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BBA in TM, 1st Sem.

Date: December 12, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Course No. : BTM 4101

Course Title : Principles of Management

Winter Semester, A. Y. 2021-2022

Time : 3 hours

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and the corresponding CO and PO are written in the right margin with brackets.

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1. a) Consider the three environments of a firm. Which of the environments has the most direct and immediate impact on the firm? Which of the environments has a more diffuse and delayed impact? Explain 13 (CO2)
(PO1)
- b) Identify and describe how the environment affects organizations and how organizations adapt to their environment 12 (CO2)
(PO2)
2. a) Summarize the basic stances that an organization can take regarding social responsibility. 6 (CO1)
(PO1)
- b) Where do organizational ethics come from? Describe the contributions made by the organization's founder, managers, and workers, as well as laws and social norms. In your opinion, which contribution is most influential? Why? 14 (CO2)
(PO7)
- c) Briefly discuss emerging ethical issues of an organization 5 (CO1)
(PO1)
3. a) What are the different types of plans? Discuss the types in brief. 10 (CO1)
(PO1)
- b) Margaret Quinn, the president of Eastern Electric Corporation, one of the large electric utilities operating in the eastern United States, had long been convinced that effective planning in the company was absolutely essential to success. For more than 10 years she had tried to get a company planning program installed without seeing much result. Over this time, she had consecutively appointed three vice presidents in charge of planning and, although each had seemed to work hard at the job, she noticed that individual department heads kept going their own ways. They made decisions on problems as they came up, and they prided themselves on doing an effective job of "fighting fires."

But the company seemed to be drifting, and the individual decisions of department heads did not always tally with each other. The executive in charge of regulatory matters was always pressing state commissions to allow higher electric

rates without having very much luck, since the commissions felt that costs, although rising, were not justified. The head of public relations was constantly appealing to the public to understand the problems of electric utilities, but electric users in the various communities felt that the utility was making enough money and that the company should solve its problems without raising rates. The vice president in charge of operations, pressed by many communities to expand electric lines, to put all lines underground to get rid of unsightly poles and lines, and to give customers better services, felt that costs were secondary to keeping customers off his back.

When a consultant called in at the request of Ms. Quinn and looked over the situation, he found that the company really was not planning very well. The vice president of planning and his staff were working hard, making studies and forecasts and submitting them to the president. There they stopped since all the department heads looked at them as impractical paperwork that had no importance for their day-to-day operations.

Questions:

- i. If you were the consultant, what steps would you suggest to get the company to plan effectively?
- ii. What advice would you give the company as and how far in the future to plan?
- iii. How would you suggest to the president that your recommendations be put into effect?

- 4. a) Why do you have to organize an organization? 5 (CO1)
(PO1)
- b) Define job specialization. Discuss the five alternatives to job specialization with examples. 12 (CO1)
(PO1)
- c) Under what circumstances would you prefer to work in a centralized organization? In a decentralized organization? 8 (CO2)
(PO2)
- 5. a) Discuss the basic motivational process that employees go through as reflected in expectancy theory. 9 (CO1)
(PO1)
- b) Describe some new forms of working arrangements. How do these alternative arrangements increase motivation? 8 (CO1)
(PO1)
- c) How do rewards increase motivation? What would happen if an organization gave too few rewards? What would happen if it gave too many? 8 (CO3)
(PO2)
- 6. a) Identify a person you would consider to be a charismatic leader and describe why the person fits the definition. 10 (CO3)
(PO1)
- b) What activities do managers perform? What activities do leaders perform? Do organizations need both managers and leaders? Why or why not? 15 (CO3)
(PO1)

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : BTM 4103

Time : 3 hours

Course Title : Financial Accounting-I

Full Marks : 150

Answer all 6 (six) questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) Draw the Accounting Cycle. 5 (CO1, PO1)
- b) The ledger of Swann Company contains the following balances: D. Swann, Capital \$30,000; D. Swann, Drawing \$2,000; Service Revenue \$50,000; Salaries Expense \$27,000; and Supplies Expense \$4,000. 6 (CO2, PO2)
- Required:**
Prepare the closing entries at December 31.
- c) Selected comparative statement data for Best Products Company are presented below. All balance sheet data are as of December 31. 14 (CO2, PO2)

	2018	2017
Net sales	\$660,000	\$620,000
Cost of goods sold	480,000	440,000
Interest expense	7,000	5,000
Net income	50,000	35,000
Accounts receivable	120,000	100,000
Inventory	85,000	75,000
Total assets	530,000	415,000
Accounts Payable	60,000	40,000
Bonds Payable	40,000	50,000
Common Stock	400,000	300,000
Retained Earnings	30,000	25,000
Cash Dividends	20,000	10,000

Required:

Compute the following ratios for 2018.

- i) Inventory Turnover.
- ii) Asset Turnover.
- iii) Profit Margin
- iv) Return on Assets.
- v) Return on Common Stockholders' Equity.
- vi) Payout Ratio.
- vii) Debt to Total Assets Ratio.

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2. a) What are the methods for preparing statement of cash flows? Which method is favored by the companies and why? 5 (CO1) (PO1)

b) The following tables present information related to 2021 for Erricson Company: 20 (CO2, PO2)

ERRICSON COMPANY			
Comparative Balance Sheets			
December 31			
Assets	2021	2020	Change Increase/Decrease
Cash	\$191,000	\$159,000	\$ 32,000 Increase
Accounts receivable	12,000	15,000	3,000 Decrease
Inventory	170,000	160,000	10,000 Increase
Prepaid expenses	6,000	8,000	2,000 Decrease
Land	140,000	80,000	60,000 Increase
Equipment	160,000	0	160,000 Increase
Accumulated depreciation—equipment	(16,000)	0	16,000 Increase
Total	<u>\$663,000</u>	<u>\$422,000</u>	
Liabilities and Stockholders' Equity			
Accounts payable	\$ 52,000	\$ 60,000	\$ 8,000 Decrease
Accrued expenses payable	15,000	20,000	5,000 Decrease
Income taxes payable	12,000	0	12,000 Increase
Bonds payable	130,000	0	130,000 Increase
Common stock	360,000	300,000	60,000 Increase
Retained earnings	94,000	42,000	52,000 Increase
Total	<u>\$663,000</u>	<u>\$422,000</u>	

ERRICSON COMPANY		
Income Statement		
For the Year Ended December 31, 2021		
Revenues		\$975,000
Cost of goods sold	\$6,60,000	
Operating expenses (excluding depreciation)	176,000	
Depreciation expense	18,000	
Loss on sale of store equipment	<u>1,000</u>	
		<u>855,000</u>
Income before income taxes		120,000
Income tax expense		36,000
Net income		<u>\$ 84,000</u>

Additional information:

- i) In 2018, the company declared and paid a \$32,000 cash dividend.
- ii) Bonds were issued at face value for \$130,000 in cash.
- iii) Equipment costing \$180,000 was purchased for cash.
- iv) Equipment costing \$20,000 was sold for \$17,000 cash when the book value of the equipment was \$18,000.
- v) Common stock of \$60,000 was issued to acquire land.

Required

- Prepare a Statement of Cash Flows under the Indirect Approach for the year ended December 31, 2021.
- Compute free cash flow.

3. a) How are bad debts recorded under the direct write-off method? What are the disadvantages of this method? 5 (CO1) (PO1)

b) The following selected transactions relate to Staley Company. 20 (CO2, PO2)

March 1	Sold \$20,000 of merchandise to Canon Company, terms 2/10, n/30.
March 2	Canon returns merchandise worth \$2,000 to Sunrise Company.
March 3	Accepted Jenk Inc.'s \$4,000, 3-month, 7% note in settlement of a past-due balance on account.
March 11	Received payment in full from Canon Company for balance due.
March 13	Made Staley Company credit card sales for \$13,200.
March 15	Made Visa credit card sales totaling \$6,700. A 3% service fee is charged by Visa.
March 16	Accepted Smart Company's \$20,000, 3-month, 9% note for balance due.
April 11	Sold accounts receivable of \$8,000 to Federal Factor. Federal Factor assesses a service charge of 2% of the amount of receivables sold.
April 13	Received collections of \$8,200 on Staley Company credit card sales and added finance charges of 1.5% to the remaining balances.
May 10	Wrote off as uncollectible \$16,000 of accounts receivable. Staley company uses the percentage-of-sales basis to estimate bad debts.
June 3	The Jenk Inc. note was dishonored. Jenk inc. is not bankrupt, future payment is anticipated.
June 16	Collected Smart company note in full.
June 30	Credit sales recorded during the first 6 months total \$2,000,000. The bad debt percentage is 1% of credit sales. At June 30, the balance in the allowance account is \$3,500.
July 16	One of the accounts receivable written off in May was from J. Simon, who pays the amount due, \$4,000, in full.

Required:

Prepare the journal entries for the transactions.

4. a) An inexperienced bookkeeper prepared the following trial balance. Prepare a **correct trial balance**, assuming all account balances are normal. 8 (CO3, PO4)

KWUN COMPANY
Trial Balance
December 31, 2018

Accounts Title	Debit	Credit
Cash	\$14,800	
Prepaid Insurance		\$3,500
Accounts Payable		3,000
Unearned Revenue	2,200	
P. Kwun, Capital		13,000
P. Kwun, Drawing		4,500
Service Revenue		25,600
Salaries Expense	18,600	
Rent Expense		2,400
	<u>\$35,600</u>	<u>\$52,000</u>

- b) On June 1, Jennifer Farrin started Sparkle Creations Co., a company that provides craft opportunities, by investing \$15,200 cash in the business. Following are the assets and liabilities of the company at June 30 and the revenues and expenses for the month of June. 17 (CO3, PO4)

Cash	\$13,750
Accounts Receivable	3,000
Craft Supplies	2,000
Equipment	10,000
Accounts Payable	1,200
Notes Payable	9,000
Service Revenue	7,000
Supplies Expense	1,600
Gas and Oil Expense	200
Advertising Expense	400
Utilities Expense	150

Jennifer made no additional investment in June, but withdrew \$1,300 in cash for personal use during the month.

Required:

Prepare an **Income Statement** and **Owner's Equity Statement** for the month of June and a **Balance Sheet** at June 30, 2021.

5. a) Using the following data from the comparative balance sheet of Rodenbeck Company, prepare a schedule showing the **Horizontal Analysis** and **Vertical Analysis**. 6 (CO2, PO2)

	December 31, 2018	December 31, 2017
Accounts receivable	\$ 520,000	\$ 400,000
Inventory	\$ 840,000	\$ 600,000
Total assets	\$ 3,000,000	\$2,500,000

- b) The following information is related to the sole proprietorship of Leonard Mac, attorney. 10 (CO3, PO4)

Legal service revenue, 2018	\$350,000
Total expenses, 2018	211,000
Assets, January 1, 2018	85,000
Liabilities, January 1, 2018	62,000
Assets, December 31, 2018	168,000
Liabilities, December 31, 2018	85,000
Drawings—2018	?

Required:

Prepare the 2018 **Statement of Owner's Equity** for Leonard Mac's legal practice by calculating "Leonard Mac, Drawings" in 2018.

- c) Tony Masasi is a licensed CPA. During the first month of operations of her business, the following events and transactions occurred. 9 (CO3, PO4)

May 1: Tony invested \$25,000 cash in her business.

May 2: Hired a secretary-receptionist at a salary of \$2,000 per month.

May 3: Purchased \$2,500 of supplies on account from Barry Supply Company.

May 7: Paid office rent of \$900 cash for the month.

May 11: Completed a tax assignment and billed client \$2,100 for services provided.

May 12: Received \$3,500 advance on a management consulting engagement.

May 17: Received cash of \$1,200 for services completed for Max Company.

May 31: Paid secretary-receptionist \$2,000 salary for the month.

May 31: Paid 40% of balance due Barry Supply Company.

Tony uses the following chart of accounts: No. 101 Cash, No. 112 Accounts Receivable, No. 126 Supplies, No. 201 Accounts Payable, No. 205 Unearned Revenue, No. 301 T. Masasi, Capital; No. 400 Service Revenue, No. 726 Salaries Expense, and No. 729 Rent Expense.

Required:

Journalize the transactions.

6. a) "Efforts should be matched with accomplishments"-this statement indicates a principle of accounting. Explain the statement. 5 (CO1) (PO1)

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b) Ken Ham started his own consulting firm, Hambone Company, on June 1, 2021. The trial balance at June 30 is shown below. (CO3, PO4)

HAMBONE COMPANY
Trial Balance
June 30, 2021

Accounts Title	Debit	Credit
Cash	\$ 7,150	
Accounts Receivable	6,000	
Supplies	2,000	
Prepaid Insurance	3,000	
Office Equipment	15,000	
Accounts Payable		\$ 4,500
Unearned Service Revenue		4,000
K. Ham, Capital		21,750
Service Revenue		7,900
Salaries Expense	4,000	
Rent Expense	1,000	
	<u>\$38,150</u>	<u>\$38,150</u>

In addition to those accounts listed on the trial balance, the chart of accounts for Hambone Company also contains the following accounts and account numbers: No. 158 Accumulated Depreciation—Office Equipment, No. 212 Salaries Payable, No. 244 Utilities Payable, No. 631 Supplies Expense, No. 711 Depreciation Expense, No. 722 Insurance Expense, and No. 732 Utilities Expense.

