

[Total No. of Questions: 5]

SEAT No. :

[Total No. of Pages:3]

F.Y. B.Com.

**114-A: BUSINESS MATHEMATICS & STATISTICS - I
(CBCS 2019 Pattern) (Semester-I)**

[Time: 2½ Hours]

[Max. Marks: 70]

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Use of simple calculator is allowed.
- 3) Figures to the right indicate full marks.

- Q1) A)** Fill in the blanks: (any 5) [5]
- a) How much simple interest earned on Rs.5000 at 5% p.a. for 4 years?
(100, 300, 1000, 3000)
 - b) EMI stands for _____.
(Equal money instalment, Equal monthly instalment, equated monthly instalment, Easy money instalment)
 - c) Shareholders received ____ on their capital.
(Interest, Dividend, Rent, Commission)
 - d) Most mutual funds are members of a group of mutual funds known as _____.
(a family of funds, a no load funds, a dual purpose funds, none)
 - e) If population is homogeneous then which sampling method is better for selecting sample?
(Systematic, stratified, two stage, simple random sampling)
 - f) Find mode of the following data: 12, 13, 12, 11, 10, 9, 12, 13, 17
(10, 13, 12, 9)
 - g) Average of all observation in a set of data is known as _____.
(Mean, mode, median, standard deviation)
- B)** State the following statements are 'True' or 'False': (any five) [5]
- a) Principal value together with interest is called amount.
 - b) When payments are made at the end of each period such annuity is called as perpetuity.
 - c) Equity shares are known as 'ordinary shares'.
 - d) Sampling is a part of population.
 - e) The most repetitive observation in a data set is called as mode.
 - f) With the help of histogram one can determine median.
 - g) Square of standard deviation is variance.

P.T.O

Q2) Solve any three from the following. [15]

- Find the simple interest on Rs.6000 at 7%p.a. for 10 years.
- Two companies have shares of 6% at 84 and 12% at 140. In which of the shares would the investment be more profitable?
- Compute mean and median for the following data: 96, 98, 75, 80, 102, 100, 94, 75.
- Explain the term share and state its types.
- Distinguish between SRSWR & SRSWOR.

Q3) Solve any three from the following. [15]

- Find interest on Rs.15000 for 5 years at 8% p.a. compounded half yearly.
- Anita invests Rs.200, 000 in a debt fund for 4 years. She received a dividend of Rs.16000 for first year 12000, for second year 14000 for third year and 15000 for fourth year. What is the rate of return if NAV remains unchanged?
- Find mean for the following frequency distribution:

Marks	0-20	20-40	40-60	60-80	80-100
No.of.students	4	8	9	20	9

- Define stratified random sampling and simple random sampling.
- Explain importance of statistics.

Q4) Solve any three from the following. [15]

- Calculate EMI on a loan of Rs.300, 000 to be paid in 4 years at 12% p.a. on the outstanding amount at the beginning of each month.
- Find mode of the following frequency distribution:

Class	0-10	10-20	20-30	30-40	40-50
Frequency	1	3	10	4	2

- Calculate range and coefficient of range for the data given below: 8, 12, 10, 18, 28, 17, 20, 22, 12.
- State merits and demerits of mean.
- The frequency distribution of daily expenditure of 100 college students is given below:

Daily expenditure	50-59	60-69	70-79	80-89	90-99	100-109	110-119
No. of. Students	3	10	18	25	24	10	6

P.T.O

- Obtain: i) Class boundaries of fourth class.
ii) Class width of any class.
iii) Modal class.
iv) Class mark of fifth class.
v) No. of students having expenditure less than Rs.89

Q.5) solve the following:

[10]

- a) Find the median of the following frequency distribution:

Marks	0-20	20-40	40-60	60-80	80-100
No.of.students	5	12	32	40	11

- b) Compute standard deviation for following data: 36, 15, 25, 10, 14

OR

- b) Draw histogram for the following data:

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No.of.students	15	25	60	40	35	25
