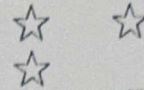


FSD 24

Objective
Paper Code
6185

Intermediate Part First
STATISTICS (Objective)
Time: 20 Minutes Marks: 17

Roll No :



Q.No.1 You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill the relevant circle in front of that question number on computerized answer sheet. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question. Attempt as many questions as given in objective type question paper and leave other circles blank.

S.#	Questions	A	B	C	D
1	When the price of a year is divided by the price of the preceding year, we get:	Value index	Link relative	Simple relative	Quantity index
2	The range of the values 6, 8, 10, -5, -10 is:	20	10	0	-10
3	In a symmetrical distribution, $Q_3 - Q_1 = 20$, median = 15. Q_1 is equal to:	10	15	20	25
4	If $\bar{X} = 33$, which will be minimum?	$\sum X^2$	$\sum (X - 66)^2$	$\sum (X - 33)^2$	$\sum (X + 33)^2$
5	A distribution with two modes is called:	Unimodal	Bimodal	Multimodal	Normal
6	A frequency polygon is a closed figure which is:	One sided	Two sided	Three sided	Many sided
7	The headings of the rows of a table are called:	Captions	Titles	Stubs	Prefactory notes
8	A measure computed on the basis of a census is called:	Parameter	Statistic	Constant	Class mark
9	A set of all units of interest in a study is called:	Sample	Population	Parameter	Statistic
10	The mean of the hypergeometric distribution is:	$\frac{nk}{N}$	$\frac{Nk}{n}$	$\frac{Nn}{k}$	$\frac{n+k}{N}$
11	In binomial experiment, the successive trials are:	Variable	Dependent	Independent	Without replacement
12	The binomial probability distribution is symmetrical when:	$P = 0.1$	$P = q$	$P < q$	$P > q$
13	If k is a constant in a continuous probability distribution, then $P(X = k)$ is always equal to:	0	1	-1	k
14	An expected value of a random variable is equal to its:	Variance	Standard deviation	Mode	Mean
15	A fair die is rolled. Probability of getting face more than 4 is:	$\frac{1}{2}$	$\frac{2}{3}$	$\frac{1}{3}$	$\frac{5}{6}$
16	For every event A, probability of A is:	≤ 0	≥ 0	> 1	< 0
17	Base year quantities are used, as weights, in:	Laspeyre's method	Paasche's method	Fisher's method	Chain base method

1119-XI124-5000

STATISTICS (Subjective)

Time: 02:40 Hours

Marks: 68

SECTION - I

16

2. Write short answers of any EIGHT parts.

- Explain the concept of cost of living index number.
- What is Laspeyre's price index number. Write its formula.
- Given $\sum P_0 Q_1 = 950$ and $\sum P_1 Q_1 = 1310$ find Paasche's price index number.
- Define harmonic mean and write its formula for grouped data.
- If mean = 5, median = 6, find mode.
- Describe two uses of index number.
- Describe two demerits of geometric mean.
- Given $\sum (x - 10) = 0$, $n = 5$ find mean.
- What is difference between simple arithmetic mean and weighted mean?
- What is meant by secondary data? Write sources of secondary data.
- Narrate differences between descriptive and inferential statistics.
- Define discrete variable with an example.

16

3. Write short answers of any EIGHT parts.

- Write a note on two way classification.
- Differentiate between ungrouped and grouped data.
- Describe the main parts of a table.
- What are the raw moments?
- Find the range of: -1, -4, 0, 7, 4
- Compute the value of σ_y if $Y = 3X + 10$ and $V(X) = 2$
- Define the mesokurtic distribution.
- Give any two properties of the mean deviation.
- Verify that: ${}^{10}C_4 = {}^{10}C_6$
- State the addition law of probability.
- Differentiate between mutually and not mutually exclusive events.
- Find $P\left(\frac{B}{A}\right)$ so that $P(A \cap B) = 0.25$ and $P(A) = 0.75$.

12

4. Write short answers of any SIX parts.

- What is difference between discrete and continuous random variables?
- Define probability density function and write its properties.
- If $E(X) = 3$ and Variance $(X) = 1.2$ find $E(2X - 1)$ and $\text{Var}(2X - 1)$
- For a binomial distribution $n = 10$ and $p = 0.7$. Find $P(X = 7)$
- Given $f(x) = \frac{k}{x}$ for $x = 1, 2, 3$. Find k .
- Explain what is meant by Bernoulli trials.
- Explain and write the formula for hypergeometric distribution.
- Find $P(X = 0)$ for hypergeometric distribution with $n = 4$, $N = 10$ and $K = 3$.
- Point out the fallacy if any if mean of a binomial distribution is 5 and its standard deviation is 3.

