

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) "Nikko Pacific" 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 "Nikko Pacific". It is sufficient to give two measures in each of the four perspectives. *(5 Marks)*

- (b) A public company responsible for the supply of domestic gas has been approached by several prospective customers in a rural area adjacent to a high-pressure main. As a condition of its license to operate as a utility, the company is obliged to respond positively to current needs provided the financial viability of the company is not put at risk. New customers are charged Rs. 250 each for connection to the system.

Once a meter is installed, a standing charge of Rs. 10 per quarter is billed. Charges for gas are levied at Rs. 400 per 1,000 metered units.

A postal survey of the area containing, according to the rating authority, 5,000 domestic units, elicited a 40% response rate. 95% of those who responded confirmed that they wished to become gas users and expressed their willingness to pay the connection charge.

Although it is recognized that a small percentage of those willing to pay for connection may not actually choose to use gas, it is expected that the average household will burn 50 metered units per month. There will be some seasonal differences.

The company's marginal cost of capital is 17% pa and supplies of bulk gas cost the company Rs. 0.065 per metered unit.

Required

Determine what the maximum capital project cost can be to allow the company to provide the service required if wastage of 15% has to be allowed. (5 Marks)

- (c) State whether each of the following independent activities is value-added or non-value-added:
- (i) Polishing of furniture used by a systems engineer in a software firm.
 - (ii) Maintenance by a software company of receivables management software for a banking company.
 - (iii) Painting of pencils manufactured by a pencil factory.
 - (iv) Cleaning of customers' computer key boards by a computer repair centre.
 - (v) Providing, brake adjustments in cars received for service by a car service station. (5 Marks)
- (d) A car rental agency has collected the following data on the demand for five-seater vehicles over the past 50 days.

Daily Demand	4	5	6	7	8
No. of Days	4	10	16	14	6

The agency has only 6 cars at present.

Use the following 5 random numbers to generate 5 days of demand for the rental agency

Random Nos: 15, 48, 71, 56, 90

Required

- (i) What is the average number of cars rented per day for the 5 days?
 - (ii) How many rentals will be lost over the 5 days? (5 Marks)
2. (a) Your Bank Ltd., was established on the 30th September, 1940 under the provisions of Co-operative Societies Act by the eminent professionals to encourage self-help, thrift, cooperation among members. Bank was issued Banking License under Banking Regulation Act, 1949 on October 25, 1986 to carry out the Banking Business within the national capital and since then the Bank has been growing

continuously. At present, Bank has large number of membership of individuals from different sections. The Bank has 12 branches in the NCT of Delhi. Bank offers 'traditional counter service'. Opening hours are designed to coincide with local market days.

Board of Directors were worried from growing popularity of new style banks. These banks offer diverse range of services such as direct access to executive management, a single point of contact to coordinate all banking needs, appointment banking to save time, free online banking services 24/7, free unlimited ATM access etc.

It has now been decided that the bank will focus on "What Customers Want" and will use a balanced scorecard to achieve this goal.

Required

Produce, for each of the three non-financial perspectives of a 'Balanced Scorecard', an objective and a performance measure that the bank could use with appropriate reason. (8 Marks)

- (b) Recently, Ministry of Health and Family Welfare along with Drug Control Department have come hard on health care centres for charging exorbitant fees from their patients. Care Ltd., a leading integrated healthcare delivery provider company is feeling pinch of measures taken by authorities and facing margin pressures due to this. Care Ltd. is operating in a competitive environment so; it's difficult to increase patient numbers also. Management Consultant of the company has come out with some plan for cost control and reduction.

Care Ltd. provides treatment under package system where fees is charged irrespective of days a patient stays in the hospital. Consultant has estimated 2.50 patient days per patient. He wants to reduce it to 2 days. By doing this, consultant has targeted the general variable cost of Rs. 500 per patient day. Annually 15,000 patients visit to the hospital for treatment.

