Enrolment No._____

***HASMUKH GOSWAMI COLLEGE OF ENGINEERING, VAHELAL***

***MID SEMESTER EXAMINATION, SEPTEMBER-2016***

**Subject Code: 2151903** **Date: 24/09/2016**

**Subject Name: Fluid Power Engineering** **Sem: 5TH Mech**

**Time: 10:00 TO 10:50** **Total Marks: 20**

**Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

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|---|---|---|---|
| **QUE.1** | **(A)** | Explain Hydraulic Ram with neat sketch | **3** |
| | **(B)** | Compare: Impulse and Reaction Turbine | **3** |
| | | | |
| **QUE.2** | **(A)** | A jet of water having velocity of 15 m/s strikes a curved vane which moving with a velocity of 5 m/s in same direction as that of jet inlet. The vane is so shaped that the jet is deflected through 1350. The diameter of jet is 10cm. Assuming the vane to be smooth,<br>Find (i) Force exerted by jet on the vane in the direction of motion.<br>(ii) Power exerted on the vane<br>(iii)Efficiency of the vane | **3** |
| | **(B)** | Explain Pelton wheel turbine & its components with neat sketch. | **4** |
| | | **OR** | |
| | **(B)** | Prove that for a curved radial vane the efficiency is given by<br>$\eta = \frac{2(Vw_1u_1 +- Vw_2u_2)}{V^2_1}$ | **4** |
| | | | |
| **QUE.3** | **(A)** | Site selection of hydro-electric power plant. | **3** |
| | **(B)** | Explain Working Principle of Hydraulic Jack. | **4** |
| | | **OR** | |
| | **(A)** | The following data is related to Pelton wheel, head 72 m, speed of wheel 240 rpm, shaft power of the wheel 115 kW, speed ratio 0.45, co-efficient of velocity 0.98, overall efficiency 85%,<br>find the Diameter of runner & Jet | **3** |
| | **(B)** | State the functions of a draft tube and Explain with neat sketches different types of draft tubes | **4** |

********** ALL THE BEST **********