

INTERMEDIATE PART-I (11th CLASS)**STATISTICS PAPER-I (NEW SCHEME) (SESSION 2015-2017)**

TIME ALLOWED: 2.40 Hours

SUBJECTIVE

MAXIMUM MARKS: 68

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 is Discrete Variable? Give any example.
- (iii) Give any two qualities of a good average.
- (iv) What do you mean by Harmonic Mean?
- (v) Sum of deviations of 10 values from $X = 50$ is 500, what will be the value of Arithmetic Mean?
- (vi) Calculate Geometric Mean for the values 16, 1, 4.
- (vii) What will be the mode if Mean = 30 and Median = 40?
- (viii) Define Index Number.
- (ix) Write name of base year weighted index number.
- (x) What do you mean by Consumer Price Index Number?
- (xi) If $\sum p_o q_o = 294$ and $\sum p_o q_n = 269$, find current year weighted index number.
- (xii) If $\sum IW = 16500$ and $\sum p_o q_o = 110$, then find consumer price index number by Family Budget Method.

3. Attempt any eight parts.**8 × 2 = 16**

- (i) What is meant by Frequency Polygon?
- (ii) Distinguish between Histogram and Histogram.
- (iii) Define Quartile Deviation and how it is calculated?
- (iv) Write down only various absolute measures of Dispersion.
- (v) Distinguish between Positive and Negative Skewness.
- (vi) Explain Moments about Mean.
- (vii) Given Mean = 50, Median = 48 and coefficient of skewness = 1. Find the value of Variance.
- (viii) Given Mean = 50, Median = 48 and standard deviation = 6. Find Karl Pearson's Coefficient of skewness.
- (ix) What is meant by Random Experiment?
- (x) Explain the concept of dependent events.
- (xi) Suppose $P(A) = \frac{1}{4}$, $P(B) = \frac{1}{3}$ and $P(A \cup B) = \frac{1}{2}$. Determine $P(A \cap B)$.
- (xii) If $P(A) = 0.2$, $P(B) = 0.4$ and $P(A/B) = 0.375$. Find $P(A \text{ and } B)$.

4. Attempt any six parts.**6 × 2 = 12**

- (i) How can random numbers be generated?
- (ii) Write two properties of Expectation.
- (iii) Define Probability Distribution.
- (iv) If $E(x) = 5$, find $E(-3x + 2)$
- (v) If $E(x) = 3$ and $E(x^2) = 12$, then find variance of x .
- (vi) Define Binomial Probability Distribution.
- (vii) Write two properties of Hypergeometric Experiment.
- (viii) In a binomial distribution $n = 10$ and $p = 0.6$. Find Mean and Variance of the Distribution.
- (ix) Given $N = 10$, $k = 5$ and $n = 3$. Find $P(x < 1)$.

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

5.(a) Compute G.M of the data. 4

Age (years)	11 - 20	21 - 30	31 - 40	41 - 50	51 - 60	61 - 70
f	12	14	26	35	23	5

(b) The deviations from $X = 22.5$ of 10 different values of X are $-12, -8.5, 3.0, 0, 2.5, 6.6, 9.2, 1.6, 0.5$ and 0.4 . Find the lower and upper quartiles of variable X . 4

6.(a) Find M.D from the following Data:- 4

Group	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
Frequency	3	5	6	7	3

(b) Lower and upper quartiles of a distribution are 142.36 and 167.73 respectively, While median is 153.50. find coefficient of skewness. 4

7.(a) Compute Chain Index Numbers for the following data taking 1997 as base year:- 4

Years	1997	1998	1999	2000	2001	2002	2003
Prices	180	185	194	200	204	218	220

(b) Three coins are tossed. What is the probability of getting?
(i) exactly 2 heads (ii) at least 2 heads 48.(a) Given $E(X) = 5$, $E(X^2) = 36$. Find the Mean and Variance of $2x - 5$. 4

(b) If it rains, a rain coat dealer can earn Rs.500 per day. If it is fair he can lose Rs.100 per day. What is his expectation if the probability of rain is 0.4? 4

9.(a) Workers have 20% chances of suffering from an occupational disease, what is probability that out of 6 workers (i) Exactly 2 will suffer from the disease
(ii) At least 2 will suffer from the disease? 4(b) A committee of size 5 is selected at random from 3 women and 5 men.
Show that expected number of women is $\frac{nk}{N}$. 4

