MAY 2019

Roll No. .....

FINAL
GROUP-II PAPER-5
ADVANCED MANAGEMENT
ACCOUNTING

Total No. of Questions – 7 Total No. of Printed Pages – 15

Time Allowed – 3 Hours Maximum Marks – 100

BHL2

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 who 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) JPR Limited manufactures three products by using a single machine which has 2,40,000 bottleneck hours per month. The details with regard to the three products are as under : **5**

	Products		
	P1	**P2**	**P3**
Selling price per unit (₹)	170	140	180
Direct Material cost (₹)	80	90	120
Direct Labour cost (₹)	30	25	35
Other Expenses (₹)	10	10	5
Maximum Demand (units)	20000	15000	25000
Time required per unit (hours)	6	4	3

Required :

Based on the concept of throughput accounting, calculate the optimum number of units to be produced for each product.

Marks

(b) Hotel Park has four holiday resorts in a hill station. All the resorts are having equal carpet area but the facilities available are varying from each other. During a festival holiday four persons approached to reserve a resort for their family stay during the holiday on the same day. They were asked to quote their order of preference and the rent they are willing to pay per day. The particulars collected from them are given below : 5

Persons	Rent quoted per day (₹)			
	Resort - 1	Resort – 2	Resort – 3	Resort – 4
P1	6000	5000	No quotation	No quotation
P2	4000	6000	4000	1000
P3	3000	6000	2000	4000
P4	6000	4000	No quotation	No quotation

Required :

Decide an allocation that will maximize the per day revenue of the hotel and the amount of revenue possible from the allocation.

(c) The details of the output presently available from a manufacturing department of JB Ltd. are as follows : 5

Average output per week 50,000 units from 200 employees.

Saleable value of output ₹ 6,25,000

Contribution made by the output toward fixed expenses and profit ₹ 2,75,000

The Board of Directors plans to introduce more automation in the department at a capital cost of ₹ 12,50,000. The effect of this will be to reduce the number of employees to 160, but to increase the output

Marks

per individual employee by 60%. To provide the necessary incentive to achieve the increased output the Board intends to offer 1% increase in the piecework rate of one rupee per article for every 2% increase in average individual output achieved. To sell the increased output, it will be necessary to decrease the selling price by 4%.

Required :

Calculate the extra weekly contribution resulting from the proposed changes.

(d) The output of a production line is checked by an inspector for one or more of three different types of defects, called D1, D2 and D3. If defect D1 occurs, the item is scrapped. If defect D2 and D3 occurs, the item must be reworked. The time required to rework a D2 defect is 10 minutes and the time required to rework a D3 defect is 20 minutes. The probabilities of D1, D2 and D3 defects are 0.20, 0.12 and 0.15 respectively. **5**

Use the following random numbers for simulation:

RN for Defect D1 :	93	83	55	63	40	91	47	63	01	52
RN for Defect D2 :	79	10	36	13	04	57	57	13	55	09
RN for Defect D3 :	20	56	95	11	96	18	52	11	84	03

For ten items coming of the assembly line, you are required to calculate :

(i) The total number of items without any defects

(ii) The number of items scrapped

(iii) The total minutes of rework time

Marks

2. (a) ABC Ltd. is engaged in production of four products, the relevant information of products are as follows: **10**

Products	L	M	N	O
Output in units	66,000	60,000	45,000	57,000
Selling price(in ₹)	300	320	210	200
Cost per unit :				
Direct Material (in ₹)	80	100	70	60
Direct Labour (in ₹)	48	35	40	20
Machine hours (per unit)	5	4	3	4

Market research has indicated that if ABC Ltd. can reduce the selling prices of the products by 5%, it will be useful in getting bulk orders and gain significant share of market share of those products. The company's profit mark up is 25% on cost of the products.

