**MTech 2nd sem. Civil---Water Resources Systems**

 **ASSIGNMENT--01**

**Date of submission:-**

Q1.A pump is estimated to require replacement after 25 years and is used in a water resources project

 where the economic study is based on a 50 year period of analysis. What salvage value should be used

 if the initial cost is Rs. 80,000=

Q2. Write down the various rules to be followed while applying the present worth method.

Q3. Consider the following example and select the most appropriate project by applying the **present**

 **worth method.**

 **PROJECT(A)** **PROJECT(B)**

1.Construction Cost -----------------------------45,000,000 25,000,000(1st stage)

 30,000,000(2nd stage)

2.O and M cost (Ct) ------------------------------180,000 per year 100,000 per year for 20 years

 for 40 years 220.000 per year for 20 years

3.Economic Life-------------------------------------40 years 40 years for each stage

4.Period of analysis----------------------------------40 years 40 years

5. Annual benefits (Bt)----------------------------2,700,000 2,700,000

6.Discount rate-----------------------------------------5% 5%