STATISTICS PAPER-I (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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Q.No.1

- (1) The data in their original form is called:-
 (A) Secondary Data (B) Primary Data (C) Unordered Data (D) None of these
- (2) The frequency of a class divided by total frequency is called:-
 (A) Class Frequency (B) Total Frequency (C) Relative Frequency (D) Cumulative Frequency
- (3) Graph of a Symmetrical Distribution is:-
 (A) U - shaped (B) Bell shaped (C) J - shaped (D) Bar shapes
- (4) Sum of absolute deviations of the values is least when deviations are taken from:-
 (A) Mean (B) Median (C) Mode (D) H.M
- (5) $\sum(X - 20) = 25$ and $\sum(X - 18) = 0$ then mean is:- (A) Zero (B) 25 (C) 18 (D) 10
- (6) If the values are $-2, -3, -5, -10$ then range is:- (A) -12 (B) 12 (C) 8 (D) -8
- (7) The second moment about Mean is equal to:-
 (A) Zero (B) Mean (C) Variance (D) Standard Deviation
- (8) In a Symmetrical Distribution, μ_3 is:-
 (A) Zero (B) One (C) Three (D) Four
- (9) Base year weighted index numbers are:-
 (A) Laspeyre's (B) Paasche's (C) Fisher (D) Marshall-Edgeworth
- (10) Fisher Index Number is written as:-
 (A) $\sqrt{\frac{L}{P}}$ (B) $\sqrt{\frac{P}{L}}$ (C) $\sqrt{L \times P}$ (D) None of these
- (11) An event that contains more than one outcome is called:-
 (A) Simple Event (B) Compound Event (C) Impossible Event (D) None of these
- (12) $P(A) = 0.4$, $P(B) = 0.3$, If A and B are mutually exclusive events, then $P(A \cup B)$ is:-
 (A) 0.4 (B) 0.3 (C) 0.7 (D) 1.2
- (13) The life time of a light bulb is:-
 (A) Discrete r.v (B) Continuous r.v (C) Constant (D) None of these
- (14) If 'C' is a non-random variable, then $E(C) =$ _____.
 (A) Zero (B) 1 (C) 'C' (D) n P
- (15) If $y = ax + b$, where 'a' and 'b' are constant, $Var(Y) =$ _____.
 (A) $a Var(X)$ (B) $a^2 Var(X)$ (C) $Var(X)$ (D) $Var(X) + a$
- (16) For a binomial distribution, relationship between mean and variance is:-
 (A) Mean = Variance (B) Mean > Variance (C) Mean < Variance (D) None of these
- (17) In hypergeometric experiment, the trials are:-
 (A) Dependent (B) Independent (C) Both A and B (D) None of these

STATISTICS PAPER-I (NEW SCHEME) (SESSION 2015-2017)

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- (1) If $y = ax + b$, where 'a' and 'b' are constant, $Var(Y) =$ _____
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- (9) If the values are -2, -3, -5, -10 then range is:- (A) -12 (B) 12 (C) 8 (D) -8
- (10) The second moment about Mean is equal to:-
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 (A) Discrete r.v (B) Continuous r.v (C) Constant (D) None of these
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 (A) Zero (B) 1 (C) 'C' (D) nP

STATISTICS PAPER-I (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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- (7) If 'C' is a non-random variable, then $E(C) = \underline{\hspace{2cm}}$.
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- (8) If $y = ax + b$, where 'a' and 'b' are constant, $Var(Y) = \underline{\hspace{2cm}}$
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- (17) The second moment about Mean is equal to:-
 (A) Zero (B) Mean (C) Variance (D) Standard Deviation

STATISTICS PAPER-I (NEW SCHEME) (SESSION 2015-2017)

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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- (17) Sum of absolute deviations of the values is least when deviations are taken from:-
(A) Mean (B) Median (C) Mode (D) H.M