The four products are produced in production run of 300 units and sold in batches of 150 units. The production overhead is currently absorbed by using a machine hour rate and the total of the production overheads for the period has been analysed as follows:

Particulars	₹
Machine departmental costs	83,97,000
Set up costs	20,90,000
Stores receiving	19,50,000
Inspection/Quality control	11,40,000
Material handling & dispatch	15,20,000

Marks

The cost drivers to be used for the overhead costs are as follows :

Costs	Cost drivers
Set up costs	Number of production runs
Stores receiving	Requisition raised
Inspection/quality control	Number of production runs
Material handling & dispatch	Order executed

The number of requisitions raised in the stores was 1250 for each product and the total number of orders executed was 1520, each order being for a batch of 150 units of a product.

You are required to calculate :

(i) Target cost for each product.

(ii) Total overhead cost of each product using Activity Based Costing.

(iii) Compare per unit target cost and per unit activity based cost of each product and comment whether the price reduction is profitable or not.

(b) The "Bollywood theatre Company" owned a theatre and plays three shows each day on weekends – Saturday & Sunday, in the year of 52 weeks. The total capacity of the theatre is 1,000 seats which is divided into three classes are as follows : 6

Royal – First 5 rows of 40 seats per row

Premium – The next 10 rows of 35 seats per row

Classic – The next 15 rows of 30 seats per row

Marks

Costs data with regard to show for the year will be as follows :

Employees	No of Employees	Salaries p.m. (in ₹)
Manager	2	₹ 62,500 each
Gate-keeper	15	₹ 15,000 each
Operators	3	₹ 30,000 each
Clerks	5	₹ 22,000 each

Other costs for the year are as follows :

Electricity & oil	1,67,400
Carbon	72,530
Misc. Expenditure	64,880
Advertisement	88,080
Administrative Expenses	1,14,610

The premises is valued at ₹ 35,00,000 and the estimated life is 14 years.

Projectors and other equipments costs ₹ 8,70,000 on which 15% depreciation is to be charged.

Other relevant information are as follows :

(i) 20% of the total seats of each class remains vacant

(ii) Every time a show is staged, one row of Royal circle is occupied free of charge, by virtue of passes granted to the guests.

(iii) Weightage to be given to the three classes in the ratio 3:2:1

Required :

Determine the proceeds per Man show and rates for each class if the management expects 25% return on gross proceeds.

Marks

3. (a) JKL Ltd. is engaged in marketing of wide range of consumer goods. A, B, C and D are the zonal sales officers and the company fixes annual sale target for them individually. **10**

You are furnished with the following :

(1) The standard costs of sales target in respect of A, B, C and D are ₹ 5,82,250, ₹ 4,50,500, ₹ 4,93,000 and ₹ 5,35,500 respectively.

(2) A, B, C and D respectively earned ₹ 40,800, ₹ 32,400, ₹ 35,520 and ₹ 38,700 as commission at 6% on actual sales effected by them during the previous year.

(3) The relevant variances as computed by a qualified cost accountant are as follows :

Particulars	A (₹)	B (₹)	C (₹)	D (₹)
Sales Price Variance	6,000(F)	8,000(A)	7,000(A)	5,000(A)
Sales Volume Variance	11,000(A)	18,000(F)	19,000(F)	20,000(F)
Sales Margin Mix Variance	10,750(A)	5,500(F)	12,000(F)	9,500(A)

Assume sales margin quantity variance is zero.

Required :

(i) Compute the amount of sales target fixed and the actual amount of margin earned in case of each of the zonal sales officer.

(ii) Evaluate the overall performance of these zonal sales officers taking three relevant base factors and then recommend whose performance is the best.

Marks

(b) Rose Ltd., has produced its first 10 units whose cost details are as given. **6**

	₹
Material	5,000
Labour @ ₹ 20 p.u.	6,000
Variable overhead	2,000
Other expenses	3,000
Machine set up costs	4,000

Variable overhead is directly proportionate to labour cost and other expenses constitute one-half of labour cost. Machine set-up costs were fully recovered from the first order. From one machine set-up, 100 units can be produced.

