2018 (A)

Roll No:

#### INTERMEDIATE PART-II (12th CLASS)

STATISTICS PAPER-II (NEW SCHEME)

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.

 $8 \times 2 = 16$ 

- (i) Define a Normal Distribution.
- (ii) Enlist four properties of normal distribution.
- (iii) The value of variance in normal distribution is 16. Find the values of  $\mu_2$  and  $\mu_4$ .
- (iv) In a standard normal distribution find mode and Quartile Deviation.
- (v) In a normal distribution the mean is zero and variance is one. Write down its equation and find the value of maximum ordinate.
- (vi) Differentiate between Estimator and Estimate.
- (vii) Define Unbiasedness.
- (viii) Differentiate the terms level of significance and level of confidence.
- (ix) Explain the terms simple and composite hypothesis.
- (x) Define the term test of hypothesis.
- (xi) Write down the main categories of computers.
- (xii) What is Central Processing Unit?

3. Attempt any eight parts.

 $8 \times 2 = 16$ 

- (i) What are Random Digits?
- (ii) What are the purposes of Sampling?
- (iii) Define Sampling Unit.
- (iv) What is Statistic?
- (v) Given N = 310, n = 100,  $\sigma^2 = 3500$ , sampling is done without replacement, then find  $\sigma_{\bar{x}}$ .
- (vi) Define Simple Random Sampling.
- (vii) Define Regression.
- (viii) What is meant by Scatter Diagram?
- (ix) In regression y on x, if a = 130, b = 3.956 then what is the estimate of y for x = 12.
- (x) Define Correlation.
- (xi) State any two properties of Correlation Coefficient.
- (xii) If  $b_{yx} = -0.49$  and  $b_{xy} = -1.07$  then find "r".

Attempt any six parts.

 $6 \times 2 = 12$ 

- (i) What is an Attribute?
- (ii) Define Negative Association.
- (iii) When two attributes are said to be independent?
- (iv) Given n = 100, (A) = 40, find  $(\alpha)$ .
- (v) Given (A) = 364, (B) = 1024, (AB) = 256 and n = 1216. Show that attributes A and B are not independent.
- (vi) What is meant by Analysis of Time Series?
- (vii) What are the different components of a time series?
- (viii) Define Irregular fluctuations.
- (ix) Write down Additive Model of Time Series.

6121		SECTION-II	
NOT	E: - Attempt any three quest	tions.	$3 \times 8 = 2$
5.(a)	In a normal distribution 25 % Find mean and standard devia	of items are under 50 and 10 % are over 100. ation of the distribution.	4
(b)	If $X \sim N(60, 100)$ , find	(i) a point that has 15 % area below it (ii) a point that has 28 % area above it	4
6.(a)	Draw all possible samples of Show that $\sigma_{\bar{x}}^2 = \frac{\sigma^2}{2}$	f size 2 with replacement from a population 2, 4 and 6.	4
(b)	(ii) In the Company of the Compan	sample is 49 and variance of sample means is 27. rror of sample mean if $n = 169$ .	4
7.(a)		stimates of the population mean $(\mu)$ and variance $(\sigma^2)$ nple is drawn $n = 8$ ; $\sum X = 120$ ; $\sum (X - \overline{X})^2 = 302$	4
(b)	Test the null hypothesis $\mu \ge$ is 146 <i>Lb</i> . Using $\sigma = 15$ <i>L</i>	a = 140, the mean weight of a sample of 36 people $a = 0.05$	4
8.(a)		5, $\Sigma Y = 25$ , $\Sigma (X - \overline{X})(Y - \overline{Y}) = 13$ , $(Y - \overline{Y})^2 = 26$ . Find regression equation of $X$ and $Y$ .	4
(b)		ation we have $\overline{X} = 18$ , $\overline{Y} = 20$ , $S_x = S_y = 5$ and Find the value of correlation coefficient.	4
9.(a)	Find whether the data given (i) $n = 120$ , $(A) = 82$	below in each case are consistent:- $(AB) = 90$ (ii) $n = 1000$ , $(AB) = 200$ , $(A\beta) = 350$ , $(\alpha B) = 350$	4 3) = 500
(b)	The parabolic trend equation	n for the projects of a company is $\hat{v} = 10.4 \pm 0.6 x \pm 0.7 x$	.2

with origin at 1980 and unit of measurement for x is one year. Shift the origin to 1975.