INTERMEDIATE PART-I (11th CLASS)**STATISTICS PAPER-I (OLD SCHEME) (SESSION 2012-2014)**

TIME ALLOWED: 3.10 Hours

SUBJECTIVE

MAXIMUM MARKS: 83

**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 in Singular Sense.
 - (ii) Differentiate between Population and Sample.
 - (iii) Define Geometric Mean (G.M).
 - (iv) Highlight some demerits of Mode.
 - (v) If for 10 observations $\sum(x - 23) = -17$ find the value of A.M.
 - (vi) Average of 5 observations is 70. The first two observations are 50 and 70 and the last two observations are 60 and 80. Find middle value.
 - (vii) Find Median of 0, -3, -5, 2, 3
 - (viii) Define Laspeyres Index.
 - (ix) Define Paasches Index.
 - (x) Define Fisher Ideal Index.
 - (xi) Which average is the most useful average to be used for averaging the index numbers?
 - (xii) Define Fixed base Method.
- 3. Attempt any eight parts. 8 × 2 = 16**
- (i) What is Classification?
 - (ii) Define the term Ogive.
 - (iii) Define Range and Coefficient of Range.
 - (iv) Define the Standard Deviation.
 - (v) Write a short note on Coefficient of Variation.
 - (vi) The Mean of 200 items is 48 and their standard deviation is 3. Find the sum of squares of all items.
 - (vii) The first four moments about mean of a distribution are 0, 4, 6 and 48. Find b_2 .
 - (viii) Given Mean = 100, Mode = 95 and Standard Deviation = 10. Find Coefficient of Skewness.
 - (ix) Write a short note on Sample Space.
 - (x) Define Venn diagram.
 - (xi) A pair dice is rolled. What is the probability of getting same number on both faces?
 - (xii) Write down the statement of Addition Law of Probability for two not mutually exclusive events.
- 4. Attempt any six parts. 6 × 2 = 12**
- (i) Define a Random Variable.
 - (ii) What is a Discrete Probability Distribution?
 - (iii) Define Mathematical expectation of a Random Variable X .
 - (iv) Given that $E(x) = 20$ and $CV = 17\%$. Find $Var(x)$.
 - (v) What is Distribution Function?
 - (vi) Define Binomial Experiment.
 - (vii) If $p = \frac{1}{3}$, $n = 6$, then find Mean and Variance of Binomial Probability Distribution.
 - (viii) Write down properties of Hyper-geometric experiment.
 - (ix) Find Mean of Hyper-geometric Probability Distribution if $N = 12$, $n = 4$, $k = 5$

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

5.(a) Compute Mode of the Data. 4

Hourly wages	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
No. of employees	13	111	182	105	19	7

(b) Find two numbers whose Mean is 9 and Geometric Mean is 7.2. 4

6.(a) Find the Coefficient of Variation. 4

x	10	11	12	13	14	15
f	1	4	9	12	5	4

(b) The first three moments of a distribution about the value 2 of the variable are 1, 16 and -40 . Show that the Mean is 3, the variance is 15 and m_3 is -86 . 4

7.(a) Calculate Fisher's Ideal Index Number for the year 2010 taking 2005 as base from the following data:- 4

Commodity	Price		Quantity	
	2005	2010	2005	2010
A	70	75	300	310
B	72	80	240	275
C	25	32	132	148
D	60	85	280	360

(b) What is the probability of throwing either "sum 7" or "Sum more than 10" with two dice? 4

8.(a) A discrete probability distribution of a random variable 'X' is given in the following table:- 4

x	0	1	2
$P(x)$	$\frac{3}{28}$	$\frac{15}{28}$	$\frac{10}{28}$

Find Mean and Variance of x .(b) A continuous random variable 'X' has the following density function.
 $f(x) = ax + 3; 2 \leq x \leq 8$ find $P(3 < x < 5)$ 49.(a) If $n = 4$ and $p = \frac{3}{4}$; find complete binomial probability distribution. 4

(b) A committee of size 3 is selected from 4 men and 2 women, without replacement. Find Probability Distribution of women on the committee. 4

SECTION-III (PRACTICAL)10. Attempt any three parts. $3 \times 5 = 15$

(A) Find Median and Mode of the following data:-

Classes	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25
f	10	14	19	17	8

(B) Find coefficient of variation from the following:-

C-1	2 - 4	5 - 7	8 - 10	11 - 13	14 - 16
f	8	12	17	10	5

(C) Construct Fisher Ideal Index Number from the following data:-

Commodity	p_0	q_0	p_1	q_1
A	64	270	75	276
B	40	124	45	118
C	18	130	21	121

(D) $f(X) = CX, 0 \leq X \leq 2$ is a probability density function.Find value of C and $P(X < 1), P\left(\frac{1}{2} < X < \frac{3}{2}\right)$ (E) Write complete hyper-geometric distribution for $N = 10, n = 3, k = 3, X = 0, 1, 2, 3$