The customer who purchased the above mentioned 10 units asked to quote price for another 30 units.

Required :

Estimate the price to be quoted for the 30 units so as to earn a profit of 20% on cost by using 80% learning curve effect.

4. (a) PS Ltd. is producing a single product currently working at 80% capacity by producing 6000 units per month. From 4 units of raw material it produces 5 units of finished product. The raw material required for production is available both in open market price and controlled price. The company is eligible to receive 3500 units of raw material every month at controlled price from the Government at the rate of ₹ 200 p.u. Additional materials required for production can be procured from the open market at the rate of ₹ 260 p.u. Out of the **8**

Marks

monthly total cost of production, the fixed cost is amounted to ₹ 4,00,000 and the balance comprised of material cost and other variable costs. Productions are sold at ₹ 700 p.u. which includes 20% profit on sales.

The company wants to work at full capacity as it has good demand for its product. Assume that there will be no change in material prices.

Required :

Compute the minimum selling price per unit to be maintained by the company when it is working at full capacity and wants to earn :

(i) the same amount of profit as it can earn at 80% capacity.

(ii) the same rate of profit as it can earn at 80% capacity.

(b) Veda Ltd. has two divisions DV_1 and DV_2 which are treated as separate profit centres and are given autonomy to fix transfer prices and to select suppliers. DV_1 produces one product which can be sold internally to DV_2 and externally in the open market. It is the practice of the company to measure the performance of the divisions by fixing target profit for each period. For a particular period the following details of DV_1 are given to you : 8

Installed capacity	6000 units
Variable cost p.u.	₹ 600
Selling price in open market	₹ 900 p.u.
Open market demand	4500 units
Selling commission	₹ 80 p.u.
Total fixed cost	₹ 7,05,000
Target profit fixed	₹ 6,65,0000

Marks

DV_2 procure its material requirements from DV_1 and from one external supplier who is ready to supply all the requirements of the division. During this period DV_2 has asked DV_1 to quote a price for 2000 units.

You are required :

(i) to determine the transfer price to be quoted to DV_2 so as to enable DV_1 to achieve the target profit.

(ii) Calculate the two prices DV_1 would have to quote to DV_2, if it became company policy to Quote transfer price on opportunity costs.

5. (a) PRP Industries has three factories at locations L_1, L_2 and L_3 which supply cement to warehouses located at A, B and C. Monthly factory capacities are 10, 80 and 15 tonnes respectively and monthly warehouse requirements are 75, 20 and 50 tonnes respectively. The shipping costs per tonnes in rupees are given below : **8**

Factories	Warehouses		
	A	B	C
L_1	5	1	7
L_2	6	4	6
L_3	3	2	5

If any of the demand of any warehouse is not being satisfied, the unsatisfied demands at the warehouse A, B and C are subject to a penalty of ₹ 8, ₹ 5 and ₹ 3 per tonne respectively.

Marks

Required :

(i) Find the initial feasible solution by using Vogel's Approximation method.

(ii) Perform optimality test and final transportation and penalty cost associated with the solution. ($V_f = 0$)

(b) Following information are taken from the records of PV Ltd.: **8**

Budgeted sales for June, 2019 : ₹ 5,00,000

Budgeted sales for July, 2019 : ₹ 6,00,000

Materials are purchased @ 70% of selling price of finished goods.

Selling Commission is paid @ 10% on sales in the month of sales itself.

Monthly operating expenses (including depreciation) ₹ 1,10,000

Cash balance as on 31st May, 2019 ₹ 75,000

Actual sales in May, 2019 ₹ 4,00,000

Stock of materials is maintained equal to 100% of next month's requirements.

For purchase of materials 40% paid in the month of purchase and the balance in the following month.

Out of sales, 50% collected immediately and the balance collected in the next month.

All other expenses are paid in the respective month.

