Roll No. ....

Total No. of Questions – 7

NOV 2011

Time Allowed – 3 Hours

FINAL
GROUP-II PAPER-5
ADVANCED MANAGEMENT ACCOUNTING
Total No. of Printed Pages – 11

Maximum Marks – 100

HBO

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 answers in Hindi will not be valued.

Question Number **1** is compulsory.

Attempt any **five** out of the remaining **six** questions.

Working notes should form part of the answer.

No statistical or other table is to be distributed along with this question paper.

Marks

1. (a) New Ltd. plans to completely manufacture a single product Z, whose selling   5 price and variable manufacturing costs will be ₹ 100 per unit and ₹ 80 per unit respectively. If the complete production is done at its own factory, fixed machining costs will be ₹ 3,62,000 and fixed administration and selling overheads will be ₹ 30,000 for the production period.

Alternatively, the product can be finished outside by sub contracting the machining operations at ₹ 10 per unit, but this will entail an increase in the fixed administration overheads by ₹ 1,20,000, while fully avoiding the machining cost of ₹ 3,62,000.

Based on the above figures and assuming a production capacity of 30,000 units for the production period, advise with relevant supporting figures, from a financial perspective, for what volumes of market demand will :

(i)   a manufacture be recommended at all ?

(ii)   a fully in-house production be recommended ?

(iii) the sub contracting option be recommended ?

(b) Pigments Ltd. is a chemical factory producing joint products J, K and L at a joint cost of production of ₹ 9,60,000. The sales are :   **5**

J   60,000 units at ₹ 5 per unit,

K   20,000 units at ₹ 20 per unit and

L   40,000 units at ₹ 10 per unit.

The company seeks your advice regarding the following options available :

Option I : After the joint process, all of L can be further processed to make 36,000 units of M, at an additional processing cost of ₹ 1,80,000 and M can be sold at ₹ 18 per unit.

Option II : The facilities used to convert L to M may be used to make 7000 units of an additional product A, with a different raw material input. A can be made at an additional variable manufacturing cost of ₹ 12 per unit and will fetch ₹ 30 as the selling price, but the company will have to offer one unit of J as a free gift for each unit of A sold.

Evaluate the proposals using the incremental cost approach.

(c) State any 5 limitations of the assumptions of PERT and CPM.   **5**

(d)   Classify the following items under appropriate categories of quality costs viz.   5
      Prevention Costs, Appraisal Costs, Internal Failure Costs and External Failure
      Costs :

   (i)   Rework

   (ii)   Disposal of scrap

   (iii)   Warranty Repairs

   (iv)   Revenue loss

   (v)   Repair to manufacturing equipment

   (vi)   Discount on defective sale

   (vii)   Raw material inspection

   (viii) Finished product inspection

   (ix)   Establishment of quality circles

   (x)   Packaging inspection

2.   (a)   The budget and actual operating data for 2010-11 pertaining to 4 products in a   10
           store are given below :

	Budgeted data for 2010-11			Actual operating results in 2010-11		
Product	Gallons	Selling price (₹ per gallon)	Variable costs (₹ per gallon)	Gallons	Selling price (₹ per gallon)	Variable costs (₹ per gallon)
V	2,50,000	1.2	0.5	1,80,000	1.00	0.45
C	3,00,000	1.5	0.6	2,70,000	1.35	0.50
S	2,00,000	1.8	0.7	3,30,000	2.00	0.75
A	50,000	2.5	1.00	1,80,000	3.00	1.20

You are required to compute for the individual products and in total :

(i) the sales margin price variance

(ii) the sales margin mix variance and

(iii) the sales margin volume variance

Indicate whether the variances are favourable (F) or unfavourable (A or U).

(b) A city corporation has decided to carry out road repairs on 4 main roads in the   6
city. The Government has agreed to make a special grant of ₹ 50 lacs 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 road will be awarded to one
contractor. The bids are given below:

		Cost of Repairs (₹ in lacs).			
	Road →	R_1	R_2	R_3	R_4
Contractors	C_1	9	14	19	15
	C_2	7	17	20	19
	C_3	9	18	21	18
	C_4	10	12	18	19
	C_5	10	15	21	16

You are informed that C_2 should get R_1 and C_4 should get R_2 to minimize
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 corporation 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 grant amount ?

Marks

3. (a) PQ Ltd. makes two products P and Q, which are similar products with slight difference in dimensions, but use the same manufacturing processes and facilities. Production may be made interchangeably after altering machine set-up. Production time is the same for both products. The cost structure is as follows:

(Figures ₹ per unit)	P	Q
Selling Price	100	120
Variable manufacturing cost (directly linked to units produced)	45	50
Contribution	55	70
Fixed manufacturing cost	10	10
Profit	45	60

Fixed cost per unit has been calculated based on the total practical capacity of 20,000 units per annum (which is either P or Q or both put together). Market demand is expected to be the deciding factor regarding the product mix for the next 2 years. The company does not stock inventory of finished goods. The company wishes to know whether ABC system is to be set up at a cost of ₹ 10,000 per month for the purpose of tracking and recording the fixed overhead costs for allocation to products.

Support your advice with appropriate reasons.   6

Independent of the above, if you are told to assume that fixed costs stated above, consist of a non-cash component of depreciation to plant at ₹ 90,000 for the year, will your advice change ? Explain.   2

(b)   In a company, Division A makes product A and Division B makes product B.   **8**
One unit of A needs one unit of B as input. State the unit transfer price to be
adapted by the transferring Division A to B in each of the following
independent situations :

(i)   There is a ready market for A. There are no constraints for production or
demand for A and A does not incur any external selling cost.

