2017 (A) Roll No: _____

INTERMEDIATE PART-II (12th CLASS)

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

TIME ALLOWED: 2.40 Hours **SUBJECIVE** MAXIMUM MARKS: 68

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

SECTION-I

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

(i) Write the parameters of Normal Distribution.

(ii) Define Normal Probability density function.

(iii) In Normal distribution $\mu = 20$, $\sigma = 4$ find $P(16 \leq x \leq 24) = ?$

(iv) In Normal distribution Mean Deviation is = 4. Find Q.D and S.D.

(v) What are values of Moments Ratios ie β_1 & β_2 in Normal distribution?

(vi) Differentiate between Point estimation and Interval estimation.

(vii) Write down unbiased estimator of population variance i.e σ^2.

(viii) Define Composite Hypothesis.

(ix) Differentiate between Type I error and Type II error.

(x) What is Test Statistic?

(xi) What is Data Processing?

(xii) Write note on CPU.

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

(i) Differentiate between Sampling with replacement and Sampling without replacement.

(ii) Define Sampling Error.

(iii) Define Sampling Unit and Population.

(iv) Enlist any four advantages of Sampling.

(v) If $\mu = 5$ and $\sigma^2 = 2.25$ what would be value of $S.E(\overline{X})$, if sample of size 4 are drawn with replacement.

(vi) What is meant by Bias?

(vii) If $b_{xy} = 0.27$, $b_{y.x} = 0.60$ Find $r_{xy} = ?$

(viii) For a give set of data $S_x^2 = 16$, $S_{xy} = 36$, $r_{xy} = 0.48$, compute the value of $S_y = ?$

(ix) Define the term Correlation.

(x) Write the relationship between Regression coefficient and Correlation coefficient.

(xi) Define the principle of Least Square.

(xii) What do you understand by Simple Linear Regression?

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

(i) Explain the terms Positive and Negative Attributes.

(ii) What do you understand by Association?

(iii) Given $n = 100$; $(A) = 40$. Find (α)

(iv) What is meant by Independence of Attributes?

(v) What is meant by Analysis of Time series?

(vi) Explain the term Noise.

(vii) Define the term Cyclical Variation.

(viii) What are the different components of Time series?

(ix) What is the additive model in time series?

P.T.O

SECTION-II

NOTE: - Attempt any three questions.

5.(a) Let $X \backsim N(20, 25)$ find the area under the normal curve (i) below 30 (ii) above 30 4

(b) A random variable X is normally distributed with mean 500 and standard deviation 100. What is the 95th percentile of the distribution? 4

6.(a) Take all possible samples of size 3 without replacement from a population 2, 3, 4, 5 and 6. Find mean of each sample and show that $\mu_{\bar{x}} = \mu$ 4

(b) Given $n_1 = 2 \quad n_2 = 2$

$\mu_1 = 6 \quad \mu_2 = 2$

$\sigma_1^2 = 2.67 \quad \sigma_2^2 = 0.67$

Find $\mu(\bar{X}_1 - \bar{X}_2)$ and $\hat{\sigma}(\bar{X}_1 - \bar{X}_2)$ 4

7.(a) The hourly wages of 144 workers of a large factory were recorded and the sample mean and standard deviation were found to be Rs.23.52 and Rs.6.71 respectively. Find a 99 % confidence interval for the mean wages of factory workers. 4

(b) Given $n_1 = 50, \ \Sigma X_1 = 490, \ \Sigma(X_1 - \bar{X}_1)^2 = 900$

$n_2 = 40, \ \Sigma X_2 = 320, \ \Sigma(X_2 - \bar{X}_2)^2 = 720$

Test $H_0 : \mu_1 = \mu_2$

$H_1 : \mu_1 \neq \mu_2$

Use $\alpha = 0.05$ 4

8.(a) Compute the regression coefficients for the following data:-

$n = 20 \quad \Sigma x = 400 \quad \Sigma y = 220$

$\Sigma x^2 = 8800 \quad \Sigma y^2 = 2620$

$\Sigma xy = 4300$ 4

(b) For a given set of data, we have

$r = 0.5 \quad \Sigma(x - \bar{x})(y - \bar{y}) = 120$

$S_y = 8 \quad \Sigma(x - \bar{x})^2 = 90$

Find the number of pair of values. 4

9.(a) Find the Association between Injection against typhoid and exemption from attack from the following contingency table:- 4