Other data:

- i) Supplies on hand at June 30 are \$600.
- ii) A utility bill for \$150 has not been recorded and will not be paid until next month.
- iii) The insurance policy is for a year.
- iv) \$2,500 of unearned service revenue has been earned at the end of the month.
- v) Salaries of \$2,000 are accrued at June 30.
- vi) The office equipment has a 5-year life with no salvage value. It is being depreciated at \$250 per month for 60 months.
- vii) Invoices representing \$1,000 of services performed during the month have not been recorded as of June 30.

Required

- Prepare the adjusting entries for the month of June, 2021.
- Prepare an adjusted trial balance at June 30, 2021.

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DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : Math 4161

Time : 3 hours

Course Title : Mathematics I

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) Define rank of a matrix. Find the rank of $A = \begin{pmatrix} 2 & 1 & 0 & -1 & 3 \\ 1 & 2 & 1 & 2 & 0 \\ 0 & 3 & 1 & 1 & 1 \\ -1 & -5 & -3 & -7 & 3 \end{pmatrix}$. 9 (CO3)
(PO2)

- b) Define a diagonal matrix. Given, $A = \begin{pmatrix} 3 & 2 \\ 7 & 5 \end{pmatrix}$, Prove that $A^3 - 4A^2 - A + 4I = 0$. 8 (CO3)
(PO2)

- c) What is the inverse of a matrix? When is a matrix invertible? Find the inverse of 8 (CO3)
(PO2)

$$A = \begin{pmatrix} 3 & 2 \\ 7 & 5 \end{pmatrix}.$$

2. a) State only the Cramer's rule for the solution of n linear non-homogeneous equations in n unknowns and using this solve the following linear equations: 12.5 (CO3)
(PO3)

$$3x + 2y - z = 20$$

$$2x + 3y + 6z = 70$$

$$x - y + 6z = 41$$

- b) Given $A = \begin{pmatrix} 2 & 1 & -2 \\ 3 & 2 & 5 \end{pmatrix}$, $B = \begin{pmatrix} 2 & -1 \\ 3 & 4 \\ 1 & -2 \end{pmatrix}$. Find (i) $(AB)^T$ and (ii) $A^T B^T$ 12.5 (CO3)
(PO4)

3. a) Given (a) $A = \begin{pmatrix} 3 & 4 \\ 9 & 2 \end{pmatrix}$. 12.5 (CO3)
(PO4)

(i) Find diagonal matrix D, and the diagonalizable matrix P. Then show that D

$$= P^{-1}AP.$$

(ii) Verify Cayley-Hamilton Theorem for A.

b) State Cayley-Hamilton theorem. Given $A = \begin{pmatrix} 2 & 0 & -2 \\ 0 & 3 & 0 \\ 0 & 0 & 3 \end{pmatrix}$. Use Cayley – Hamilton theorem to find A^{-1} 12.5 (CO3) (PO4)

4. a) Determine the value of λ so that the following system of linear equations has (i) a unique solution, (ii) more than one solution, (iii) no solution 12.5 (CO4) (PO4)

$$\begin{aligned} x + y - z &= 1 \\ 2x + 3y + \lambda z &= 3 \\ x + \lambda y + 3z &= 2 \end{aligned}$$

b) Solve the following system of linear equations: 12.5 (CO4) (PO4)

$$\begin{aligned} x_1 + x_2 &= -3 \\ 2x_1 - 2x_2 - x_3 &= -8 \\ 4x_1 - x_3 &= -14 \\ x_1 - 3x_2 - x_3 &= -5 \end{aligned}$$

5. a) A diet is to contain at least 80 units of carbohydrate, 50 units of fat and 120 units of protein. Two foods F_1 and F_2 are available: F_1 costs Tk. 3 per unit and F_2 costs Tk. 5 per unit. A unit of food F_1 contains 2 units of carbohydrate, 2 units of fat and 3 units of protein, and a unit of food F_2 contains 5 units of carbohydrate, 1 unit of fat and 4 units of protein. Find the minimum cost for a diet that consists of a mixture of these two foods and also meets the minimum nutrition requirements. 12.5 (CO3) (PO4)

- i. Formulate the LP.
- ii. Solve it graphically.

b) Solve the following LP graphically to find the optimal solution. 12.5 (CO3) (PO4)

$$\begin{aligned} \text{Max } Z &= 7T + 5C && \text{(profit)} \\ \text{Subject to the constraints:} &&& \\ 3T + 4C &\leq 2400 && \text{(carpentry hrs)} \\ 2T + 1C &\leq 1000 && \text{(painting hrs)} \\ C &\leq 450 && \text{(max \# chairs)} \\ T + C &\geq 200 && \text{(min \# tables)} \\ T, C &\geq 0 && \text{(non-negativity)} \end{aligned}$$

6. a) Define and classify probability with examples. 8 (CO4) (PO5)

b) Define and classify event with examples. 8 (CO4) (PO5)

c) (i) Calculate the probability of getting an even number if a dice is rolled. 9 (CO4)
(ii) Rahim takes two coins and flips them both at once. What is the probability of getting heads on both coins? (PO5)

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BBA in TM, 3rd Sem.

Date: December 02, 2022

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
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DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : BTM 4301

Time : 3 hours

Course Title : Management Accounting

Full Marks : 150

Answer all 6 (six) questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) Draw the "Master Budget Interrelationships" flowchart. 10 (CO1)
(PO1)
- b) Speed Engines Ltd. manufactures a variety of engines for use in heavy equipment. 15 (CO3)
(PO4)
The company has always produced all of the necessary parts for its engines, including all of the carburetors. An outside supplier has offered to sell one type of carburetor to Speed Engines, Ltd., for a cost of \$36 per unit. To evaluate this offer, Speed Engines Ltd., has gathered the following information relating to its own cost of producing the carburetor internally:

	Per Unit	10,000 Units per Year
Direct materials	\$15	\$150,000
Direct labor	10	100,000
Variable manufacturing overhead	3	30,000
Fixed manufacturing overhead, traceable	6*	60,000
Fixed manufacturing overhead, allocated	2	90,000
Total cost	\$43	\$430,000

*One-third supervisory salaries; two-thirds depreciation of special equipment (no resale value).

Required:

i) Assuming that the company has no alternative use for the facilities that are now being used to produce the carburetors, should the outside supplier's offer be accepted? Show all calculations.

ii) Suppose that if the carburetors were purchased, Speed Engines Ltd. could use the freed capacity to launch a new product. The segment margin of the new product would be \$170,000 per year. Should Speed Engines Ltd. accept the offer to buy the carburetors for \$36 per unit? Show all calculations.

2. a) "All future costs are relevant in decision making." Do you agree? Why? 5 (CO1)
(PO1)

b) Golden Corporation makes a single product—a fire-resistant commercial filing cabinet—that it sells to office furniture distributors. The company has a simple ABC system that it uses for internal decision making. The company has two overhead departments whose costs are listed on the following page: 20 (CO3)
(PO4)

Manufacturing overhead	\$700,000
<u>Selling and administrative overhead</u>	<u>500,000</u>
Total overhead costs	\$12,00,000

The company's ABC system has the following activity cost pools and activity measures:

Activity Cost Pool	Activity Measure
Assembling units	Number of units
Processing orders	Number of orders
Supporting customers	Number of customers
Other	Not applicable

Costs assigned to the "Other" activity cost pool have no activity measure; they consist of the costs of unused capacity and organization-sustaining costs—neither of which are assigned to orders, customers, or the product.

Golden Corporation distributes the costs of manufacturing overhead and of selling and administrative overhead to the activity cost pools based on employee interviews, the results of which are reported below:

Distribution of Resource Consumption Across Activity Cost Pools					
	Assembling Units	Processing Orders	Supporting Customers	Other	Total
Manufacturing Overhead	50%	35%	5%	10%	100%
Selling and administrative overhead	10%	45%	25%	20%	100%
Total Activity	1000 units	250 orders	100 customers		

Required:

- i) Perform the first-stage allocation of overhead costs to the activity cost pools.
- ii) Compute activity rates for the activity cost pools.
- iii) Design World is one of Golden Corporation's customers. Last year, Design World ordered filing cabinets four different times. Design World ordered a total of 80 filing cabinets during the year. Construct a table showing the overhead costs attributable to Design World.
- iv) The selling price of a filing cabinet is \$595. The cost of direct materials is \$180 per filing cabinet, and direct labor is \$50 per filing cabinet. What is the product margin and customer margin?

3. a) If the materials price variance is favorable but the materials quantity variance is unfavorable, what might this indicate? 5 (CO1) (PO1)
- b) Miller Toy Company manufactures a plastic swimming pool at its Westwood Plant. Janet Dunn, who has just been appointed general manager of the Westwood Plant, has been given instructions to "get things under control." Upon reviewing the plant's income statement, Ms. Dunn has concluded that the major problem lies in the variable cost of goods sold. She has been provided with the following standard cost per swimming pool: 20 (CO3, PO4)

	Standard Quantity or Hours per unit	Standard Price or Rate	Standard Cost
Direct materials	3.0 pounds	\$2.00 per pound	\$ 6.00
Direct labor	0.8 hours	\$6.00 per hour	4.80
Variable manufacturing overhead	0.4 hours*	\$ 3.00 per hour	1.20
Total Standard Cost			<u>\$12.00</u>

*Based on machine-hours.

During June the plant produced 15,000 pools and incurred the following costs:

- Purchased 60,000 pounds of materials at a cost of \$1.95 per pound.
- Used 49,200 pounds of materials in production. (Finished goods and work in process inventories are insignificant and can be ignored.)
- Worked 11,800 direct labor-hours at a cost of \$7.00 per hour.
- Incurred variable manufacturing overhead cost totaling \$18,290 for the month. A total of 5,900 machine-hours was recorded.

Required:

Compute the following variances for June:

- i) Direct materials price and quantity variances (Table Method).
- ii) Direct labor rate and efficiency variances (Table Method).
- iii) Variable overhead rate and efficiency variances (Formula Method).

4. a) Does Per Unit Variable Cost always remain same? Explain with graphs. 10 (CO1) (PO1)

b)

Opening stock of raw material	15,000
Purchases of raw material	1,36,000
Closing stock of raw material	8,000
Direct wages	54,000
Direct expenses	12,000
Factory overheads	70% of direct wages
Office and administrative overheads	30% of works cost
Selling and distribution overheads	26,000
Cost of opening stock of finished goods	12,000
Cost of Closing stock of finished goods	15,000
Profit on Selling Price	20%

15 (CO2) (PO2)

Required:

From the above information, prepare a Cost Sheet for the period ended on 31st March, 2021.

5. a) "The higher the margin of safety, the lower the risk of not breaking even and incurring a loss."-Explain. 5 (CO1)
(PO1)
- b) Northwood Company manufactures basketballs. The company has a ball that sells for \$25. At present, the ball is manufactured in a small plant that relies heavily on direct labor workers. Thus, variable costs are high, totaling \$15 per ball, of which 60% is direct labor cost. Last year, the company sold 30,000 of these balls, with the following results: 20 (CO2)
(PO2)

Sales (30,000 balls)	\$750,000
Variable expenses	<u>450,000</u>
Contribution margin	300,000
Fixed expenses	210,000
Net operating income	<u>\$ 90,000</u>

Required:

- i) Compute the CM ratio, break-even point in balls (use formula method), margin of safety in dollar at last year's sales level.
- ii) Compute the degree of operating leverage.
- iii) Assume that through a more intense effort by the sales staff, the company's sales increase by 10% next year. By what percentage would you expect net operating income to increase? Use the degree of operating leverage to obtain your answer. Verify your answer to by preparing a new contribution format income statement showing 10% increase in sales.
- iv) Refer to the original data. The company is discussing the construction of a new, automated manufacturing plant. The new plant would decrease variable costs per ball by 40%, but it would cause fixed costs per year to double. If the new plant is built, prepare a contribution format income statement with the changes.
 - What would be the company's new CM ratio and new break-even point in dollar? (use equation method)
 - If the new plant is built, how many balls will have to be sold next year to earn the same net operating income, \$90,000, as last year? (use equation method)
 - Compute the new Margin of Safety in dollar and percentage. If you were a member of top management, would you have been in favor of constructing the new plant? Explain.

- 6. a) What are some of the possible reasons that actual results may differ from what has been budgeted at the beginning of a period? 5 (CO1)
(PO1)

- b) Lavage Rapide is a Canadian company that owns and operates a large automatic carwash facility near Montreal. The following table provides data concerning the company's costs: 20 (CO2)
(PO2)

	Fixed Cost per Month	Cost per Car Washed
Cleaning supplies		\$0.80
Electricity	\$1,200	\$0.15
Maintenance		\$0.20
Wages and salaries	\$5,000	\$0.30
Depreciation	\$6,000	
Rent	\$8,000	
Administrative expenses	\$4,000	\$0.10

For example, electricity costs are \$1,200 per month plus \$0.15 per car washed. The company expects to wash 9,000 cars in August and to collect an average revenue of \$4.90 per car washed.

