

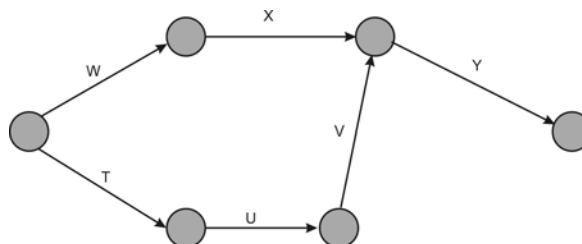
MOCK TEST PAPER – 2
FINAL COURSE: GROUP – II
PAPER – 5: ADVANCED MANAGEMENT ACCOUNTING

Question No. 1 is compulsory
*Answer any **five** questions from the remaining **six** questions*

Time Allowed – 3 Hours

Maximum Marks – 100

1. (a) The following network and table are presented to you:



Activity	Normal Duration (Days)	Normal Cost (Rs.)	Crash Duration (Days)	Crash Cost (Rs.)
T	8	2,250	6	2,750
U	16	1,875	11	2,750
V	14	2,250	9	3,000
W	12	3,000	9	3,750
X	15	1,000	14	2,500
Y	10	2,500	8	2,860

Required

Perform step by step crashing and reduce the project duration by 11 days while minimizing the crashing cost. What would be the cost of the crashing exercise? **(5 Marks)**

- (b) “Grand Nikko” is an exclusive resort located in a famous Island of Pacific Ocean that vows to isolate its guests from the hustle and bustle of everyday life. Its leading principle is “all contemporary amenity wrapped in old-world charisma”. Each of the resort’s 18 villas has a separate theme like Castle, Majestic, Ambassador, Royal Chateau, Coconut, Lemon, Balinese etc. and guests often ask for a specific villa when they make reservations. Villas are Ideal for families or friends travelling together and these villas feature luxurious accommodation spanning two floors. Since it is located within a 300-acre estate on white sand beach, the resort offers its guests a wide variety of outdoor activities such as horseback riding, hiking, diving, snorkeling, sailing, golf and so on. Guests could also while away the day relaxing in the pool and availing themselves of the resort’s world-famous spa “Nikko Spa”. The dining room, which only has three tables for the public, is acceptable proud of its 4-star rating.

Required

Develop a balanced scorecard for “Grand Nikko”. It is sufficient to give two measures in each of the four perspectives. **(5 Marks)**

- (c) The standard cost of a certain chemical mixture is as under:

40% of Material A @ Rs.30 per kg

60% of Material B @ Rs. 40 per kg

A standard loss of 10% of input is expected in production. The following actual cost data is given for the period.

350 kg Material – A at a cost of Rs. 25

400 kg Material – B at a cost of Rs. 45

Actual weight produced is 630 kg.

Required

Calculate the Mix and Yield variances raw material wise and indicate whether they are favorable (F) or adverse (A). **(5 Marks)**

- (d) Napier Company uses a backflush costing system with three trigger points:

- Purchase of Direct Materials
- Completion of Good Finished Units of Product
- Sales of Finished Goods

You are provided with the following information for July 2020.

Direct Materials Purchased	Rs. 2,64,000	Conversion Costs Allocated	Rs. 1,20,000
Direct Materials Used	Rs. 2,55,000	Costs Transferred to Finished Goods	Rs. 3,75,000
Conversion Costs Incurred	Rs. 1,26,600	Cost of Goods Sold	Rs. 3,57,000

Required

- (i) Prepared journal entries for July (without disposing of under allocated/ over allocated conversion costs).
 - (ii) Under an ideal JIT production system, how would the amounts in your journal entries change from the journal entries in requirement (i)? **(5 Marks)**
2. (a) CSR Ltd. manufactures four products A-1, B-2, C-3 and D-4 in Gurugram and one product F-1 in Faridabad. CSR Ltd. operates under Just-in-time (JIT) principle and does not hold any inventory of either finished goods or raw materials.

Company has entered into an agreement with M Ltd. to supply 10,000 units per month of each product produced from Gurugram unit at a contracted price. CSR Ltd. is bound to supply these contracted units to M Ltd. without any fail. Following are the details related with non contracted units of Gurugram unit.

(Amount in Rs.)

	A-1	B-2	C-3	D-4
Selling Price per unit	360.00	285.00	290.00	210.00
Direct Labour @ Rs. 45 per hour	112.50	67.50	135.00	67.50
Direct Material M-1 @ Rs. 50 per kg.	50.00	100.00	---	75.00
Direct Material M-2 @ Rs. 30 per litre.	90.00	45.00	60.00	---

Variable Overhead (varies with labour hrs)	12.50	7.50	15.00	7.50
Variable Overhead (varies with machine hrs)	9.00	12.00	9.00	15.00
Total Variable Cost	274.00	232.00	219.00	165.00
Machine Hours per unit	3 hrs	4 hrs	3 hrs	5 hrs
Maximum Demand per month (units)	90,000	95,000	80,000	75,000

The products manufactured in Gurugram unit use direct material M-1 and M-2 but product F-1 produced in Faridabad unit is made by a distinct raw material Z. Material Z is purchased from the outside market at Rs. 200.00 per unit. One unit of F-1 requires one unit of material Z.

