PG Odd Semester (CBCS) Exam., December—2018

BUSINESS ADMINISTRATION

(1st Semester)

Course No. : MBACC–106

(Statistical Methods for Decision Making)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. How does data differ from information? Describe the different methods of collecting primary and secondary data for a business firm. 4+10=14

2. Mr. Roy is a salesperson working in a company. In the context of sales, the amount

spent by him in his five trips in the past two months throws the following figure :

Trip No.	*Days*	*Amount spent* (₹)	*Amount per day* (₹)
1	3	810	270
2	9	1,620	180
3	1	700	700
4	10	1,700	170
5	5	900	180
Totals	28	5,730	1,500

Mr. Roy's boss felt that his expenses were very high compared to the normal spending. He said, the average spending per day of Mr. Roy was ₹ 300, while other salespersons spend on an average ₹ 250 a day. Explain the fallacy in this problem. 14

OR

3. Samples of light bulbs were bought from two suppliers and were subjected to destruction test in the lab. The following data were collected on the life :

Life (in hours) :	700–800	800–900	900–1000	1000–1100	*Total*
Supplier A :	14	74	29	13	130
Supplier B :	12	58	32	18	120

(a) Which supplier provides greater average life?

Supplier *A* or Suppler *B*

(b) Which supplier provides uniform quality?

Supplier *A* or Supplier *B*

(c) Which supplier would you prefer?

Supplier *A* or Supplier *B*

Discuss the above points. 5+5+4=14

4. A supermarket that has a chain of 15 retail outlets in a city wants to predict the monthly sales of its entire operation based on the performance of all its retail outlets. The number of customers who visited during one typical month in all the outlets were recorded along with the money value purchase made by them. Based on the data that are given below, answer the following :

(a) Identify the dependent and independent variables in this forecast model.

(b) Fit a regression model to the data.

(c) Validate it statistically.

(d) Comment on the reliability of the model to forecast. 5+5+2+2=14

Supermarket Data on its Retail outlets

Retail outlet	*Consumers*	*Sales* (₹ in lakh)
1	1814	22·4
2	1852	22·1
3	1012	13·68
4	1482	18·42
5	1578	18·84
6	1778	20·16
7	1748	18·9
8	1020	13·46
9	1058	14·48
10	840	12·24
11	1358	15·26
12	1744	18·86
13	1848	18·92
14	1214	15·28
15	904	13·84

OR

5. Two housewives 'Geeta' and 'Bobita' were asked to express their preference for different kinds of detergent gave the following replies :

Detergent	*Geeta*	*Bobita*
A	4	4
B	2	1
C	1	2
D	3	3
E	7	8
F	8	7
G	6	5
H	5	6
I	9	9
J	10	10

To what extent the preferences of these two ladies go together? 14

6. Find the feasible solution of the following transportation problem using northwest corner method and least cost method : 14

		W_1	W_2	W_3	W_4	*Supply*
Factory	F_1	14	25	45	5	6
	F_2	65	25	35	55	8
	F_3	35	3	65	15	16
Requirement		4	7	6	13	

OR

7. In a manufacturing company different workers are working in different machines with five workers five machines situation. Consider the situation of assigning five operators to five machines. The assignment costs are given below :

		Operators				
		I	*II*	*III*	*IV*	*V*
Machine	*A*	10	5	13	15	16
	B	3	9	18	3	6
	C	10	7	2	2	2
	D	5	11	9	7	12
	E	7	9	10	4	12

Assign the operators to different machines so that total cost is minimized. 14

8. Write short notes on the following : 7×2=14

(a) Project management

(b) Waiting line theory

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