Medical Superintendent has some concerns with that of Consultant's plan. According to him, reducing the patient stay would be detrimental to the full recovery of patient. They would come again for admission thereby increasing current readmission rate from 3% to 5%; it means readmitting 300 additional patients per year. Company has to spend Rs. 25,00,000 more to accommodate this increase in readmission. But Consultant has found blessing in disguise in this. He said every readmission is treated as new admission so it would result in additional cash flow of Rs. 4,500 per patient in the form of admission fees.

Required

- (i) Calculate the impact of Management Consultant's plan on profit of the company.

- (ii) Also comment on result and other factors that should be kept in mind before taking any decision. (8 Marks)

3. (a) Smart Ltd. has prepared the following statement for the month of April 2015.

Particulars	Budget Details	Static Budget	Actual
Units produced & Sold		4,000	3,200
		Rs.	Rs.
Direct Materials	3 kg p.u. @ Rs. 15 per kg.	1,80,000	1,55,000
Direct Labour	1 hr. p.u. @ Rs. 36 per hour	1,44,000	1,12,800
Variable Overhead	1 hr. p.u. @ Rs. 22 per hour	88,000	73,600
Fixed Overhead		90,000	84,000
Total Cost		5,02,000	4,25,400
Sales		6,00,000	4,48,000
Profit		98,000	22,600

During the month 10,000 kg. of materials and 3,100 direct labour hours were utilized.

Required

Prepare a flexible budget for the month. (5 Marks)

- (b) The following table shows all the necessary information on the available supply from each warehouse, the requirement of each market and the unit transportation cost in rupees from each warehouse to each market.

Warehouses	Markets				Supply
	I	II	III	IV	
A	5	2	4	3	22
B	4	8	1	6	15
C	4	6	7	5	8
Requirement	7	12	17	9	45/45

The shipping clerk has worked out the following schedule from experience:

12 units from A to II, 1 unit from A to III, 9 units from A to IV, 15 units from B to III, 7 units from C to I and 1 unit from C to III.

Required

- (i) Check if the clerk has made the 'Optimal Schedule'.
(ii) Find the 'Optimal Schedule' and 'Minimum Total Shipping Cost'.

- (iii) Carrier of route C to II offers to transport entire supply of warehouse C at a reduced price. By how much must the rate be reduced by the Carrier before the clerk should consider giving him business?
- (iv) If the supply from warehouse B reduces to 11 units and simultaneously the requirement of market III reduces to 13 units, find the 'Optimal Transportation Schedule'.
- (v) Further, if supply from warehouse A also reduces to 19 units and simultaneously the requirement of III reduces further to 10 units, will the optimal solution of part (iv) change? (11 Marks)
4. (a) Celestial Electronics and Consumer Durables Corporation (CECDC), is a Taiwan (a state, Republic of China) based consumer electronics manufacturer. To expand its market share in South Asia it has formed CE CDC India Pvt. Ltd. (CIPL) in India. For the purpose of performance evaluation, the Indian part is treated as responsibility centre. CIPL imports components from the CE CDC and assembles these components into a LED TV to make it saleable in the Indian market. To manufacture an LED TV two units of component 'L_x' are required. The following cost is incurred by the CE CDC to manufacture a unit of component 'L_x':

	Amount (TWD)
Direct Material*	440.00
Direct Labour (3 hours)	120.00
Variable Overheads	40.00

(*) purchased from domestic market.

CECDC incurs TWD 30 per unit as Wharfage Charges.

CECDC has a normal manufacturing capacity of 5,00,000 units of component 'L_x' per annum, 70% of its production is exported to CIPL and rest are sold to other South-east Asian countries at TWD 750 per component. The tax authorities both in Taiwan and India, consider TWD 750 (= Rs.1,500) per component 'L_x' as arm's length price for all transfers to CIPL. CIPL incurs Rs.10 per unit as shipment charges.

