2018

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.

First Half

(Advanced Cost Accounting)

[Marks : 50]

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

1. Answer any *four* questions : 4×5

(a) Pass Journal entries for the following transaction in a double entry cost accounting system. Assume the

company is following non-integrated system of book keeping :

(i)	Issue of materials :	Direct	₹ 5,50,000
		Indirect	₹ 1,50,000
(ii)	Allocation of wages and Salaries :	Direct	₹ 2,00,000
		Indirect	₹ 40,000
(iii)	Overhead absorbed in Jobs :	Factory	₹ 1,50,000
		Administration	₹ 50,000
		Selling	₹ 30,000

(b) Write the major reasons for differences in costing profit and financial profit.

(c) In manufacturing the main product A, a company processes the resulting waste material into two by-products M_1 and M_2, using the method of working backward from sales value to an estimated cost, you are required to prepare comparative Profit and Loss statement of the three products from the following data :

(i) Total cost upto separation point was ₹ 1,36,000

	A	M_1	M_2
(ii) Sales (all production)	3,28,000	32,000	48,000
(iii) Cost after separation	—	9,600	14,400
(iv) Estimated net profit percentage to sales value	—	20	30
(v) Estimated selling expenses as percentage of sales value	20	20	20

(d) Briefly explain cost, volume and profit (C.V.P) analysis in Marginal costing.

(e) Discuss the utility and limitations of standard costing. 3+2

(f) Write short notes on :

(i) Activity Based Costing ;

(ii) Target Costing. $2\frac{1}{2}+2\frac{1}{2}$

(g) Draw up a Flexible Budget for overhead expenses on the basis of the following data and determine overhead rates at 70%, 80% and 90% plant capacity :

	At 80% Capacity Rs.
Variable overhead :	
Indirect Labour	12,000
Stores including spares	4,000
Semi-variable overheads :	
Power (30% fixed)	20,000
Repairs and Maintenance (60% fixed)	2,000
Fixed overhead :	
Depreciation	11,000
Insurance	3,000
Salaries	10,000
Total overhead	62,000
Estimated direct labour hours	1,24,000 Hrs

(h) Distinguish between :

(i) Estimated Costs and Standard Costs,

(ii) Standard Costing and Budgetary Control.

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

2. The following details are given in respect of a manufacturing unit for the month of April, 2018 :

(a) Opening W-I-P 5,000 units

	₹
(i) Material (100% complete)	18,750
(ii) Labour (60% complete)	7,500
(iii) Overhead (60% complete)	3,750

(b) Units introduced into the process 17,500 units

(c) 17,500 units are transferred to the next process.

(d) Process cost for the period are :

Material	₹ 2,50,000
Labour	₹ 1,95,000
Overhead	₹ 97,500

(e) The stage of completion of units in closing W-I-P are estimated to be :

Material – 100%, Labour – 5%, Overhead – 50%

You are required to prepare a statement of equivalent unit, statement of cost of each elements, statement of evaluation of various items and process cost account. Use FIFO method. 4+3+4+4

3. (a) What is Marginal cost equation ? Write the significance of break-even analysis in marginal costing.

(b) From the following particulars, find the most profitable product mix and prepare a statement of profitability of that product mix.

	Product A	Product B	Product C
Units budgeted to be produced and sold	1,8000	3,000	1,200
Selling Price per unit (₹)	60	55	50
Requirement per unit :			
Direct material	5 kg	3 kg	4 kg

(Continued)

	Product A	Product B	Product C
Direct Labour	4 hrs.	3 hrs.	2 hrs.
Variable overhead (₹)	7	13	8
Fixed overhead (₹)	10	10	10
Cost of direct material per kg (₹)	4	4	4
Direct labour hour rate (₹)	2	2	2
Maximum possible units of sales	4,000	5,000	1,500

All the three products are produced from the same direct material using the same type of machines and labour. Direct labour, which is the key factor is limited to 18,600 hours. (2+3)+10

4. From the following information of Alpha Ltd. prepare a Cash Budget for the three months commencing on 1st June, 2018, when the Bank Balance was Rs. 10,000.

(Turn Over)

Month	Sales Rs.	Purchases Rs.	Wages Rs.	Selling Expenses Rs.	Overhead Rs.
April	1,00,000	70,000	8,500	3,500	4,000
May	1,20,000	80,000	9,500	3,500	4,500
June	1,40,000	90,000	9,500	3,500	6,000
July	1,60,000	1,00,000	12,000	3,500	6,500
August	1,80,000	1,10,000	14,000	3,500	7,000

Additional Information :

(a) A sales commission of 5% on sales due to 2 months after sales is payable in addition to the above selling expenses.

(b) Credit terms of sales are payment by the end of the month following the month of supply. On average one-hald of sales is paid on due date, while the other half is paid during the next month.

(c) Creditors are paid during the month following the month of supply.

(d) Plant purchased in June costing Rs. 78,000 is payable on delivery Rs. 48,000 and the balance in two equal monthly instalments, in July and in August.

(e) A dividend of Rs. 30,000 will be paid in September.

(f) Wages are paid $^{3}/_{4}$th on due date while $^{1}/_{4}$th during the next month.

(g) Lag in payment of selling expenses and overhead is one month.