STATISTICS PAPER-I (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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Q.No.1

- (1) In the plural sense, Statistics means:-
 (A) Methods (B) Numerical Data (C) Sample values (D) Population values
- (2) The process of arranging data into rows and columns is called:-
 (A) Frequency distribution (B) Classification (C) Tabulation (D) Array
- (3) Data classified by attributes is called:-
 (A) Continuous data (B) Quantitative data (C) Qualitative data (D) Grouped data
- (4) When a distribution is symmetrical and has one mode, the highest point on the curve is called the:-
 (A) Mode (B) Median (C) Mean (D) All of these
- (5) _____ is the first step in calculating the Median of a data set.
 (A) Average the two middle values of the data set (B) Array the data
 (C) Determine the relative weights of the data values in terms of importance (D) None of these
- (6) _____ is a relative measure of dispersion.
 (A) Standard Deviation (B) Variance (C) Coefficient of variance (D) All of these
- (7) The sum of absolute deviations is a minimum if these deviations are taken from the:-
 (A) Mean (B) Median (C) Mode (D) All of these
- (8) If $S.D.(x) = 5$, then $S.D.\left(\frac{2x+5}{2}\right)$ is:-
 (A) 5 (B) 10 (C) 15 (D) 7.5
- (9) If all the values considered in calculating an index are of equal importance, the index is:-
 (A) Weighted (B) Simple (C) Un-weighted (D) None of these
- (10) The weights used in a price index are:-
 (A) Percentage of total price (B) Quantities (C) Average of prices (D) None of these
- (11) The probability of drawing a king of spades from a pack of 52 cards is:-
 (A) $\frac{1}{4}$ (B) $\frac{1}{13}$ (C) $\frac{1}{26}$ (D) $\frac{1}{52}$
- (12) If one event is unaffected by the outcome of another event, the two events are said to be:-
 (A) Dependent (B) Independent (C) Mutually exclusive (D) Both B and C
- (13) Random numbers can be generated:-
 (A) Manually (B) Mechanically (C) Both A and B (D) None of these
- (14) If the random variable 'X' denotes the number of heads when three distinct coins are tossed, then 'X' assumes the values:-
 (A) 0, 1, 2, 3 (B) 1, 3, 3, 1 (C) 1, 2, 3 (D) None of these
- (15) The parameters of the binomial distribution $b(x; n, p)$ are:-
 (A) x and n (B) x and p (C) n and p (D) x, n and p
- (16) _____ is true for the binomial distribution.
 (A) Mean > Variance (B) Mean < Variance (C) Mean = Variance (D) Mean = S.D.
- (17) The hypergeometric distribution has _____ parameters.
 (A) 2 (B) 3 (C) 1 (D) 4

STATISTICS PAPER-I (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes

OBJECTIVE

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 (A) 0, 1, 2, 3 (B) 1, 3, 3, 1 (C) 1, 2, 3 (D) None of these
- (2) The parameters of the binomial distribution $b(x; n, p)$ are:-
 (A) x and n (B) x and p (C) n and p (D) x, n and p
- (3) _____ is true for the binomial distribution.
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- (4) The hypergeometric distribution has _____ parameters.
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- (9) _____ is the first step in calculating the Median of a data set.
 (A) Average the two middle values of the data set (B) Array the data
 (C) Determine the relative weights of the data values in terms of importance (D) None of these
- (10) _____ is a relative measure of dispersion.
 (A) Standard Deviation (B) Variance (C) Coefficient of variance (D) All of these
- (11) The sum of absolute deviations is a minimum if these deviations are taken from the:-
 (A) Mean (B) Median (C) Mode (D) All of these
- (12) If $S.D.(x) = 5$, then $S.D.\left(\frac{2x+5}{2}\right)$ is:-
 (A) 5 (B) 10 (C) 15 (D) 7.5
- (13) If all the values considered in calculating an index are of equal importance, the index is:-
 (A) Weighted (B) Simple (C) Un-weighted (D) None of these
- (14) The weights used in a price index are:-
 (A) Percentage of total price (B) Quantities (C) Average of prices (D) None of these
- (15) The probability of drawing a king of spades from a pack of 52 cards is:-
 (A) $\frac{1}{4}$ (B) $\frac{1}{13}$ (C) $\frac{1}{26}$ (D) $\frac{1}{52}$
- (16) If one event is unaffected by the outcome of another event, the two events are said to be:-
 (A) Dependent (B) Independent (C) Mutually exclusive (D) Both B and C
- (17) Random numbers can be generated:-
 (A) Manually (B) Mechanically (C) Both A and B (D) None of these