Required:

- i) Prepare the company's Planning budget.
- ii) The company actually washed 8,800 cars in August. Prepare the company's flexible budget for August.
- iii) Prepare the company's Flexible Budget Performance Report. The actual operating results for August appear below:

Lavage Rapide
Income Statement
For the Month Ended August 31

Actual cars washed	8,800
Revenue	<u>\$43,080</u>
<u>Expenses:</u>	
Cleaning supplies	7,560
Electricity	2,670
Maintenance	2,260
Wages and salaries	8,500
Depreciation	6,000
Rent	8,000
Administrative expenses	<u>4,950</u>
Total expense	<u>39,940</u>
Net operating income	<u>\$ 3,140</u>

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination	Winter Semester, A. Y. 2021-2022
Course No. : BTM 4303	Time : 3 hours
Course Title : Human Resource Management	Full Marks : 150

Answer all 6 (six) questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) Successfully managing an employment brand doesn't happen by accident. To create and advertise the compelling story behind your company, take time to identify your employment brand and determine what makes your company unique. The following tips may help you get the most out of your branding efforts.11 16 (CO3) (PO3)

- Leverage your corporate brand. Your company may already be well known for its products and services. Use that name recognition to connect with prospective employees.
- Use the 80/20 rule. When advertising jobs, be sure to spend most of the time talking about the job (80%) and less time promoting your brand (20%).
- Engage visitors. Use videos of employees rather than text to deliver the brand message.
- Encourage current employees to spread the word. Get employees to talk to others in their personal and professional networks.
- "Mobilize" your message. Create an easy-to-use mobile career site that allows users to connect on the go.

Recruiting and employer branding should be seen as part of an organizational marketing effort that is linked to the overall image and reputation of the organization and its industry. If you were responsible for enhancing your organization's employment brand:

- i. How would you convince senior leaders that the investment would be worthwhile?
- ii. Who would be your partner inside and outside of your organization to develop and convey your brand message?

b) The winter holiday hiring season poses special challenges for many retailers. Knowing that jobs are likely to be short-term, temporary spots, serious job seekers typically don't respond to advertisements or job postings. However, retailers usually need to ramp up hiring in a major way during the last quarter of the year. Employment needs extend well beyond retail clerk positions, with companies looking to hire in package delivery, cybersecurity, and party planning. Trying to fill over 800,000 jobs in the United States in the short time before the holiday season demands creativity and stamina from recruiting experts. 9 (CO3) (PO3)

Using contacts developed from customer loyalty programs and online shopping databases, retailers are reaching out directly to individuals who know and (hopefully!) like their companies. Advertising through social media can expand the candidate pool by attracting passive applicants or people who might not have considered seasonal work opportunities. But retailers are using social media in new ways, not simply for traditional job postings.

Crate & Barrel tweeted about job open houses for seasonal workers on the same feed that showed customers new product offerings. The Container Store, famous for its loyal customer base, sent nearly 2 million emails to customers who live within 20 miles of any of its stores. Knowing that customers are huge fans of its products, The Container Store hopes that even if the customer is not

looking for a new or additional job, perhaps he or she will pass along the email solicitation to

friends. Children's clothing chain Carter's blasted emails to its customers inviting them to become "holiday helpers." Beverages and More (BevMo) capitalized on visits to its website as customers looked for cocktail recipes. The company posted job advertisements on the same page as the recipes and increased applications by 66%. One of BevMo's recruiters says that customers tend to be passionate about the company's products, and the hope is that employees will demonstrate that same level of dedication and passion for their work.

Staffing up for the holiday season is typically limited to a few months out of the year; thus, it is highly competitive as many retailers compete for the same talent. Tapping into databases of customers who already know the products can be an effective way to target people more likely to apply and become successful employees. And a common advantage for employees is an employee discount that makes it even easier and cheaper to continue shopping at their favorite store!

Identify the unique benefits that might a company consider providing to seasonal workers that would make the jobs more attractive?

2. a) Organizations are interested in employing diverse individuals who bring with them a host of positive and varied skills. Besides more obvious physical characteristics such as age, ethnicity, and gender, underlying traits such as personality represent some new and emerging characteristics that can benefit companies. In particular, hiring introverted individuals can help firms operate in a more productive manner, despite some of the challenges that are commonly associated with this trait. 16 (CO3)
(PO4)
- Introverts tend to prefer more solitary activities than do extroverts, and they often gain energy by performing work alone. They also value quiet time in the workplace that allows them to reflect and be creative. Alternatively, extroverts like to be more active in stimulating work environments that are characterized by much social interaction. A common misconception is that these characteristics set up extroverts to be creative leaders and introverts to be reserved followers, but this notion is far from the truth. Research shows that introverts are better suited to handle various managerial situations compared to extroverts. For instance, introverts tend to be skillful at communicating with colleagues, and they often possess adept decision-making skills. It is also common for them to be creative in the workplace. Many of these skills are seen in leaders such as Larry Page and Warren Buffet, both of whom are introverts. Introverts do face some workplace challenges, though. They may be less likely to make quick decisions and connect well with others, which can hurt group synergy. However, organizations can take several steps to capitalize on the positive skills that introverts bring to the table:
- Be sure to provide introverts some time for quiet reflection.
 - Reward introverts in ways that match their preferences for solitude.
 - Specify areas of the worksite where introverts can go to be alone.
 - Give introverts time to develop ideas before they are shared in meetings and other gatherings.
- Human resource professionals need to understand how to manage introverts so that their skills are put to good use. If you were given the responsibility of doing this:
- i. How would you encourage introverts to make positive contributions to the workplace? What could be done to augment their skills?
 - ii. How could you prepare extroverts to work more effectively with introverts?
- b) Women have greatly varied workplace experiences. Some experiences are positive, while others are negative. Sheryl Sandberg, for example, was able to rise above the competitive male-dominated arena of Silicon Valley and become Facebook's chief operating officer. For other women, however, dealing with prevailing gender beliefs, cognitive biases, and work-family conflict issues can be challenging. Women also face gender biases in hiring decisions, preferences for male leadership styles, and differing attitudes about women and child rearing. Current workplace statistics are troubling—women still receive less in earnings than do men in 9 (CO3)
(PO4)

the United States. Only 4.2% of Fortune 500 firms have female CEOs.

A recent study conducted by the data analytics company Sociometric Solutions tried to determine some of the reasons why women face these issues. Information was collected from subjects working for one of three firms in the United States, including a large banking call center, a large maker of office products, and a medium-sized pharmaceutical organization. Sensor ID badges were worn by both men and women for six weeks.

These sensors tracked their discussions with others and movement patterns. Their email, phone, and instant message information was also evaluated.

The researchers found that women outperformed men in the banking call center, but this didn't seem to get them promoted. The data also showed that men and women scored similarly with regard to interactive capabilities. But women filled only 13% of the top leadership positions in the firm (50% of the organization's employees were women). These findings suggest that there is still more that can be done to make the workplace more equitable for both women and men. Employers should focus on key performance measures and objective criteria.³⁶

Based on the challenges identified in the Sociometric Solutions study, consider the following:

What more can companies do to make women's career experiences better? What specific policies could be developed?

- 3. a) Organizations use mergers and acquisitions as a way to reduce expenses, break into untapped markets, reach out to new customers, and/or diversify their business plans. In a perfect world, integrating business operations would be an easy and fluid process, but many times the reality is very different. Companies often find it difficult to mesh varying business cultures because employees in the merging companies have grown accustomed to how business is conducted in their different worksites. Consequently, as many as half of all mergers and acquisitions fail, and many more of them don't really help companies improve their overall worth. Merging firms must focus their efforts on creating positive cultural fit.
 - A good example of how to effectively manage these processes involve the recent merger that took place between the Cleveland-based architectural design company Vocon and New York-based Conant Architects. Vocon acquired Conant to diversify its offerings beyond interior design to include workspace development. Yet, the HR group was concerned about how to make employees feel good about the merger, particularly because the culture in Vocon was considered to be "fun," while the culture in Conant was thought to be "traditional." So they had to find ways to help reduce employees' fears.
 - Vocon's Chief Human Resources Officer Susan Austin first looked for any differences in the companies' employee handbooks so that she could describe to workers the changes that would be needed. She also grouped individuals from the two firms together so that they could interview each other in a fun and dynamic way. Finally, the Conant employees were flown to Cleveland for a holiday party at Vocon's headquarters to build morale.
 - HR professionals need to develop sound strategies for managing mergers and acquisitions. Consider the following questions about cultural fit:
 - i. What specific cultural challenges do companies face during mergers and acquisitions?
 - ii. What unique strategies could be used to reduce the anxiety experienced by employees during mergers and acquisitions? How could an HR department help with these efforts?

- b) Companies like Southwest Airlines, Zappos .com, and Nordstrom have been successful because they rely on sound technology and business strategy. However, "organizational health" often drives employee motivation and customer loyalty. Organizational health is much broader than corporate culture because it establishes the workplace in which other business functions can operate well. In other words, healthy organizations create a positive workplace that keeps employees satisfied and committed. Low political behavior and turnover, high cohesion and morale, and a more unified sense of purpose are often characteristics of this environment. A firm's HR department and top managers are key to making companies healthier. HR

16 (CO3)
(PO4)

9 (CO4)
(PO9)

professionals function as leaders by developing good policies that make the workplace more positive. This often includes management development, performance feedback, and fair rewards. They also act as advisors to top leaders and provide a sounding board for the CEO. The CEO often pushes the idea that organizational health is an important issue. The following approaches should help managers lead efforts to create healthy cultures:

- Developing a positive leadership unit: Put together a group of leaders who trust each other and who can develop a positive way of interacting.
- Creating alignment around a common purpose: The leadership team should identify and agree on the company's mission, vision, and goals for success.
- Communicating the company's approach: Once a purpose is established, it needs to be discussed frequently with employees to unify them and build a common understanding of the workplace.
- Using HR practices to support the workplace: All of the traditional HR functions should be utilized to create alignment around the purpose. The ability to develop healthy organizations and business cultures is a key leadership competency within the HR profession.

If you were given the responsibility of improving your firm's health:

How would you encourage the CEO and other top leaders to focus their efforts on creating a healthy organization culture? What issues do you think deserve the most attention?

4. Your company has reaped the benefits of having long-term, tenured employees, but many of them are now approaching retirement. It is anticipated that approximately 20% of the company's workforce will retire in the next three to five years. In reviewing the remaining workforce through HR planning efforts, you have become aware of work-life balance issues that need to be reviewed and addressed. The company president has requested that you prepare a retention plan outlining these issues as well as ways to address them. 25 (CO4) (PO9)
- i. What steps will you take to identify key priorities in the work-life balance issues?
 - ii. How will you present a business case to gain management support for addressing those issues to help retain existing workers and to fill the positions vacated by retiring employees?
5. a) How have the evolving business environment and the emergence of free agent workers affected make-or-buy talent decisions? 5 (CO3) (PO9)
- b) You are the HR Director of a large manufacturing company that is approximately 50 years old. The company has reaped the benefits of a mostly tenured workforce, and many of the key workers are now approaching retirement age. It is anticipated that approximately 20% of the company's workforce will retire in the next three to five years. To assist the company with the retirement transition process, you want to present a business case to the President for a succession plan for several key positions, including the Chief Financial Officer and Director of Operations. 20 (CO3) (PO9)
- i. Which internal and external company advisors should be included in the succession planning process?
 - ii. The successor employee for the replacement of the Chief Financial Officer and Director of Operations positions should have an advanced level of work experience in what key essential functions? How can the company help candidates get these experiences?
6. Discuss Succession Planning for a company for ensuring career development of the its talented companies. 25 (CO2) (PO2)

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : BTM 4361

Time : 3 hours

Course Title : Mathematics II

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) Evaluate the integrals: (i) $\int \left(\frac{10}{y^{\frac{3}{4}}} - \sqrt[3]{y} + \frac{4}{\sqrt{y}} \right) dy$ (ii) $\int_{-1}^0 (2 - 5\sqrt{1-x^2}) dx$ 9 (CO2)
(PO3)
- b) Sketch the region whose area is represented by the definite integral $\int_0^4 \sqrt{16-x^2} dx$, and evaluate the integral using an appropriate formula from geometry. Also find the area by using calculus. 8 (CO2)
(PO3)
- c) Solve the initial value problem $\frac{dy}{dx} = e^{-2x}$; $y(0) = 2$ 8 (CO2)
(PO3)
2. a) Using x_k^* as the right endpoint of each subinterval find the area between the graph of $f(x) = 4 - \frac{x^2}{4}$ and the interval $[0, 3]$. 12.5 (CO2)
(PO3)
- b) Verify Mean Value theorem (MVT) for $f(x) = \sqrt{49-x^2}$ in the interval $[-7, 3]$. 12.5 (CO3)
(PO5)
3. a) Find the relative extrema of (i) $f(x) = 3x^{\frac{1}{3}} + 2x$, (ii) $f(x) = x^2(x+1)^3$. 12.5 (CO3)
(PO5)
- b) Find the absolute extrema of $f(x) = 6x^{\frac{4}{3}} - 3x^{\frac{1}{3}}$ on the interval $[-1, 1]$, and determine where these values occur. 12.5 (CO4)
(PO2,
PO4)
4. a) State Leibnitz's theorem. If $y = \sin(m \sin^{-1} x)$, then show that
(i) $(1-x^2)y_2 - xy_1 + m^2y = 0$.
(ii) $(1-x^2)y_{n+2} - (2n+1)xy_{n+1} + (m^2-n^2)y_n = 0$. 12.5 (CO2)
(PO3)
- b) Find the area of the region enclosed by $x = 2 - y^2$ and $y = -x$. 12.5 (CO3)
(PO5)
5. a) Derive bisection method. Use bisection method to find a real root of $f(x) = x^3 + x^2 - 1 = 0$ correct to 2-decimal points. 12.5 (CO3)
(PO5)
- b) Derive Newton Raphson's method. Use this method to find a real root of $f(x) = 2x - \cos x - 3 = 0$ correct to 2-decimal points. 12.5 (CO4)
(PO2,
PO4)

6. a) Derive Newton's forward difference interpolation formula. Use this method to find $y(0.29)$ from the following data. 12.5 (CO4)
(PO2, PO4)

x	y
0.20	1.6596
0.22	1.6698
0.24	1.6804
0.26	1.6912
0.28	1.7024
0.30	1.7139

- b) Derive 2nd order Runge-Kutta Method. Use this method find $y(0.4)$ from the IVP 12.5 (CO4)
 $5 \frac{dy}{dx} = x^2 + y^2, y(0) = 0$ and $h = 0.2$. (PO2, PO4)

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BBA in TM, 5th Sem.

