

P P SAVANI UNIVERSITY

First Semester of B. Com. Examination

December 2022

SMBC1060 Business Mathematics

24.12.2022, Saturday

Time: 09:00 a.m. To 11:30 a.m.

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Make suitable assumptions and draw neat figures wherever required.
3. Use of scientific calculator is allowed.

SECTION - I

Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	[05]	CO	BTL
(i)	What is Business Mathematics?		1	2
(ii)	Define Conditional Probability.		3	1
(iii)	If any observation repeats frequently called _____ (median/mode)		2	1
(iv)	How do you find arithmetic mean of ungroup data		2	4
(v)	Define probability.		2	1
(vi)	What is universal set?		3	2
(vii)	Discuss subset		1	2
Q - 2	Find out mean, median, 7 th deciles, 50 th percentile and less than ogive from below mentioned data.	[10]	4	4

Daily wages	1000-3000	3000-5000	5000-7000	7000-9000	9000-11000	11000-13000
No. of Workers	61	56	85	91	10	9

OR

Q - 2 (a)	Differentiate Mean and Median	[05]	3	6
Q - 2 (b)	Why mode holds importance while considering central tendency?	[05]	3	4
Q - 3 (a)	Municipal Corporation has installed 5000 bulb around the city. The average burning life of bulbs is 800 hours. With standard deviation is 200 hours. You are required to find out the no. of bulbs expected to fail between 700 to 900 burning hours.	[10]	5	5

OR

Q - 3 (a)	Describe characteristics of Poisson distribution.	[05]	5	2
Q - 3 (b)	Critically evaluate binomial Distribution.	[05]	5	5
Q - 4	Attempt any one.	[05]		
(i)	Analyze role of Business Mathematics in field of Business operation.		3	4
(ii)	Discuss features of Normal Distribution		3	2

SECTION - II

Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	[05]		
(i)	What is standard error		1	1
(ii)	What is more important while calculating time series _____ (component, time)		2	3
(iii)	How scaling is done?		3	2
(iv)	What is hypothesis?		2	1
(v)	Define sample size		1	3
(vi)	How likert scale is different than other scales.		3	2
(vii)	Illustrate ordinal scale		3	1
Q - 2	Find 5days Moving Average of IPL Sales	[10]	4	4

Days	1	2	3	4	5	6	7	8	9
Sale of IPL	26	29	35	42	50	57	30	32	39
Days	10	11	12	13	14	15			
Sales of IPL	45	48	60	32	38	40			

OR

- Q - 2 (a) Throw some light on drawback of time series data. [05] 5 3
 Q - 2 (b) Discuss application of time series of data. [05] 4 2
 Q - 3 From the following data calculate Index Number by Fisher ideal price index Method [10] 4 5

Commodities	Price per Unit - 2021	Quantity of 2021	Price per Unit - 2022	Quantity of 2021
A	2	20	5	15
B	4	4	8	5
C	1	10	2	12
D	5	5	10	6

OR

- Q - 3 (a) What is Price Index numbers, what is its importance? [05] 4 1
 Q - 3 (b) How is weighted price index calculated? Why? [05] 3 3
 Q - 4 **Attempt any one.** [05]
 (i) Type I. Type II error 4 5
 (ii) Evaluate types of Hypothesis 5 4

CO : Course Outcome Number

BTL : Blooms Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create