Statistics | A | L.K.No. 827 | Paper Code No. 6181

Paper I (Objective Type) | Inter-A-2018 | New Pattern

Time Allowed : 20 Minutes | Inter (Part - I)

Maximum Marks : 17 | Session (2015 - 17) to (2017 - 19)

BWP-11-[illegible]-18

Note : Four possible choices A , B , C , D to each question are given. Which choice is correct , fill that circle in front of that question number.Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

Q.No.1	In the Plural Sense, Statistics means : (A) Methods (B) Numerical Data (C) Sample Values (D) Average Value
(2)	Sum of Relative Frequencies is always : (A) Zero (B) Less than one (C) Greater than one (D) One
(3)	An Ogive is a : (A) Frequency Curve (B) Frequency Polygon (C) Cumulative Frequency Polygon (D) Histogram
(4)	The Arithmetic Mean of 2 , 4 , 6 is : (A) 2 (B) 4 (C) 6 (D) 12
(5)	The most suitable average for qualitative data is : (A) Weighted Mean (B) Harmonic Mean (C) Mode (D) Geometric Mean
(6)	If any value in the data is zero , it is impossible to calculate : (A) Mean (B) Median (C) Mode (D) Harmonic Mean
(7)	The Range of Values 2 , 4 , 6 , 8 , 10 is : (A) 2 (B) 4 (C) 6 (D) 8
(8)	If a constant is added to all the values , then Variance : (A) Remains the same (B) Increase by the constant (C) Decrease by the constant (D) Zero
(9)	If Mean = 140 , Mode = 145 then distribution is : (A) Symmetrical (B) Positively Skewed (C) Negatively Skewed (D) None of these
(10)	Base Year Weighted Index is : (A) Laspeyre's (B) Paasche's (C) Fisher (D) Marshall Edgeworth
(11)	Price Relative is a percentage ratio of Current Year Price and : (A) Base Year Price (B) Previous Year Price (C) Next Year Price (D) All these
(12)	A set of all possible outcomes of a Random Experiment is called : (A) Null Set (B) Sample Space (C) Simple Event (D) Random Variable
(13)	If P (A U B) = P (A) + P (B) then Events A and B are called : (A) Mutually Exclusive (B) Not Mutually Exclusive (C) Independent (D) None of these
(14)	A Discrete Probability Distribution may be represented by : (A) A Table (B) A Graph (C) A Mathematical Equation (D) All of these
(15)	If " c " is non - random variable, then E (c) is : (A) C (B) Zero (C) One (D) x
(16)	The Variance of Binomial Distribution is : (A) np (B) nq (C) npq (D) $(npq)^2$
(17)	In Hypergeometric Experiment, the trials are : (A) Independent (B) Dependent (C) Both A and B (D) Undefined

B

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BWP-11-18

Roll No.	827 - 7000	New Pattern
Statistics (Subjective)	Inter-A-2018	Inter (Part - I)
Time = 2:40 Hours	Total Marks : 68	Session (2015 - 17) to (2017 - 19)

Note : It is compulsory to attempt (8 - 8) parts each from Q.No.2 and Q.No. 3 while attempt any (5) parts from Q. No.4 and attempt any (03) questions from Part II. Write same Question No. and its Part No. as given in the question paper.

