

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BBA DEGREE EXAMINATION MAY 2019
(First Semester)

Branch - **BUSINESS MANAGEMENT/BUSINESS
MANAGEMENT(IS)/BUSINESS MANAGEMENT (RM)**

BUSINESS MATHEMATICS & STATISTICS

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

Answer in a word/sentence.

- 1 Define Arithmetic Progression.
- 2 Define Classification.
- 3 What is Mode?
- 4 Define Range.
- 5 Define Correlation.
- 6 Write the two regression equations.
- 7 Name the components of time series.
- 8 Mention any two application of time series.
- 9 Write the conditions for Time Reversal and Factor Reversal Test.
- 10 What is mean by cost of living index number.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Write a short note on the following.
i) Annuity ii) Sinking Fund iii) Discount

OR

- b Define primary data and secondary data with an example.

- 12 a Calculate the Arithmetic Mean for the following.

Daily wages (Rs.)	50	75	100	150	250
No. of workers	8	14	10	5	3

OR

- b Calculate the first and third quartiles to the following data.

Value	100	200	400	500	600
Frequency	5	8	21	12	6

- 13 a Explain the types of correlation.

OR

- b Calculate the spearman's rank correlation coefficient.

X	2	3	4	5	6	7	8	9	10
Y	4	1	5	3	9	7	10	6	8

- 14 a Calculate three yearly moving average for the following data.

Year:	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Value	22	23	25	24	22	25	26	27	26	

OR

b Fit a straight line equation for the following data by the method of least square.

Year	1999	2000	2001	2002	2003
Sales('000)	70	74	80	86	90

15 a Construct the price index number using Laspeyre's method

Commodity	2016		2017	
	Price	Quantity	Price	Quantity
A	10	12	12	15
B	7	15	5	20
C	5	24	9	20
D	-16	5	14	5

OR

b Construct the Costs of Living Index Number from the following data.

Group	Food	Fuel	Clothing	House Rent	Miscellaneous
Weight	47	7	8	13	14
Index No	247	293	289	100	236

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Represent the following data by a Pie diagram

Item	Food	Clothing	Recreation	Education	Rent	Miscellaneous
Expenditure	87	24	11	13	25	20

17 Calculate Mean, Median and mode for the following.

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	4	6	20	10	7	3

18 Compute Karl Pearson's coefficient of correlation for the following data.

X:	65	66	67	67	68	69	71	73
Y:	67	68	64	68	72	70	69	70

Cont...

Calculate seasonal indices by the method of simple average.

Year	Quarterly Production			
	I	II	III	IV
2004	75	86	90	100
2005	60	65	72	78
2006	54	63	66	72
2007	59	60	85	93

From the following data calculate Fisher Index Number and verify that it satisfies Time Reversal Test

Commodity	2006		2007	
	Price	Quantity	Price	Quantity
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	19		2	13