Attribute	Attacked	Not Attacked
Inoculated	528	25
Not inoculated	790	175

(b) Calculate 7 – days moving average for following table:-

Week	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
I	24	50	30	48	54	55	62
II	28	52	41	42	50	41	42

Plot the given data and moving average on the same graph. 4

Paper Code Number: 4181

2017 (A) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

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

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 on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) In a Normal Distribution, δ is always:-

(A) Negative number (B) Zero (C) Positive number (D) Odd number

(2) If $y = 5x + 10$ and X is $N(10, 25)$, then mean of Y is:-

(A) 50 (B) 60 (C) 70 (D) 135

(3) Standard normal probability density function is denoted by:-

(A) $F(X)$ (B) $\mu(X)$ (C) Z (D) $\phi(Z)$

(4) Population size is denoted by:-

(A) M (B) N (C) n (D) m

(5) If $\sum x = 18$, $N = 3$, then μ is:-

(A) 6 (B) 9 (C) 3 (D) 10

(6) The collection of detailed information is known as:-

(A) Units (B) Designs (C) Inaccuracies (D) Census

(7) A point estimator is a sample:-

(A) Estimate (B) Value (C) Parameter (D) Statistic

(8) Type – II error is denoted by:-

(A) $\propto$ (B) β (C) $1-\beta$ (D) $1-\propto$

(9) A sample of size n is called a small sample if n is:-

(A) <30 (B) ≥ 30 (C) $=30$ (D) ≤ 30

(10) Independent variable is also called:-

(A) Regressor (B) Regressand (C) Predictand (D) Explained

(11) When two variables are uncorrelated the value of 'r' is:-

(A) -1 (B) 0 (C) $+1$ (D) $+2$

(12) If $\sum y = 96$, $n = 8$, if $b = 0$ then 'a' is:-

(A) 10 (B) 11 (C) 12 (D) 13

(13) In attributes, "Negative class Frequency" can never be:-

(A) Ultimate (B) Positive (C) Negative (D) Consistence

(14) The two attributes are independent, if:-

(A) $Q = -1$ (B) $Q = 1$ (C) $Q = 0$ (D) $Q = 2$

(15) Seasonal variations are short term:-

(A) Analysis (B) Indicators (C) Components (D) Movements

(16) For best fitted line $\sum(y - \hat{y})^2$ is:-

(A) Maximum (B) Minimum (C) Zero (D) None of these

(17) The unit of frequency is:-

(A) Newton (B) Joule (C) Hertz (D) Second

Paper Code Number: 4183	2017 (A)	Roll No._____

INTERMEDIATE PART-II (12th CLASS)

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

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(A) 50 (B) 60 (C) 70 (D) 135

(7) Standard normal probability density function is denoted by:-

(A) $F(X)$ (B) $\mu(X)$ (C) Z (D) $\phi(Z)$

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(A) M (B) N (C) n (D) m

(9) If $\sum x = 18$, $N = 3$, then μ is:-

(A) 6 (B) 9 (C) 3 (D) 10

(10) The collection of detailed information is known as:-

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(A) 10 (B) 11 (C) 12 (D) 13

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(A) Ultimate (B) Positive (C) Negative (D) Consistence

Paper Code Number: 4185	2017 (A)	Roll No._____

INTERMEDIATE PART-II (12th CLASS)

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

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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Paper Code Number: 4187

2017 (A) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

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

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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2017 (A) Roll No: _____

INTERMEDIATE PART-II (12th CLASS)

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

TIME ALLOWED: 3.10 Hours **SUBJECIVE** MAXIMUM MARKS: 83

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

SECTION-I

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

(i) In a normal distribution $\mu = 5$ & $\sigma^2 = 1$. Write down its equation. Also find the value of maximum ordinate.

(ii) The mean deviation of a normal distribution is 16. Find the approximate value of its standard deviation.

(iii) For a standardized normal distribution, find the value of quartile deviation and mean deviation.

(iv) In a normal distribution $\sigma^2 = 15$, then find the values of β_1 & β_2.

(v) What are the parameters of the normal distribution? Which parameter controls the relative flatness of the normal curve.

(vi) Define an unbiased estimator.