(ii)   Supply is more than demand for A. External market resorts to distress
price for A and this is expected to last for a temporary period. The
product cannot be stocked until better times.

(iii)   Product A is highly specialized. Internal specifications are too many that
B has to only buy from A.

(iv)   A has excess capacity. It can transfer any quantity to B. Goal congruence
is to be achieved.

(v)   A has no spare capacity, has adequate demand in a competitive market.

(vi)   A has no spare capacity and has adequate demand in a competitive
market. But on units transferred to B, it incurs ₹ 10 per unit as additional
transport cost and ₹ 10,000 as fixed expenses irrespective of the number
of units transferred.

(Candidates need not copy the above situations into their answer books).

4.   (a)   Alfa Mills prepared the following budget for its production department for   **10**

2010-11 for 12,000 units of production.

	₹
Raw Material @ ₹ 3 per unit	36,000
Labour 2 hours/unit @ ₹ 2.5 per hour	60,000
Production overheads:	
Power(variable)	3000
Repairs(variable)	1500
Indirect labour(80% variable)	2400
Factory Rent (Fixed)	3600
Factory Insurance (Fixed)	1800
Other Manufacturing Expenses (50% variable)	600
Total Production Cost	1,08,900

You are required to present the flexible budget classified under fixed and

variable costs for

(i)   Production of 10,000 units.

(ii)   Production of 15,000 units, for which raw material price increases by

10% for the entire quantity and labour rate increases by ₹ 0.5 per hour for

the full direct labour hours.

Marks

(b) Happy Holidays Company contracts to take children on excursion trips.   6
Relevant information for a proposed excursion trip is given below :

	₹
Revenue per trip per child	4000
Expenses that have to be incurred :	
Train fare per child per trip	1700
Meals per child per trip	300
Craft Materials per child per trip	600
Room Rent per trip (4 children can be accommodated in a room)	760
Local Transport at picnic spots (per vehicle) (each vehicle can seat 6 children excluding the driver)	1200

Fixed costs that are required to be covered in a trip ₹ 5,18, 130
Find the minimum number of children to cross the break-even point and start earning a profit.

5. (a) Quickcomp is a successful version of a software package that is widely used.   6
Fastercomp is the next version, for which the development is complete and it
is ready to be sold immediately in the market as budgeted. However, for
Fastercomp, user manuals, training modules and diskettes have not yet been
made, whereas, for the Quickcomp version, these are overstocked by 5,000
units. Release of Fastercomp will render the Quickcomp version not saleable.
The following information is provided:

	Quickcomp	Fastercomp
Selling price per unit ₹	14,000	19,000
Variable cost per unit- ₹ (consisting of user manuals, training modules and diskettes)	1000	4000

Marks

	HBO	
Development Cost per unit ₹ (total cost of development spread over the expected sales quantity during the products' life-cycle)	7,000	10,000
Marketing/ Administration Cost per unit ₹ (Fixed budgeted annual outflow divided by the expected sales quantity for each product for the year)	3500	4000
Total Cost per unit ₹	11,500	18,000
Operating Income per unit	2,500	1,000

From a purely financial perspective, the company wants your advice whether to delay the release of the new version by 2 months by when the inventory of the existing version would have sold out or to release the new version immediately. Support your advice with relevant figures.

(b) Given below is the relevant portion of the first iteration of a linear program under the simplex method, using the usual notations.   **10**

Quantity	Basic Variable	Contribution Per unit	x_1	x_2	s_1	s_2	s_3
			50	40	0	0	0
150	s_1	0	3	5	1	0	0
20	s_2	0	0	1	0	1	0
296	s_3	0	8	5	0	0	1

(i) Write the initial linear program with the objective function and the inequations.

HBO   Mark

The following questions are to be answered independent of each other and based on the iteration given above :

(ii)   What is the opportunity cost of bringing one unit of x_1 into the solution ?

(iii) If we bring 4 units of x_1 into the solution, by how much will the basic variables change ?

(iv)   What will be the change in the value of the objective function if 4 units of x_2 are brought into the solution ?

(v)   What will be the quantity of the incoming variable ?

6. (a) The number of days of total float (TF), earliest start times (EST) and duration   1(
         in days are given for some of the following activities.

Activity	TF	EST	Duration
1 – 2	0	0	
1 – 3	0		
1 – 4	5		
2 – 4	0	4	
2 – 5	1		5
3 – 6	2	12	
4 – 6	0	12	
5 – 7	3		
6 – 7		23	
6 – 8	2		
7 – 8	0	23	
8 – 9		30	6

(i)   Draw the network.

(ii) List the paths with their corresponding durations and state when the project can be completed.

(b)   State the pricing policy most suitable in each of the following independent   4
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 products, 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. The situations need not be copied into the
  answer books).

(c)   Two companies, H and L, have the same values for turnover and net profit and   2
make a similar product. H has a higher P/V ratio than L. Which company will
perform better when : (i) the market demand is high ? (ii) the market demand
is low ?

7.   Answer any **4** out of the following **5** questions :

  (a)   What are the steps involved in the simulation process ?   4

  (b)   What are the limitations of the learning curve theory ?   4

  (c)   Briefly explain the phases in the life cycle of a product.   4

  (d)   Explain briefly Pareto analysis and mention some of its uses.   4

  (e)   Explain the concept of Just In Time approach in a production process.   4