Date: December 08, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Course No. : BTM 4501

Course Title : Research Method

Winter Semester, A. Y. 2021-2022

Time : 3 hours

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and the corresponding CO and PO are written in the right margin with brackets.

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1. a) Is writing for publication different from writing up a thesis? How? 5 (CO1)
(PO1)
 - b) Why is it considered good practice to acknowledge the limitations of your research in the project report? Assume that you are preparing your project report. Write five limitations of your project report. 9 (CO2)
(PO3)
 - c) Your friend or colleague is concerned about preparing his or her dissertation. What advice will you give to help him or her prepare this dissertation? 11 (CO3)
(PO11)
 2. a) Why do we describe qualitative analysis as an 'interactive process'? 5 (CO1)
(PO1)
 - b) For exploring or presenting data we need to use tables and graphs, what are the essential factors we need to consider for using tables and graphs? Prepare a dummy table and graph with essential parts. 10 (CO2)
(PO3)
 - c) What is the type I and type II error? Which one is the more dangerous? Why? Discuss with appropriate examples. 10 (CO2)
(PO4)
 3. a) In what circumstances would you choose to use a delivery and collection questionnaire rather than an internet questionnaire? Give reasons for your answer. 6 (CO2)
(PO4)
 - b) The research interview is a purposeful conversation between two or more people, what are the major types of research interviews? 6 (CO1)
(PO1)
 - c) Prepare a hypothetical questionnaire for evaluating customer satisfaction by using open, list, category, ranking, and rating questions. 13 (CO3)
(PO3)
 4. a) What is the cover letter in the questionnaire? Do you think it is important during data collection through a questionnaire? Justify your answer. 12 (CO2)
(PO3)
 - b) During a presentation of your proposal to undertake a research project, based on semi-structured or in-depth interviews, you feel that you have dealt well with the 13 (CO2)
(PO3)

relationship between the purpose of the research and the proposed methodology. However, when one of the panel leans forward and asks you to discuss the trustworthiness and usefulness of your work for other researchers. This is clearly a challenge to see whether you can defend such an approach. How do you respond?

- 5. a) What is the sampling frame? How can we identify a suitable sampling frame? 7 (CO1)
(PO1)
- b) Discuss four non-response levels. What are the main reasons for the non-response? 7 (CO1)
(PO1)
- c) Ting decided to collect data from people who had left his company's employment over the past five years by using a telephone questionnaire. He obtained a list of the 1,034 people who had leftover this period (the total population) and selected a 50 percent sample. Unfortunately, he could obtain current telephone numbers for only 311 of the 517 ex-employees who made up his total sample. Of these 311 people who were potentially reachable, he obtained a response from 147. In addition, his list of people who had left his company was inaccurate, and 9 of those he contacted were ineligible to respond, having left the company over five years earlier. Calculate his total response rate and active response rate. 6 (CO3)
(PO2)
- d) Suppose you are going to evaluate customer satisfaction for a particular product, which sampling technique is appropriate for you? Clarify your answer. 5 (CO1)
(PO1)
- 6. a) If you have to conduct some business research now, what would be the topic, and what factors would influence your choice? 7 (CO3)
(PO5)
- b) Suppose, you wish to start a venture involving the manufacture of a sports car in Bangladesh for exporting to Singapore. List at least five areas in which business research could provide information allowing for better decision-making as you begin this venture. 10 (CO2)
(PO2)
- c) How research contributes to existing knowledge? Why is research often considered a process— and not just an outcome? 8 (CO1)
(PO1)

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : BTM 4503

Time : 3 hours

Course Title : Financial Management I

Full Marks : 150

Answer all 6 (six) questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) Discuss the validity of the following statement: 7 (CO1)
 "When a firm's stock price falls, it is evidence that the firm's managers are not acting (PO5)
 in the best interests of the shareholders."
- b) If you were the owner of a proprietorship, would you make decisions to maximize the 6 (CO1)
 value of your business or your personal satisfaction? Explain. (PO5)
- c) At the end of the year, Wrinkle Free Laundry (WFL) had \$120,000 in total assets. 6 (CO1)
 i) If WFL's total assets turnover was 4.0, what were its sales revenues? (PO5)
 ii) If WFL's return on assets was 8 percent, what were its net income and net profit
 margin?
- d) North/South Airlines generated the following information from its financial 6 (CO1)
 statements: (PO5)
- P/Eratio equals 12.0,
 - common stock market price per share is \$50,
 - fixed assets turnover equals 6.0,
 - current ratio equals 5.0,
 - current liabilities equal \$500,000,
 - net profit margin equals 4 percent, and
 - 60,000 shares of common stock are outstanding.

Required: What are North/South's

i) return on assets (ROA)

ii) total assets turnover?

2. a) If Samantha invests \$800 today in an account that pays 5 percent interest compounded 5 (CO2)
 annually, how much will she have in her account four years from today? (PO2)
- b) Fifteen (15) years ago, your parents purchased an investment for \$2,700. If the 5 (CO2)
 investment earned 5 percent interest each year, how much is it worth today? (PO2)
- c) Compute the amount Amanda must deposit in an account today so that she can pay 5 (CO2)
 herself \$450 per month for the next nine years if her opportunity cost rate is 4.4 (PO2)
 percent compounded monthly. How much must Amanda deposit today if she wants to
 pay herself at the beginning of each month?
- d) CanAm Financial offers investments that pay 11.5 percent interest compounded 5 (CO2)
 monthly, whereas UniMex Financial offers investments that pay 13.5 percent interest (PO2)

compounded semiannually. Which investment offers the better effective annual return?

- e) Ten years ago, Bruce invested \$1,200. Today, the investment is worth \$3,550. If interest is compounded annually, what annual rate of return did Bruce earn on his investment? 5 (CO2) (PO2)

- 3. a) Swift Bicycles plans to issue convertible bonds to finance its future growth. Each convertible bond has a face value equal to \$2,000 and can be converted into 22 shares of common stock. What is the minimum stock price that would make it beneficial for bondholders to convert their bonds? 5 (CO3) (PO2)
- b) Tracer Manufacturers issued a 13-year bond six years ago. The bond's maturity value is \$1,000, and its coupon interest rate is 7 percent. Interest is paid semiannually. The bond matures in four years. If investors require a return equal to 6 percent to invest in similar bonds, what is the current market value of Tracer's bond? 5 (CO3) (PO2)
- c) Filkins Farm Equipment's five-year zero-coupon bond is currently selling for \$621. The bond's maturity value is \$1,000. What is the bond's yield to maturity (YTM)? 5 (CO3) (PO2)
- d) The Desreumaux Company has two bonds outstanding. Both bonds pay \$500 annual interest plus \$3,000 at maturity. Bond L matures in 11 years, whereas Bond S matures in one year. One interest payment remains on Bond S. What will be the values of these bonds when the going rate of interest is (i) 5.5 percent and (ii) 9 percent? 10 (CO3) (PO2)

- 4. a) For the past 13 years, the P/E ratio of North/South Travel has been between 28 and 34. If North/South's earnings per share equal \$5, in what price range would you estimate its stock should be selling? 5 (CO3) (PO2)
- b) Minimight Company has never paid a dividend, and there are no plans to pay dividends during the next three years. But, in four years—that is, at the end of Year 4, the company expects to start paying a dividend equal to \$6 per share. This same dividend will be paid for the remainder of Minimight's existence. If investors require a 12 percent rate of return to purchase the company's common stock, what should be the market value of Minimight's stock today? 5 (CO3) (PO2)
- c) Sparkle Jewelers expects to pay dividends (per share) of \$0.70, \$0.80, \$2.90, and \$3.20 during the next four years. Beginning in the fifth year, the dividend is expected to grow at a rate of 4 percent indefinitely. If investors require a 22 percent return to purchase Sparkle's stock, what is the current value of the company's stock? 5 (CO3) (PO2)
- d) Alpine Ski Resort has grown at a constant rate, which equals 4 percent, for as long as it has been in business. This growth rate is expected to continue long into the future. A couple of days ago, Alpine paid common stockholders a dividend equal to \$4 per share. If investors require a 14 percent rate of return to purchase Alpine's common stock, what is the market value of its common stock? 5 (CO3) (PO2)
- e) Express Surgery Center's (ESC) preferred stock, which has a par value equal to \$140 per share, pays an annual dividend equal to 10 percent of the par value. If investors require a 12 percent return to purchase ESC's preferred stock, what is the stock's market value? 5 (CO3) (PO2)

5. a) Compute the (i) expected return, (ii) standard deviation, and (iii) coefficient of variation for investments with the following probability distributions: 9 (CO4)
(PO6)

Probability	R_A	R_B
0.4	30.0%	5.0%
0.2	10.0%	7.0%
0.4	12.0%	5.0%

- b) Compute the (i) expected return and (ii) standard deviation of the following investments: 16 (CO4)
(PO6)

Probability	R_{ABC}	R_{XYZ}
0.2	22.0%	22.0%
0.5	15.0%	12.0
0.3	2.0%	8.5%

- (iii) Suppose you form a portfolio that consists of 60 percent Investment ABC and 40 percent Investment RST. Compute the expected return and standard deviation of the portfolio.
 (iv) Compare the portfolio's standard deviation with the individual investments' standard deviations.

6. a) Discuss the capital asset pricing model (CAPM). 5 (CO4)
(PO6)
- b) Recently, Rani determined that the required rate of return for Stock Q is 9 percent. In her analysis, she determined that the risk-free rate of return, r_{RF} , is 4 percent and that the required return on the market portfolio, r_M , is 6 percent. Today, however, Rani received new information that indicates the market risk premium, RPM , is actually 2 percent higher than she estimated in her original analysis. Based on this new information, what should be the required rate of return for Stock Q? 5 (CO4)
(PO6)
- c) Square Company recently paid a \$3 per share dividend, which is expected to grow at a constant rate forever. Square's stock, which has a beta coefficient equal to 1.3, is selling for \$43.50 per share. Currently, the risk-free rate of return is 4 percent and the return on an average stock is 10 percent. If Square's stock is selling at its equilibrium price, what is its growth rate? 5 (CO4)
(PO6)
- d) Suppose the risk-free rate of return is 3.5 percent and the market risk premium is 7 percent. Stock XYZ, which has a beta coefficient equal to 0.9, is currently selling for \$28 per share. The company is expected to grow at a 4 percent rate forever, and the most recent dividend paid to stockholders was \$1.75 per share. Is Stock XYZ correctly priced? Explain. 10 (CO4)
(PO6)

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BBA in TM, 5th Sem.