(vii) Differentiate between Estimator and Estimate.

(viii) Differentiate between level of significance and type I error.

(ix) What is meant by power of the test?

(x) Under which circumstances, we may use (i) z – test (ii) t – test

(xi) Differentiate between Software and Hardware.

(xii) What does D.V.D. stands for? What purpose can it serve?

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

(i) Define Sampling Distribution.

(ii) What do you understand by Standard Error?

(iii) Express the term Parameter.

(iv) Elaborate the term Probability Sampling.

(v) Enlist the properties of sampling distribution of sample means.

(vi) Given $n = 5$, $p = 0.5$. Find $\delta^2_{\hat{p}}$

(vii) What is meant by Regression?

(viii) Define Scatter Diagram.

(ix) Explain Regression Coefficient.

(x) What is meant by Negative Correlation?

(xi) Given $r = 0.8$, $S_{xy} = 20$, $S_x = 4$. Find S_y.

(xii) Interpret the meaning of $r = 0$ & $r = +1$

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

(i) Define an Attribute.

(ii) Distinguish between $+ve$ Association and $-ve$ Association.

(iii) Define a Contingency Table.

(iv) What is meant by Independence of Attributes?

(v) What is the other name of Multiplicative model in time series?

(vi) Write down two examples of Irregular Variation.

(vii) Define the Seasonal variation in a time series.

(viii) Explain the purpose of time series.

(ix) Describe the free hand curve method.

SECTION-II

NOTE: - Attempt any three questions.

5.(a) In a normal distribution the lower and upper quartiles are 15 and 25 respectively. Find mean, median, mode and standard deviation. 4

(b) Let $X \sim N(56, 100)$

Find (i) $P(X \geq 68)$ (ii) $P(42 \leq \times \leq 52)$ 4

6.(a) Given the following population 4, 8, 8, 12, 12. 4

(i) Take all possible samples of size "3" without replacement.

(ii) Prepare sampling distribution of means and verify the results

(i) $\mu_{\bar{x}} = \mu$ (ii) $\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}} \cdot \sqrt{\frac{N-n}{N-1}}$

(b) Consider the following results from two populations:- 4

$N_1 = 6,\ n_1 = 3 \qquad N_2 = 5 \qquad n_2 = 2$

$\mu_1 = 4 \qquad \mu_2 = \frac{3}{2}$

$\sigma_1^2 = 5 \qquad \sigma_2^2 = \frac{9}{2}$

Calculate (i) $\mu_{\bar{x}_1 - \bar{x}_2}$ (ii) $\sigma^2_{\bar{x}_1 - \bar{x}_2}$
when sampling is done with replacement and without replacement.

7.(a) Find 95 % confidence interval for population mean from the following sample 54, 76, 98, 114, 136, 158, 179, 197, 218 and 236. Assume that population standard deviation is unknown. 4

(b) Two samples A and B detailed below were taken from normal population with standard deviation 4. Test whether the difference of Means is significant at $\alpha = .05$ 4

A	8.5	9.6	10.7	10.9	11.5	11.6
B	9.3	10.4	10.4	11.9	12.2	12.7

8.(a) Determine the regression line Y on X by least square method from the following data. Also estimate the value of Y for $X = 30$ 4

X	5	10	15	20	25
Y	25	20	15	10	5

(b) From the following data of variable X and Y. Find the value of correlation coefficient. 4

X	11	12	13	14	15
Y	15	14	13	12	16

9.(a) Given the following frequencies of positive classes. Find the ultimate frequencies. 4

Ultimate	Frequencies
$n = 1060$	$(A) = 490$
$(B) = 674$	$(AB) = 294$

(b) Smooth the data by semi-average method. 4

Years	1988	1989	1990	1991	1992	1993	1994	1995
Values	115	120	116	113	122	120	127	132

SECTION-III (PRACTICAL)

10. NOTE: - Attempt any three parts. **3 × 5 = 15**

(a) A random variable x has the following probability distribution.

x	4	5	6
$f(x)$	.3	.5	.2

(i) Find mean, variance and standard deviation.

(ii) If a sample of size 16 is drawn with replacement from this population then find Mean and Standard deviation of sampling distribution of $\bar{X}$.

