SHRI RAMSWAROOP MEMORIAL UNIVERSITY

End Semester Examination (2021-22)-Odd Semester

MBA – I Year (I Sem)	
Course Name: Quantitative Techniques	**Code: MMG1016**
Time: 02 Hours	**Max Marks: 60**

University Roll No.															
(To be filled by the Student)															

Note: Please read instructions carefully:

a) *The question paper has 03 sections and it is compulsory to attempt all sections.*

b) *All questions of Section A are compulsory; questions in Section B and C contain choice.*

Section A: Very Short Answer Type Questions **Attempt all the questions.**		**BL**	**CLO**	**Marks (10)**
1.	What do you mean by arithmetic mean?	BL1	CLO1	02
2.	What are the various components of a time series?	BL1	CLO2	02
3.	What are the applications of Bayes theorem?	BL2	CLO3	02
4.	How Kurtosis helps in understanding the characteristics of data?	BL2	CLO1	02
5.	What do you mean by order of a matrix? Discuss with example.	BL1	CLO4	02
Section B: Short Answer Type Questions **Attempt any 03 out of 05 questions.**		**BL**	**CLO**	**Marks (30)**
1.	Calculate the mode from the following data. x: 10, 11, 12, 13, 14, 15 f: 8, 10, 16, 20, 4, 2	BL2	CLO1	10
2.	How can we use the concept of discrete probability distribution in managerial application? Discuss with an example.	BL3	CLO2	10
3.	The weekly earnings of workers of a company is given below. Find the mean of the weekly earning. Weekly earning in Rs: 3000, 3500, 4000, 4500, 6000, 8000, 8500 Number of Employees: 100, 200, 150, 100, 150, 50, 10	BL2	CLO3	10
4.	With the help of suitable example discuss the uses of differentiation in maximization and minimization problems in business situation.	BL2	CLO4	10
5.	What are the differences between Normal Distribution and Poisson distribution?	BL2	CLO3	10
Section C: Long Answer Type Questions **Attempt any 01 out of 03 questions.**		**BL**	**CLO**	**Marks (20)**
1.	Calculate Laspeyre's and Paasche's index numbers from the following data.	BL3	CLO2	20

	Commodity	**Base year**	**Current year**						
		Quantity	**Price**	**Quantity**	**Price**			
	A	12	10	15	12			
	B	15	7	20	5			
	C	24	5	20	9			
	D	5	15	5	14			
2.	A company is interested to understand the consumer behaviour and conducted a survey from 300 consumers by asking a question "Do you enjoy shopping?". Out of 300 respondents 200 were males and 100 were females. Out of 200 males, 120 responded "Yes" and out of 100 females, 70 responded "Yes". A respondent is selected randomly. Construct a probablity matrix and find out the probablity for followings: A. The respondent is male. B. The respondent enjoys shopping. C. The respondent is female and enjoys shopping. D. The respondent is male and does not enjoy shopping. E. The respondent is female or enjoys shopping.			BL4	CLO3	20
3.	Data of sales revenue and advertising expenses of a company for last 10 years are given below:			BL3	CLO4	20

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Adv. Exp. (In Rs. Lakhs)	100	120	140	170	200	210	250	300	350	410
Sales Revenue (In Rs. Lakhs)	200	220	250	300	400	450	500	600	700	800

Obtain the regression equation of sales revenue on advertisement expenditure. Also estimate sales revenue if advertisement expenditure increases to Rs. 500 lakhs.
