NOV 2018

Roll No. .....

FINAL
GROUP-II PAPER-5
ADVANCED MANAGEMENT
ACCOUNTING

Total No. of Questions – 7

Total No. of Printed Pages – 12

Time Allowed – 3 Hours

Maximum Marks – 100

CVW

Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate has not opted for Hindi Medium, his/her answers in Hindi will not be valued.

Question No. **1** is compulsory.

Answer any **five** questions from the remaining **six** questions.

Working notes should form part of the respective answers.

No statistical or other table will be provided with this question paper.

Marks

1. (a) PS Limited has two production departments - Machine shop and packaging. The maximum available capacity in these departments are 42,000 hours and 32,500 hours respectively. The Company wishes to produce two products X and Y. One unit of product X requires 4 hours of machine shop and 3 hours of packaging while each unit of product Y needs 2.5 hours of machine shop and 2 hours of packaging. The cost structure is as follows: **5**

	X ₹	Y ₹
Material cost per unit	90	125
Labour cost per unit	50	75
Variable overheads per unit	35	50
Selling price per unit	250	375

The sales department of the Company is also geared to sell all that is produced at existing prices.

You are required to:

(i) advise about the best possible production programme under the circumstances

(ii) calculate combined P/V Ratio

Marks

(b) A company has sales of 1,00,000 units at a price of ₹ 150 per unit and profit of ₹ 30 lakhs in the current year. Due to stiff competition, the company has to reduce its price of product next year by 8% to achieve same volume of sales as in the current year. The cost structure and profit for the current year is given below: 5

Particulars	(₹ Lakhs)
Direct material	50
Direct wages	30
Variable factory overhead	15
Fixed overheads including Sales & Admin. Expenses	25
Total cost	**120**

To achieve the target cost to maintain the same profit, the company is evaluating the proposal to reduce the labour cost and fixed factory overhead. A vendor supplying the machine suitable for the company's operations has offered an advanced technology semi-automatic machine of ₹ 10 lakhs as replacement of old machine worth ₹ 3 lakhs. The vendor is agreeable to take back the old machine at ₹ 2.25 lakhs only. The company's policy is to charge depreciation at 10% on WDV. The maintenance charge of the existing machine is ₹ 0.80 lakhs per annum whereas there will be warranty of services free of cost for the new machine for first two years. There are 9 supervisors whose salary is ₹ 1.20 lakhs each per annum. The new machine having conveyor belt is expected to help in cost cutting measures in the following ways:

(1) Improve productivity of workers by 25%.

(2) Cut down material wastage by 1 %.

(3) Elimination of services of supervisors because of automatic facilities of the machine.

(4) Saving of packaging cost by ₹ 1.35 lakhs.

Assuming cost of capital to be 12%, calculate how many supervisors should be removed from the production activities to achieve the target cost.

Marks

(c) A company manufactures fire fighting equipment for industrial use. They have been asked to bid on a prospective contract for 180 of such equipment. They have just completed an initial run of 60 of this equipment at the following costs : 5

		₹
Direct material		40,000
Direct labour	(12,000 hours at ₹ 4)	48,000
Tooling cost	(Reusable)	6,000
Variable overheads	(₹ 0.50 per labour hour)	6,000
Fixed overhead	(₹ 0.50 per labour hour)	12,000
	Total	**1,12,000**

A 90% learning curve is thought to be pertinent in this case. The marketing manager believes that the quotation is unlikely to be accepted if it exceeds ₹ 2,50,000 and as the company is short of work, he believes the contract to be vital.

Comment whether it is worth accepting at ₹ 2,50,000.

(d) A travel agency has collected the following data on the demand for eight-seater cars over the past 30 days in a month: 5

Daily Demand of Cars	3	4	5	6	7
No. of days	3	9	9	6	3

The agency has only 5 cars at present.

You are required :

(i) To generate 6 days of demand for the travel agency by using the following 6 random numbers :

70, 35, 90, 06, 56 and 96.

(ii) What is the average number of cars rented per day for the 6 days ?

(iii) How many rentals will be lost over the 6 days ?

Marks

2. (a) Mercury Ltd. has prepared the following budget estimates for the year 2017-18. 8

	Product X ₹/unit	Product Y ₹/unit
Sales (units)	6,000	16,000
Selling price	400	640
Direct materials	120	220
Direct wages@ ₹ 10/- per hour	80	120
Variable overheads	40	60
Fixed overheads	80	120
Total	320	520
Profit	80	120

After installation of the above manufacturing programme, it is observed that 1/4th capacity of the company is still idle. In order to improve the working, the following proposals are put up for consideration :

(1) Discontinue Product X and the capacity so released will be used on Product Y. The selling price of Product Y however will be reduced by ₹ 20/- per unit on the entire sales due to increased volume of sales.

(2) Discontinue Product Y and divert the capacity so released to the production of Product Z whose unit cost data is as under :

Selling price	₹ 520
Direct materials	₹ 150
Direct labour @ ₹ 10/- per hour	₹ 100
Variable overheads	₹ 50

(i) Prepare a statement showing profitability as envisaged in the original programme.