(b) Given two random samples of $n_1 = 11$ and $n_2 = 14$ from two independent populations. Gave $\bar{X}_1 = 75,\ \bar{X}_2 = 60,\ \Sigma(X_1 - \bar{X}_1)^2 = 372.27$ and $\Sigma(X_2 - \bar{X}_2)^2 = 365.17$
Test the Hypothesis that both population means are equal at 5 % level of significance.

(c) Fit a least square line to the following data taking X as dependent variable.

X	1	3	4	6	8	9	11	14
Y	1	2	4	4	5	7	8	9

(d) Find the value of Chi-square χ^2 to test the irradiation between attributes.

Attributes	A_1	A_2
B_1	500	160
B_2	100	400

(e) Calculate 7 – days moving average for the following record of attendances.

Week	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	24	50	30	48	54	55	62
2	28	41	42	50	52	41	42

Paper Code Number: 8181	2017 (A)	Roll No._____

INTERMEDIATE PART-II (12th CLASS)

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

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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Q.No.1

(1) The value of "e" is approximately equal to:-

(A) 2.7183 (B) 2.6183 (C) 2.8173 (D) 3.1416

(2) Total area under the curve is:-

(A) 1 (B) < 1 (C) > 1 (D) None of these

(3) In a normal distribution $E(x-\mu)^2$ is:-

(A) Quartile deviation (B) Standard deviation (C) Variance (D) None of these

(4) Sample is a subset of:-

(A) Population (B) Data (C) Set (D) Distribution

(5) The finite population correction factor is:-

(A) $\frac{n}{N}$ (B) $\frac{N}{n}$ (C) $\frac{N-n}{N-1}$ (D) $\sqrt{\frac{N-n}{N-1}}$

(6) Probability distribution of a statistic is called:-

(A) Sampling distribution (B) Standard error (C) Sampling error (D) Parameter

(7) A large sample contains more than:-

(A) 5 values (B) 10 values (C) 20 values (D) 30 values

(8) Power of test is denoted by:-

(A) α (B) β (C) $1-\alpha$ (D) $1-\beta$

(9) The probability of type – I error is called:-

(A) α (B) $1-\alpha$ (C) β (D) $1-\beta$

(10) Simple linear regression model contains:-

(A) One variable (B) Two variables (C) Three variables (D) None of these

(11) If $r_{xy} = -0.84$ then r_{yx} is:-

(A) -0.84 (B) 0.84 (C) 0.42 (D) None of these

(12) Strength of linear relationship between variables is called:-

(A) Regression (B) Causation (C) Correlation (D) Association

(13) The parameters Chi Square distribution is:-

(A) Degree freedom (B) Number of rows (C) Number of columns (D) None of these

(14) If $(AB) > \frac{(A)(B)}{n}$ then association is:-

(A) Positive (B) Negative (C) Perfect (D) None of these

(15) Methods of secular trend are:-

(A) 2 (B) 3 (C) 4 (D) 5

(16) The graph of time series is called:-

(A) Histogram (B) Historigram (C) Trend (D) Straight line

(17) Display on the computer screen is:-

(A) Soft copy (B) Hard copy (C) Computer copy (D) None of these

Paper Code Number: 8183

2017 (A) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

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

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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(12) Sample is a subset of:-

(A) Population (B) Data (C) Set (D) Distribution

(13) The finite population correction factor is:-

(A) $\frac{n}{N}$ (B) $\frac{N}{n}$ (C) $\frac{N-n}{N-1}$ (D) $\sqrt{\frac{N-n}{N-1}}$

(14) Probability distribution of a statistic is called:-

(A) Sampling distribution (B) Standard error (C) Sampling error (D) Parameter

(15) A large sample contains more than:-

(A) 5 values (B) 10 values (C) 20 values (D) 30 values

(16) Power of test is denoted by:-

(A) α (B) β (C) $1-\alpha$ (D) $1-\beta$

(17) The probability of type – I error is called:-

(A) α (B) $1-\alpha$ (C) β (D) $1-\beta$

Paper Code
Number: 8185

2017 (A) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

STATISTICS PAPER-II (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 on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) A large sample contains more than:-

