

1123 Warning:- Please write your Roll No. in the space provided and sign. Roll No. \_\_\_\_\_

Statistics (Objective) M (Session 2019-21 to 2022-24) COM Sig. of Student \_\_\_\_\_

(Inter Part - I) ایف جی اسٹڈی ڈاٹ کام SGP-11-23 ایف جی اسٹڈی ڈاٹ کام Paper (I) ایف جی اسٹڈی ڈاٹ کام

Time Allowed:- 20 minutes PAPER CODE 2181 Maximum Marks:- 17

Note:- You have four choices for each objective type question as A, B, C and D. The choice which you think 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. Write PAPER CODE, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

- 1) A constant can assume  
(A) One value (B) Different values (C) More than one values (D) None of all
- 2) Row caption is called  
(A) Title (B) Body (C) Box head (D) Stub
- 3) The Model Letter(s) of the word STATISTICS.  
(A) S (B) T (C) S & T (D) None of all
- 4) If a distribution has  $\bar{X} = \bar{Y} = \bar{Z}$ , then it is called.  
(A) +vely skewed (B) -vely skewed (C) Symmetrical (D) None of all
- 5) Median divides the ordered data into -----equal parts.  
(A) 2 (B) 3 (C) 4 (D) 5
- 6) The first moment about mean is  
(A) One (B) Variance (C) S.D (D) Zero
- 7) The degree of Peakedness is called  
(A) Dispersion (B) Skewness (C) Kurtosis (D) Symmetry
- 8)  $\frac{Q_3 - Q_1}{2}$  is called.  
(A) Interquartile range (B) Semi Interquartile (C) Variance (D) S.D
- 9) The Index  $\frac{\sum p_n q_0}{\sum p_0 q_0} \times 100$  is  
(A) Laspeyre's Index No (B) Paasche's Index No (C) Fisher Index No (D) Value Index
- 10) Fisher Index No is----- of Laspeyre's and Paasche's Index Nos.  
(A) A.M (B) GM (C) Median (D) Mode
- 11) If  $A \cap B = \phi$ , then A & B events are called  
(A) Equally likely (B) Exhaustive (C) Mutually Exclusive (D) None of all
- 12) The probability of an event cannot be  
(A) = 0 (B) < 0 (C) > 0 (D) = 1
- 13) Expected value of a constant is always  
(A) Zero (B) One (C) Two (D) Constant itself
- 14) A r.v. that can assume its value only in whole numbers is called.  
(A) Continuous Variable (B) Discrete Variable (C) Qualitative Variable (D) None of these
- 15) Probability of success remains constant in  
(A) Binomial distribution (B) Poisson distribution (C) Hypergeometric distribution (D) None of these
- 16) Hypergeometric distribution deals with.  
(A) Independent trials (B) Dependent trials (C) Both a and b (D) None of all
- 17) Variance of Binomial distribution is  
(A) np (B)  $\sqrt{npq}$  (C) npq (D) npk

ایف جی اسٹڈی ڈاٹ کام ایف جی اسٹڈی ڈاٹ کام 1177 -- 1123 -- 2500 (1) ایف جی اسٹڈی ڈاٹ کام

1123 Warning:- Please, do not write anything on this question paper except your Roll No. Statistics (Subjective) (Session 2019-21 to 2022-24) Paper (I) Time Allowed: 2.40 hours (Inter Part - I) Maximum Marks: 68 Section I

2. Answer briefly any Eight parts from the followings:-  $8 \times 2 = 16$
- (i) Define Statistics in Plural Sense.
  - (ii) What is Primary data?
  - (iii) Write down Some advantages of median.
  - (iv) Give three dis-advantages of H.M
  - (v) Define Median.
  - (vi) Find Mode of 3, 3, 7, 8, 10, 11, 10, 12, 3
  - (vii) Define Harmonic Mean.
  - (viii) Define Weighted mean.
  - (ix) If Laspeyre's I.No=105.4 and Paache's I.No =103.2 Find Fisher's I.No.
  - (x) What is Composite index number?
  - (xi) Given:  $\sum p_1q_0 = 900$  and  $\sum p_0q_0=897$ . Find Cost of Living Index No.
  - (xii) Define Paache's Index.

