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**Reg. No. :** .....

**Code No. : 12587 E      Sub. Code : AMBA11/  
AMSL11**

B.B.A. (CBCS) DEGREE EXAMINATION, APRIL 2021.

## First Semester

Business Administration/  
Shipping and Logistics — Main

BUSINESS STATISTICS

(For those who joined in July 2020 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. Statistics is a \_\_\_\_\_ of counting.  
(a) Arts (b) Science  
(c) Social Science (d) Economics
2. Data originally collected for an investigation are known as  
(a) Primary Data  
(b) Secondary Data  
(c) Primary and Secondary  
(d) Derived Data

3. Geographical classification means classification of data according to
- (a) Time                      (b) Location
  - (c) Attributes              (d) Numbers
4. The best Measure of Central Tendency is
- (a) Arithmetic mean      (b) Geometric mean
  - (c) Harmonic mean      (d) Assumed mean
5. Variance is the \_\_\_\_\_ of standard deviation.
- (a) Reciprocal              (b) Average
  - (c) Square                  (d) Equal
6. Mean deviation is also called
- (a) Square deviation
  - (b) Average deviation
  - (c) Root mean deviation
  - (d) None of these

7. The study of two variables excluding some other variable is called
- (a) Total correlation
  - (b) Linear correlation
  - (c) Partial correlation
  - (d) Positive correlation
8. \_\_\_\_\_ analysis reveals average relationship between two variable.
- (a) Correlation
  - (b) Regression
  - (c) Co-efficient of variation
  - (d) All of these
9. The index number for a base year is always
- (a) 100                                      (b) 150
  - (c) 200                                      (d) 365
10. The most important factors causing seasonal variations are
- (a) Growth of population
  - (b) Weather and social customs
  - (c) Depression in business
  - (d) All of the above

PART B — ( $5 \times 5 = 25$  marks)

Answer ALL questions, choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) Describe the characteristics of Statistics.

Or

- (b) List out advantage and disadvantages of primary data.

12. (a) Draw a Histogram.

Wages	0-5	5-10	10-15	15-20	20-25
No. of workers	7	10	13	12	8

Or

- (b) Locate Median from the following data :

Size of Shoes	5	5.5	6	6.5	7	7.5	8
Frequency	10	16	28	15	30	40	34

13. (a) Calculate Co-efficient of Variation.

Standard deviation = 5.79, Mean = 131.

Or

- (b) Calculate Mean Deviation from the following data.

$X$	2	4	6	8	10
$F$	1	4	6	4	1

14. (a) Calculate the Co-efficient Correlation.

Birth rate	24	26	32	33	35	30
Death rate	15	20	22	24	27	24

Or

(b) Given the following data, calculate the expect value of  $Y$  when  $X = 20$ .

A	B
$\bar{X}$	7 14
$\sigma$	3 4

$$r = +0.5$$

15. (a)

Product	Price in 2016	Price in 2017
P	180	190
Q	80	120
R	180	220
S	60	70

Construct an index number for 2017 taking 2016 as base.

Or

- (b) Draw a trend line by the method of semi-averages.

Year	2009	2010	2011	2012	2013	2014	2015
Sales	110	105	115	112	120	118	130

PART C — ( $5 \times 8 = 40$  marks)

Answer ALL questions, choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Explain the different methods of collecting primary data.

Or

- (b) Represent the following data by a Pie diagram.

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

17. (a) Calculate the mean and mode from the following :

Size	10	11	12	13	14	15	16	17	18
Frequency	10	12	15	19	20	8	4	3	2

Or

- (b) Calculate H.M. from the following data :

Marks	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	15	13	8	6	15	7	6

18. (a) Calculate Q.D. from the following :

Age	20	30	40	50	60	70	80
No. of Members	3	61	132	153	140	51	3

Or

- (b) Find out Co-efficient of Mean Deviation.

$x$	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
$f$	20	25	32	40	42	35	10	8

19. (a) Calculate Co-efficient of Correlation.

Density	200	500	400	700	600	300
Death rate	10	16	14	20	17	13

Or

- (b) Distinguish between correlation and regression.

20. (a) Calculate quantity index by Laspeyre's method.

Y	pear	Price 2004 ( $p_0$ )	$p_0q_0$	Price 2006 ( $p_1$ )	$p_1q_1$
A		10	100	12	144
B		12	144	14	199
C		14	196	16	256
D		16	256	18	324
E		18	324	20	400

Or

- (b) Discuss the components of time series.

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