2015

DDE

M.Com. Part–II Examination

COMMERCE

PAPER—VIII

Full Marks : 100

Time : 4 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Write the answer question of each Half in separate books

First Half

(*Advanced Cost Accounting*)

[Marks : 50]

Answer *Q. No. 1* and any *two* from the rest.

1. Answer any *four* of the following : 4×5

(a) Explain the terms (i) Relevant Cost ; (ii) Sunk Cost ; (iii) Opportunity Cost. 2+1+2

(b) What is Target costing ? Briefly explain how target cost is used in product pricing. 2+3

(c) Write a brief note on Responsibility Accounting. 5

(d) Journalise the following transactions assuming Cost and Financial Accounts are integrated :

Wages paid (40% indirect) and charged to production : Rs. 15,000

Raw material purchased (80% direct material) and issued to production : Rs. 50,000

Factory Overhead incurred : Rs. 10,000

Factory Overhead absorbed : Rs. 9,700 5

(e) Write the names of the ledger accounts maintained under non-integrated system of Cost and Financial book keeping. 5

(f) Draw up a flexible budget for overhead expenses at 70% and 90% plant capacities : 5

	Capacity Levels		
	70% Rs.	80% Rs.	90% Rs.
Variable Overheads :			
Indirect Labour	—	12,000	—
Stores (including spares)	—	4,000	—
Semi-Variable Overheads :			
Power	—	20,000	—
(30% fixed, 70% variable)			
Repairs and maintenance	—	2,000	—
(60% fixed, 40% variable)			

Contd.

Fixed Overhead :			
Depreciation	—	14,000	—
Salaries	—	20,000	—

5

(g) Two products R and S are obtained in crude forms and require further processing at a cost per unit of Rs. 5 for R and Rs. 4 for S. Assuming a net margin of 25% on cost, their sale prices per unit are fixed at Rs. 13·75 and Rs. 8·75 respectively. During the period, the joint cost was Rs. 88,000 and the outputs were : R- 8,000 units and S- 6,000 units.

Ascertain the joint Cost per unit. 5

(h) Explain the terms (i) Break Even Point (ii) Margin of Safety (M/S) and (iii) Angle of Incidence. 2+2+1

2. (a) Point out the main reasons of Fixed overhead expenditure variances. (Component-wise).

(b) The standard material imputs requirements for 1000 kg of a finished product are given below :

Material	*Quantity (in kg.)*	*Standard rate per kg. (in Rs.)*
P	450	20
Q	400	40
R	250	60
	1,100	
Standard Loss	100	
Standard Output	1,000	

Actual production in a period was 20,000 kgs. of the finished product for which the actual quantities of material used and the prices paid thereof are as under :

Material	*Quantity used (in kg.)*	*Purchase Price per kg. (in Rs.)*
P	10,000	19
Q	8,500	42
R	4,500	65

Calculate :

(i) Material Cost Variance.
(ii) Material Price Variance.
(iii) Material Usage Variance.
(iv) Material Mix Variance.
(v) Material Yield Variance. (3+2)+10

3. (a) What is budget ? What is budgetary control ?

(b) What are the differences between fixed budget and flexible budget ?

(c) Gama Engineering Company Limited manufactures two products X and Y. An estimate of the number of units expected to be sold in the first seven months of 2016 is given below :

	Product -X	*Product-Y*
January	500	1400
February	600	1400
March	800	1200

Contd.

April	1000	1000
May	1200	800
June	1200	800
July	1000	900

It is anticipated that :

(i) There will be no work-in-progress at the end of any month ;

(ii) Half the anticipated sales for the next month should be in stock at the end of each month (Applicable to December, 2015 also). The budgeted production and production costs for the year ending 31.12.2016. are as follows :

	Product-X	*Product-Y*
Production (units)	11,000	12,000
Direct materials per unit (Rs.)	12	19
Direct wages per unit (Rs).	5	7
Other manufacturing charges apprortionable to each types of products (Rs.)	33,000	48,000

You are required to Prepare :

(i) a production budget showing the number of units to be manufactured each month from January to June, 2016 *and*

(ii) a summarised production cost budget for the 6 month period — January to July 2016.

(2+2)+2+(5+4)

4. (a) Explain the terms Value analysis and value engineering.

(b) The following particulars are taken from the records of a company engaged in manufacturing of two products. A and B :

Particulars	*Product-A (per unit) Rs.*	*Product-B (per unit) Rs.*
Sales Price	2,500	5,000
Material Cost (Rs. 50 per kg)	500	1,250
Direct Labour (Rs. 30 per hour)	750	1,500
Variable Overhead	250	1,500
Total fixed Overheads :	Rs. 10,00,000	

Compare on the profitability of each product when :

(i) Total Sales quantity is limited.