The cost data relevant to the LED TVs are as follows:

	Amount (Rs.)
Variable Costs per unit:	
Direct Material (excluding component 'L _x ')	6,200
Direct Labour	115
Fixed Cost:	
Office and Administrative Overheads	1,18,00,000
Selling & Distribution Overheads	2,58,00,000

CIPL can sell 1,75,000 units of LED TV at Rs.11,000 per unit.

There is a dispute on the transfer pricing of component 'L_x' between the CECDC and CIPL. CECDC is in favour of charging TWD 750 per component to CIPL as it is the arm's length price and it has to pay tax on this. On the other hand CIPL in its argument saying that the substitute of component 'L_x' can be purchased from the Indian market at Rs.1,490 only and moreover it has to pay import duty on import of component 'L_x' so the transfer price suggested by CECDC is not acceptable.

The following are the direct / indirect tax structure in India and Taiwan:

Type of Tax / Duty	India	Taiwan
Corporate Tax Rate	30%	25%
Import (Custom) Duty	10%	15%
	Nil	Nil

Required

From the above information, Calculate:

- (i) Minimum Price at which CECDC can transfer component 'L_x' to CIPL.
- (ii) Maximum Price that can be paid by CIPL to CECDC for each component 'L_x'.
- (iii) Profitability Statement for the group in TWD.

Note:

- (i) For Duty and Tax calculation, consider arm's length price only.
- (ii) Ignore the DTAA and other tax provisions.
- (iii) Conversion Rate 1 INR = 0.50 TWD (12 Marks)

(b) State the pricing policy most suitable in each of the following independent situations:

- (i) The company makes original equipments and does defence contract work. There are other companies which also undertake such projects.
- (ii) The product made by a company is new to the market. It is expected to enjoy a long-term demand. Competition is expected very soon, since the product will be desirable to most customers.
- (iii) Stock of processed ready-to-eat product, whose shelf-life will soon be over in the next 2 months. The product is going to be discontinued.
- (iv) A company sells a homogeneous product in a highly competitive market.

(Candidates need to only write the pricing policy with the corresponding sub-division numbers of the questions.) (4 Marks)

5. (a) Blue Mountains Ltd. (BML) has developed a new product 'K-2' which is about to be launched into the market. Company has spent Rs. 30,00,000 on R&D of product 'K-2'. It has also bought a machine to produce the product 'K-2' costing Rs. 11,25,000 with a capacity of producing 1,100 units per week. Machine has no residual value.

The company has decided to charge price that will change with the cumulative numbers of units sold:

Cumulative Sales (units)	Selling Price Rs. per unit
0 to 2,200	750
2,201 to 7,700	600
7,701 to 15,950	525
15,951 to 59,950	450
59,951 and above	300

Based on these selling prices, it is expected that sales demand will be as shown below:

Weeks	Sales Demand per week (units)
1-10	220
11-20	550
21-30	825
31-70	1,100
71-80	880
81-90	660
91-100	440
101-110	220
Thereafter	NIL

Unit variable costs are expected to be as follows:

	Rs. per unit
First 2,200 units	375
Next 13,750 units	300
Next 22,000 units	225
Next 22,000 units	188
Thereafter	225

BML uses just-in-time production system. Following is the total contribution statement of the product 'K-2' for its Introduction and Growth phase:

	Introduction	Growth	
Weeks	1 - 10	11 - 30	
Number of units Produced and Sold	2,200	5,500	8,250
Selling Price per unit (Rs.)	750	600	525
Variable Cost per unit (Rs.)	375	300	300
Contribution per unit (Rs.)	375	300	225
Total Contribution (Rs.)	8,25,000	16,50,000	18,56,250

Required

- (i) Prepare the total contribution statement for each of the remaining two phases of the product's life cycle.
- (ii) Discuss Pricing Strategy of the product 'K-2'.
- (iii) Find possible reasons for the changes in cost during the life cycle of the product 'K-2'.

Note: Ignore the time value of money.

