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|  | **ASSIGNMENT** | |
| **ACADEMIC YEAR** | 20-21 |
| **Alandi (D), Pune – 412105** | **SEM / TRI** | VI |
| **SCHOOL OF MECHANICAL AND CIVIL ENGG.** | **CLASS & DIVISION / BLOCK** | A |

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| **COURSE** | TURBOMACHINE | **ASSIGNMENT NO.** | 2 |
| **COURSE INSTRUCTOR** | DR. A. G. KAMBLE | **DATE** | 04/04/2021 |

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| **Que. No.** | **Question Description** | **Marks** | **CO No.** | **BT Level** |
| **1** | A twin jet Pelton wheel has a mean runner diameter of 1.68 m & runs at 500rpm, each jet is of dia. 152 mm. The net head is 510 m. Bucket turns the jet through 1650 & relative velocity is reduced by 12% when it flows over the bucket. Windage & mechanical losses are 3% of the water power supplied. Nozzle co-efficient = 0.98. Find:   1. Water power supplied. 2. Brake power. 3. Force of each jet on bucket. 4. Overall efficiency. | **05** | **2** | **4** |
| **2** | Following data relate to an inward flow reaction turbine with radial discharge: Power = 400kW, Speed= 900rpm, Head available= 70m, Hydraulic efficiency= 95%, Flow ratio= 0.18, Width to diameter ratio at inlet= 0.11, ratio of inlet to outlet diameter= 2. Determine the dimensions of turbine and degree of reaction. Assume, constant velocity of flow. | **05** | **3** | **4** |

*(****Remark:*** *Course Instructor to add assessment rubrics for each assignment)*