Bachelor of Business Administration 1st Semester Examination

1127

BUSINESS STATISTICS
Paper : BBAS102

Time : 3 Hours]   [Max. Marks : 80

Note :– Attempt any *four* questions from Section A carrying 5 marks each and attempt any *two* questions from Section B and Section C each, carrying 15 marks each.

Section–A

(Attempt any *four* questions)

1. What are the properties of a good measure of dispersion ?

2. A person is known to hit the target in 3 out of 4 shots, whereas another person is known to hit the

target in 2 out of 3 shots. Find the probability of target being hit at all when they both try.

3. Calculate arithmetic mean by direct method from the following data :

Marks	No. of Student
0–10	5
10–20	10
20–30	25
30–40	30
40–50	20
50–60	10

4. Write a note on graphic method of measuring trend.

5. A coin is tossed six times. What is the probability of obtaining four or more heads ?

NA–116   (2)

6. Calculate mean diviation from the following series :

x	:	10	11	12	13	14
f	:	3	12	18	12	3

4×5=20

Section–B

7. From the following data calculate the missing value when mean is 115.85 :

Wages (Rs.)	No. of Workers
110	25
112	17
113	13
117	15
(x)	14
125	8
128	6
130	2

15

8. Calculate Standard Deviation of the following frequency distribution of marks :

Marks	No. of Student
0–10	5
10–20	12
20–30	30
30–40	45
40–50	50
50–60	37
60–70	21

15

9. (a) Define correlation. What are the various types of correlation ?   7

   (b) Calculate Spearman's coefficient of correlation between marks assigned to ten students by judges X and Y in a competition.

S. No.	Marks by Judge X	Marks by Judge Y
1	52	65
2	53	68

3	42	43
4	60	38
5	45	77
6	41	48
7	37	35
8	38	30
9	25	25
10	27	50	8

10. (a) What is the difference between correlation and regression ?

(b) In a correlation study following values were obtained :

	X	Y
Arithmetic Mean	65	67
Standard Deviation	2.5	3.5
Coefficient of correlation	$r = 0.8$	

Find the *two* regression equations that are associated

with above values.   15

NA–116   (5)   **Turn Over**

Section–C

11. A man wants to marry a girl having qualities : White complexion the probability of getting such a girl is one in twenty; handsome dowry–the probability of getting this is one in fifty; Westernised manners and etiquettes— the probability here is one in hundred. Find out the probability of his getting married to such a girl when the possession of these three attributes is independent. 15

12. Fit a straight line trend for the following series. Estimate the value for 2008 :

Year	Production of steel (m. tonnes)
2001	60
2002	72
2003	75
2004	65
2005	80
2006	85
2007	95

15

13. Calculate Fisher's Ideal Index from the given data. Does it satisfy the time reversal and factor reversal tests ?

| | 2000 | | 2010 | |
Commodity	Price	Quantity	Price	Quantity
A	6	50	10	56
B	2	100	2	120
C	4	60	6	60
D	10	30	12	24
E	8	40	12	36

5,5,5

14. Define Normal Distribution. What are the properties of Normal Distribution ? Write the importance of normal distribution.

3,6,6