(8 Marks)

(b) The following are the information regarding overheads of a company:

- (a) Overheads cost variance = Rs. 2,800 (A)
- (b) Overheads volume variance = Rs. 2,000 (A)
- (c) Budgeted overheads = Rs. 12,000
- (d) Actual overhead recovery rate = Rs. 8 per hour
- (e) Budgeted hours for the period = 2,400 hours

Compute the following:

- (i) Overheads expenditure variance.
- (ii) Actual incurred overheads.
- (iii) Actual hours for actual production.
- (iv) Overheads capacity variance.
- (v) Overheads efficiency variance.
- (vi) Standard hours for actual production.

(8 Marks)

6. (a) The following table relates to a network:

Activity	Normal Time (Days)	Crash Time (Days)	Normal Cost (Rs.)	Crash Cost (Rs.)
1-2	5	4	30,000	40,000
2-3	6	4	48,000	70,000
2-4	8	7	1,25,000	1,50,000
2-5	9	6	75,000	1,20,000
3-4	5	4	82,000	1,00,000
4-5	7	5	50,000	84,000

The overhead cost per day is Rs. 5,000 and the contract includes a penalty clause of Rs. 15,000 per day if the project is not completed in 20 days.

Required

- (i) Draw the network and calculate the normal duration and its cost.
- (ii) Find out:
- (1) the lowest cost and the associated time.
 - (2) the lowest time and the associated cost. (8 Marks)
- (b) A company is producing three products P, Q & R. Relevant information is given below:

Product	P	Q	R
Raw material per unit (kg)	20	12	30
Machine hours per unit (hours)	3	5	4
Selling price per unit (Rs.)	500	400	800
Maximum limit of production Unit	1,500	1,500	750

Only 9,200 hours are available for production at a cost of Rs.20 per hour and maximum 50,000 kgs. of material @ Rs. 20 per kg., can be obtained.

(Only product mix quantities are to be shown, calculation of total profit at that product mix not required to be shown)

Required

On the basis of the above information determine the product-mix to give the highest profit if at least two products are produced. (8 Marks)

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

- (a) The Gifts Company makes mementos for offering chief guests and other dignitaries at functions. A customer wants 4 identical pieces of hand-crafted gifts for 4 dignitaries invited to its function.

For this product, the Gifts Company estimates the following costs for the 1st unit of the product.

Particulars of Costs	Rs. / unit
Direct Variable Costs (excluding labour)	2,000
Direct Labour (20 hours @ Rs. 50 hour)	1,000

90 % learning curve ratio is applicable and one labourer works for one customer's order.

Required

- (i) What is the price per piece to be quoted for this customer if the targeted contribution is Rs. 1,500 per unit?
- (ii) If 4 different labourers made the 4 products simultaneously to ensure faster delivery to the customer, can the price at (i) above be quoted? Why? (4 Marks)
- (b) Classify the following items appropriately under the three measures used in the Theory of Constraints:
- (i) Research and Development Cost
 - (ii) Rental/Utilities
 - (iii) Finished Goods Inventory
 - (iv) Depreciation
 - (v) Labour Cost
 - (vi) Stock of Raw Materials
 - (vii) Sales
 - (viii) Cost of Equipment and Buildings (4 Marks)
- (c) Will the initial solution for a minimization problem obtained by Vogel's Approximation Method and the Least Cost Method be the same? Why? (4 Marks)
- (d) 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) Research costs on a product that has reached 'maturity' phase in its life cycle and the research costs which may be needed on introducing a cheaper substitute into the market for facing competition. *(4 Marks)*
- (e) The following matrix was obtained after performing row minimum operations on rows R_1 and R_2 in an assignment problem for minimization. Entries "xx" represent some positive numbers. (It is not meant that all "xx" numbers are equal). (Candidates may use cell references as $C_i R_j$ for uniformity. e.g. $C_1 R_1$ represents the cell at the intersection of Column1 (C_1) and Row 1 (R_1) etc.

	C_1	C_2	C_3
R_1	0	xx	xx
R_2	xx	0	xx
R_3	xx	xx	xx

Required

State two circumstances under which an optimal solution is obtained just after the row minimum and column minimum operations. *(4 Marks)*