

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

Tutorial Sheet Number--01

- Q1. A pump is estimated to require replacement after 20 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. 90,000=
- 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**.

	<u>PROJECT(A)</u>	<u>PROJECT(B)</u>
1. Construction Cost -----	40,000,000	25,000,000(1st stage) 30,000,000(2nd stage)
2. O and M cost (C_t) ----- years for 40 years	160,000 per year for 40 years	100,000 per year for 20 220,000 per year for 20
3. Economic Life-----	40 years	40 years for each stage
4. Period of analysis-----	40 years	40 years
5. Annual benefits (B_t)-----	2,500,000	2,500,000
6. Discount rate-----	5%	5%