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Pa	per Code	2018 (	(A) Roll N	No.
Nu	mber: 4181	INTERMEDIATE I	PART-II (12th CLASS)	
ST	ATISTICS PAPE			
TIN	Æ ALLOWED: 20 M			AAVIMINAMADIZO 1
				MAXIMUM MARKS: 1
Cut	ting or filling two or mo iven in objective type qu	cie in front of that questi re circles will result in zo lestion paper and leave o	on number Lise marker	Attempt as many question
Q.N				
(1)	In a normal distribution	on, $P(-\infty < \times < +\infty)$ is	equal to:-	
	(A) 1	(B) 0	(C) -1	(D) $-2$
(2)	In a normal distribution	on, $M.D(x)$ is equal to:-	327	(D) -2
	(A) .8989σ	(B) $.7979\sigma$	(C) .6969 σ	(D) $.5959\sigma$
(3)	In a normal distribution	on if mean = 50, then the v		(D) .39396
100,100	(A) 50	(B) 40	(C) 30	(D) (0
(4)	A sample is a part of t		(0) 30	(D) 60
	(A) Sampling	(B) Population	(C) Unit	(D) None of these
(5)	Any value calculated f	from sample data is called		(D) None of these
	(A) Error	(B) μ	(C) Statistic	(D) Bias
(6)	The complete list of al	I the sampling units are ca	***************************************	(D) Dias
	(A) Sampling frame	(B) Sample design		n (D) Torgot nonviction
(7)	A point estimation is u	and the second s	wn true value of population	
	(A) Data	(B) Parameter	(C) Estimation	(D) Estimate
(8)	The probability of type	e - II error is denoted by:-	A TAIL TO THE PARTY OF THE PARTY.	(D) Estimate
	(A) α	(B) β	(C) $1 - \beta$	(D) $1-\alpha$
(9)	If $n < 30$ and $\sigma$ unk	nown we use:-	, , ,	(2) 1 4
	(A) F – test	(B) Z – test	(C) t – test	(D) (II)
(10)	The dependence of one	variable upon other is cal		(D) Chi – square test
	(A) Regression	(B) Correlation	(C) Covariance	(D) None of these
(11)	In regression equation	$\hat{y} = a + bx,  \sum (y - \hat{y})$		(D) None of these
	(A) - 1	(B) 0	(C) 1	(D) 2
(12)	The value of correlation	n coefficient $r$ lies between	9 9	(D) 2
	(A) - 1 and 0	(B) $-1$ and $+1$	(C) 0 and + 1	(D) $-2$ and $+2$
(13)	The two attributes are i		(-)	$(D) - 2$ and $\pm 2$
	(A) $Q = -1$	(B) $Q = 1$	(C) $Q = 2$	(D) $Q = 0$
(14)	Qualitative variable is a	also called:-	~ ~	(2) & -0
	(A) Frequency	(B) Attribute	(C) Class	(D) None of these
(15)	Systematic component	of variation in a time serie	3 34 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	(2) Hone of these
	(A) Component	(B) Noise	(C) Signal	(D) Series
(16)	Fire in a factory is an ex	xample of:-		1
	(A) Secular trend	(B) Cyclical variati	on (C) Seasonal variation	(D) Irregular variation
(17)	The number of instructi	ons processed in one seco		, and an
	(A) Data	(B) Storage	(C) Accuracy	(D) Speed

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(D) Speed

Paper Code		2018 (A)	Roll No.
Number: 4	183	INTERMEDIATE PART-II	(12 <sup>th</sup> CLASS)