Date: November 30, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : BTM 4505

Time : 3 hours

Course Title : Marketing Management

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

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1. a) What do mean by value proposition? Identify the value propositions, core needs, five types of specific needs, product levels, and brand associations of Apple I-phone 14. 12 (CO1) (PO1)
 - b) Define demand. Identify the types of demand and describe demand management strategies for each of the following products: 13 (CO2) (PO2)
 - i. Cigarettes
 - ii. World football cup Ticket
 - iii. Nokia 1200 Mobile
 - iv. Hyper loop
 - v. Cricket Jersey
 - vi. Lux soap
 - vii. Dental work
 - viii. Apple laptop in remote village
 2. a) What is the difference between mission and vision? Identify SBUs of a company of your choice and develop BCG Matrix. Describe how you can allocate resources among those SBUs using it. 13 (CO1) (PO1)
 - b) Describe the demographic and economic trends of Bangladesh in the post-pandemic situation with its implications for marketers. 12 (CO2) (PO2)
 3. a) Discuss the difference between customer equity and customer life-time value. 05 (CO1) (PO1)
 - b) Retailers often use psychological pricing as a price-adjustment strategy. Explain this pricing strategy. How do reference prices affect psychological pricing decisions? 08 (CO3) (PO3, PO4)
 - c) Suppose, you are the manufacturer and owner of a small independent chain of shoe stores competing head-to-head with Bata. The retail price your customers pay for your casual shoes is almost the same as at Bata. The wholesale price you pay for leather beans has increased by 25 percent. You know that you cannot absorb this increase and that you must pass it on to your customers. However, you are concerned about the consequences of an open price increase. Discuss your price-increase strategies that will address these concerns. 12 (CO3) (PO3, PO4)
 4. a) "Comparative advertisement cannot always create competitive advantage"-analyze the statement. 05 (CO1) (PO1)
 - b) Describe about different forms of headlines that marketers may choose for developing an effective advertisement campaign. 10 (CO3) (PO3, PO4)
 - c) Explain in brief the 7Cs of communication optimization model. 10 (CO3) (PO3)

- 5. a) Describe the psychological aspects of packaging. 10 (CO1)
(PO1)
- b) As a market challenger in telecom industry, how will Robi Axiata Ltd. be able grab more market share from Grameenphone Ltd.? 08 (CO2)
(PO2)
- c) What is customer equity? Describe- how you can perform customer value analysis of a particular organization. 07 (CO2)
(PO2)

- 6. a) Explain the difference among style, fashion, and fad. 5 (CO2)
(PO2)
- b) Describe about various types of decisions associated with product mix. Select a company of your choice and develop product portfolio showing its length, width, depth and consistency. 10 (CO3)
(PO3, PO4)
- c) Explain the statement-“There is no reason for a brand to ever become obsolete.” 10 (CO3)
(PO3, PO4)

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BBA in TM, 1st Sem.

Date: November 30, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : Hum 4161

Time : 3 hours

Course Title : Sociology

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

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- | | | | |
|-------|---|----|--------------------------------|
| 1. a) | Define sociology, social structure and social process. | 05 | (CO1)
(PO1) |
| b) | Describe the role of globalization and modern technology as central concerns of twenty-first century sociology. | 10 | (CO1)
(PO1) |
| c) | Describe the contributions of Emile Durkheim as a classical sociological theorist. | 10 | (CO1)
(PO1) |
| 2. a) | What do mean by norms? Describe about various types of norms with real life examples. | 05 | (CO1)
(PO1) |
| b) | Discuss the characteristics of fascism, democracy and dictatorships. | 12 | (CO2)
(PO1,
PO6) |
| c) | Analyze the statement-“Cultural imperialism and cultural ethnocentrism are the main reasons for cultural conflict.” | 08 | (CO2)
(PO1,
PO6,
PO8) |
| 3. a) | “Ideal type bureaucratic organization exaggerates reality” – Based on the statement describe the characteristics of ideal type bureaucracy. | 10 | (CO2)
(PO1) |
| b) | What do mean by nation? Discuss about various contemporary organizational realities. | 15 | (CO2)
(PO1) |
| 4. a) | What is stereotype? Describe about various types of crimes. | 08 | (CO2)
(PO1) |
| b) | “There are a number of theories to illustrate deviance.” –based on the statement describe various theories of deviance. | 17 | (CO2)
(PO1,
PO6,
PO8) |
| 5. a) | “Bangladesh is a country of religious and ethnic harmony.”-Explain the statement | 12 | (CO3)
(PO1) |
| b) | Describe the various problems that family members face in this modern age and how those problems can be resolved. | 13 | (CO3)
(PO1,
PO6) |
| 6. a) | “Social stratification and social inequality bring unequal treatments and discrimination in every sphere of life, even in education”-analyze the statement. | 10 | (CO3)
(PO1,
PO6) |
| b) | Explain the reasons and implications of income and economic inequality in the context of Bangladesh. | 10 | (CO3)
(PO1,
PO6) |
| c) | Differentiate between (i) multiculturalism and cultural assimilation, and (ii) absolute poverty and relative poverty. | 05 | (CO2)
(PO1) |

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination
Course No. : BTM 4523
Course Title : Logistics and Supply Chain Management

Winter Semester, A. Y. 2021-2022
Time : 3 hours
Full Marks : 150

Answer all 6 (six) questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

-
1. a) Define supply chain management? Briefly describe cycle view and push-pull view of supply chain with example. 10 (CO1) (PO1)
 - b) What is lean Six Sigma approach. How does lean six sigma enhance business excellence as well as supply chain profitability? 10 (CO1) (PO1)
 - c) Briefly discuss about Enterprise Resource Planning (ERP). 5 (CO2) (PO3)
 2. a) Describe lean production system and Bull-whip effects of supply chain with example. How lean production system can reduce bull-whip effects of supply chain? 10 (CO1) (PO1)
 - b) Why location of warehouse is so important in Supply Chain? Briefly illustrate the three strategies of Warehouse Location by Edgar Hoover. 10 (CO2) (PO3)
 - c) Differentiate between sole sourcing and single sourcing of raw material with example. 5 (CO2) (PO3)
 3. a) Define 3rd party logistics. Differentiate between supply chain management and logistics. 8 (CO1) (PO1)
 - b) What do mean by implied demand uncertainty with example. Briefly describe the impact of customer needs and causes on implied demand uncertainty. 12 (CO1) (PO1)
 - c) What is economic manufacturing quantity model of production system? Illustrate with example. 5 (CO3) (PO4)
 4. a) Suppose Coca-Cola manufacturing plant in Mymensingh, Bangladesh is facing decreasing sales volume in the recent months. Besides, future forecasted demand is not growing that much. What might be the probable causes of this situation? Articulate the scenario using Cause and Effect Diagram. 10 (CO3) (PO6)
 - b) Explain how a reduction in lead time can help a supply chain reduce safety inventory without hurting product availability. 8 (CO2) (PO3)

- c) What are the implications of JIT system? Give example. 7 (CO1
PO1)
- 5. a) A firm should add facilities beyond the cost-minimizing point only if managers are confident that the increase in revenues because of better responsiveness is greater than the increase in costs because of the additional facilities. Changing the distribution network design affects supply chain drivers such as inventory, transportation, facilities, sourcing and overall logistics costs. 10 (CO3
PO6)

Now, briefly explain the relationships between the following (Use graphical presentation)

- i. Number of facilities and Inventory cost
 - ii. Number of facilities and transportation cost
 - b) What do you mean inventory. What are the implications of inventory management in terms of responsiveness and efficiency? 8 (CO2
PO3)
 - c) Demonstrate the impacts of desired product availability and uncertainty on safety inventory? 7 (CO2
PO3)
 - 6 a) How do you evaluate and select your supplier? Is weighted criteria evaluation system of supplier selection give you best result all the time? Analyze with example. 10 (CO1
PO1)
 - b) The Las Vegas Corporation purchases a critical component from one of its key suppliers. The operations manager, Dr. Suhaiza Zailani, wants to determine the economic order quantity, along with when to reorder, to ensure the annual inventory cost is minimized. 15 (CO3
PO6)
- The following information was obtained from historical data:

Annual requirements (R)	5 7,200 units
Setup cost (S)	\$100 per order
Holding rate (k)	20%
Unit cost (C)	\$20 per unit
Order lead time (LT)	6 days
Number of days per year	360 days

Calculate the following with graphical presentation:

i. Economic Order Quantity?	iv. Number of orders per year
ii. Total inventory cost	v. Time between orders
iii. Reorder point	

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : HUM 4561

Time : 3 hours

Course Title : Introduction to Psychology

Full Marks : 150

Answer all 6 (six) questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

-
- 1. a) Drawing from your own day-to-day experiences, can you identify the difference between an emotion and a mood? Do emotions and moods feel different, subjectively? 5 (CO1) (PO1)
 - b) Explain the themes and dimension of appraisals for emotion. Do you think of a specific person–environment relationship that has, at one time, led you to experience an emotion, whereas at another time it did not? 10 (CO2) (PO2)
 - c) Describe the classification of emotion regulation strategies. Give an example from your own life in which you deliberately tried to regulate an emotion. How did you do it? 10 (CO2) (PO2)

 - 2. a) What is the basic idea behind Freud's psychodynamic view of personality? Describe the three major parts of the mind, according to Freud's theory. 10 (CO1) (PO1)
 - b) Explain the defense mechanisms with your personal examples. 15 (CO3) (PO3)

 - 3. a) Explain how classical conditioning, operational conditioning, and observational learning are related to personality. 10 (CO1) (PO1)
 - b) Explain Bandura's social learning theory. How does self-schema relate to personality? 10 (CO1) (PO1)
 - c) Think about your own tendency to be friendly or unfriendly. To what extent is the situation important in determining your level of friendliness? What are some of the reinforcements and punishments you have had in your life that might have contributed to your tendency to be friendly or unfriendly? 5 (CO3) (PO3)

 - 4. a) Explain the following terms: universal emotions, non-verbal leakage, hedonic adaptation. 5 (CO1) (PO1)
 - b) Are there likely to be aspects of the emotion process that do not vary by gender or culture? Why or why not? 10 (CO2) (PO2)
 - c) What might be the benefits of the 'type A' behavior pattern for people with this pattern? What might make some cultures more prone to stress-related health problems than others? 10 (CO2) (PO2)

 - 5. a) Explain the characteristics of stressful event. Consider the situations in your own life you find stressful. What are the characteristics of these situations that make them so stressful? 10 (CO1) (PO1)
 - b) Describe the physiological reactions to stress. Do you think some people are especially prone to develop PTSD following a trauma? If so, why might they be more vulnerable? 10 (CO1) (PO1)

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- c) In what way might the child raising environment affect the development of his or her coping strategies? 5 (CO2)
(PO2)
6. From the ad agency psychology book "Cash advertising", describe any 10 of proven ad agency techniques with examples for selling anything to anyone. 25 (CO2)
(PO2)

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BBA in TM, 7th Sem.

Date: December 01, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Course No. : BTM 4701

Course Title : Operations Research

Winter Semester, A. Y. 2021-2022

Time : 3 hours

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) "Operations Research is a holistic and interdisciplinary approach that ensures optimization and efficiency of a particular organization in both artistic and scientific way"-Describe the statement. 12 (CO1, PO1, PO9)
- b) State four assumptions of Markov Analysis. Describe how you can determine EOQ when the shortages or stock-outs are not allowed. 13 (CO1, PO1, PO9)
2. a) Describe about the various elements of the queuing system. 10 (CO2, PO2)
- b) Define equilibrium conditions. Discuss in detail- "The linear programming method can be applied to a variety of situations." 10 (CO2, PO2)
- c) Discuss the difference between maximax and minimax regret criterion. 05 (CO1, PO1, PO9)
3. ABC company Ltd. has three production factory and five distribution centers. The production capacities in the three distribution centers are: Gazipur (280 units), Munshigonj (240 units); and Sunamgonj (160 units). The demands at five distribution centers are: Dhaka (200 units), Tangail (120 units), Magura (240 units), Sirajgonj (160 units), Bogra (160 units). The costs are given in the following table are given in Taka: 25 (CO2, PO2)

Sources	Destination				
	Dhaka	Tangail	Magura	Sirajgonj	Bogra
Gazipur	34	34	198	38	28
Munshigonj	24	28	30	36	38
Sunamgonj	26	38	30	40	36

Requirements:

- I. Using VAM method determine the initial feasible solution.
- II. Check the optimality using MODI method and find the optimal solution
- III. Interpret the result for ABC Company Ltd.
- IV. Test degeneracy problem where it seems relevant.

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4. a) The cost parameters and other factors for a production inventory system of automobile pistons are given below: 10 (CO3)
(PO3,
PO10)

Demand Per year	6,000 units
Unit cost	BDT. 40
Setup cost	BDT. 500
Production rate per year	36,000 units
Holding cost per year	BDT. 8
Shortage cost per year per unit	BDT. 20

Requirements:

- Determine the optimum lot size when stockout is permitted and when stock out is not permitted.
- Determine the number of shortages or the optimum quantity to be backordered.
- Determine the maximum inventory level.
- Determine the total cost of inventory.

- b) Annual demand for an item is 2400 units. Ordering cost is BDT. 100, inventory carrying charge is 24% of the purchase price per year. Purchase prices are: 15 (CO3)
(PO3,
PO10)

Price	Quantity
BDT. 10	$Q_1 < 500$
BDT. 9.25	$500 \leq Q_2 < 750$
BDT. 8.75	$750 \leq Q_3$

Requirement:

Determine the optimum purchase quantity.

5. a) Six jobs are to be performed at three machines A, B, and C. Usually the order in which the machine functions is B-A-C. However, the time taken by each job on the three machines is given below. Each machine can process one job at a time. 15 (CO3)
(PO3,
PO10)

Jobs	Processing time (in minutes) on machines		
	A	B	C
1	30	50	40
2	40	80	80
3	20	90	70
4	10	70	60
5	50	60	20
6	35	75	45

Requirements:

- Determine the optimum sequence for the jobs and total elapsed time.
- Determine the idle time and interpret the result.

