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BSM-008

**BACHELOR OF BUSINESS
ADMINISTRATION (SERVICES
MANAGEMENT)
(BBASM)**

Term-End Examination

June, 2026

**BSM-008 : BASIC QUANTITATIVE
TECHNIQUES**

Time : 2 Hours

Maximum Marks : 50

Note : *All questions are compulsory.*

1. Answer all the questions. Each question carries 1 mark : $10 \times 1 = 10$

- (a) is the body of knowledge used for collecting, organizing, analysing and interpreting numerical data.

- (b) On the basis of time, the data is classified as cross sectional or
- (c) State True or False: A numerical measure calculated from the whole population is called as parameter.
- (d) Which of the following is a mathematical average ?
- (i) Arithmetic Mean
 - (ii) Median
 - (iii) Mode
 - (iv) Quartiles
- (e) The median of 4, 15, 13, 9, 12, 7, 23, 25, 21, 28, 16, 8 is :
- (i) 13
 - (ii) 14
 - (iii) 16
 - (iv) 21

- (f) If a constant “k” is added to each value of observation of a series, then its standard deviation will :
- (i) Increase
 - (ii) Decrease
 - (iii) Will not change
 - (iv) None of the above
- (g) Two events are said to be if the happening of one does not affect the probability of happening of the other.
- (h) In which of the following sampling techniques, each unit of population has equal chance of being included in the sample ?
- (i) Simple Random Sampling
 - (ii) Snowball Sampling
 - (iii) Convenience Sampling
 - (iv) Systematic Sampling

(i) Which of the following is true about a Binomial distribution concerning Mean and Variance ?

(i) Mean = Variance

(ii) Mean > Variance

(iii) Mean < Variance

(iv) None of the above

(j) State True or False: The larger the Standard Deviation, the greater the height of the Normal curve.

2. Answer any *five* of the following in about **100** words each. Each question carries 2 marks : 5×2=10

(a) Write a note on interval scales of measurement of data.

(b) Explain the terms “Exclusive Class Interval” and “Inclusive Class Interval”.

(c) Explain the properties of Arithmetic Mean.

(d) Define the term “Standard deviation”.

- (e) Define the concepts of “Mutually Exclusive Events”.
 - (f) Define the term “Poisson Distribution”.
 - (g) Write a short note on Stratified Random Sampling.
 - (h) Write a short note on time series models of demand forecasting.
3. Answer any *four* of the following in about **250** words each. Each question carries 5 marks : $4 \times 5 = 20$
- (a) Discuss the difference between Primary and Secondary data along with suitable examples.
 - (b) What is Tabulation ? Discuss with suitable example.
 - (c) What is a Statistical Average ? Write a short note on weighted average mean.
 - (d) A Company has two plants to manufacture scooters. Plant 1 manufactures 80% of the scooters and

Plant 2 manufactures 20%. At plant 1, 85 out of 100 scooters are rated as standard quality. At plant 2, only 65 out of 100 scooters are rated as standard quality.

What is the probability that scooter selected at random came from plant 1, if it is known that the scooter is of standard quality ?

- (e) Discuss the characteristics of a normal distribution curve.
- (f) What is Hypothesis Testing. Briefly explain the procedure for testing of a statistical hypothesis.

4. Answer any *one* question in **500** words :

1×10=10

- (a) A car manufacturer has recently held a three-day exhibition on the introduction of a new model of deluxe cars. The number of sales personnel employed at

each of a sample of 10 exhibitions and the number of cars booked at each one are given as follows :

No. of salesman	No. of Cars booked
5	132
8	160
6	148
8	156
9	168
3	102
5	142
4	98
6	152
6	142

Fit a regression line using the above data and estimate the number of cars booked if 10 salesmen are employed in an exhibition.

- (b) Find the Arithmetic Mean and Standard Deviation from the following data :

Class	Frequency
11—12	5
13—14	426
15—16	720
17—18	741
19—20	665
21—22	395
23—24	38
25—26	8
27—28	5
29—30	7

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