(ii) Raw material is in short supply.

(iii) Production capacity (labour hour) is limited.

(iv) It the total availability of raw material is 20,000 kg. and maximum sales potential of each product is 1000 units, find the optimum product mix.

5+10

(Continued)

5. (a) Product B is obtained after is passes through three distinct processes. The following information is obtained from the accounts for the week ending 31 May, 2015 :

		Process		
	Total (Rs.)	*I* *Rs.*	*II* *Rs.*	*III* *Rs.*
Direct Material	7,542	2,600	1,980	2,962
Direct Wages	9,000	2,000	3,000	4,000
Production Overhead	9,000			

1000 units at Rs. 3 each were introduced to process I. There was no stock of materials or Work-in-Progress at the beginning or end of the period. The output of each process passes directly to the next process and finally to finished units.

Production overhead is recovered on 100% of direct wages.

The following additional data are obtained :

Process	*Output during the week*	*Percentage of normal loss to input*	*Value of scrap per unit (Rs.)*
I	950	5%	2
II	840	10%	4
III	750	15%	5

Prepare Process Cost accounts and abnormal loss or gain account. 15

(Turn Over)

Second Half

(*Advanced Business Statistics*)

[Marks : 50]

Answer *Q. No. 6* and any *two* from the rest.

6. Answer any *four* of the following questions : 4×5

(a) Define :

(i) Sample Space ;

(ii) Mutually exclusive events ;

(iii) Equally likely events. 5

(b) What is sampling distribution of a statistic ? Define standard error of a statistic. How would you calculate the standard error of sample mean $(\bar{x})$? 2+2+1

(c) What do you understand by Type-I error, Type-II error, and Power of a hypothesis test ? How are they related ? 3+2

(d) Write brief notes on : (i) Stratified sampling ;

(ii) Multi-stage sampling.

$2\frac{1}{2}+2\frac{1}{2}$

(e) The mean yield per plant for 11 tomato plants of a praticular variety was found to be 1284·7 gm. with a standard deviation of 96·4 gm. Set up 99% confidence limits to the mean yield of all plant of this variety.

5

(f) Proof that the variance of Poisson distribution is λ .

5

(g) In a binomial distribution with 6 independent trials, the probabilities of 3 and 4 successes are found to be 0·2457 and 0·0819 respectively. Find the parameters 'p' and 'q' of the binomial distribution.

5

(h) The mean population of a random sample of 400 villages in Midnapore district was found to be 400 with a standard deviation of 12. The mean population of a random sample of 400 villages in Howrah district was found to be 395 with a standard deviation of 15. Is the difference between the two districts means statistically significant ? 5

7. (a) Midnapore Travel Agency has two cars which it hires out day by day. The number of demands for a car on each day follows Poisson distribution with mean 1·5. Calculate the proportion of days on which i) neither car is used, (ii) some demand is refused.
[Given : $e^{-1\cdot5} = 0\cdot2231$]

(b) Examine whether the following fallacy is correct.
The mean of a binomial distribution is 15 and its standard deviation is 5.

(c) A certain brand of batteries has a mean life of 300 hours and a standard deviation of 35 hours. Assume that the distribution of life time of batteries is normal. Find the percentage of batteries which will have a life time of more than 370 hours.

5+3+7

8. (a) State and illustrate Bayes' Theorem. Explain the significance of this theorem. 8

(b) Three groups of workers contain 3 men and one woman, 2 men and 2 women and 1 man and 3 women respectively. One workers is selected at random from each group. What is the probability that the group selected consists of 1 man and 2 women ? 7

9. (a) Distinguish between a null hypothesis and an alternative hypothesis. Use as example to explain the nature of null and alternative hypothesis in case of one and two tailed test.

(b) Explain the concept of statistical significance.

(c) 500 apples are taken at random from a large basket and 50 are found to be bad. Estimate the proportion of bad apples in the basket and assign limits within which the percentage most probably lie. 6+4+5

10. (a) What is ANOVA ? State its assumptions.

(b) A farmer applied three types of fertilizers on four separate plots. The figures on yield per acre (in quintal) are tabulated below :

	Plots				
Fertilizer	A	B	C	D	Total
Nitrogen	6	4	8	6	24
Potash	7	6	6	9	28
Phosphate	8	5	10	9	32
Total	21	15	24	24	84

Apply two-way ANOVA and test whether the plots as well as the three fertilizers are significantly different in yield of crop.

[*Given* : $F_{0\cdot05\,;\,(3,6)}=4\cdot76$ and $F_{0\cdot05\,;\,(2,6)}=5\cdot14$.]

5+10