FINAL
Roll No. ....GROUP-II PAPER-5
ADVANCED MANAGEMENT
Total No. of Questions – 7   ACCOUNTING

NOV 2014

Total No. of Printed Pages – 15

Time Allowed – 3 Hours

Maximum Marks – 100

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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 answer.

No Statistical table will be distributed along with the question paper.

Graph papers will be provided.

Marks

1. (a) A shoe manufacturer has a net profit of ₹ 25 per pair on a selling price   **5**
of ₹ 143. He is producing 6,000 pairs per annum which is 60% of the potential capacity. The cost per pair is as under :

	₹
Direct materials	35.00
Direct wages	12.50
Works overheads (50% fixed)	62.50
Administrative overheads (75% fixed)	6.00

During the current year the manufacturer also estimates demand of 6,000 pairs but anticipates that the fixed charges to go up by 10% while the rate of direct labour and direct materials will increase by 8% and 6% respectively. But he has no option of increasing the selling price. Under this situation he obtains an offer to utilise further 20% of capacity. What minimum price will you recommend to ensure an overall profit of ₹ 1,67,300 ?

(b) ABC Ltd. has supermarkets located in most towns and cities. Over the last few years, profits have fallen. ABC Ltd. has recognized that customer care has been paid insufficient attention. ABC Ltd. has now realized the importance of the customer experience at its supermarkets. ABC Ltd. has introduced a loyalty card scheme that rewards customers with discount vouchers based on their spend and buying patterns at supermarkets in an attempt to earn the loyalty of its customers. **5**

The management of ABC Ltd. is considering the introduction of a Balanced Scorecard approach to manage the performance of its stores.

Required :

Recommend an objective and a suitable performance measure for each of three non-financial perspectives of a Balanced Scorecard that ABC Ltd. could use to support its new strategy of improving the customer experience. You should state three perspectives, an objective and a performance measure for each one of the three perspectives.

(c) State the types of errors in logical sequencing that may arise while drawing a Network Diagram. **5**

(d) An IT company produces a CD, particulars of which are detailed below : 5

Annual Production (Units)	40,000
Cost per Annum (₹)	
– Material	1,00,000
– Other variable cost	1,20,000
– Fixed cost	80,000
Apportioned Investment (₹)	3,00,000

Determine the unit selling price under two strategies mentioned below. Assume company's tax rate as 30%.

(i) 20% return on investment.

(ii) 6% profit on list price, when trade discount is 40%.

2. (a) A labour incentive product is made and sold by XY Ltd. Its labour force 9 has a learning rate of 80%, applicable only to direct labour and not to variable overheads.

The cost per unit of the product is as follows :

	₹
Direct Materials	20,000
Direct Labour (@ ₹ 8 per hour)	16,000
Variable Overheads	4,000
Total Variable Cost	40,000

XY Ltd. has received an order from P Ltd. for 4 units of the product. Another customer, Q Ltd. is also interested in purchasing 4 units of the product. XY Ltd. has the capacity to fulfill both the orders. Q Ltd. presently purchases this product in the market for ₹ 34,400 and is willing to pay this price per unit of XY Ltd. product. But P Ltd. lets XY Ltd. choose one of the following options :

(i) A price of ₹ 33,000 per unit for the 4 units it proposes to take from XY Ltd.

OR

(ii) Supply P Ltd.'s idle labour force to XY Ltd. for only 4 units of production, with XY Ltd. having to pay only ₹ 2 per labour hour to P Ltd.'s workers. P Ltd.'s workers will be withdrawn after the first 4 units are produced. In this case, XY Ltd. need not use its labour for producing P Ltd.'s requirements. P Ltd. assures XY Ltd. that its labour force also has a learning rate of 80%. In this option, P Ltd. offers to buy the product from XY Ltd. at only 28,000 per unit.

P Ltd. and Q Ltd. shall not know of each other's offer.

If both orders came before any work started, what is the best option that XY Ltd. may choose ? Present suitable calculations in favour of your arguments.

(b) A cake vendor buys pieces of cake every morning at ₹ 4.50 each by placing his order one day in advance and sale them at ₹ 7.00 each. Unsold cake can be sold next day at ₹ 2.00 per piece and there after it should be treated as no value. The pattern for demand of cake is given below : 7

Fresh Cake :

Daily Sale	100	101	102	103	104	105	106	107	108	109	110
Probability	.01	.03	.04	.07	.09	.11	.15	.21	.18	.09	.02

One day old cake :

Daily Sale	0	1	2	3
Probability	.70	.20	.08	.02

Use the following set of random numbers :

Fresh Cake   37 73 14 17 24 35 29 37 33 68

One day old cake   17 28 69 38 50 57 82 44 89 60

The vendor adopts the following rule.