5. AB Cycles Ltd. has 2 divisions, A and B which manufacture bicycle. Division A produces bicycle frame and Division B assembles of the bicycle on the frame. There is a market for sub-assembly and the final product. Each division has been treated as a profit centre. The transfer price has been set at the long-run average market price. The following data are available to each division :

Estimated selling price of final product	Rs.	3000 p.u.
Long run average market price of sub-assembly	Rs.	2000 p.u.
Incremental cost of completing sub-assembly in division B	Rs.	1500 p.u.
Incremental cost in division A	Rs.	1200 p.u.

Required :

(a) If Division A's maximum capacity is 1000 p.m. and sales to the intermediate are now 800 units, should 200 units be transferred to B on long-term average price basis.

(b) What would be the transfer price, if manager of Division B should be kept motivated ?

(c) If outside market increases to 1,000 units, should Division A continue to transfer 200 units to Division B or sell entire production to outside market ?

Second Half

(Advanced Business Statistics)

[Marks : 50]

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

6. Answer any *four* questions : 4×5

(a) Distinguish between pair-wise independency and mutual independency of 'n' events.

(b) What is type-I error and type-II error ? Can we minimize both the errors simultaneously ?

(c) What do you understand by non-parametric test ? Give the names of some non-parametric tests applied in social science research.

(d) There are four mobile phone recharge centers adjacent to Midnapore railway station. All of them have problems with money changes. The chance of problem of money change in center-I is 20%, in center-2 is 40%, in center-3 is 50% and in center-4 is 10%. You want to recharge your mobile phone by Rs. 60 voucher with a Rs. 100 note in your hand. If you enter one of the service centers at random and recharge your mobile phone for Rs. 60 voucher, then what is the probability that you will face a change problem ?

(e) A new seed of paddy is cultivated in three different types of soil, viz. salty, clay and sandy. The cultivation is done on thirty homogeneous plots taking ten plots of each category. On the basis of production of paddy (output) one-way ANOVA is applied to test whether

there is any significant difference in average production in three different types of soils. The incomplete ANOVA table is given below :

Source of variation	Sum of Squares	Degree of freedom	Mean Sum of Squares	F-value	
				Computer	Tabulated at 5% LOS
Among the group	140.20	—	—	—	4.24
Within the group	—	—	—		
Total	460.30	—			

Complete the above table by providing missing values. Conclude whether the average production of paddy in the three different types of soils differs significantly.

(f) Describe briefly the importance of probability distribution in decision making. Give an example.

(g) "Sampling is a necessity under certain conditions." Illustrate with suitable example.

(h) Prove that the variance of Poisson distribution is λ.

7. (a) Give classical definition of probability.

(b) Write notes on :

(i) sample space,

(ii) mutually exclusive events.

(c) A committee of 5 members has been formed out of 6 officers of production department, 4 officers of purchase department, 10 officers of sales department and 2 officers of personnel department. Find the probability that in the committee (i) there is no officer from the pruchase department (ii) there is one officer from production department, one from purchase department, one from personnel department and two officers from sales department. 3+4+8

8. (a) A car hire firm has two cars, which it hires out day by day. The number of demands for a car on each day is distributed as a Poisson distribution with mean 1.5. Calculate the proportion of days on which no car is used and the proportion of days on which some demand is refused. (Given $e^{-1} = 0.3679$, $e^{-1.5} = 0.2231$ and $e^{-3} = 0.0498$)

(b) The average daily food expenditure of families in a certain area has a normal distribution with mean Rs. 500 and standard deviation Rs. 100. What is the probability that a family selected at random from this area will have an average daily expenditure on food in excess of Rs. 700 ? What is the probability that out of eight such families selected at least one family will have their daily food expenditure in excess of Rs. 700 ? 7+8

9. (a) What do you mean by 'Standard Error' ? How do you distinguish between 'Standard Error' and 'Standard Deviation' ?

(b) Explain the method of drawing a stratified sample. State the situation where stratified random sampling is preferred to simple random sampling. (3+4)+(4+4)

10. (a) State the precaution that you should take while applying chi-square test.

(b) It is known that 41 percent of the U.S. population has type-A blood, 9 percent has type-B, 4 percent has

type-AB and 46 percent has type-O blood. Suppose that we suspect that the blood type distribution of people suffering from stomach cancer is different from that of the overall population. A random sample of 200 stomach cancer patients yielded 92 having blood type-A, 20 having blood type-B, 4 having blood type-AB and 84 having blood type-O. Are these data significant enough, at the 5 percent level of significance, to enable us to reject the null hypothesis that the blood type distribution of stomach cancer sufferers is the same as that of the general population ?

(c) A researcher wants to determine whether a hypnotherapy program can help to reduce cigatette consumption amongst regular smokers. To carry out the experiment, the researcher considered 10 long-term smokers who took part in a 6 week hypnotherapy program designed to help them quit smoking. The cigarette consumption of the participants was first recorded "before" the intervention (i.e., pre-intervention) and then for a second time "after" the intervention (i.e., post-intervention). The results, in

terms of average number of cigarette consumed per day in pre and post of program are as follows :

Pre-	26	18	17	23	27	40	38	34	35	25
Post-	21	27	30	12	08	23	16	13	14	22

Test at 5% level whether the hypnotherapy program was effective in reduction of smoking habit.

3+6+6