Material Z can also be manufactured at Gurugram unit but for this 2 hours of direct labour, 3 hours of machine time and 2.5 litres of material M-2 will be required.

The Purchase manager has reported to the production manager that material M-1 and M-2 are in short supply in the market and only 6,50,000 Kg. of M-1 and 6,00,000 litre of M-2 can be purchased in a month.

Required

- (i) Calculate whether CSR Ltd. should manufacture material Z in Gurugram unit or continue to purchase it from the market and manufacture it in Faridabad unit.
 - (ii) Calculate the optimum monthly usage of Gurugram unit's available resources and make decision accordingly.
 - (iii) Calculate the purchase price of material Z at which your decision in (i) can be sustained. **(11 Marks)**
- (b) Sandy Lee is a news reporter and feature writer for an economic daily. Her assignment is to develop a feature article on 'Product Life-Cycle Costing', including interviews with the Chief Financial Officers (CFO) and Operating Managers. Sandy Lee has been given a liberal budget for travel so as to research into company's history, operations, and market analysis for the firm she selects for the article.

Required

Sandy Lee has asked you to recommend industries and firms that would be good candidates for the article. What would you advice? Explain your recommendations. **(5 Marks)**

3. (a) Generation 2050 Technologies Ltd. develops cutting-edge innovations that are powering the next revolution in mobility and has nine tablet smart phone models currently in the market whose previous year financial data is given below:

Model	Sales (Rs.'000)	Profit-Volume (PV) Ratio
Tab - A001	5,100	3.53%
Tab - B002	3,000	23.00%
Tab - C003	2,100	14.29%
Tab - D004	1,800	14.17%
Tab - E005	1,050	41.43%
Tab - F006	750	26.00%
Tab - G007	450	26.67%
Tab - H008	225	6.67%
Tab - I009	75	60.00%

Required

- (i) Using the financial data, carry out a Pareto analysis (80/20 rule) of Sales and Contribution.
- (ii) Discuss your findings with appropriate recommendations. **(8 Marks)**
- (b) The following information is given relating to the simplex method of a linear program with the usual notations.

Objective function:

$$Z = x_1 + 5x_2 \rightarrow (1)$$

Subject to:

$$6x_1 + 8x_2 \leq 12 \rightarrow (2)$$

$$5x_1 + 15x_2 \geq 10 \rightarrow (3)$$

$$x_1, x_2 \geq 10 \rightarrow (4)$$

Let s_1 be the variable introduced to restate (2) as an equality and let s_2 and A_2 be variables to restate (3) as an equality.

Required

If the objective is to maximize Z,

- (i) What will be the coefficients of s_1 , s_2 and A_2 in equation (1) and (3) restated as equality?
- (ii) Identify the slack and surplus variables.
- (iii) Which variables will form part of the initial solution? Why?
- (iv) If the objective is to minimize Z what will be your answer to (i) above? **(8 Marks)**
4. (a) Kanga Ltd. furnishes you the following information relating to four varieties of products manufactured by them during the year 2020.

	A	B	C	D
Output (units)	32,000	20,000	16,000	24,000
Rs. Per Unit				
Selling Price	300	600	750	500
Direct Materials	60	140	160	60
Direct Wages	50	80	150	60
Variable Overhead	100	160	300	120
Fixed Overhead	100	160	300	120

Anticipation of the company for the Budget for the year 2021 is as follows:

- (a) Expected increments are as follows in pursuant of Inflation:
- (i) Direct Material.....10%
- (ii) Direct Wages.....20%
- (iii) Variable Overheads.....20%
- (b) Fixed Overhead will increase by Rs.1,60,000
- (c) The market will take up an increase of 10% in the price, if Volume of Sales in quantities is maintained at the same level as in the year 2020

In order to fight inflation the Marketing Team puts forth the following proposals:

- (a) Product A: The price of product A will be further increased by 20% (making in all a total increase of 30%) resulting thereby in a reduction in the volume of Sales by 10%
- (b) Product B: Substitution on direct materials of product B by cheaper materials will bring about a reduction in direct material cost by Rs. 30 per unit. This will reduce the sales volume in units by 10%.
- (c) Product C: An allowance of special sales commission of 4% on the increased price on all quantities sold will increase the sales volume by 20%
- (d) Product D: A reduction in selling price by 10% on the price of 2020 will yield an increase in sales volume by 30%

The direct labour hour rate in 2020 is Rs. 4.00 per hour and the number of direct labour hours cannot be increased in the year 2021.

Required

- (i) Present a statement showing Profitability for the year 2020.
 - (ii) Prepare a budget for the year 2021 after taking into consideration the effects of inflation in costs and prices only.
 - (iii) Evaluate the proposals put forth by the Marketing Team and set an optimum product mix after taking into consideration the inflation in costs and prices but subject to the constraint of available labour hours. **(12 Marks)**
- (b) In a transportation problem for cost minimization, there are 4 rows indicating quantities demanded and this totals up to 1,200 units. There are 4 columns giving quantities supplied. This totals up to 1,400 units. What is the condition for a solution to be degenerate?