STATISTICS PAPER-I (OLD SCHEME) (SESSION 2012-2014)

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 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. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question 6 on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) The sum of absolute deviations is a minimum if these deviations are taken from the:-
 (A) Mean (B) Median (C) Mode (D) All of these
- (2) If $S.D.(x) = 5$, then $S.D.\left(\frac{2x+5}{2}\right)$ is:-
 (A) 5 (B) 10 (C) 15 (D) 7.5
- (3) If all the values considered in calculating an index are of equal importance, the index is:-
 (A) Weighted (B) Simple (C) Un-weighted (D) None of these
- (4) The weights used in a price index are:-
 (A) Percentage of total price (B) Quantities (C) Average of prices (D) None of these
- (5) The probability of drawing a king of spades from a pack of 52 cards is:-
 (A) $\frac{1}{4}$ (B) $\frac{1}{13}$ (C) $\frac{1}{26}$ (D) $\frac{1}{52}$
- (6) If one event is unaffected by the outcome of another event, the two events are said to be:-
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- (7) Random numbers can be generated:-
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- (8) If the random variable 'X' denotes the number of heads when three distinct coins are tossed, then 'X' assumes the values:-
 (A) 0, 1, 2, 3 (B) 1, 3, 3, 1 (C) 1, 2, 3 (D) None of these
- (9) The parameters of the binomial distribution $b(x; n, p)$ are:-
 (A) x and n (B) x and p (C) n and p (D) x, n and p
- (10) _____ is true for the binomial distribution.
 (A) Mean > Variance (B) Mean < Variance (C) Mean = Variance (D) Mean = S.D.
- (11) The hypergeometric distribution has _____ parameters.
 (A) 2 (B) 3 (C) 1 (D) 4
- (12) In the plural sense, Statistics means:-
 (A) Methods (B) Numerical Data (C) Sample values (D) Population values
- (13) The process of arranging data into rows and columns is called:-
 (A) Frequency distribution (B) Classification (C) Tabulation (D) Array
- (14) Data classified by attributes is called:-
 (A) Continuous data (B) Quantitative data (C) Qualitative data (D) Grouped data
- (15) When a distribution is symmetrical and has one mode, the highest point on the curve is called the:-
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- (16) _____ is the first step in calculating the Median of a data set.
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STATISTICS PAPER-I (OLD SCHEME) (SESSION 2012-2014)

TIME ALLOWED: 20 Minutes

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Q.No.1

- (1) _____ is the first step in calculating the Median of a data set.
 (A) Average the two middle values of the data set (B) Array the data
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- (3) The sum of absolute deviations is a minimum if these deviations are taken from the:-
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**BOARD OF INTERMEDIATE AND SECONDARY EDUCATION,
MULTAN**

OBJECTIVE KEY FOR INTER (PART-I/ II) Annual Examination, 2017.

Name of Subject Statistics (New)
Group: 1st Scheme

Session (old scheme)
Group: 2nd

Q. Nos.	Paper Code 2181	Paper Code 2183	Paper Code 2185	Paper Code 2187
1.	B	B	A	C
2.	C	B	A	C
3.	B	A	C	C
4.	B	B	B	A
5.	C	C	C	A
6.	C	B	B	C
7.	C	B	C	B
8.	A	C	B	C
9.	A	C	B	B
10.	C	C	A	C
11.	B	A	B	B
12.	C	A	C	B
13.	B	C	B	A
14.	C	B	B	B
15.	B	C	C	C
16.	B	B	C	B
17.	A	C	C	B
18.				
19.				
20.				

Q. Nos.	Paper Code 6181	Paper Code 6183	Paper Code 6185	Paper Code 6187
1.	B	A	B	B
2.	C	C	A	C
3.	C	A	C	B
4.	D	B	B	A
5.	B	B	D	C
6.	C	C	B	B
7.	B	C	C	D
8.	A	D	A	B
9.	C	B	C	C
10.	B	C	A	A
11.	D	B	B	C
12.	B	A	B	A
13.	C	C	C	B
14.	A	B	C	B
15.	C	D	D	C
16.	A	B	B	C
17.	B	C	C	D
18.				
19.				
20.				