If there is no stock of cake with him at the end of previous day, he orders for 110 pieces otherwise he orders 100 or 105 pieces whichever is nearest actual fresh cake sale on the previous day. Starting with zero stock and a pending order of 105 pieces, simulate for 10 days and calculate vendor's profit.

3. (a) A market advertising firm desires to reach two type of audiences-   **8**
customer of annual income of more than ₹ 50,000 (target audience A) and customers with annual income of less than ₹ 50,000 (target audience B).

The total advertising budget is ₹ 2,000 crores. One programme of TV advertising costs ₹ 500 crores and one programme on Radio advertising costs ₹ 200 crores. Contract conditions ordinarily require that there should be atleast 3 programmes for TV and the number of programmes on radio must not exceed 5. Survey indicates that a single TV programme reaches 7,50,000 customers in target audience A and 1,50,000 in target audience B. One Radio programme reaches 40,000 customers in target audience A and 2,60,000 customers in target audience B.

Formulate this as a linear programming problem and determine the media mix to maximize the total reach using graphic method.

(b) On the basis of the following information determine the product-mix to give the highest profit if atleast two products are produced :   **8**

Product	X	Y	Z
Raw material per unit (kg)	20	12	30
Machine hours per unit (hours)	3	5	4
Selling price per unit (₹)	500	400	800
Maximum limit of production (units)	1500	1500	750

Only 9,200 hours are available for production at a cost of ₹ 20 per hour and maximum 50,000 kgs. of material @ ₹ 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)

4. (a) X Division and Y Division are two divisions in the XY group of companies. X Division manufactures one type of component which it sells to external customers and also to Y Division.   **10**

Details of X Division are as follows :

Market price per component	₹ 300
Variable cost per component	₹ 157
Fixed costs	₹ 2,062,000 per period
Demand from Y Division	20,000 components per period
Capacity	35,000 components per period

Y Division assembles one type of product which it sells to external customer. Each unit of that product requires two of the components that are manufactured by X Division.

Details of Y Division are as follows :

Selling price per unit	₹ 1200

Variable cost per unit :

(i)	Two components from X	2 @ transfer price
(ii)	Other variable costs per unit	₹ 375
Fixed costs		₹ 1350,000 per period
Demand		10,000 units per period
Capacity		10,000 units per period

Group Transfer Pricing Policy

Transfers must be at opportunity cost.

Y must buy the components from X.

X must satisfy demand from Y before making external sales.

Required :

(1) Calculate the profit for each division if the external demand per period for the components that are made by X Division is :

   (i)   15,000 components

   (ii) 19,000 components

   (iii) 35,000 components

(2) Calculate the financial impact on the Group if Y Division ignored the transfer pricing policy and purchased all of the 20,000 components that it needs from an external supplier for ₹ 255 each. Your answer must consider the impact at each of the three levels of demand (15,000, 19,000 and 35,000 components) from external customers for the component manufactured by X Division.

(b) The activities involved in a project are detailed below :   6

Job	Duration (Weeks)		
	Optimistic	Most likely	Pessimistic
1–2	3	6	15
2–3	6	12	30
3–5	5	11	17
7–8	4	19	28
5–8	1	4	7
6–7	3	9	27
4–5	3	6	15
1–6	2	5	14
2–4	2	5	8

(i) Draw a network diagram.

(ii) Find the critical path after estimating the earliest and latest event times for all nodes, expected project length, variance of critical path, standard deviation of critical path and

(iii) What will be the effect on current critical path if the most likely time of activity 3–5 gets revised to 14 instead of 11 weeks given above ?

5. (a) Compute the missing data, indicated by question marks, from the following : 7

Particulars	Product A	Product B
Standard price per unit (₹)	24	30
Actual price per unit (₹)	30	40
Standard input (kg)	50	??
Actual input (kg)	??	70
Material price variance	??	??
Material usages variance (₹)	??	600 (A)
Material cost variance	??	??

Material Mix variance for both product together was ₹ 90 adverse.

(b) A manufacturing company has three factories namely 'Factory A', 'Factory B' and 'Factory C'. All three factories produce the same product which are sold at ₹ 750 per unit. The factory-wise estimates of operation results for 2014 are as follows : 9

(₹ in laks)

	Factory A	Factory B	Factory C	Total
Sales	600	2,400	1,200	4,200
Costs :				
Raw materials	150	700	290	1,140
Direct labour	150	560	280	990
Factory overheads–variable	40	220	110	370
Factory overheads–fixed	80	240	120	440
Selling overheads–variable	46	140	80	266
Selling overheads–fixed	30	100	60	190
Administrative overheads	40	180	80	300
Head office expenses	24	100	60	184
PROFIT	40	160	120	320

When the above estimates were under finalization, the company's legal department advised that the lease of 'Factory A' was due to expire on 31st December, 2013 and that it could be renewed by enhancing the lease rent by ₹ 24 lakhs per annum. Since this enhancement will have impact on the profitability of the company, the management is constrained to examine following proposals :

(i)   Renew the lease and bear the impact.

