

Roll.No.

24UBAAT2002

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

B.B.A. - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - II

24UBAAT2002 - Business Statistics and Logic

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. The mean and standard deviation of a set of 100 observations were worked out as 40 and 5 respectively by a computer which by mistake took the value 50 in place of 40 for one observation. Find the correct mean and variance.
2. The equations of the two lines of regression obtained in a correlation analysis are the following: $2X=8-3Y$ and $2Y=5-X$. Obtain the value of the correlation coefficient.
3. A bag contains 8 white and 4 red balls. Five balls are drawn at random. What is the probability that 2 of them are red and 3 white?
4. Define Number Series. Explain the different types of patterns used in forming number series.
5. Bring out the difference between dispersion and skewness.
6. Ascertain Spearman's rank coefficient of correlation from the following data:

X	50	66	34	21	15	79	42
Y	31	64	53	41	17	73	29

7. In a distribution exactly normal, 7% of the items are under 35 and 89% are under 63. what are the mean and standard deviation of the distribution?
8. A man said, "The son of my grandfather's only daughter is the brother of your mother". How is the man related to you? Explain the logic.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Construct Mean, Median and Mode the following distribution:

x	0-10	10-20	20-30	30-40	40-50
f	12	18	20	25	23

Contd...

10. Distinguish between Correlation & Regression.
11. Calculate Karl Pearson's Coefficient of Correlation between age and playing habits from the data given below:

Age	20	21	22	23	24	25
No. of students	500	400	300	240	200	160
Regular Players	400	300	180	96	60	24

12. 1,000 light bulbs with a mean life of 120 days are installed in a new factory. Their length of life is normally distributed with standard deviation 20 days.
- How many bulbs will expire in less than 90 days?
 - If it is decided to replace all the bulbs together, what intervals should be allowed between replacements if not more than 10% should expire before replacement?
13. A geometric progression has 6 terms. The first term is 192 and the common ratio is 1.5. An arithmetic progression has 21 terms and common difference 1.5. Given that the sum of all the terms in the geometric progression is equal to the sum of all the terms in the arithmetic progression, find the first term and the last term of the arithmetic progression.