- b) A firm makes pastries which it sell at BDT 8 per dozen in special boxes containing one dozen each. The direct cost of pastries for the firm is BDT 4.50 per dozen. T the end of the week the stale pastries are sold off for a lower price of BDT 2.50 per dozen. The overhead expensed attributable to pastry production are BDT. 1.25 per dozen. 10 (CO3)
(PO3,
PO10)

Fresh pastries are sold in special boxes which cost 50 paisa each and the stale pastries are sold wrapped in ordinary paper. The probability distribution of demand per week is as under:

Demand (in dozen)	0	1	2	3	4	5
Probability	0.01	0.14	0.20	0.50	0.10	0.05

Requirements:

Find the optimum production level of pastries per week.

6. a) George Walls, president of Bradley School, is concerned about declining enrollments. Bradley School is a technical college that specializes in training computer programmers and computer operators. Over the years, there has been a lot of competition among Bradley School, International Technology, and Career Academy. The three schools compete in providing education in the areas of programming, computer operations, and basic secretarial skills. To gain a better understanding of which of these schools is emerging as a leader, George decided to conduct a survey. His survey looked at the number of students who transferred from one school to the other during their academic careers. On average, Bradley School was able to retain 65% of those students it originally enrolled. Twenty percent of the students originally enrolled transferred to Career Academy, and 15% transferred to International Technology. Career Academy had the highest retention rate: 90% of its students remained at Career Academy for their full academic program. George estimated that about half the students who left Career Academy went to Bradley School, and the other half went to International Technology. International Technology was able to retain 80% of its students after they enrolled. Ten percent of the originally enrolled students transferred to Career Academy, and the other 10% enrolled in Bradley School. Currently, Bradley School has 40% of the market. Career Academy, a much newer school, has 35% of the market. The remaining market share (25%) consists of students attending International Technology.

20 (CO3)
(PO3,
PO10)

Requirements:

- I. Determine the market share for Bradley for the next year.
- II. Determine the equilibrium market shares for Bradley School, International Technology, and Career Academy.

- b) A road transport authority has one reservation clerk on duty at a time. She handles information of bus schedules and makes reservations. Customers arrive at a rate of 10 per hour and the clerk can service 15 customers on an average per hour. The management is contemplating to install a computer system to handle the information and reservation. This is expected to reduce the service time from 5 to 4 minutes. The additional cost of having the new system works out to taka 50 per day. The cost of goodwill of having a customer to wait is estimated to be 12 paisa per minute spent waiting before being served. Should the company install the computer system? Assume 8 hours working day.

05 (CO3)
(PO3,
PO10)

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination
Course No. : BTM 4703
Course Title : Quality Management

Winter Semester, A. Y. 2021-2022
Time : 3 hours
Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. Skilled Care Pharmacy, located in Mason, Ohio, is a \$25 million privately held regional provider of pharmaceutical products delivered within the long-term care, assisted living, hospice, and group home environments. 25 (CO3)
(PO9)

The following products are included within this service:

- Medications and related billing services
- Medical records
- Information systems
- Continuing education
- Consulting services to include pharmacy, nursing, dietary, and social services

The key customer groups that Skilled Care provides services to include the senior population housed within the extended and long-term care environments. Customers within this sector depend on Skilled Care to provide their daily pharmaceutical needs at a competitive rate. Because of the high-risk factor of its business, these needs require that the right drug be delivered to the right patient at the right time. Moreover, depending on the environment being served, different medication dispensing methods may be used such as vials, multidose packaging, or unit dose boxes. Also, depending on the customer type, specific delivery requirements may be implemented to better serve the end user. Skilled Care's dedication and commitment to continuous quality improvement is evident throughout its internal and external operations.

Skilled Care's employee population includes 176 culturally diverse associates committed to a substance-free workplace. The team includes associates with all levels of educational training representing many of the following disciplines: pharmacists, pharmacy technicians, medical data entry, accountants, billing specialists, nurses, human resources, sales/marketing, purchasing, administrative and administrative assistance, delivery, customer service representatives, and IT certified personnel. At times, multifaceted work teams are formed through cross-functional approaches to complete the task(s) at hand.

Skilled Care's deliverables are generated from its sole 24,000-square foot location in Mason, Ohio. The pharmacy, which is open 24 hours a day, 365 days a year, is secured by a Honeywell alarm system. The company's primary technology rests within its pharmacy software, Rescot. This system enables Skilled Care to process, bill, and generate pertinent data critical to the overall operations of the company. Other partnerships have also been established within Skilled Care's multi-dosed packaging capabilities and wholesaler purchasing interface.

SCP utilizes the Internet for publishing pertinent information and news as well as hosts a web-enabled customer service application called Track-It to report specific information about customer issues for companywide resolution. Advantages of e-commerce include quicker customer service response time for all areas of service including placing the order, pharmacist's review, delivery, and billing of the product.

Skilled Care Pharmacy faces key strategic challenges from the rapidly evolving financial structure of health care, a shortage of licensed pharmacist personnel, the constant evolution of medical practice, and employee retention at all levels. These, as well as future challenges, are always balanced with the responsibility to the stakeholders.

Questions

- a) How might the various definitions of quality apply to Skilled Care?
- b) How are the six quality perspectives reflected in Skilled Care's policy and operations?
- c) Given the nature of Skilled Care's operations and the challenges it faces, discuss how a total quality approach can help the company meet these challenges and improve its ability to provide the services its customers need.

2. Rosie's Pizzeria is a privately held chain of neighborhood pizzerias with over 50 locations in the Midwest that offers full-service dine-in, carryout, and home delivery. Rosie's competes against such national chains as Pizza Hut, Papa John's, and other local restaurants, yet holds a 45 to 50 percent share in its market area. As part of a new strategic planning process, Rosie's identified growth as a key strategic goal. Because the local market was essentially saturated, however, the executive management team worked on strategies for growing the company for three years and produced no tangible results. One of the reasons for the impasse was the lack of sound, factual data. The executive management team had developed three growth strategies, but could not agree on which one to follow because of a lack of a fact-based foundation for the decision.

25 (CO3)
(PO9)

A project team was formed to tackle this issue, and was given complete latitude to

make any recommendation for an Italian/pizzeria concept based on customer needs and expectations. The team consisted of the marketing director (team leader), two executive vice presidents, the director of operations, two franchise owners, an external strategic business partner, and the CEO, who was the team sponsor. The team felt it was necessary to fully understand the voice of the customer. To do this, they ventured out into the community to ask consumers to express their needs and expectations through their experiences. The team completed numerous in-depth, one-on-one interviews with consumers both inside and outside of their current market area to provide examples of dining incidents these individuals had experienced, seeking “the good, the bad, and the ugly.”

Here are some responses from customers of current competitors and potential competitors in other markets.

- *“So there I was, like herded cattle, standing on the hard concrete floor, cold wind blasting my ankles every time the door opened, waiting and waiting for our name to be called.”*
- *“And then I saw a dirty rag being slopped around a dirty table!”*
- *“The manager said, ‘That’s not a gnat, that’s black pepper,’ so I said I know the difference between black pepper and a gnat, black pepper doesn’t have little wings on it!”*
- *“When they’re that age, going to the bathroom is a full-contact sport—they’re reaching and grabbing at everything, and you’re trying to keep them from touching anything because the bathroom is so dirty.”*

Questions

- a) What were the customers actually saying in the four responses given in this case? Translate them into customer requirements using actionable business language.
 - b) In addition to your responses to question (2.a), the voice of the customer process identified the following customer requirements: food and drinks at their proper temperature, fresh food, meeting the unique needs of adult guests as well as families, exceeding service expectations, an easy to read and understand menu, and caring staff. Suggest how these customer requirements can be translated into production and service delivery processes and activities.
3. a) List the key factors that characterize high-performance work. 5 (CO1)
(PO1)
- b) Explain why there is a logical relationship between customer satisfaction and employee satisfaction. 5 (CO2)
(PO2)
- c) Explain the concept of self-determination and how it differs from empowerment. 5 (CO2)
(PO2)
- d) Briefly summarize traditional performance appraisal processes. From a performance excellence perspective, what objections have been raised concerning these processes? Describe some modern practices. 10 (CO2)
(PO2)

4. a) State the four rules for calculating probabilities of events. 5 (CO1)
(PO1)
- b) Explain the multiplication rule of probability. How does independence of events affect the multiplication rule? 5 (CO2)
(PO2)
- c) State the meaning of the central limit theorem in your own words. How important is it to the development and use of statistical quality control techniques? 5 (CO2)
(PO2)
- d) Describe a factorial experiment. Provide some examples of factorial experiments that you might use to solve some type of quality-related problem. 10 (CO2)
(PO2)
5. a) What does the acronym SMART signify for measurement? Why are these characteristics important? 5 (CO1)
(PO1)
- b) Explain the difference between a nonconformance and a nonconforming unit of work. 5 (CO2)
(PO2)
- c) Explain the difference between repeatability and reproducibility using hypothetical examples. 5 (CO2)
(PO2)
- d) What is the difference between accuracy and precision? Draw 4 types of accuracy and precision combinations graphs using normal distributions. 10 (CO2)
(PO2)
6. a) List the key principles of the Six Sigma philosophy. How does it differ from TQM? 5 (CO1)
(PO1)
- b) Explain the concept of Pareto analysis. How is a Pareto distribution created? 5 (CO2)
(PO2)
- c) How did Lean Six Sigma evolve? How does it differ from the original concept of Six Sigma? 5 (CO2)
(PO2)
- d) Why is Lean Six Sigma especially useful in services? Cite some examples. 10 (CO2)
(PO2)

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BBA in TM, 7th Sem.

Date: December 15, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : BTM 4705

Time : 3 hours

Course Title : Entrepreneurship

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

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- | | | | | |
|----|----|--|----|-------------------------|
| 1. | a) | Draw a diagram of the components that constitute the marketing system. | 10 | (CO1)
(PO1) |
| | b) | Describe the steps to prepare a marketing plan. | 15 | (CO1)
(PO1) |
| 2. | a) | What factors cause a business plan to fail? | 10 | (CO1)
(PO1) |
| | b) | Steve Jobs said, "If you really look closely, most overnight successes took a long time." This is true for any business. Most successful businesses start very small, and go through a lot before they come to the attention of the public. A very good example is the seeds sown by Steve Jobs and Steve Wozniak to grow what would eventually become Apple Inc. The startup had no investors and made do with the little funding they could get for a VW microbus and HP calculator. Which type of financing Apple Inc. used to start the business? Describe the advantages of this type of financing. | 15 | (CO3)
(PO4) |
| 3. | a) | Suppose, you want to start your own business and want to understand your target market and current market trends to maintain a competitive edge. Therefore, you need to conduct a market research. What steps would you follow to do the marketing research? Explain. | 10 | (CO2)
(PO2,
PO11) |
| | b) | Think of a company that produces one product and sells it to one group of customers. Suggest the company the four strategies for growth opportunities. | 15 | (CO3)
(PO4) |
| 4. | a) | What are the support networks for an entrepreneur? | 5 | (CO1)
(PO1) |
| | b) | What basic principles can an entrepreneur develop for good time management? Explain. | 10 | (CO1)
(PO1) |
| | c) | Many entrepreneurs find that as the venture grows, they need to change their management style, that is, change the way they deal with employees to overcome the pressures on the management of employees. What are the activities an entrepreneur can follow to overcome these pressures? | 10 | (CO2)
(PO2,
PO11) |

- 5. a) What types of questions can be asked to test an individual's cognitive adaptability? 10 (CO1) (PO1)
- b) Draw a diagram to categorize entrepreneurs based on two dimensions- "an entrepreneur's abilities to successfully make the transition to more professional management practices" and "an entrepreneur's growth aspirations". Explain the categories. 15 (CO2) (PO2, PO11)
- 6. a) How can the entrepreneur know the volume of sales needed to cover total variable and fixed expenses? Explain with the formula. 5 (CO1) (PO1)
- b) Describe about various types of start-ups? 10 (CO1) (PO1)
- c) How can you classify new product from a consumer's viewpoint? Explain with examples. 10 (CO3) (PO4)

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BBA in TM, 7th Sem.

Date: December 7, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Course No. : BTM 4707

Course Title : Technology Management

Winter Semester, A. Y. 2021-2022

Time : 3 hours

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

Question 1 to 3 is based on the Minitel Videotex Terminal case given below. Read it and answer the questions by matching relevant topics from your text book.

Minitel Videotex Terminal

In the 1970s the existing French phone and telecommunications' infrastructure was troubled. Equipment was old and outdated, many rural phone switches were still manual, and rural customers sometimes had to wait as long as four years to get a new phone line installed. Aware that technology, specifically the computer, would be an integral part of improving the French economy, a national study was conducted in 1976 to examine the state of computerization in France. The authors of the report foresaw the potential for the use of the computer as a communication device and the value of a wide area computer network to provide a communication channel with the potential for commerce. The Center for Co-operation with the Economies in Transition (CCET) was designated by the French government to develop a technical device which would fulfill a number of broader goals identified in the report. The devices were initially built by Telic-Alcatel and Matra in France and distributed by France Telecom which also developed and implemented the network which supported the terminal.

