11

BBA in TM, 6th Sem. Date: March 11, 2024 (Morning)

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Mid-Semester Examination — Summer Semester, A. Y. 2022-2023
Course No. : BTM 4601 — Time : 1.5 hours
Course Title : Financial Management II — Full Marks : 75

Answer **all 3 (three)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin within brackets.

1. a) What is the financial manager's goal in selecting investment projects for the firm? Define the capital budgeting process and explain how it helps managers achieve their goal. 10 (CO1) (PO1)

   b) Describe the similarities and differences among NPV, PI and EVA. 05 (CO1) (PO1)

   c) What weaknesses are commonly associated with the use of the payback period to evaluate a proposed investment? 05 (CO1) (PO1)

   d) Do the net present value (NPV) and internal rate of return (IRR) always agree with respect to accept–reject decisions? With respect to ranking decisions? Explain. 05 (CO1) (PO1)

2. a) How do the constant-growth valuation model and capital asset pricing model methods for finding the cost of common stock differ? Why is the cost of financing a project with retained earnings less than the cost of financing it with a new issue of common stock? 05 (CO1) (PO1)

   b) For each of the following $1,000-par value bonds, assuming annual interest payment and a 40% tax rate, calculate the after-tax cost to bond using the approximation formula. 10 (CO2) (PO1)

Bond	Life (years)	Underwriting fee	Discount (-) or Premium (+)	Coupon Interest rate
A	20	25	-20	9.00%
B	16	40	10	10.00%
D	25	15	par	9.00%
E	22	20	-60	11.00%

   c) American Exploration, Inc., a natural gas producer, is trying to decide whether to revise its target capital structure. Currently it targets a 50–50 mix of debt and equity, but it is considering a target capital structure with 70% debt. American Exploration currently has 6% after-tax cost of debt and a 12% cost of common stock. The company does not have any preferred stock outstanding. 10 (CO2) (PO1)

      I. What is American Exploration's current WACC?
      II. Assuming that its cost of debt and equity remain unchanged, what will be American Exploration's WACC under the revised target capital structure?
      III. Do you think shareholders are affected by the increase in debt to 70%? If so, how are they affected? Are their common stock claims riskier now?
      IV. Suppose that in response to the increase in debt, American Exploration's shareholders increase their required return so that cost of common equity is 18%. What will its new WACC be in this case?

V. What does your answer in part II suggest about the tradeoff between financing with debt versus equity?

3. The ABC Company has been growing very rapidly in recent years, making its shareholders rich in the process. The average annual rate of return on the stock in the last few years has been 20%, and ABC managers believe that 20% is a reasonable figure for the firm's cost of capital. To sustain a high growth rate, the ABC CEO argues that the company must continue to invest in projects that offer the highest rate of return possible. Two projects are currently under review. The first is an expansion of the firm's production capacity, and the second project involves introducing one of the firm's existing products into a new market. Cash flows from each project appear in the following table. 25 (CO2) (PO1)

Year	Plant Expansion	Product Introduction
0	-$3,500,000	-$500,000
1	$1,500,000	$250,000
2	$2,000,000	$350,000
3	$2,500,000	$375,000
4	$2,750,000	$425,000

a) Calculate the NPV, IRR, and PI for both projects.
b) Rank the projects based on their NPVs, IRRs, and PIs.
c) Do the rankings in part "b" agree or not? If not, why not?
d) The firm can only afford to undertake one of these investments, and the CEO favors the product introduction because it offers a higher rate of return (that is, a higher IRR) than the plant expansion. What do you think the firm should do? Why?