

JK Lakshmipat University, Jaipur
Institute of Management
END TERM EXAMINATION (April 2024)

Programme: BBA – Sem IV
MM: 30 Marks

Course Code and Title: ID1114: Business Statistics
Time: 2.5 Hours

Instructions: All questions are compulsory. No statistical tables shall be provided. You may use non-scientific calculators; however, borrowing/ lending of calculators shall not be allowed. All parts of a question must be attempted at one place and in order.

1. The production manager of Hinton Press is determining the average time needed to photograph one printing plate. Using a stopwatch and observing the plate-makers, he collects the following times (in seconds): 6
(LO1)

20.4	20.0	22.2	23.8	21.3
25.1	21.2	22.9	28.2	24.3
22.0	24.7	25.7	24.9	22.7
24.4	24.3	23.6	23.2	21.0

- i) An average per-plate time of less than 23.0 seconds indicates satisfactory productivity. Should the production manager be concerned? Explain.
ii) The production manager believes that at least 75% of the plates are being made within 23.5 seconds. Is his belief justified? Explain.
2. You toss a fair coin 5 times. What is the probability of getting? 4
(LO2)
- i) 1 head and 4 tails
ii) 2 heads and 3 tails
iii) 3 heads and 2 tails
iv) 5 heads and 0 tails
- 3 A professor believes that class attendance and exam performance are strongly related to each other. Data of 5 students was collected as under to verify this belief: 6
(LO3)

Attendance (%age)	54	78	85	62	94
Marks (%age)	62	74	88	79	89

- i) Looking at the data (and using a rough plot), can you draw a reasonable conclusion about the belief of the teacher? Explain.
ii) Compute the appropriate measure that can validate your explanation above. Also comment upon the belief of the teacher in the light of the computed measure.
- 4 Contents of a packaged drinking water bottle are assumed to be a normally distributed variable with a mean of 1000 ml and a standard deviation of 20 ml. Find the probabilities that water in a randomly selected bottle will be: 6
(LO3)

- i) Less than 1000 ml
- ii) Between 960 ml and 1000 ml
- iii) Between 980 ml and 1040 ml
- iv) Less than 960 ml
- v) Between 1020 ml and 1040 ml
- vi) Less than 1020 ml

(Note: You may use empirical rules in place of statistical tables)

- 5 Two variables X and Y are assumed to be related to each other. Data for five (X, Y) value pairs is as under: 2+4+2

(LO1)

X	30	10	50	20	40
Y	70	40	100	55	85

- a) Draw a scatter plot, calculate the correlation coefficient and comment upon the relationship between the two variables.
- b) Find the regression equation to estimate Y given X.
- c) Estimate Y for X=25.

--X--X--X--