3. Answer briefly any Eight parts from the followings:-  $8 \times 2 = 16$
- (i) What is an "Ogive"?
  - (ii) What does "Data" means?
  - (iii) Define variance.
  - (iv) Define Range.
  - (v) Define Skewness.
  - (vi) Define Kurtosis.
  - (vii) The first two moments about the value 2 are 1 and 16. Compute Mean and Variance.
  - (viii) Define compound events.
  - (ix) What is the Mathematical definition of probability?
  - (x) Define an impossible event. Also give an example.
  - (xi) Define Sure event. Also give an example.
  - (xii) If  $P(A)=0.35$ . What will be the value of  $P(\bar{A})$ ?

4. Answer briefly any Six parts from the followings:-  $6 \times 2 = 12$
- (i) Define probability mass function.
  - (ii) What are properties of probability distribution?
  - (iii) check whether  $f(y) = \frac{1}{y}$  for  $y = 1,2,3,4$  is a probability function?
  - (iv) Given that  $E(X^2)=400$ ,  $Var (X)=144$ , find  $E(X)$ .
  - (v) Define hyper-geometric probability distribution.
  - (vi) Write properties of binomial experiment.
  - (vii) Is it possible to have binomial distribution with mean = 5 and S.D = 4.
  - (viii) In a hyper-geometric distribution mean=1.8182,  $N=11$ ,  $n=5$ , then find K.
  - (ix) If  $n=6$  and  $P=\frac{1}{5}$  in a binomial distribution find  $P(X=1)$

( Inter Part – I)

**Paper (I)**

Time Allowed:- 20 minutes

**PAPER CODE 2181**

Maximum Marks:- 17

**Note:-** You have four choices for each objective type question as A, B, C and D. The choice which you think 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. Write **PAPER CODE**, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

**Q. 1**

- 1) Registration is the source of
 

(A) Secondary data	(B) Primary data	(C) Histogram	(D) Ogive
--------------------	------------------	---------------	-----------
- 2) The smallest and the largest value of the data are called.
 

(A) Range	(B) Mid point	(C) Extreme values	(D) Arrayed data
-----------	---------------	--------------------	------------------
- 3) Total angle of Pie-chart is
 

(A) $270^\circ$	(B) $300^\circ$	(C) $330^\circ$	(D) $360^\circ$
-----------------	-----------------	-----------------	-----------------
- 4) The most frequent value of the data if it exists is
 

(A) Arithmetic Mean	(B) Mode	(C) Median	(D) Geometric Mean
---------------------	----------	------------	--------------------
- 5) If  $n = 7$  and  $\sum\left(\frac{1}{x}\right) = 2$  then harmonic mean is
 

(A) 3.5	(B) 0.2857	(C) 9	(D) 5
---------	------------	-------	-------
- 6) The most central value of an arrayed data is
 

(A) Mean	(B) Mode	(C) Median	(D) Weighted mean
----------	----------	------------	-------------------
- 7) The sum of squares of deviations is minimum if the deviations are taken from
 

(A) Median	(B) Mode	(C) Geometric Mean	(D) Mean
------------	----------	--------------------	----------
- 8) Second moment about mean is
 

(A) Zero	(B) One	(C) Variance	(D) Standard deviation
----------	---------	--------------	------------------------
- 9) For a Moderately skewed distribution mean deviation is
 

(A) $\frac{4}{5}(S.D)$	(B) $\frac{2}{3}(S.D)$	(C) $\frac{5}{4}(S.D)$	(D) $\frac{3}{2}(S.D)$
------------------------	------------------------	------------------------	------------------------
- 10) Paasche's Index number is
 

(A) $\frac{\sum p_n q_o}{\sum p_o q_o} \times 100$	(B) $\frac{\sum p_n q_n}{\sum p_o q_n} \times 100$	(C) $\frac{\sum p_o q_o}{\sum p_n q_o} \times 100$	(D) $\frac{\sum p_o q_n}{\sum p_n q_n} \times 100$
--	--	--	--
- 11) In fixed base period, the base period should be
 