(A) 5 values (B) 10 values (C) 20 values (D) 30 values

(2) Power of test is denoted by:-

(A) α (B) β (C) $1-\alpha$ (D) $1-\beta$

(3) The probability of type – I error is called:-

(A) α (B) $1-\alpha$ (C) β (D) $1-\beta$

(4) Simple linear regression model contains:-

(A) One variable (B) Two variables (C) Three variables (D) None of these

(5) If $r_{xy} = -0.84$ then r_{yx} is:-

(A) -0.84 (B) 0.84 (C) 0.42 (D) None of these

(6) Strength of linear relationship between variables is called:-

(A) Regression (B) Caution (C) Correlation (D) Association

(7) The parameters of Chi Square distribution is:-

(A) Degree freedom (B) Number of rows (C) Number of columns (D) None of these

(8) If $(AB) > \frac{(A)(B)}{n}$ then association is:-

(A) Positive (B) Negative (C) Perfect (D) None of these

(9) Methods of secular trend are:-

(A) 2 (B) 3 (C) 4 (D) 5

(10) The graph of time series is called:-

(A) Histogram (B) Historigram (C) Trend (D) Straight line

(11) Display on the computer screen is:-

(A) Soft copy (B) Hard copy (C) Computer copy (D) None of these

(12) The value of "e" is approximately equal to:-

(A) 2.7183 (B) 2.6183 (C) 2.8173 (D) 3.1416

(13) Total area under the curve is:-

(A) 1 (B) < 1 (C) > 1 (D) None of these

(14) In a normal distribution $E(x-\mu)^2$ is:-

(A) Quartile deviation (B) Standard deviation (C) Variance (D) None of these

(15) Sample is a subset of:-

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(16) The finite population correction factor is:-

(A) $\frac{n}{N}$ (B) $\frac{N}{n}$ (C) $\frac{N-n}{N-1}$ (D) $\sqrt{\frac{N-n}{N-1}}$

(17) Probability distribution of a statistic is called:-

(A) Sampling distribution (B) Standard error (C) Sampling error (D) Parameter

Paper Code

Number: 8187

2017 (A) Roll No._____

INTERMEDIATE PART-II (12th CLASS)

STATISTICS PAPER-II (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 on this sheet of OBJECTIVE PAPER.

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(4) Power of test is denoted by:-

(A) α (B) β (C) $1-\alpha$ (D) $1-\beta$

(5) The probability of type – I error is called:-

(A) α (B) $1-\alpha$ (C) β (D) $1-\beta$

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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 Scheme) (2015-17) Session ~~2015-17~~ (old scheme) (2012-14)

Group: 1st

Q. Nos.	Paper Code 4181	Paper Code 4183	Paper Code 4185	Paper Code 4187
1.	C	C	B	A
2.	B	D	A	D
3.	D	B	A	D
4.	B	C	B	B
5.	A	C	C	A
6.	D	B	All Correct	A
7.	D	D	C	B
8.	B	B	D	C
9.	A	A	B	All Correct
10.	A	D	C	C
11.	B	D	C	D
12.	C	B	B	B
13.	All Correct	A	D	C
14.	C	A	B	C
15.	D	B	A	B
16.	B	C	D	D
17.	C	All Correct	D	B
18.				
19.				
20.				

Group: 2nd

Q. Nos.	Paper Code 8181	Paper Code 8183	Paper Code 8185	Paper Code 8187
1.	A	B	D	C
2.	A	A	D	A
3.	C	C	A	D
4.	A	A	B	D
5.	C	A	A	A
6.	A	C	C	B
7.	D	B	A	A
8.	D	A	A	C
9.	A	A	C	A
10.	B	A	B	A
11.	A	C	A	C
12.	C	A	A	B
13.	A	C	A	A
14.	A	A	C	A
15.	C	D	A	A
16.	B	D	C	C
17.	A	A	A	A
18.				
19.				
20.				

سرٹیفکیٹ بابت تصحیح سوالیہ پرچہ/مارکنگ Key

ہم نے مضمون شماریات پرچہ تھیوری گروپ سیشن اولڈ/نیو انٹرسالانہ/ضمنی امتحان 2017 کا سوالیہ پرچہ انٹرنیٹ سے معروضی (Subjective & Objevtive) کو بنظر عمیق چیک کرلیا 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 کرلیا 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 بنائی گئی ہے۔اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔

مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیارہ کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کرلیا ہے اور ان کی روشنی میں Key بنائی ہے۔

PREPARED & CHECKED BY