(ii) Close down factory 'A', sell off plant, machinery and stock and liquidate all liabilities including the staff and workers', pay retrenchment compensation from sale proceeds which are sufficient for the purpose.

In order however to maintain the customer relations, the total planned output of the factory 'A' will be transferred to EITHER factory 'B' OR factory 'C'. Plant capacity is available at both the factories to takeover the manufacture. The additional cost involved in the manufacture of the extra output so transferred in factory 'B' and 'C' are estimated as under :

	Factory B	Factory C
(a) Additional fixed overheads due to increase in capacity utilization (per annum)	₹ 100 lakhs	₹ 80 lakhs
(b) Additional freight, selling and other overheads to produce and distribute the output to the present customers of factory 'A'.	₹ 50 per unit	₹ 70 per unit

You are required to prepare comparative statements of profitability in the aforesaid alternative courses of action and give your recommendations.

6. (a) A company manufactures several products of varying designs and models. It uses a single overhead recovery rate based on direct labour hours. The overheads incurred by the Company in the first half of the year are as under : **10**

	₹
Machine operation expenses	20,25,000
Machine maintenance expenses	3,75,000
Salaries of technical staff	12,75,000
Wages and salaries of stores staff	5,25,000

During this period, the company introduced activity based costing system and the following significant activities were identified :

- Receiving materials and components

- Set up of machines for production runs

- Quality inspection

It is also determined that :

- The machine operation and machine maintenance expenses should be apportioned between stores and production activity in 1:4 ratio.

- The technical staff salaries should be apportioned between machine maintenance, set up and quality inspection in 3 : 4 : 3 ratio.

The consumption of activities during the period under review are as under :

- Direct labour hours worked   80000

- Production set-ups   4080

- Material and components consignments received from suppliers   3920

- Number of quality inspection carried out   2560

The direct wages rate is ₹ 12 per hour.

The data relating to two products manufactured by the company during the period are as under :

		P	Q
Direct Materials costs	₹	12,000	8,000
Direct labour hours	Hrs.	960	100
Direct Materials Consignments received	nos.	48	52
Production runs	nos.	36	24
Number of quality inspection done	nos.	30	10
Quantity Produced	Unit in nos.	15,000	5,000

A potential customer has approached the company for the supply of 24,000 units of a component 'R' to be delivered in lots of 3000 units per quarter. The job will involve an initial design cost of ₹ 60,000 and the manufacture will involve the following per quarter.

Direct Material costs	₹	12,000
Direct labour hours	Hrs.	300
Production runs	nos.	6
Inspections	nos.	24
Number of consignments of direct materials to be received	nos.	20

You are required to

1. Calculate the cost of products P and Q based on the existing system of single overhead Recovery rate.

2. Determine the cost of product P & Q using Activity Based Costing system.

3. Compute the sales values per quarter of components 'R' using Activity Based Costing system. (considering a mark up of 25% on cost)

(b) The following are the details regarding budgeted and actual production costs for the year 2013 of an industrial concern. You are required to prepare a Production Cost Budget for the year 2014.

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	Budget		Actual	
Output (units)	39,900		40,600	
	Units	₹	Units	₹
Materials consumed	42,000	42,000	43,000	53,750
Wages at 1 hour per unit at ₹ 1 per unit Budget	–	39,900	–	44,660
Variable Overhead at ₹ 1 per unit Budget	–	19,950	–	20,600
Fixed Overheads	–	30,000	–	35,000
		1,31,850		1,54,010

During the budget period :

(1) Production is expected to reach 50,000 units.

(2) Material price are expected to increase further by the same percentage as they had increased over the budget period.

(3) Labour rates are expected to increase by ₹ 0.20 per hour above the actual rates shown above; efficiency is expected to decline by 10%; upto 31st December, 2013, there has been no decline in efficiency.

(4) Variable overhead of previous year to be maintained.

(5) Fixed overheads are expected to rise by 10% per annum.

(6) Wastage of materials to be maintained at 2013 budget level.

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

(a)   In a transport problem for cost minimization, there are 4 rows indicating
      quantities demanded and these totals up to 1800 units. There are 4
      columns giving quantities supplied and these totals up to 2,100 units.
      What is the condition for a solution to be degenerate ?

(b)   Explain the concept of relevancy of cost by citing three examples each
      of relevant costs and non-relevant costs.

(c)   How does the JIT approach help in improving an organization's
      Profitability ?

(d)   Briefly explain the phases in the life cycle of a product.

(e)   How customer costing is applied in service sector ? Explain with
      example from any service sector area.

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