(ii) Evaluate each of the above proposals independently and present statements showing overall profitability under each proposal.

Show the amount in Lakhs of Rupees.

Marks

(b) A PWD (Public Works Department) has decided to carry out repairs on four major bridges in the state. The government has sanctioned a grant of ₹ 114 lakhs towards the cost with the condition that the repairs should be carried out at lowest cost. Five contractors have sent in their bids. Only one bridge will be awarded to one contractor. The bids are given below : 8

		Cost of repairs(₹ in lakhs)			
	Bridge →	**B1**	**B2**	**B3**	**B4**
Contractor	C1	18	28	38	30
	C2	14	34	40	39
	C3	18	36	42	38
	C4	20	24	36	36
	C5	20	30	42	32

You are informed that C1 should get B1 and C5 should get B2 to minimise costs.

(i) What is the minimum cost allocation ?

(ii) How much is the minimum discount that the eliminated contractor should offer for meriting a contract ?

(iii) Independent of (ii) above, if the department can negotiate to get a uniform discount rate from each contractor, what is the minimum rate of discount so that the cost is within the sanctioned amount ?

Marks

3. (a) Compute the missing data indicated by the question marks from the following information : 8

Particulars	Product X	Product Y
Standard wages rate per hour	₹ 40	₹ 50
Actual wages paid	₹ 45,000	₹ 66,240
Standard Labour hours	?	1,400
Actual Labour hours	900	?
Labour Cost Variance (LCV)	?	?
Labour Rate Variance (LRV)	?	₹ 2,760(F)
Labour Efficiency Variance (LEV)	?	?
Labour Gang (Mix) Variance	₹ 2,000 (F)	?

(b) Care n Cure, a day care health centre covered under insurance plan receives payment from the insurance company each time any patient attends the centre for consultation as under: 8

Consultation involving	Payment from Insurance Company (₹)
Bandaging	80
Plastering	300
Rehabilitation	600

In addition the adult patients will have to make co-payment for Plastering and Rehabilitation which is at the same rate of payment by insurance company for respective category of treatment made. Senior citizens are required to make co-payment for Rehabilitation only to the extent of 50% of the payment by insurance company for that category. The health centre will remain open for 6 days a week for 52 weeks in a year. Each physician treated 10 patients per day.

Marks

The health centre received a fixed income of ₹ 6,05,200 per annum for promotion of health products from the manufacturers.

The annual expenditure of the health centre is estimated as under :

	₹
Materials and Consumables (100% variable)	7,64,000
Staff salaries per annum per Employee (Fixed):	
Physician	4,00,000
Assistant	1,50,000
Administrative Staff	90,000
Establishment and other operating cost (Fixed)	6,00,000

The non-financial information is as under:

(1)	Staff :	
	Physician	5
	Assistant	6
	Administrative Staff	2
(2)	Patient Mix :	
	Adult	50%
	Children	30%
	Senior citizens	20%
(3)	Mix of Patient Appointments (%):	
	Bandaging	60%
	Plastering	30%
	Rehabilitation	10%

(i) Calculate the net income of Care n Cure (the day care health centre) for the next year.

(ii) Determine the number of patients to break-even.

Show amount to the nearest rupee.

4. (a) Apna Paridhan Limited is engaged in production of three types of baby suits: Baby; Babu and Superman. During the year ended 31st March, 2018 the company produced and sold 80,000 Baby suits, 48,000 Babu suits and 36,000 Superman suits. The cost details are as follows: **10**

(i) Per unit Material and Labour Costs :

	Baby (₹)	Babu (₹)	Superman (₹)
Material	120	180	260
Labour @ ₹ 60 per hour	150	195	270

Marks

(ii) Overheads :

Activity Cost Pool	Associated Cost (₹)
Purchasing Section	20,30,200
Machine Setup	39,65,000
Delivery Section	31,50,000
Labour amenities & Welfare	77,70,000
Customer Support	38,04,800

You are required to calculate total cost per suit for each type of suits by using :

(i) Traditional Costing System if the overheads are charged on Direct Labour Hour Rate basis.

(ii) Activity Based Costing System if the additional information required under this system is as given below:

Activity Cost Pool	Cost Driver	Activity utilised		
		Baby Suits	Babu Suits	Superman Suits
Purchasing Section	No. of purchase orders	400	250	350
Machine Setup	Production Runs	1,100	750	1,200
Delivery Section	No. of Deliveries	700	440	960
Labour amenities & Welfare	Direct Labour Hours	---------	---------	---------
Customer Support	Sales Units	---------	---------	---------

Show calculation of amount up to two decimal points.