The company planned to declare 10% dividend in June, 2019, payable in August 2019. The authorized and paid up capitals are respectively ₹ 80 lakhs and ₹ 50 lakhs.

Depreciation is charged under straight line method @ 15% p.a. on the fixed assets worth ₹ 20 lakhs.

Required :

Prepare a cash Budget for the month of June, 2019.

Marks

6. (a) Madura Ltd. is manufacturing three products. The selling price and production costs for the products for next year are estimated as given below : **8**

	P	Q	R
	(₹)	(₹)	(₹)
Selling price	38	78	145
Direct material cost	12	20	25
Direct labour cost	15	27	60
Variable overheads	6	13	30

Total fixed overhead is estimated as ₹ 30,000 for the year and direct labour is calculated at the rate of ₹ 3 per hour. It is also planned to use the available labour hours to produce 800 units of each product to meet out the demand of regular customers and the balance hours to produce Product P. Total labour hours available for the year will be 39,800.

Required :

(i) Prepare an income statement for the above proposal.

(ii) If you feel that there is an alternative proposal which would be more profitable than the above one, prepare an income statement for the same. Assume that all the units to be produced can be sold in the market.

Marks

(b) A manufacturing company manufactures a product and sells its through four dealers D_1, D_2, D_3 and D_4. The transaction details with the dealers during a period is given below : **8**

	D_1	D_2	D_3	D_4
Selling price p.u. (₹)	200	200	200	200
No. of units sold	2000	3000	5000	4000
Size of order (units)	500	300	250	400
Units delivered per delivery	250	300	250	200
No. of sales visits	8	3	10	2
No. of speed deliveries in total deliveries	1	–	2	–
Distance per delivery (km.)	15	20	10	30
No. of warranty complaints	–	8	–	9

Additional information :

Order processing cost	₹ 50 per order
Cost per sales visit	₹ 2,000
Product handling expenses	₹ 0.20 p.u.
Ordinary delivery cost per km	₹ 3
Speed delivery cost per km	₹ 5
Cost of production	60% of sales
Average expenses per warranty complaint	₹ 6,000

Required :

Analyze the profitability for each dealer, which dealer is the most profitable.

Marks

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

(a) Classify the following under category of cost control or cost reduction :

(i) Cost exceeding budgets or standards is investigated.

(ii) Preventive Function

(iii) Corrective Function

(iv) Measures to standardize for increasing productivity.

(v) Provision for proper storage facilities for materials.

(vi) Continuous comparison of actual with the standard set.

(vii) Challenges the standard.

(viii) Value analysis

(b) Brief the principles associated with synchronous manufacturing.

(c) State whether the following statements are **True** or **False** in the context of PERT/CPM :

(i) A delay in the completion of critical activities need not cause a delay in the completion of the whole project.

(ii) Total float is the aggregate of the free, interfering and independent floats.

(iii) The optimal duration of a project is the minimum time in which it can be completed.

(iv) Activity which is not connected to any of the intermediate events or end event is called dangling activity.

Marks

(d) Classify the following measures under appropriate categories in a Balanced scorecard for a banking company which excels in its home loan products :

(i) A new product related to life insurance is being considered for a tie up with the successful housing loan disbursements, e.g. Every housing loan applicant to be advised to take life policy or compelled to take fire insurance policy.

(ii) How different sectors of housing loans with different interest rates have been sanctioned, their volumes of growth in the past 4 quarters ?

(iii) How many days are taken to service a loan, how many loans have taken longer, what additionally loans are to be released soon, etc ?

(iv) After sanctioning of the loan taking feedback from the customers about the time, behaviour of staff and suggestion for improvement of the product.

(e) Fill the extra variable and co-efficient of extra variable in following types of constraint in linear programming problems :

Types of Constraint	Extra variable required	Co-efficients of extra variables in the Objective function	
		Max-Z	Min-Z
Less than or equal to (≤)			
Greater than or equals to (≥)			
Equal to (=)			