

Roll No.....
Total No. of Questions: [10]

Total No. of Printed Pages: 02

MBA (Aviation Management) (Semester – 1st)
BUSINESS STATISTICS AND ANALYTICS FOR DECISION MAKING
Subject Code: MBADS1124
Paper ID: [23261104]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A consists of 10 compulsory short notes of two marks each.
2. Section B consists of Four Units (Unit – I, II, III & IV). Each unit contains two questions of 8 marks each. Student has to attempt one question from each unit.
3. Section C (8 Marks): A short Case Study related to the syllabus.

Section – A

(2 marks each)

Q1. Attempt the following:

- a) Differentiate between discrete and continuous series
- b) Explain Coefficient
- c) Define Correlation and causation
- d) Differentiate Dispersion Vs. skewness
- e) Explain Mutually exclusive events
- f) Define Negative and positive correlation
- g) Give Relationship between correlation and regression coefficients
- h) If $b_{xy} = -0.5$ and $b_{yx} = -0.25$, then $r = ?$
- i) Which is the ideal method of calculating Weighted Index Numbers and why?
- j) Define Ogive Curve

Section – B

(8 marks each)

UNIT-I

Q2. Annual earnings of 300 part-time employees of Hypothetical Ltd. are given in the ensuing section.

| Annual Earnings | Number of Employees |
|---------------------------|---------------------|
| Rs. 500 but less than 700 | 12 |
| Less than 900 | 33 |
| Less than 1100 | 85 |
| Less than 1300 | 155 |
| Less than 1500 | 223 |
| Less than 1700 | 259 |
| Less than 1900 | 275 |
| Less than 2100 | 286 |
| Less than 2300 | 295 |
| Less than 2500 | 300 |

Find the median annual earnings of the employees.

Q3. Discuss the relationship among Mean, Median and Mode in symmetric and non-symmetric distributions.

UNIT-II

Q4. Following are the marks of students in Statistics and Economics. Calculate and interpret the value of correlation between marks in both the subjects.

| Roll No. | Marks in Statistics | Marks in Economics |
|----------|---------------------|--------------------|
| 1 | 55 | 66 |
| 2 | 58 | 45 |
| 3 | 64 | 58 |
| 4 | 55 | 54 |
| 5 | 71 | 77 |
| 6 | 39 | 64 |
| 7 | 44 | 54 |
| 8 | 58 | 42 |
| 9 | 66 | 59 |
| 10 | 68 | 51 |

Q5. Discuss:

- (i) Regression equation
- (ii) Regression lines
- (iii) Regression coefficient

UNIT-III

Q6. Discuss the components of time series in detail.

Q7. Construct index numbers using Fisher's Ideal method

| Commodity | Price (2008) | Quantity | Price (2009) | Quantity |
|-----------|--------------|----------|--------------|----------|
| A | 60 | 50 | 100 | 56 |
| B | 20 | 100 | 20 | 120 |
| C | 40 | 60 | 60 | 60 |
| D | 100 | 30 | 120 | 24 |
| E | 80 | 40 | 120 | 26 |

UNIT-IV

Q8. What is the probability, that a leap year selected at random will contain 53 Sundays?

Q9. A bag contains '6' red, 4 white and 8 blue balls. If three balls are drawn at random, find the probability, that

- (i) '1' is red and '2' are white,
- (ii) '2' are blue and 1 is red,
- (iii) none is red.

Section – C

(8 marks)

Q10. Case Study:

In equation $\hat{Y} = 120 + 0.32X$, Y is the weekly sales of a store (in thousands of dollars) and X is the number of hours the store is open during the week.

- a. What are the units of measure for 'a' and 'b'?
- b. If store stays open 60 hours next week what is its predicted sales level?
- c. If the store doesn't open at all next week, what does the equation predict for its sales level?
- d. If the store doesn't open at all next week, what would you predict for its sales level?
- e. Why is the answer in part c not valid?