When the Minitel was being developed in the late 1970s and early 1980s microcomputers were primitive, difficult to use and extremely limited machines used almost exclusively by hobbyists. Designers of the Minitel were therefore concerned that users would reject any device that looked like a microcomputer. The end result was a very small, relatively light machine which could easily fit on a desk or a small table with plug-and-play connectability. The design was innovative and user-friendly for the time and had an influence on the design of other computers which followed. Gerard Theory, an engineer for France Telecom, has reported that Steve Jobs of Apple bought one of the initial Minitels and "took it to the bits to see how it worked".

Initial tests with Minitel prototypes were conducted in 1980. Users were provided with a Minitel terminal and then surveyed about the use of the machine. The prototypes provided the ability to search and review listings in the French phone book, but users were not impressed and immediately made it clear that they wanted a complete ecosystem including mail-order and games.

The initial design of the Minitel system lacked the ability to send messages (referred to as user chat). The messaging reportedly was added to allow the user to ask for help if they had a problem using a problem ticketing system. A similar help feature was also provided to allow operators of the system to communicate directly with users in real-time, a real-time messaging capability. A user of the early system reportedly "cracked" this feature and used it to communicate directly with other Minitel users. Developers of the system saw this activity, learned that it was popular and made it a legitimate and permanent part of the system.

This user chat feature proved to be an extremely popular feature in the early testing of the Minitel. Developers found that adding the feature doubled the number of hours users were on the system. Administrators of the early system, however, were not impressed. They viewed the Minitel primarily as a machine to replace the phone directory. The process of creating content and information services was

decentralized, however, so if businesses or individuals sought to create a message or information service, they had the ability to do that. Upon its release, the Minitel message services quickly became a large and profitable service on the Minitel network.

The scope and number of services increased dramatically as the number of users on the network increased. In 1985, three years after the start of general public distribution of the terminal, there were 1,899 services on the Minitel network. In 1986, there were over 4,000, over a 200% increase. Growth in services continued at a rate of over 100% through 1992.

Services on the Minitel included what was initially considered the main impetus for the Minitel, a telephone directory lookup with a basic search interface which allowed users to search for services on the network. Services included general business applications, including mail order (also referred to as catalog ordering) services, a variety of games, banking services, recruitment and training, tourism/travel agents, and transportation related services.

Revenue from Minitel services was collected and distributed using a kiosk system. France Telecom would collect revenue based on the number of minutes of user connect time to a Minitel service. The service providers would then be paid as a function of the billing for the connection time for their service.

In 1982 distribution of the Minitel terminal began with distribution of 120,000 Minitels in France. By 1987, diffusion was more pronounced with 3 million Minitels distributed. Growth in the number of terminals continued to rise at about a 150% rate through 1992 and peaked in 1997 with approximately 6.6 million terminals. The number of Minitel services is reported to have been as high as 20,000 in 1992 and to have generated 50,000 jobs. There was no successful effort to deploy the Minitel outside of France.

France Telecom was privatized in 1998. With the development and growth of the Internet and the World Wide Web in the mid-1990s, France Telecom made a decision to position the Minitel as a service within the Internet, not as competition to the Internet. The protocols and standards of the Internet were distinct from those of the Minitel so integration of the Minitel into the Internet or Web was not feasible, and the functions provided over the Internet (email, messaging, Web pages, rich graphics, and audio and video streaming) were superior to what could be provided with the Minitel terminal which was limited by a character graphic terminal and slow transmission speeds on its network.

Though they were initially slow to move to the Internet in the mid-1990s, by the early part of the 2000's the French public had begun transitioning to the Internet and Minitel usage decreased dramatically. By 2012 fewer than 400, 000 terminals were still in use in France and revenue from the system was only 30 million Euros. The system was shut down by France Telecom in 2012.

- 1. a) Why do you think innovation was required in the French Telecom in the 70s? Do you think *The Eight Stages of Technological Innovation* was followed in innovating microcomputers by Minitel? 13 (CO1) (PO6)
- b) Explain *The Innovation Chain Equation* using information from the Minitel case. 12 (CO3) (PO6)
- 2. a) Using *Technology Forecasting*, explain the rise and fall of Minitel. 13 (CO3) (PO6)
- b) Do you think *Technology Audit* could have saved Minitel from its ultimate demise? 12 (CO3) (PO6)
- 3. a) There is a mention of *Technology transfer* in the above case. Identify it. Additionally, explain other methods by which Minitel technology could have been transferred. 13 (CO4) (PO4)
- b) Discuss the aspects of *Technology and Market Interaction* in the development of Minitel minicomputers. 12 (CO2) (PO6)

Question 4 to 6 is based on the Apple iPhone case given below. Read it and answer the questions by matching relevant topics from your text book.

Apple iPhone

In 2005 Apple's iPod, a portable digital music player, sold more than 20 million units and represented 45% of Apple's revenues. Apple dominated the digital music player market but executives at the company knew that a market saturation point was approaching and their revenues would be impacted. The cell phone market at the time was extremely strong. In 2005, 825 million cell phones were sold and most sales were for low-end devices. Executives at Apple believed there was a tremendous market potential for the type of high-end, stylish device Apple produced.

With such a huge market potential, Apple's executive team decided to move ahead with the development of a mobile phone. Steve Jobs who led Apple at the time felt that having a single company control the development process would produce more elegant, cohesive designs and a better user experience. A team of up to 1,000 employees would work on the project dubbed "project purple" for a period of 30 months for a reported cost of \$150 million.

The iPhone design team looked at the user interface (UI) and applications on existing mobile phones and saw a sloppy, difficult UI and applications that either did not work or would refuse to interact with other applications on devices. The iPod wheel had been used with some success across the entire iPod line of devices, but using it to dial a phone proved much too difficult. Some other type of interface was needed. The team ultimately settled on the use of a multitouch interface (a touchscreen supporting multiple simultaneous points of contact) for the UI for the Apple mobile phone.

Mobile phones at the time had a keyboard and other special function keys. A few phones such as the LG Prada even used a multitouch interface, but these were uncommon and there was uncertainty over how such phones would be received by users. Apple's development team was aware of the development of a tablet computer at Microsoft which used a stylus and a multi-touch device interface. Steve Jobs was against the use of a stylus, a prominent and difficult feature of mobile devices previously released by Apple and others in the late 1990s. Jobs was also against the use of a keyboard on the mobile device. Jobs felt Apple had been successful with the iPods because of the simple, minimalistic design. Special function keys and slide out keyboards would not only take up space on the device, but they would also make the device more complicated. The development team decided the mobile phone would use a multitouch interface with a capacitive touchscreen for the UI and nothing else. To speed development of their project, Apple acquired a company named FingerWorks which had been working on a multi-touch tablet. With that purchase Apple acquired patents on various multi-touch interactions such as the "pinch and slide."

There was discussion of using plastic for the face of the device, but concern over the durability and feel of a plastic screen led to a decision to use glass. A Chinese company had been making very sturdy glass for some of Apple's retail stores, but a board member pointed Steve Jobs in the direction of Corning, a U.S. company. Corning had developed a very strong type of glass in the 1960s referred to as "gorilla glass" but it had never been produced in great quantities. Apple decided to use gorilla glass and convinced Corning to speed up production of the material in time for their product launch.

In 2007 after 2½ years of effort, Apple released the iPhone. At a retail cost of approximately \$500 and lacking a keyboard, it was dismissed by some industry experts as too expensive and lacking the functionality a serious mobile phone user needed. It was also lacking a very important component — useful applications.

Apple's approach to developing products had previously emphasized tight control over the entire platform and ultimately some significant portion of the value chain (supply chain). For computers, this meant developing both the hardware and the software. The software included the operating system and the applications which ran on the operating system. Writing an operating system for computer hardware is a logical step for development of a platform, and the company developing the hardware generally has the

expertise to develop the corresponding operating system. Apple's operating systems from the early 2000s have run OS/X, based on the Mach/BSD kernel, a Unix operating system variant. The iPhone runs a variant of OS/X known as iPhone OS or iOS. But many within Apple felt that developing applications for many functions across a broad horizontal market was beyond the scope of what they could accomplish.

Steve Jobs initially resisted the idea of allowing third party developers to create applications for the iPhone. He wanted to carefully control the user experience and there was concern that poorly written applications running on a device with limited capabilities could severely impact the operation of the device. He wanted to use a "walled garden approach" where applications running on the device would be carefully chosen and tested.

Members of the Apple board felt otherwise. They felt that developers with the expertise should develop a host of applications for the iPhone and that this required a somewhat open approach to development for the platform, the opposite of the walled garden approach.

The result was an approach that Jobs felt provided the best of both worlds. Apple would allow third party developers but would choose which applications would be allowed to run on the platform and would sell them to the user through the iTunes store in a way similar to how music and videos were being sold, a "kiosk" approach where Apple would collect the revenue and redistribute it to the vendors. This was initially known as the AppleStore for iPhone.

- 4. Investigate whether or not Apple's *Business Strategy* was aligned with its *Technology Strategy*? 25 (CO5) (PO11)
- 5. Do you think *Acquisition of Technology* and *Exploitation of Technology* was done efficiently by Apple? Using examples from the case justify your answer. 25 (CO5) (PO11)
- 6. Discuss, using examples from Apple iPhone case, the importance and impact of the *technology types as to its relative standing to a product*. 25 (CO5) (PO11)

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination
Course No. : BTM 4721
Course Title : Corporate Finance

Winter Semester, A. Y. 2021-2022
Time : 3 hours
Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. a) Assume that ABC Corporation has the following capital structure: 40% debt, 10% preferred stock, and 50% common stock, or equity. Also assume that interest expense is tax deductible. ABC Corporation wishes to maintain these proportions as it raises new funds. It's before-tax cost of debt is 8%, its cost of preferred stock is 10%, and its cost of equity is 15%. If the company's marginal tax rate is 40%, what is ABC's weighted average cost of capital? 05 (CO3) (PO3)
- b) Valence Industries issues a bond to finance a new project. It offers a 10-year, \$1,000 face value, 5% semi-annual coupon bond. Upon issue, the bond sells at \$1,025. What is Valence's before-tax cost of debt? If Valence's marginal tax rate is 35%, what is Valence's after-tax cost of debt? 05 (CO3) (PO3)
- c) Exxon Mobil Corporation, BP p.l.c., and Total S.A. are three "super major" integrated oil and gas companies headquartered, respectively, in the United States, the United Kingdom, and France. An analyst estimates that the market risk premium in the United States, the United Kingdom, and the eurozone are, respectively, 4.4%, 5.5%, and 5.9%. Other information is summarized in table. 10 (CO3) (PO3)

Company	Beta	Estimated market risk premium	Risk free rate
Exxon Mobil	0.9	4.4	2.9
BP p.l.c	0.78	5.5	2.1
Total S.A.	0.71	5.9	1.8

Using the capital asset pricing model, calculate the cost of equity for:

- i. Exxon Mobil
- ii. BP p.l.c.
- iii. Total S.A.

- d) Betty Lau is an analyst trying to estimate the cost of equity for Singapore Telecommunications Limited. She begins by running an ordinary least squares regression to estimate the beta. Her estimated value is 0.4, which she believes needs adjustment. What is the adjusted beta value she should use in her analysis by using Blume method? And explain the reasons of using adjusted beta. 05 (CO3) (PO3)

2. a) Georg Schrempp is the CFO of Bayern Chemicals, a German manufacturer of industrial, commercial, and consumer chemical products. Bayern Chemicals is privately owned, and its shares are not listed on an exchange. The CFO has appointed Markus Meier, CFA, a third-party valuator, to perform a stand-alone valuation of Bayern Chemicals. Meier has access to the following information to calculate Bayern Chemicals weighted average cost of capital: 20 (CO3)
(PO3)

- The nominal risk-free rate, represented by the yield on the long-term 10- year German bond, was 5.5%.
- The average long-term historical equity risk premium in Germany is assumed to be 5.7%.
- Bayern Chemicals' corporate tax rate is 38%.
- Bayern Chemicals' target debt-to-equity ratio is 0.70 and its capital structure has 41% debt and 69% equity.
- Bayern Chemicals' after-tax cost of debt is 6.75%.
- Table supplies additional information on comparable for Bayern Chemicals.

Comparable Companies	Country	Tax Rate (%)	Market Capitalization in Millions	Net Debt in Millions	D/E	Beta
British Chemicals	United Kingdom	30	4500	6000	1.33	1.45
Compagine	France	30.3	9300	8700	0.94	0.75
Rotterdam	Netherlands	30.5	7000	7900	1.13	1.05
Average					1.13	1.08

Based only on the information given, calculate Bayern Chemicals' WACC.

b) The following data provide the price to sales multiple for most of major automobile manufactures as at December 2021: 05 (CO3)
(PO3)

Company	P/S
Ford Motors	0.28
General Motors	0.33
Nissan	0.36
Honda	0.38
Tata	0.46

Based on the data presented, which stock appears to be undervalued when compared with the others?