SECTION - II Attempt any THREE questions. Each question carries 08 marks.

04

5. (a) Find arithmetic mean for the given data:

Marks	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34
f	8	10	15	7	4

04

(b) Find geometric mean from the following frequency distribution:

X	2	3	4	5	6
f	5	7	8	3	2

(Continued P.....)

Intermediate Part Second
Business Statistics (Subjective)
Time: 01:45 Hours Marks: 40

SECTION – I

2. Write short answers to any SIX parts.

- (i) Elaborate inferential statistics.
- (ii) Differentiate between parameter and statistic.
- (iii) Define primary data.
- (iv) What is meant by classification?
- (v) Enlist the names of four parts of table.
- (vi) Name the methods of collection of primary data.
- (vii) Compare simple and compound event.
- (viii) When two coins are tossed, what is the probability of getting one head?
- (ix) Explain mutually exclusive events.

3. Write short answers to any SIX parts.

- (i) What is an average?
- (ii) Write two properties of arithmetic mean.
- (iii) If $n = 10$, $\bar{x} = 5$, find $\sum x$.
- (iv) Write two demerits of median.
- (v) Find mode if mean = 30, median = 27 by using some appropriate formula.
- (vi) Define weighted mean.
- (vii) Differentiate between price relatives and link relatives.
- (viii) Give some uses of index numbers.
- (ix) Find simple aggregative price index number if $\sum p_0 = 1100$, $\sum p_n = 1650$.

SECTION – II Attempt any TWO questions. Each question carries 08 marks.

4. (a) The following are the number of flowers on different branches of a tree.

Make a discrete frequency distribution:

2, 4, 6, 1, 3, 5, 3, 0, 9, 8, 7, 3, 5, 9, 2, 3, 6, 2, 3, 2, 3, 5, 2, 0, 3, 4, 1, 5, 3, 6

(b) Draw histogram of the following data:

Groups	12 – 15	16 – 19	20 – 23	24 – 27	28 – 31	32 – 35
f	8	12	16	10	6	4

5. (a) The following frequency distribution has been derived from use of working origin if $D = X - 18$.

Find arithmetic mean using direct method:

D	-12	-8	-4	0	4	8	12	16
f	2	5	8	18	22	13	8	4

(b) Calculate median from the following data:

Marks	30 – 39	40 – 49	50 – 59	60 – 69	70 – 79	80 – 89
Frequency	10	20	40	50	30	15

6. (a) Calculate Paasche's index number for the following data.

Items	Price		Quantity	
	2012	2013	2012	2013
Rice	60	70	4	6
Cotton	190	210	10	12
Sugar	80	85	5	7

Use 2012 as base year.

(b) If a card is drawn from 52 cards. Find the probability of getting:

- (i) Red card
- (ii) Black king

1253-XII124-6000

Roll No

Objective
Paper Code

8641

Intermediate Part Second
Business Statistics (Objective)
Time: 15 Minutes Marks: 10

Q.No.1 You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill the relevant circle in front of that question number on computerized answer sheet. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question. Attempt as many questions as given in objective type question paper and leave other circles blank.

S.#	Questions	A	B	C	D
1	In the plural sense, statistics mean	Methods	Numerical data	Sample values	Population values
2	The average of lower and upper class limits are:	Class interval	Class width	Class mark	Class frequency
3	The sum of relative frequency is:	$\frac{f}{\sum f}$	One	$\frac{1}{\sum f}$	$\frac{\sum f}{f}$
4	The mean is based on:	All the values	Small values	Extreme values	Large values
5	The median of -3, 0, -5 is:	-3	0	-5	-4
6	Mode of the series 2, 3, 3, 3, 4, 4, 5, 6 is:	2	3	4	6
7	In chain base method, the base period is:	Fixed	Changed	100	Preceding
8	If $\sum p_1q_0 = 505$, $\sum p_0q_0 = 425$, then Laspeyre's index number is:	120.12	119.63	118.82	200
9	A random variable is also called:	Chance variable	Non-stochastic variable	Constant	Mechanically
10	In a discrete probability distribution the sum of all the probabilities is always:	0	1	-1	∞

1253-XII124-6000

B