Paper I	(Objective Type)	**Inter (Ist – A – Exam – 2024)**	
Time :	20 Minutes	**Inter (Part – I)**	Session (2022 – 24) & (2023 – 25)
Marks :	17	BWP-24	

Note : Four choices A , B , C ,D to each question are given. Which choice is correct fill that circle in front of that Question No. on the Objective Bubble Sheet. 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 (1)	A quantity calculated from population is called : (A) Frequency (B) Statistic (C) Parameter (D) Sample
(2)	Measurement usually provide : (A) Qualitative Data (B) Discrete Data (C) Primary Data (D) Continuous Data
(3)	Cumulative Frequency Curve is also called : (A) Histogram (B) Frequency Curve (C) Ogive (D) Historigram
(4)	In a Statistical table , Column Captions are called : (A) Box Head (B) Stub (C) Body (D) Title
(5)	The value of the data lying between Q_1 and Q_3 are : (A) 50% (B) 25% (C) 75% (D) 100%
(6)	The Sum of Squares of deviation is least from : (A) Median (B) Mean (C) Mode (D) G.M
(7)	Mean Deviation is least , if deviation are calculated from : (A) Mean (B) Mode (C) Median (D) G.M
(8)	Var (2x ± 3) is : (A) 5 Var (x) (B) 4 Var (x) (C) 4 Var (x) + 3 (D) 4 Var (x) + 9
(9)	In Fixed Base Method , the base period should be : (A) Abnormal (B) Middle (C) Normal (D) For Distant
(10)	Simple Index Number involves Commodities : (A) 2 (B) 3 (C) 4 (D) 1
(11)	A Coin and a Die can throw together : (A) 12 Ways (B) 6 Ways (C) 2 Ways (D) 36 Ways
(12)	Probability of drawing a Card of Ace is : (A) $\frac{1}{2}$ (B) $\frac{1}{13}$ (C) $\frac{1}{4}$ (D) $\frac{1}{5}$
(13)	$E(x^2) = 29$ and $E(x) = 4$ then Var (x) =...: (A) 25 (B) 5 (C) 13 (D) 33
(14)	A Discrete Probability distribution may be presented by : (A) Table (B) Mathematical Equation (C) Diagram (D) All these
(15)	In a Binomial Distribution n = 10 , p = 0 . 5 then Mean is : (A) 0 . 5 (B) 5 (C) 10 (D) 2 . 5
(16)	The Parameters of Hypergeometric Distribution are : (A) 3 (B) 2 (C) 1 (D) 4
(17)	The Sum of p and q is always : (A) 0 (B) 2 (C) 1 (D) 4

		(2022 – 24) & (2023 – 25)
Statistics (Subjective)	Inter (Ist – A – Exam 2024) BWP-24	Time 2 : 40 Hours Marks : 68

Note : It is compulsory to attempt any (8 – 8) Parts each from Q.No.2 and Q.No.3 while attempt any (6) Parts from Q.No.4. Attempt any (3) Questions from Part – II .Write same Question No. and its Part No. as given in the Question Paper.

(Part - I)

