# 2013

## 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 : 5×4

(a) Write the major reasons of differences in costing Profit and Financial Profit when accounts are maintained under non-integrated system.

(b) Enter the following transactions in the books of accounts maintained under Integrated System.

| | | (₹) |
|---|---|---|
| (i) | Material purchase in credit | 9,000 |
| (ii) | Direct materials issued to jobs | 10,000 |
| (iii) | Materials returned to stores from shop floor | 300 |
| (iv) | Direct wages paid | 5,700 |
| (v) | Production overhead absorbed to production | 2,200 |

5

(c) Prepare a flexible budget for overheads at 50%, 60% and 70% capacities of operation on the basis of the following data.

| | *At 60% capacity* (₹) |
|---|---|
| *Variable overheads :* | |
| Indirect material | 6,000 |
| Indirect labour | 18,000 |
| Semi-variable overheads : | |
| Electricity (40% fixed and 60% variable) | 30,000 |
| Repairs (80% fixed and 20% variable) | 3,000 |
| Fixed Overheads : | |
| Depreciation | 16,500 |
| Insurance | 4,500 |
| Salaries | 15,000 |
| Total overheads | 93,000 |

5





(d) A coke manufacturing company produces the following products by putting 5,000 tonnes of coal @ Rs. 25 per tonne into common process :

| | |
|---|---|
| Coke | 3,500 tonnes |
| Tar | 1,200 tonnes |
| Sulphate | 52 tonnes |
| Benzol | 48 tonnes |

Apportion the joint cost amongst the products on the basis suitable method. 5

(e) Write notes on Activity Based Costing. 5

(f) The Asian Industries specialise in the manufacture of small capacity motors. The cost structure of a motor is under :

| | |
|---|---|
| Material | ₹ 50 |
| Labour | ₹ 80 |
| Variable overheads | 75% of labour cost |

Fixed overheads of the company amount to ₹ 2.40 lakhs per year.

Sale price of the motor is ₹ 230 each.

(i) Determine the number of motors that have to be manufactured and sold in a year in order to break even.

(ii) How many motors have to be made and sold to make a profit of ₹ 1 lakh per year. 5

(g) What are the pre-requisites and limitations of Responsibility Accounting ? 5

(h) What are the basic steps in any value analysis project ? 5

**2.** Make out the necessary accounts from the following details :

| | *Process A* | *Process B* |
|---|---|---|
| Material (₹) | 30,000 | 3,000 |
| Labour (₹) | 10,000 | 12,000 |
| Overhead (₹) | 7,000 | 8,600 |
| Input (unit) | 20,000 | 17,500 |
| Normal Loss | 10% | 4% |
| Sales value of wastes per unit (₹) | 1 | 2 |

There was no opening or closing stock or work in progress. Final output from process B was 17,000 units. 15

**3.** (a) What is Marginal Cost Equation ?

(b) Explain Cost-Volume-Profit (C-V-P) analysis in Marginal Costing.

(c) Explain the factors to be considered in Marginal Costing.

2+6+7

**4.** (a) The standard cost of a certain chemical mixture is :

35% Material A at Rs. 25 per kg.

65% Material B at Rs. 36 per kg.

A standard loss of 5% is expected in production. During a period there is used :

125 kg of Material A at Rs. 27 per kg.

275 kg of Material B at Rs. 34 per kg.

Actual output was 365 kg.

Calculate Material Variances.





(b) Discuss the steps in developing the target cost and target price.

10+5

**5.** Prepare a Production Budget for each month and a summarised Production Cost Budget for the Six months period ending 31st December, 2014 from the following data of Product 'X'.

(i) The units to be sold in different months are as follows :

| | |
|---|---|
| 2014, July | 1,100 |
| August | 1,100 |
| September | 1,700 |
| October | 1,900 |
| November | 2,500 |
| December | 2,300 |
| 2015, January | 2,000 |

(ii) There will be no work in progress at the end of any month.

(iii) Finished units equal to half the sales for the next month will be in stock at the end of each month (including June, 2014).

(iv) Budgeted Production and Production Cost for the year ended 31st December, 2014 are as follows :

| | |
|---|---|
| Production (units) | 22,000 |
| Direct Material per unit (₹) | 10.00 |
| Direct wages per unit (₹) | 4.00 |
| Total Factory overhead apportioned to product (₹) | 88,000 |

10+5

## Second Half

### *(Advance Business Statistics)*

[Marks : 50]

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

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

(a) Can two events be mutually exclusive and independent simultaneously ? Justify your answer.

(b) A man picks 4 cards from a pack of 52 cards and finds 3 spade and 1 diamond. You give him 3 more cards from the same pack. Find the probability that there will be at least one additional spade card out of the 3 cards given to him.

(c) Find the mode of a normal variate.

(d) What is binomial distribution and what are its properties ?

(e) Distinguish between

(i) Parameter and Statistic;

(ii) Standard Error and Standard Deviation.

(f) Define the concept of Maximum Likelihood Estimator (MLE). Write down the properties of a maximum likelihood estimator.

(g) From the following information, estimate the intervals of the population mean with 95% confidence :

Population size = 2000;

Sample size = 100;

Population standard deviation = 3;

Sample mean = 40;

Sample standard deviation = 3.25.





(h) Write brief note on :

(i) One-tailed test and two-tailed test;

(ii) Type–I error and Type–II error.

**7.** (a) Write down the concept of 'pair-wise' independence and 'mutually' independent events.

(b) State Bayc's theorem of inverse probability.

(c) A manufacturing firm produces steel pipes in three plants Plant–1, Plant–2 and Plant–3, with daily production volumes of 500, 1000 and 2000 units respectively. According to past experience it is known that the fraction of defective outputs produced by three plants are respectively 0.005, 0.008 and 0.010. If a pipe is selected at random from a day's total production and found to be defective, find the probability that the pipe was produced in Plant–3.

4+3+8

**8.** (a) Find mean, variance, skewness and kurtosis of a Poisson distribution.

(b) In Indian film industry, the average shooting accidents per year is found to be 3. Assuming this to be a situation of rare events, what is the probability that there will be

(i) 2 of such accidents in a particular year.

(ii) Maximum 2 accidents in a particular year ?

9+6

9. (a) What do you understand by Analysis of Variance? State its assumptions.

(b) The following table gives the yield of a hybrid variety of wheat, in quintals per acre, from 17 trial plots of land treated with four different types of fertilizers.

Treatment of fertilizer :

| *A* | *B* | *C* | *D* |
|---|---|---|---|
| 24 | 31 | 39 | 38 |
| 39 | 25 | 41 | 32 |
| 35 | 26 | 33 | 35 |
| — | 21 | 40 | 34 |
| — | — | 45 | 26 |

Test whether there is any significant difference in the mean yield of wheat due to difference in fertilizer application.

$[Given\ F_{0\cdot05,\ (3,\ 13)} = 3\cdot41]$ 6+9

10. (a) In a sample of 600 men from Kolkata, 400 are found to be smokers. In another sample of 900 men from Mumbai 540 are found to be smokers. Do the data indicate that the two cities are significantly different with respect to prevalence of smoking habits among men ?

(b) A dice is rolled 120 times with the following results :

| Face : | 1 | 2 | 3 | 4 | 5 | 6 | Total |
|---|---|---|---|---|---|---|---|
| Frequency : | 30 | 25 | 18 | 10 | 22 | 15 | 120 |

Test the hypothesis that the dice is unbiased at $\alpha = 0.05$

$[Given : X^2_{0\cdot05,\ 5} = 11\cdot07]$ 7+8