3. a) Explain MM hypothesis proposition I and II (with and without taxes). What problem may a company face if they use more debt than the optimal capital structure? 15 (CO2)
(PO2)

b) Global auto sold 7 million passenger cars in 2020. The average price per car was €28,000, fixed costs associated with passenger car production total €15 billion per year, and variable costs per car are €20,500. What is the degree of operating leverage of Global Auto? Global Auto also employs debt financing. If Global can borrow at 8 percent, the interest cost is €18 billion. What is the degree of financial leverage of Global Auto? 10 (CO3)
(PO3)

(549)

4. a) Following table presents data for six major mining companies. Based only on the information in table, which two mining companies seem to be the most undervalued? 5 (CO2)
(PO2)

Company	EV	Operating Income	EV/OI
BHP	22483	3377	6.66
Rio	119712.3	11753	10.19
Anglo American	21549	2424	8.89
Norilsk Nickel	32870	2562	12.83
Coal India	21652	1382	15.67
Barrick Gold	82051	6366	12.89

- b) The current dividend, D_0 , is \$5.00. Growth is expected to be 10 percent a year for three years and then 5 percent thereafter. The required rate of return is 13 percent. Estimate the intrinsic value. 10 (CO3)
(PO3)
- c) For the next three years, the annual dividends of a stock are expected to be €2.00, €2.10, and €2.20. The stock price is expected to be €30.00 at the end of three years. If the required rate of return on the shares is 9 percent, what is the estimated value of a share? 10 (CO3)
(PO3)

5. a) 5 (CO3)
(PO3)

Balance Sheet for 2021	
Cash	5000
Accounts receivable	15000
Inventories	30000
Net fixed assets	50000
Total assets	100000
Accounts payable	3000
Notes payable	17000
Term loans	25000
Common equity	55000
Total Liabilities and owner's equity	100000

Using an asset-based valuation approach, estimate value per share from adjusted book values. Assume that the market value of accounts receivable is as reported of book value, market values of inventories is 105 percent of reported book value, the market value of net fixed assets is 120 percent of reported book value, and the reported book values of liabilities reflect their market values. Number of equity share is 1000.

- b) Explain factors that affect a market's efficiency. Contrast weak-form, semi-strong-form, and strong-form market efficiency. 10 (CO2)
(PO2)
- c) Explain the implications of each form of market efficiency for fundamental analysis, technical analysis, and the choice between active and passive portfolio management. 10 (CO2)
(PO2)
6. a) Describe the elements that should be covered in a company analysis. 7.5 (CO1)
(PO1)
- b) Describe macroeconomic, technological, governmental, and social influences on industry growth, profitability, and risk. 7.5 (CO1)
(PO1)
- c) Explain the effects of barriers to entry, industry concentration, industry capacity on pricing, power and price competition. 10 (CO2)
(PO2)

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BSc Engg. (CSE), 7th Sem.

Date: December 14, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : Hum 4741

Time : 3 hours

Course Title : Business Communication and Law

Full Marks : 100

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question are written in the right margin.

-
1. a) What assumptions are present in transactional model of communication? Find an example of a model of communication in your workplace and provide an example for all eight components. 5
 - b) "Communication is a two-way process of exchanging ideas or information between two human beings". Explain this statement with the help of a diagram. 5
 - c) "Two most important positions in any business message are the opening and closing paragraph". Explain with example. 6.67
 2. a) Imagine, you are the manager of a company. Write an e-mail requesting an employee to gather specific information on a topic. Give directions and due date(s). 8
 - b) Draw a sketch / format of a business letter and write a detailed note on the appearance of business letter. 8.67
 3. a) Write a report on a trend in business that you've observed, and highlight the main finding. For example, from the rising cost of textbooks to the online approach to course content, textbooks are a significant issue for students. Draw from your experience as you bring together sources of information to illustrate the trend. 8
 - b) Find a job announcement with specific duties that represents a job that you will be prepared for upon graduation. Choose a type of résumé and prepare your résumé to submit to the employer. 8.67
 4. a) If you are given a piece of writing (e.g.; biology, or an excerpt on fashion design) that contains terms you are unfamiliar with and terms that may be considered jargon. How does the writer help you understand the meaning of those terms? Could the writer make them easier to understand? Explain. 8
 - b) Explain different strategies for improving verbal communication. How will you assess the audience, choose an appropriate tone, and check for understanding in an oral or written presentation? 8.67

- 5. a) How would you describe yourself as a public speaker? Now, five, and ten years ago? Is your description the same or does it change across time? Will business communication text and course make a difference in what you might write for the category "one year from today?" 8
- b) When you watch a film with friends, make a point of talking about it afterward and listen to how each person perceived aspects of the film and ask them each to describe it in ten words or less, do they use the same words as you do or do they present differently? Do you catch all the points, frames of reference, values, or do you miss any information? What does it say about perception? 8.67
- 6. a) Suppose, you have visited a business Web site that contains an "About Us" page. What kind of information does it give you about the company? 8
- b) What are the qualities of good business writing? How would you qualify a writing as "good"? Discuss your opinion. 8.65

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BBA in TM, 7th Sem.

Date: December 5, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : BTM 4749

Time : 3 hours

Course Title : Negotiation and Conflict Management

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

-
1. a) Explain the following terms: 10 (CO2)
 - i. BATNA, WATNA, Zone of possible agreement. (PO2)
 - ii. Value claiming and value creation.
 - b) Briefly explain the tactics of dealing with others who have more power in negotiation. 10 (CO3)
(PO6)
 - c) What is dilemma of honesty and dilemma of trust. 5 (CO2)
(PO2)
 2. a) "Maintaining and managing conflict—or even creating conflict—are appropriate when you want to create constructive results such as increased creativity, more diversity, higher productivity, or less groupthink." 12 (CO2)
(PO2)
 - i. Do you agree with this statement? Why or why not? Critically analyze your perception in light of integrative negotiation strategy.
 - ii. How depersonalize the issue/ interest can make more sense in conflict resolution and creating more constructive outcomes for both party?
 - b) What is opening offer in negotiation? How does exaggerated opening offer can create advantageous and disadvantageous position in a negotiation? Analyze. 8 (CO3)
(PO4)
 - c) What are the common mistakes in negotiation? 5 (CO3)
(PO7)
 3. a) How do common ground and creating some additional common grounds in negotiation accelerate the chance of persuading other party? Briefly illustrate with example. 7 (CO2)
(PO2)
 - b) Briefly explain the concept of concession making to reach a settlement point in negotiation process with an example. 8 (CO2)
(PO2)
 - c) Briefly explain the following concepts of cognitive bias and how to deal with these following biases in negotiation: 10 (CO3)
(PO7)
 - i. Having a mythical belief that the issues under negotiation are all fixed-pie.
 - ii. Endowment effect bias in negotiation.

- | | | | |
|----|--|----|------------------|
| 4. | a) Identify the techniques of solving groupthink problem which will lead to greater team productivity in negotiation. | 8 | (CO3)
(PO7) |
| | b) What are the four approaches to understand how culture affects negotiation? Illustrate with example. | 9 | (CO3)
(PO3) |
| | c) What is the power of best alternative to a negotiated agreement (BATNA)? | 8 | (CO3)
(PO6) |
| 5. | a) Analyze the following statements: | 8 | (CO3)
(PO9) |
| | i. Never negotiate with someone who has no authority to commit. | | |
| | ii. It is a mistake to jump at the very first offer from the other side in a negotiation. | | |
| | b) What are the six categories of ethically ambiguous tactics in negotiation? | 10 | (CO3)
(PO6) |
| | c) Is it all right to use ethically ambiguous tactics? Why do some negotiators choose to use tactics that may be unethical? | 7 | (CO3)
(PO9) |
| 6. | a) Argument alone is unlikely to persuade. In persuading others, it is necessary to lead them with information demonstrating that the result is beneficial for all parties. At times, persuasion is not possible. Understanding the psychological processes discussed thus far should help you understand that there is a big difference between mere argument and communication that persuades. | 18 | (CO3)
(PO6,7) |
| | Answer the following questions: | | |
| | i. What do you mean by latitude of acceptance and latitude of rejection? | | |
| | ii. Starting with the least beneficial item or starting with negative aspects is likely to cast a negative cloud over the person's perception. Why? | | |
| | iii. When persuasion is unlikely in a negotiation? Whether it is considered as a failure of negotiation? Critically analyze. | | |
| | b) Differentiate between functional and dysfunctional conflict in negotiation. | 7 | (CO2)
(PO2) |

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BBA in TM, 7th Sem.

Date: December 5, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination
Course No. : BTM 4763
Course Title : System Analysis

Winter Semester, A. Y. 2021-2022
Time : 3 hours
Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

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1. a) An attack is a hostile act that targets the system or company. Summarize the characteristics of the different categories of attackers and list, with examples, some common types of attacks. **20** (CO3)
(PO6)
- b) What are two commonly used encryption techniques? Describe with examples **5** (CO1)
(PO1)
2. a) Using a flowchart, design the typical process of handling maintenance requests. **15** (CO3)
(PO10)
- b) While estimating the total cost of ownership of a system, why is it important to consider maintenance cost? How should different types of Maintenance be planned throughout the lifetime of a system? What would be the approximate economic impact of these maintenances on TCO? **10** (CO3)
(PO10)
3. a) Describe seven principles for a user-centered interface design. **15** (CO1)
(PO1)
- b) Propose four guidelines for reducing input volume. **10** (CO3)
(PO6)
4. a) Suppose you tried to explain the concept of throwaway prototyping to a manager, and she responded by asking, "So, is throwaway prototyping a waste of time and money?" How would you reply? **10** (CO1)
(PO1)
- b) Top Sail Realty is one of the largest time-sharing and rental brokers for vacation cottages along the North Carolina coast. After 10 successful years of matching up owners and renters, Top Sail decided to acquire a computerized reservation and booking system. Top Sail's owner read an article about software packages, and she asked you, as an IT consultant, for your advice. **15** (CO3)
(PO3)
- i. Should top sail implement a web-based system? Why or why not?
- ii. What software acquisition options are available to Top Sail?
- iii. Do you consider the reservations system to be a horizontal or a vertical application? Give reasons for your answer.
- iv. When you evaluate software packages, what steps will you follow?
5. a) Contrast between online processing and batch processing and provide an example of each type. **13** (CO2)
(PO2)
- b) Describe client/server architecture, including fat and thin clients, client/server tiers, and middleware. **12** (CO1)
(PO1)

6. a) The New Branch School District operates a fleet of 40 buses that serve approximately 1,000 students in grades K–12. The bus operation involves 30 regular routes, plus special routes for activities, athletic events, and summer sessions. The district employs 12 full-time drivers and 25 to 30 part-time drivers. A dispatcher coordinates the staffing routes, and relays messages to drivers regarding students and parents who call about pickup and drop-off arrangements. 17 (CO3)
(PO2)
- i. Identify possible actors and use cases involved in school bus operations.
 - ii. Create a use case diagram for the school bus system.
 - iii. Create a sequence diagram for the use case you selected.
 - iv. Create a state transition diagram that describes typical student states and how they change based on specific actions and events.
- b) Define and explain, with examples, encapsulation and polymorphism. 8 (CO2)
(PO2)

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BBA in TM, 7th Sem.

Date: December 09, 2022

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination

Winter Semester, A. Y. 2021-2022

Course No. : Hum 4763

Time : 3 hours

Course Title : Science, Technology and Islam

Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

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- | | | | |
|-------|--|----|-------------------------|
| 1. a) | Discuss Scientific indications in the Holy Quran in Geology. | 10 | (CO2)
(PO10) |
| b) | Write Scientific indications in the Holy Quran in Astronomy | 15 | (CO2)
(PO10) |
| 2. a) | Describe the Muslim contribution to Chemistry. Discuss the story of Mohammad Bin Musa Al- Khawarizmi. | 15 | (CO3)
(PO7) |
| b) | Who is the Father of Islamic Alchemy? Write his contributions to the modern world. | 10 | (CO3)
(PO7) |
| 3. a) | Illustrate Muslim contributions to Engineering. Who is considered the Father of modern Engineering? Write his contributions to the modern world. | 10 | (CO3)
(PO6,
PO7) |
| b) | Who designed the first flying apparatus? Write the names of few translated books on Engineering. | 15 | (CO3)
(PO6,
PO7) |
| 4. a) | Describe the contributions of five important Muslim Scholars on Medicine. | 15 | (CO4)
(PO8) |
| b) | Write the name of the Muslim Contributors and their contributions to pharmaceutical Sciences. | 10 | (CO4)
(PO8) |
| 5. a) | Discuss Muslim contributions to Mathematics, especially in eleventh century. | 15 | (CO4)
(PO6) |
| b) | Explain the impact of Islamic Civilization on Western Civilization. | 10 | (CO4)
(PO6) |
| 6. a) | What is Bayt Al-Hikma? Describe the role of Abbasids on the orbit of Sciences and the development of various disciplines. | 15 | (CO5)
(PO8,
PO12) |
| b) | Who are Banu Musa's brothers? Write their contributions to various Branches of knowledge. | 10 | (CO5)
(PO8,
PO12) |