
| | 3 RD | Bernoulli's theorem |
| | 4 TH | Venturimeter |

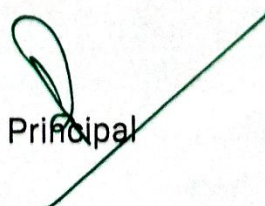


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| 8 TH | 1 ST | Orifice meter |
| | 2 ND | Pitot tube |
| | 3 RD | Numericals |
| | 4 TH | Numericals |
| 9 TH | 1 ST | Orifice , flow through orifice |
| | 2 ND | Orifice cofficeant, relation between orifice cofficeant |
| | 3 RD | Classification of notches & weirs |
| | 4 TH | Discharge over a rectangular notch, weir |
| 10 TH | 1 ST | Discharge over a triangular notch , weir |
| | 2 ND | Numericals |
| | 3 RD | Numericals |
| | 4 TH | Numericals |
| 11 TH | 1 ST | Pipe, loss of energy in pipes |
| | 2 ND | Energy loss in pipes |
| | 3 RD | Head lost due to friction darcy formula |
| | 4 TH | Head lost due to friction chezy formula |
| 12 TH | 1 ST | Numericals |
| | 2 ND | Numericals |
| | 3 RD | Numericals |
| | 4 TH | Numericals |
| 13 TH | 1 ST | Hydraulic gradient line & total gradient line |
| | 2 ND | Numericals |
| | 3 RD | Impact of jet |
| | 4 TH | Impact of jet on fixed & moving vertical flat plates |
| 14 TH | 1 ST | Derivation of workdone on series of vanes & condition of maximum efficiency |
| | 2 ND | Continued. |
| | 3 RD | Impact of jet on moving curved vanes |
| | 4 TH | Derivation of workdone, efficiency |
| 15 TH | 1 ST | Numericals |
| | 2 ND | Numericals |
| | 3 RD | Numericals |
| | 4 TH | Revision |

LEARNING RESOURCES:

1. Text Book of Fluid Mechanics R.K.Bansal Laxmi
2. Text Book of Fluid Mechanics R.S khurmi S.Chand
3. Text Book of Fluid Mechanics R.K.Rajput S.Chand
4. Text Book of Fluid Mechanics Modi & Seth Rajson's pub. Pvt. It

B. Sai Sandosh
Sign. Of Faculty
concerned


Principal

Sharmila Raba
Signature Of HOD