(4 Marks)

5. (a) The chief officer at manufacturing plant of Boeing 777-200LR aircraft observed that workers performing manufacturing operations at the plant showed signs of a definite learning pattern. He noted that most aircraft manufacturing tasks experienced what he called an 80 percent learning rate, meaning that workers need 20 percent fewer hours to make a part each time their cumulative experience making that part doubled. Thus, if the first part took 100 minutes, the second would require 80 minutes, the fourth would require 64 minutes, and so on. Accordingly, he requires calculating the time required for parts 41 to 60. [Note: learning coefficient is -0.322 for learning rate of 80%, $\log 2 = 0.30103$, $\log 3 = 0.47712$, $\log 5 = 0.69897$, Antilog of 1.484 = 30.48, Antilog of 1.4274 = 26.75] **(8 Marks)**

- (b) QTA specializes in flights between city 'D' to city 'B'. It books passengers on Darwin Airlines at Rs. 9,000 per round-trip ticket. Until last month, Darwin paid QTA a commission of 10% of the ticket price paid by each passenger. This commission was QTA's only source of revenues. QTA's fixed costs are Rs. 1,40,000 per month (for salaries, rent and so on) and its variable costs are Rs. 200 per ticket purchased for a passenger. This Rs. 200 includes Rs. 150 per ticket delivery fee paid to S Express. (Rs. 150 delivery fee applies to each ticket).

Darwin Airlines has just announced a revised payment schedule for travel agents. It will now pay travel agents a 10% commission per ticket up to a maximum of Rs. 500. Any ticket costing more than Rs. 5,000 generates only a Rs. 500 commission, regardless of the ticket price.

Required

- (i) Under the old 10% commission structure, how many round-trip tickets must QTA's sell each month (a) to break-even and (b) to earn an operating income of Rs. 70,000.
- (ii) How does Darwin revised payment schedule affect your answers to (a) and (b) in requirement (i)? **(8 Marks)**
6. (a) Division Z is a profit center which produces four products A, B, C and D. Each product is sold in the external market also. Data for the period is:

Product D can be transferred to Division Y, but the maximum quantity that may be required for transfer is 2,500 units of D.

	A	B	C	D
Market price per unit (Rs.)	150	146	140	130
Variable cost of production per unit (Rs.)	130	100	90	85
Labour hours required per unit	3	4	2	3

The maximum sales in the external market are:

- A..... 2,800 units
 B..... 2,500 units
 C..... 2,300 units
 D..... 1,600 units

Division Y can purchase the same product at a price of Rs.125 per unit from outside instead of receiving transfer of product D from Division Z.

What should be the transfer price for each unit for 2,500 units of D, if the total labour hours available in Division Z are 20,000 hours? **(6 Marks)**

- (b) A project consists of four (4) major jobs, for which four (4) contractors have submitted tenders. The tender amounts, in thousands of rupees, are given below-

Contractors	Job A	Job B	Job C	Job D
1	120	100	80	90
2	80	90	110	70
3	110	140	120	100
4	90	90	80	90

Required

Find the assignment, which minimizes the total cost of the project. Each contractor has to be assigned one job. **(6 Marks)**

- (c) Queenstown Furniture (QF) manufactures high-quality wooden doors within the forests of Queenstown since 1952. Management is having emphasize on creativity, engineering, innovation and experience to provide customers with the door they desire, whether it is a standard design or a one-of-a-kind custom door. The following information pertains to operations during April:

Processing time	9.0 hrs.*	Waiting time	6.0 hrs.*
Inspection time	1.5 hr.*	Move time	7.5 hrs.*
Units per batch	60 units		

(*) average time per batch

Required

Compute the following operational measures:

- (i) Average non-value-added time per batch
- (ii) Average value added time per batch
- (iii) Manufacturing cycle efficiency
- (iv) Manufacturing cycle time

(4 Marks)

7. Answer any **four** of the following questions:

- (a) What is Target Costing? It is said that implementation of the target costing technique requires intensive marketing research. Explain why intensive marketing research is required to implement target costing technique. **(4 Marks)**
- (b) Write a short note on Standard, ex post and ex ante? **(4 Marks)**
- (c) Explain the term 'Resource Smoothing' **(4 Marks)**
- (d) What are the limitations of Inter-firm comparison? **(4 Marks)**
- (e) Pick out from each of the following items, costs that can be classified under 'committed fixed costs' or 'discretionary fixed costs'.
 - (i) Annual increase of salary and wages of administrative staff by 5% as per agreement
 - (ii) New advertisement for existing products is recommended by the Marketing Department for achieving sales quantities that were budgeted for at the beginning of the year.
 - (iii) Rents paid for the factory premises for the past 6 months and the rents payable for the next six months. Production is going on in the factory.
 - (iv) Legal consultancy fees payable for patent rights on a new product Patenting rights have been applied for. **(4 Marks)**