

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE ..2nd.. ANNUAL EXAMINATION, 2022..

(275)

Name of Subject: **STATISTICS Part-I 2nd/A 2022.**

Q. Nos	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer
	2181		2183		2185		2187	
1	A	Primary data	B	Combination	D	20	D	All of these
2	A	class frequency	A	Independent	D	Harmonic mean.	A	Zero
3	C	Graph Paper	D	All of these	D	both Sand T	B	Zero
4	D	20	A	Zero	C	Standard deviation	C	$\frac{nk}{N}$
5	D	harmonic Mean	B	Zero	C	S.D(X)	A	Primary data
6	D	both Sand T	C	$\frac{nk}{N}$	B	Skewness	A	Class frequency
7	C	Standard deviation.	A	Primary data	C	base year	C	Graph Paper
8	C	S.D(X)	A	class frequency	B	Laspeyre's formula	D	20
9	B	Skewness	C	Graph Paper	B	Combination	D	Harmonic mean.
10	C	base year	D	20	A	Independent	D	both Sand T
11	B	Laspeyre's formula	D	harmonic Mean	D	All of these	C	Standard deviation
12	B	Combination	D	both Sand T	A	Zero	C	S.D(X)
13	A	Independent	C	Standard deviation	B	Zero	B	Skewness
14	D	All of these	C	S.D(X)	C	$\frac{nk}{N}$	C	base year
15	A	Zero.	B	Skewness	A	Primary data	B	Laspeyre's formula
16	B	Zero.	C	base year	A	class frequency	B	Combination
17	C	$\frac{nk}{N}$	B	Laspeyre's formula	C	Graph Paper	A	Independent
18	/	/	/	/	/	/	/	/
19	/	/	/	/	/	/	/	/
20	/	/	/	/	/	/	/	/

سرٹیفکیٹ بابت صحیح سوالیہ پرچہ مارکنگ Key

ہم نے مضمون **شماریات** پرچہ **I** گروپ **2nd** سالانہ امتحان 2022ء کا سوالیہ پرچہ **انتھنیٹ** (Subjective & Objective) کو نظر عین چیک کر لیا ہے یہ پرچہ Syllabus کے تین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی معروضی (MCQs) Key کی بابت تصدیق کی جاتی ہے کہ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔ نیز سب ایگزامینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: **21-12-2022**

S.#	Name	Designation	Institution	Mobile No	Signature
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21-12-2022

22-12-2022

STATISTICS PAPER-I

TIME ALLOWED: 20 Minutes

OBJECTIVE

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 bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) The data obtained by conducting a survey is called:

(A) Primary data	(B) Secondary data	(C) Continuous data	(D) Grouped data
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- (2) The number of values falling in a particular group is called:

(A) Class frequency	(B) Class limit	(C) Class mark	(D) Class boundary
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- (3) For graphic presentation of a frequency distribution, the paper to be used is:

(A) Carbon paper	(B) Ordinary paper	(C) Graph paper	(D) Butter paper
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- (4) Ten families have an average of 2 boys. How many boys do they have together?

(A) 2	(B) 10	(C) 12	(D) 20
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- (5) The appropriate average for calculating the average speed of a journey is:

(A) Median	(B) Mode	(C) Arithmetic mean	(D) Harmonic mean
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- (6) The modal letter of the word "STATISTICS" is:

(A) S	(B) T	(C) Both S and I	(D) Both S and T
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- (7) Which of the following is an absolute measure of dispersion?

(A) Coefficient of variation	(B) Coefficient of dispersion
(C) Standard deviation	(D) Coefficient of skewness
- (8) If $Y = X \pm 6$, then $S.D(Y)$ is equal to:

(A) $S.D(X) + 6$	(B) $S.D(X) - 6$	(C) $S.D(X)$	(D) $S.D(X) + S.D(Y)$
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- (9) Departure from symmetry is called:

(A) Variation	(B) Skewness	(C) Kurtosis	(D) Dispersion
---------------	--------------	--------------	----------------
- (10) In price relatives, the given year price is divided by the price of:

(A) First year	(B) Last year	(C) Base year	(D) Preceding year
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- (11) Consumer price index numbers are obtained by:

(A) Paasche's formula	(B) Laspeyre's formula	(C) Fisher's formula	(D) Newton's formula
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- (12) An arrangement of objects without regarding the order is called:

(A) Permutation	(B) Combination	(C) Sample point	(D) Experiment
-----------------	-----------------	------------------	----------------
- (13) Given $P(A) = \frac{2}{3}$, $P(B) = \frac{3}{8}$ and $P(A \cap B) = \frac{1}{4}$, then A and B are:

(A) Independent	(B) Dependent	(C) Mutually exclusive	(D) Equally likely
-----------------	---------------	------------------------	--------------------
- (14) A discrete probability distribution may be represented by:

(A) Table	(B) Graph	(C) Mathematical equation	(D) All of these
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- (15) If X is a continuous random variable, then $P(X = 1)$ is equal to:

(A) Zero	(B) One	(C) Negative	(D) Positive
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- (16) In binomial probability distribution if $n = 3$, then $P(X > 3)$ is equal to:

(A) Less than zero	(B) Zero	(C) One	(D) Greater than one
--------------------	----------	---------	----------------------
- (17) The mean of the hypergeometric distribution is:

(A) $\frac{nN}{K}$	(B) $\frac{n+K}{N}$	(C) $\frac{nK}{N}$	(D) $\frac{NK}{n}$
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STATISTICS PAPER-I

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 - (A) Independent
 - (B) Dependent
 - (C) Mutually exclusive
 - (D) Equally likely

INTERMEDIATE PART-I (11th CLASS)

STATISTICS PAPER-I

TIME ALLOWED: 2.40 Hours

MAXIMUM MARKS: 68

SUBJECTIVE

NOTE: Write same question number and its part number on answer book,
as given in the question paper.

SECTION-I

2. Attempt any eight parts.

8 × 2 = 16

- (i) Define Statistics.
- (ii) What are the types of quantitative variable?
- (iii) Write any two advantages of Median.
- (iv) Why an average is called measure of central tendency?
- (v) Define percentile and write the formula of 65th percentile.
- (vi) For a certain distribution, if $\sum(x - 15) = 5$ and $\sum(x - 18) = 0$, what is the value of arithmetic mean and why?
- (vii) Find the geometric mean of 1, 2, 32.
- (viii) Define harmonic mean. Also write its formula.
- (ix) Write any two uses of index numbers.
- (x) How do you define market basket?
- (xi) Given $\sum p_1 q_0 = 1250$ and $\sum p_0 q_0 = 1200$, find the base year weighted index number.
- (xii) Define base period.

3. Attempt any eight parts.

8 × 2 = 16

- (i) How can you differentiate between grouped and ungrouped data?
- (ii) What is Histogram?
- (iii) What is the S.D of 4, 4, 4, 4? Explain.
- (iv) Define variance. Also write its formula by definition.
- (v) Is it possible that 1st moment about mean is 10? Justify your answer.
- (vi) If $Q_1 = 20$ and $Q_3 = 60$, then find coefficient of Q.D.
- (vii) What is relative measure of dispersion?
- (viii) Write any two properties of variance.
- (ix) Distinguish between permutations and combinations.
- (x) What do you mean by independent events?
- (xi) If a die is rolled, what is the probability of a number divisible by 3?
- (xii) If A and B are independent events and $P(A) = 0.4$, $P(B) = 0.3$. Find $P(A \cap B)$.

4. Attempt any six parts.

6 × 2 = 12

- (i) How can random numbers be generated?
- (ii) How many types of random variable are?
- (iii) Explain the laws of expectation.
- (iv) A die is rolled if x = face value, then find $E(X)$.
- (v) Explain the properties of probability density function.
- (vi) Define binomial experiment.
- (vii) What are the parameters of a binomial distribution?
- (viii) Define hypergeometric distribution.
- (ix) If X is a hypergeometric random variable with $N = 40$, $n = 5$ and $k = 4$. Find the value of mean.

SECTION-II**NOTE: Attempt any three questions.**

- 5.(a) Find Geometric Mean for the following data: 4

x	6	10	14	16	20
f	2	5	8	3	2

- (b) Find Median and Mode for the following distribution: 4

Classes	9.3 – 9.7	9.8 – 10.2	10.3 – 10.7
f	3	7	2

- 6.(a) Compute mean deviation about mean. 4

C.I	86 – 90	91 – 95	96 – 100	101 – 105	106 – 110
f	6	4	10	6	3

- (b) The weights of 38 male students at a university are given in the following frequency table: 4

Weight	118 – 126	127 – 135	136 – 144	145 – 153	154 – 162
f	3	5	9	12	4

Calculate Bowley's co-efficient of Skewness.

- 7.(a) The following figure give the average annual prices for beef and mutton. Construct index number of meat prices giving weights 2 and 1 for beef and mutton respectively. Take the year 2016 as base: 4

Year	2016	2017	2018	2019	2020	2021
Beef	350	400	450	450	500	600
Mutton	750	800	1000	1100	1200	1250

- (b) Assume that
- X
- is a number chosen at random from the set of integers between 1 and 14 both inclusive. What is probability if: 4

- (i)
- X
- is a single digit number (ii)
- X
- is a multiple of 5 or 6

- 8.(a) For the probability distribution of '
- X
- ' given below. Find that: 4

- (i)
- $E(X)$
- (ii)
- $E(X^2)$

x	0	1	2	3
$P(x)$	$\frac{3}{10}$	$\frac{4}{10}$	$\frac{2}{10}$	$\frac{1}{10}$

- (b) A committee of size 5 is to be selected from 3 female and 5 male members. Find expected number of female members on the committee. 4

- 9.(a) In a binomial distribution the mean and S.D are 36 and 4.8 respectively. Find its parameters. 4

- (b) There are 7 people who work in an office 4 of these would like to be transferred. If 3 of these are selected randomly for transfer. What is the probability that: 4

- (i) All three will want to be transferred
-
- (ii) Two of these will want to be transferred