Section - I

22 x 2 = 44

Q.No.2(i)	Define Population and Sample.	(ii)	Define and Explain Average.
(iii)	Give two Merits of Geometric Mean.	(iv)	Mean and Median of a Frequency Distribution are 45 and 30 respectively. Find Mode.
(v)	Compute Geometric Mean for x = 3, 8, 0, 6	(vi)	Find $\sum x$ if $\bar{x} = 5$ and $n = 10$
(vii)	Define Simple Index Number.	(viii)	What are methods of Selecting Base Period?
(ix)	Define Consumer Price Index Number.	(x)	What are the types of Composite Index Number?
(xi)	If $\sum p_0 q_0 = 35310$, $\sum p_n q_0 = 41140$. Compute Base Year Weighted Price Index.	(xii)	Expand the following summation signs : (a) $\sum_{i=1}^{3} y_i^2$ (b) $\sum_{i=1}^{2} (y_i - \mu)$
Q.No.3(i)	Define the term Tabulation.	(ii)	Explain the Multiple Bar Chart.
(iii)	Explain the Absolute Measure of Dispersion.	(iv)	Define Standard Deviation.
(v)	Explain the Skewness.	(vi)	Find the Probability of getting sum is Seven when two dice are thrown.
(vii)	In a Symmetrical Distribution $Q_1 = 140$ and Median = 150. Find Quartile Deviation.	(viii)	The first two Moments of a Distribution about zero are 9 and 82. Find Coefficient of Skewness if Mode is 10.
(ix)	Define Collectively Exhaustive Events.	(x)	Distinguish between Simple and Compound Events.
(xi)	Write down the basic properties of Probability.	(xii)	If $P(A) = 1/3$, $P(\bar{B}) = 1/4$, $P(A \cup B) = 11/12$ find $P(A \cap B)$.
Q.No.4(i)	Define a Random Variable.	(ii)	What is Probability Mass Function?
(iii)	Check whether the following function is a Probability Distribution or not, Why? $f(y) = 1/4$ for $y = 1, 2, 3, 4, 5$	(iv)	Define Distribution Function of a r.v.
(v)	Define Binomial Experiment.	(vi)	Define Hypergeometric Probability Distribution.
(vii)	Given $n = 3$, $K = 4$ and $N = 6$ find $P(x = 2)$	(viii)	In a Binomial Distribution $n = 20$, $P = 3/5$ find its Mean and S.D.
(ix)	Given a r.v. x with $E(x) = 6$ and $Var(x) = 23$, find $E(x^2)$.		

Section - II

Q.N.5 (a) Calculate Arithmatic Mean from the following Frequency Distribution : (4)

Groups	Frequency
10 -- 19	10
20 -- 29	13
30 -- 39	29
40 -- 49	24
50 -- 59	18
60 -- 69	06

(b) Compute Lower and Upper Quartiles from the data given below :
30, 26, 18, 34, 22, 15, 39, 45, 16, 36 (4)

Q.No6 (a) What you say about the Skewness of the following :
(i) Mean = 67.45, Mode = 67.35, S = 2.92
(ii) $Q_1 = 136.62$, $Q_3 = 153.13$, Median = 146 (4)

(b) Find Mean Deviation for the Data given below : (4)

Classes	20 -- 40	40 -- 60	60 -- 80	80 -- 100
Frequency	18	22	40	30

P.T.O.

Q.No.7 (a) Compute Index Number of Prices from the following Data taking 1981 as Base and using Median as an Average.

Prices			
Years	A	B	C
1981	18	85	52
1982	22	76	60
1983	28	80	66
1984	31	95	80

(4)

(b) An Integer is chosen at Random from the first 100 Positive Integers. Find the Probability that the chosen digit is :

(i) Multiple of 10 (ii) Divisible by 8 (4)

Q.No.8 (a) A Random Variable x has following Probability Distribution.

x	1	2	3	4	5
P(x)	K	2K	4K	3K	2K

(i) Find value of K.

(ii) Find $P(x \geq 3)$. (4)

(b) A continuous Random Variable x has density function

$f(x) = 2x$ when $0 \leq x \leq 1$

$= 0$ else where (4)

Find $P(x = 1 \cdot 3)$ and $P(0 \cdot 5 \leq x \leq 1)$

Q.No.9 (a) Four Dice are tossed and number of sixes in each throw is recorded. This is repeated 180 times. Write down theoretical frequencies of 0, 1, 2, 3, 4 sixes. (4)

(b) A Committee of Size 5 is to be selected at random from 3 women and 5 men. Find Probability Distribution of Number of Women in the Committee. (4)