Marks

(b) PRS Limited is normally manufacturing 50,000 units of its product 'Sewda Beauty' in a year. The cost structure at this level is as follows: 6

(₹ in Lakhs)

	₹
Materials	45
Labour	35
Manufacturing Overheads	20 (75% Variable)
Administrative Overheads	10 (80% Fixed)
Selling & Distribution Overheads	06 (50% Fixed)
Total	**116**

Due to adverse trade conditions, the company expected that only 10,000 units of 'Sewda Beauty' can be sold at a price of ₹ 250/- per unit, during the next year. The Board of Directors plans to shut down the plant. In this situation the fixed costs for next year is expected to be reduced by 60% and additional costs of shut down are expected at ₹ 2,00,000. Should the plant be shut down ? What is the shut down point ?

Show amount to the nearest rupee.

5. (a) The following table shows the different time estimates for a project: 10

Activity	Estimated time (days)		
	Optimistic	Most likely	Pessimist
1-2	4	6	14
1-3	2	4	12
1-5	3	5	13
2-4	5	9	19
3-5	5	8	11
5-6	3	5	7
4-6	5	6	7
5-7	5	7	9
6-7	2	4	6
6-8	6	9	12
7-9	2	4	6

Marks

You are required :

(i) Draw the project network.

(ii) Calculate the expected time and variance of each activity.

(iii) Find the expected length of critical path and its standard deviation.

(iv) Find the probability that project will be completed in 30 days.

(v) If due date of project is 36 days, find the probability of not meeting it.

(Area under normal distribution for Z = 0.65 is 0.2422 and for Z = 1.31 is 0.4049)

(b) PQR Limited has prepared a draft budget for the next year as follows : 6

Quantity	300000 Units
	₹
Sales price per unit	400
Variable costs per unit:	
Direct Materials	100
Direct Labour	120
Variable overhead (2 hrs × ₹ 30)	60
Contribution per unit	120
Budgeted Contribution	3,60,00,000
Budgeted Fixed costs	2,50,00,000
Budgeted Profit	1,10,00,000

The Board of Directors is dissatisfied with this budget, and asks a working party to come up with an alternate budget with higher target figures.

The working party reports back with the following suggestions that will lead to a budgeted profit of ₹ 2,00,00,000. The company should spend ₹ 95,00,000 on advertising, & put the target sales price upto

Marks

₹ 420/- per unit. It is expected that sales volume will also rise, in spite of the price rise, to 4,00,000 units.

In order to achieve the extra production capacity, however, the work force must be able to reduce the time taken to make each unit of the product. It is proposed to offer a pay and productivity deal in which the wage rate per hour is increased to ₹ 75. The hourly rate for variable overhead will be unaffected.

Ascertain the target labour time required to achieve the target profit.

Prepare a revised budget giving effect to the above suggestions.

6. (a) The budgeted and actual cost data of Excel Ltd. for the financial year 2017-18 is as under: 8

	Budget	Actual
Production unit	8,000	7,000
Material cost	₹ 12,80,000 (800 kgs @ ₹ 1,600)	₹ 13,86,000 (840 kgs @ ₹ 1,650)
Labour cost	₹ 8,00,000 (@ ₹ 40 per hour)	₹ 7,99,920 (@ ₹ 44 per hour)
Variable overhead	₹ 1,50,000	₹ 1,38,000
Fixed overhead	₹ 2,30,000	₹ 2,90,000

In the financial year 2018-19, production is budgeted for 15,000 units, material cost per kg will increase from last year's actual by ₹ 150, but it is proposed to maintain the consumption efficiency of Financial Year (F.Y.) 2017-18 as budgeted. Labour efficiency will be lower by 1.5% and labour rate will be ₹ 44/- per hour. Variable and fixed overheads will go up by 16% over (F.Y.) 2017-18 actuals.

Prepare the Production cost budget for the financial year 2018-19 giving all the workings.

(For calculation of lower labour efficiency, difference in actual and standard time is also to be considered)

Show calculations upto two decimal points duly rounded off.

Marks

(b) Division X of KL Industries Limited is a profit centre and its entire production is utilized internally by other divisions. 8

The information regarding Division X is as follows:

Annual Production	25,000 Units
	₹
Material cost per unit	115
Labour cost per unit	90
Manufacturing Overhead per unit (40% Fixed)	35
Administrative Overhead per unit (fixed)	9
Apportioned amount of Investment of Division X	75,00,000
Corporate tax rate	30%

You are required to determine the transfer price under each of the following strategies:

(i) 15% After tax Profit on transfer price

(ii) 20% Return on Investment (After Tax)

(iii) 15% After tax profit on list sale price, when actual sales (transfer) is made at a discount of 25% on list price.

(iv) 30% Mark up on marginal cost is added to total cost.

7. Answer any **four** out of the following **five** questions : 4×4 =16

(a) Enumerate the usefulness of 'Pareto Analysis'.

(b) What are the main objectives of uniform costing ? (State any four)

(c) Briefly explain two pricing practices in which non-cost reasons are important when setting prices.

(d) Mention four important factors to be considered in Marginal Costing Decisions.

(e) Will the solution for a minimization problem obtained by Vogel's Approximation Method (VAM) and Least Cost Method be same ? Why ?