(A) Abnormal	(B) Far away	(C) Previous year	(D) Normal
--------------	--------------	-------------------	------------
- 12) When three coins are tossed, the number of all possible outcomes are
 

(A) 8	(B) 6	(C) 9	(D) 4
-------	-------	-------	-------
- 13) The probability of red card out of 52 cards is
 

(A) $\frac{13}{52}$	(B) $\frac{1}{52}$	(C) $\frac{26}{52}$	(D) $\frac{4}{52}$
---------------------	--------------------	---------------------	--------------------
- 14) For a random variable 'X',  $\sum P(X)$  is equal to
 

(A) 100	(B) 1	(C) Less than 1	(D) Greater than 1
---------	-------	-----------------	--------------------
- 15) If  $y = ax + b$ , where 'a' and 'b' are any constants, then  $\text{var}(y) =$ 

(A) $a \cdot \text{var}(x) + b$	(B) $a \cdot \text{var}(x)$	(C) $a^2 \text{var}(x) + b$	(D) $a^2 \cdot \text{var}(x)$
---------------------------------	-----------------------------	-----------------------------	-------------------------------
- 16) A fair coin is tossed four times, the probability of getting four heads is
 

(A) $\frac{1}{16}$	(B) $\frac{2}{16}$	(C) $\frac{4}{16}$	(D) $\frac{8}{16}$
--------------------	--------------------	--------------------	--------------------
- 17) The parameters of the hypergeometric distribution  $h(x; N, n, K)$  are
 

(A) $x, N, K$	(B) $x, n, N$	(C) $N, n, K$	(D) $x, N, n, K$
---------------	---------------	---------------	------------------

Section ----- I

2. Answer briefly any Eight parts from the followings:- 8 × 2 = 16

- (i) Define qualitative variable. WWW.FGSTUDY.COM
- (ii) Give two characteristics of statistical data with a suitable example.
- (iii) Describe the four qualities of an ideal average.
- (iv) Define weighted average. WWW.FGSTUDY.COM
- (v) Describe the relation between A.M, G.M and H.M. Give a short example.
- (vi) Distinguish between quartiles and deciles with examples.
- (vii) Prove that  $\sum(X - \bar{X}) = 0$  WWW.FGSTUDY.COM
- (viii) Name the important types of average.
- (ix) Define price index numbers.
- (x) Explain the fixed base method. WWW.FGSTUDY.COM
- (xi) Given  $\sum p_o q_o = 1500$ ,  $\sum p_n q_o = 2040$  Find base year weighted index.
- (xii) How are link relatives computed?

3. Answer briefly any Eight parts from the followings:- 8 × 2 = 16

- (i) What do you understand by classification?
- (ii) Outline the procedure for making a histogram.
- (iii) Explain the term relative dispersion. WWW.FGSTUDY.COM
- (iv) Define moments of a frequency distribution. WWW.FGSTUDY.COM
- (v) What is mean deviation and its co-efficient? WWW.FGSTUDY.COM
- (vi) Write any four properties of variance. WWW.FGSTUDY.COM
- (vii) What can you say about skewness, if a distribution has mean 1403 and mode 1487.
- (viii) Given that lower quartile is 15 and semi inter quartile range is 2.5, find  $Q_3$
- (ix) Describe random experiment with an example! WWW.FGSTUDY.COM
- (x) Define independent events.
- (xi) Compare null and sure events.
- (xii) Form a sample space when four coins are tossed. WWW.FGSTUDY.COM

4. Answer briefly any Six parts from the followings:- 6 × 2 = 12

- (i) How can random number be generated?
- (ii) What will be "K" in the given probability distribution. WWW.FGSTUDY.COM

X	0	1	2
P(X)	K	2K	3K

- (iii) What does p.d.f. stands for,? WWW.FGSTUDY.COM
- (iv) Write down any two properties of expectation.
- (v) Given that  $E(X) = 3.5$ ,  $E(X^2) = 15.17$  Find Var (X)
- (vi) What is the probability of getting 4 sixes. When a die is rolled 5 times. WWW.FGSTUDY.COM
- (vii) Explain briefly the binomial random variable.
- (viii) What are the properties of Hypergeometric experiment.
- (ix) Write down the mean and variance of Hypergeometric distribution.