22 x 2 = 44

Q.No.2	(i)	Differentiate between Variable and Constant.	(ii)	Write down the Limitations of Statistics. (any two)
	(iii)	Describe Qualitative Variable.	(iv)	Enlist any two merits of Median.
	(v)	Define Central Tendency.	(vi)	Find Mode : 2 , 4 , 6 , 8 , 10 , 12
	(vii)	Find Harmonic Mean (H . M) : If $\sum f = 80$, $\sum(f/x) = 0.5\,8813$	(viii)	Find Median : 13 , 17 , 11 , 14 , 19 , 21 , 15
	(ix)	Define Paasche's Index Number .	(x)	Write down any two uses of an Index Number.
	(xi)	Describe any two limitations of Index Number.		
	(xii)	If Laspeyre 's Index Number = 105 . 4 , Paasche 's Index Number = 103 . 2 Find Fisher 's Ideal Index number.		
Q.No.3	(i)	Define Classification.	(ii)	Differentiate between Histogram and Historigram.
	(iii)	What is Pie Chart ? Explain.	(iv)	Write down names of Absolute Measures of Dispersion.
	(v)	If Range = 60 , Class Interval = 6 , then calculate No . of Classes .	(vi)	If Var (x) = 10 , find the Var (y) , If Y = 3x + 10
	(vii)	Define Skewness.	(viii)	If Standard Deviation of a distribution is 4 , find 2nd Moment about Mean.
	(ix)	Write down Sample Space , if " 3 " coins are tossed .	(x)	What is meant by Simple Event?
	(xi)	State Addition Law of Probability for Not Mutually Exclusive Events.	(xii)	If P(A) = 0 . 2 and P(B) = 0 . 15 find $P(A \cap B)$, if A and B are independent events.
Q.No.4	(i)	What is a Random Variable?	(ii)	Explain the Concept of Discrete Probability Distribution.
	(iii)	Given E(x) = 0 . 55, Var(x) = 1 . 35 and y = 2x + 1 Find E(y) and Var (y) .	(iv)	Write down the Properties of Expected Values.
	(v)	What is Binomial Experiment?	(vi)	A Random Variable ' x ' has a Binomial Distribution with n = 5 and P = 0 . 2 , find P (x = 2).
	(vii)	In a Binomial Distribution Mean = 2 . 4 and S.D = 1 . 2 Find the value of " n " .	(viii)	Enlist any two properties of Hypergeometric Experiment .
	(ix)	If N = 10 , n = 5 , k = 3 , find Mean of the Hypergeometric Distribution.		

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BWP-24

Q.No.5 (a) Find the Geometric Mean for the following data : **(04)**

Age (years)	11 – 20	21 – 30	31 – 40	41 – 50	51 – 60
f	6	7	9	6	4

(b) The Average Wage of 4 men is Rs 17/- per hour . What is the Average Wage of further 6 Men if the Average Wages of all 10 Men is Rs 20/- ? **(04)**

Q.No.6 (a) Find Coefficient of Quartile Deviation from the following Table : **(04)**

Weights (grams)	160 – 170	170 – 180	180 – 190	190 – 200	200 – 210	210 – 220
No . of Apples	7	13	30	42	35	23

(b) Given that $\sum f = 120$, $\sum fx = 296$, Mode = 2 . 944 and Second Moment about Mean is 1 . 4884 . Calculate Coefficient of Skewness . **(04)**

Q.No.7 (a) Calculate Chain Indices. **(04)**

Commodity	1928	1929	1930	1931
Rice	7 . 3	7 . 7	5 . 8	4 . 1
Wheat	7 . 5	5 . 5	3 . 6	2 . 7
LinSeed	7 . 0	8 . 0	6 . 5	4 . 2
Gur	6 . 3	7 . 3	6 . 2	4 . 2
Cotton	34 . 1	25 . 8	17 . 3	13 . 3
Tobacco	17 . 3	17 . 1	14 . 5	11 . 6

(b) A Pair of dice is rolled . Let " A " denote the event that the sum shown is " 6 " and " B " be the event that the two dice had the same no. Find ; **(04)**
(i) P (A/B) (ii) P (B/A)

Q.No.8 (a) The Probability distribution of a Discrete Random Variable ' x ' is given by **(04)**
$f(x) = \binom{3}{x} \left(\frac{1}{4}\right)^x \left(\frac{3}{4}\right)^{3-x}$; x = 0 , 1 , 2 ,3 Find E (x) and E (x^2)

(b) A Continuous Random Variable " X " has Probability Density Function given by $f(x) = cx$, for $0 < x < 2$ Find (i) C (ii) P ($1 < x < 1.5$) **(04)**

Q.No.9 (a) If ' X ' is the number of successes with Probability of success is $\frac{1}{4}$ in each of 5 independent trails . Then , find (i) P (x = 0) (ii) P ($x \leq 3$) **(04)**

(b) Three balls are drawn from a bag containing 5 white and 3 black balls . If ' x ' denotes the number of white balls , then find the Probability Distribution of ' x ' and find its Mean. **(04)**

05-05-2024