

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BBA DEGREE EXAMINATION MAY 2024
(First Semester)**

Branch – **BUSINESS ADMINISTRATION (LOGISTICS)**

STATISTICS FOR LOGISTICS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(5 x 1 = 5)

- 1 The sum of the deviations of individual observations is zero from
(i) Mean (ii) Median (iii) Mode (iv) Geometric Mean
- 2 When coefficient of skewness is zero the distribution is
(i) J – shaped (ii) U - shaped (iii) Symmetrical (iv) L -shaped
- 3 Laspeyre's' index is based on
(i) Base Year Quantity (ii) Current Year Quantity
(iii) Both of them (iv) Average of Current and Base Year Quantity
- 4 The North West Corner Rule
(i) is used to find an initial feasible solution
(ii) is used to find an optimal solution
(iii) is based on the concept of minimizing opportunity cost
(iv) is used to find both initial and optimal solution
- 5 5C_2 is equal to
(i) 20 (ii) 10 (iii) 30 (iv) 100

SECTION - B (15 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks

(5 x 3 = 15)

- 6 a Explain the types of Bar diagrams.

OR

- b The monthly profits in rupees of 100 shops are distributed as follows.

Profits (Rs.)	0-100	100-200	200-300	300-400	400-500	500-600
No. of Shops	13	18	27	20	17	6

Draw Histogram and also find modal wage.

- 7 a Determine the Karl Pearson's coefficient of skewness for the following data.

Value	6	12	18	24	30	36	42
Frequency	4	7	9	18	15	10	5

OR

- b From the following data, identify the Spearman's rank coefficient of correlation.

X	53	98	95	81	75	61	59	55
Y	47	25	32	37	30	40	39	45

- 8 a Compute the cost of living index number from the following data:

Item	Base Year price (Rs.)	Current Year Price (Rs.)	Weight
Food	39	47	4
Fuel	8	12	1
Clothing	14	18	3
House Rent	12	15	2
Miscellaneous	25	30	1

OR

Cont...

b Construct 5 Yearly moving average from the following data:

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Income ('000)	161	127	152	143	144	167	182	179	152	163	159

- 9 a Determine an initial basic feasible solution to the following transportation problem using north – west corner rule.

	D1	D2	D3	D4	Availability
O1	6	4	1	5	14
O2	8	9	2	7	16
O3	4	3	6	2	5
Requirement	6	10	15	4	35

OR

- b Explain the solving procedure of Vogel's Approximation Method.

- 10 a State and prove addition theorem on probability.

OR

- B Explain the Binomial distribution and state its properties.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Explain the methods of collecting primary data.

OR

- b Determine Mean, Median and Mode for the following distribution.

Class Interval	40-50	50-60	60-70	70-80	80-90	90-100	100-110
Frequency	32	65	128	167	136	79	43

- 12 a From the following data, Compute Karl Pearson's coefficient of correlation.

Cost (Rs.)	39	65	62	90	82	75	25	98	36	78
Sales (Rs.)	47	53	58	86	62	68	60	91	51	84

OR

- b From the following data, Obtain two regression equations.

X	6	2	10	4	8
Y	9	11	5	8	7

- 13 a Compute index numbers from the following data using (a) Laspeyres (b) Paasches and (c) Fishers methods.

Commodity	2014		2015	
	Quantity	Price	Quantity	Price
A	8	4	10	9
B	7	3	8	5
C	6	4	5	8
D	5	2	7	4

OR

- b Explain the various components of time series.

- 14 a Explain the solving procedure of Modified Distribution Method (MoDI).

OR

- b Solve the following assignment problem and also determine the assignment cost.

	I	II	III	IV	V
A	6	5	8	11	16
B	1	13	16	1	10
C	16	11	8	8	8
D	9	14	12	10	10
E	10	13	11	8	16

- 15 a State and prove the multiplication theorem on probability.

OR

- b Explain the various methods of probability sampling.

Z-Z-Z

END