سرٹیفکیٹ بابت تصحیح سوالیہ پرچہ مارکنگ Key

ہم نے ذیل نمبروں شمار کیا ہے۔ J گروپ New + old اسکیم سالانہ امتحانی امتحان 2017 کا سوالیہ پرچہ چائنہ نیو سمرٹنی (Subjective & Objective) کو نظر میں چیک کر لیا ہے یہ پرچہ سلیبس کے عین 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 اور سلیبس (Syllabus) کے مطابق بھی ہیں۔ نیز اس پرچہ کی Key کی بابت بھی تصدیق کی جاتی ہے کہ یہ بھی درست بتائی گئی ہے اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔
حریہ 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۔

PREPARED & CHECKED BY

Sr.No	Name	Designation	Institution	Mobile No.	Signature.
1.	<u>NAWAZ ABRAHIM SIARA</u>	<u>A.P.</u>	<u>G.C. Khanental</u>	<u>03457280055</u>	<u>[Signature]</u>
2.	<u>امیر اختر</u>	<u>Assistant</u>	<u>G.C. of Semulhan</u>	<u>0308-863970a</u>	<u>[Signature]</u>
	<u>آفتاب احمد الوالی</u>	<u>Assistant</u>	<u>G.C. of Semulhan</u>	<u>03336057036</u>	<u>[Signature]</u>

ثانوی و اعلیٰ ثانوی تعلیمی بورڈ، ملتان

مورخہ: 27/5/17 مضمون: شماریات پرچہ: 27 گروپ:

جنرل ہدایات برائے مارکنگ Key (مارکنگ اسکیم)

انٹرنیٹ فرسٹ ایکنڈ سالانہ ضمنی امتحان 2017ء

Sr #	Code	Error Indicated	Sr #	Code	Error Indicated
1.	UN	Un-Necessary	8.	SP	Spelling Error
2.	Ir	Irrelevant	9.	P	Punctuation
3.	IN	Incomplete	10.	Wo	Wrong word error
4.	EX	Extra	11.	Wt	Wrong Tense
5.	Rp	Re-Produced	12.	Wf	Wrong Form
6.	I	Insufficient	13.	OA	Over Attempt
7.	Gr	Grammar Error			

اہم نوٹ: ہر سوال "Full Award" سے کم نمبر لگانے کی صورت میں وجہ ضرور لکھیں۔

Section I

Attempt any eight parts, each of 2 marks:

8x2 = 16

Q2

v- $\bar{x} = A + \frac{\sum D}{n} = 50 + \frac{500}{10} = 100$

vi- $Gm = (1 \times 4 \times 16)^{\frac{1}{3}} = (64)^{\frac{1}{3}} = 4$

vii- $mode = 3 \text{ median} - 2 \text{ mean} = 3(40) - 2(30) = 60$

xi- $Pon \text{ (Poncharovs)} = \frac{\sum P_n^2}{\sum P_n} \times 100 = \frac{294}{269} \times 100 = 109.3$

Q3

Attempt any eight parts, each of 2-marks :

8x2 = 16

vii- $SK = \frac{3(\text{mean} - \text{median})}{S.D}$

$1 = \frac{3(50 - 48)}{S.D}$

$\Rightarrow S.D = 6 \text{ i.e. } Var = 36$

viii- $SK = \frac{3(\text{mean} - \text{median})}{S.D} = \frac{3(50 - 48)}{6} = 1$

xi- $P(A \cap B) = P(A) + P(B) - P(A \cup B) = \frac{1}{4} + \frac{1}{3} - \frac{1}{2} = \frac{1}{12}$

xii- $P(A \cap B) = P(B)P(A|B) = 0.4 \times 0.375 = 0.15$

6x2 = 12

Q4

Attempt any six parts, each of 2 marks:

iv- $E(-3X+2) = -3E(X)+2 = -3(5)+2 = -13$

v- $Var(X) = EX^2 - (EX)^2 = 12 - (3)^2 = 3$

viii- $Mean = np = 10 \times 0.6 = 6$

$Var = npq = 10 \times 0.6 \times 0.4 = 2.4$

ix- $P(X=1) = P(X=0) = \binom{10}{3} \left(\frac{1}{10}\right)^3 \left(\frac{9}{10}\right)^7 = 0.083$

i- NASIR ABBAS Sipra
G.C. Khanewal
27/5/17

ii- Aftab Ahmad Ansari

iii- Ameer Ahmad