

HM321 Engineering Economics

Fall 2024 – Lecture 14

Instructor: Dr. Ali Ahmad



Bring Calculator Always

- Always bring your calculator with you in lectures
- Without practice you will not be able to do the calculations in your exams



Blank and Tarquin Chapter 4

PRESENT WORTH ANALYSIS

Investment in Bonds

- Often a corporation or government obtains investment capital for projects by selling bonds
- At the time of purchase, the bond may sell for more or less than its face value
 - Face value is the amount printed on the bond
- Purchaser of bond receives periodic interest payments until the maturity of bond
- At the time of maturity, the face value amount is paid to the purchaser

Investment in Bonds - 2

- Present worth method can be used to analyze investment in bonds

V = Face value of bond

I = Periodic interest payments (bond dividend)

b = Bond coupon rate (per year)

c = number of payment periods per year

$$I = \frac{Vb}{c}$$

Investment in Bonds - 3

- To evaluate a proposed bond purchase
 - Determine cash flows until maturity of bond
 - Calculate PW using MARR
 - Use effective MARR for the payment period (PP)
 - If $PW > 0$, the proposed purchase is viable

Reference

- Basics of Engineering Economy by Leland Blank and Anthony Tarquin, 2nd edition, McGraw-Hill