#### STATISTICS PAPER-II (NEW SCHEME)

(A) Sampling

1 IIVI	E ALLOWED: 20 Min	utes <u>OB</u>	JECTIVE MA	XIMUM MARKS: 17		
think Cutti as giv	c is correct, fill that circle ing or filling two or more wen in objective type ques	in front of that questio circles will result in zen tion paper and leave ot	question as A, B, C and D. n number. Use marker or p o mark in that question. At hers blank. No credit will b his sheet of OBJECTIVE PA	en to fill the circles. tempt as many questions e awarded in case		
Q.No	0.1					
(1)	Any value calculated from	m sample data is called:				
	(A) Error	(B) μ	(C) Statistic	(D) Bias		
(2)	The complete list of all the	he sampling units are cal	led:-			
	(A) Sampling frame	(B) Sample design	(C) Sampled population	(D) Target population		
(3)	A point estimation is use	d to estimate the unknow	vn true value of population:-			
	(A) Data	(B) Parameter	(C) Estimation	(D) Estimate		
(4)	The probability of type -	II error is denoted by:-				
	(A) α	(B) β	(C) $1 - \beta$	(D) $1-\alpha$		
(5)	If $n < 30$ and $\sigma$ unknown	wn we use:-				
	(A) F – test	(B) Z – test	(C) t – test	(D) Chi – square test		
(6)	The dependence of one v			3.00		
	(A) Regression	(B) Correlation	(C) Covariance	(D) None of these		
(7)	In regression equation $\hat{y} = a + bx$ , $\sum (y - \hat{y}) = \underline{\qquad}$					
	(A) - 1	(B) 0	(C) 1	(D) 2		
(8)	The value of correlation	coefficient r lies between	een:-			
	(A) - 1 and $0$	(B) $-1$ and $+1$	(C) 0 and + 1	(D) $-2$ and $+2$		
(9)	The two attributes are inc	lependent if:-				
	(A) $Q = -1$	(B) $Q = 1$	(C) $Q = 2$	(D) $Q = 0$		
(10)	Qualitative variable is also called:-					
	(A) Frequency	(B) Attribute	(C) Class	(D) None of these		
(11)	Systematic component of	variation in a time serie	s is called:-	., .,		
	(A) Component	(B) Noise	(C) Signal	(D) Series		
(12)	Fire in a factory is an exa	mple of:-				
	(A) Secular trend	(B) Cyclical variati	on (C) Seasonal variation	(D) Irregular variation		
(13)	The number of instruction	ns processed in one seco	nd is called:-			
	(A) Data	(B) Storage	(C) Accuracy	(D) Speed		
(14)	In a normal distribution,	$P(-\infty < \times < +\infty)$ is e	qual to:-			
	(A) 1	(B) 0	(C) -1	(D) $-2$		
(15)	In a normal distribution, l	M.D(x) is equal to:-				
	(A) $.8989\sigma$	(B) $.7979 \sigma$	(C) $.6969 \sigma$	(D) $.5959\sigma$		
(16)	In a normal distribution in	f mean = 50, then the val	ue of Median is:-	*		
	(A) 50	(B) 40	(C) 30	(D) 60		
(17)	A sample is a part of the:			The same		

(B) Population

(D) None of these

(C) Unit

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2018 (A)

Roll No.
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Number:

4185

### INTERMEDIATE PART-II (12th CLASS)

#### STATISTICS PAPER-II (NEW SCHEME)

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 questions on this sheet of OBJECTIVE PAPER.

Q.N	o.1			
(1)	The value of correlation	coefficient r lies between	een:-	
	(A) - 1 and 0	(B) - 1 and $+ 1$	(C) $0$ and $+1$	(D) $-2$ and $+2$
(2)	The two attributes are in	dependent if:-		
	(A) $Q = -1$	(B) $Q = 1$	(C) $Q = 2$	(D) $Q = 0$
(3)	Qualitative variable is a	lso called:-		
	(A) Frequency	(B) Attribute	(C) Class	(D) None of these
(4)	Systematic component of	of variation in a time serie	es is called:-	
	(A) Component	(B) Noise	(C) Signal	(D) Series
(5)	Fire in a factory is an ex	ample of:-		
	(A) Secular trend	(B) Cyclical variati	on (C) Seasonal variation	(D) Irregular variation
(6)	The number of instruction	ons processed in one seco	ond is called:-	
	(A) Data	(B) Storage	(C) Accuracy	(D) Speed
(7)	In a normal distribution	, $P(-\infty < x < +\infty)$ is e	equal to:-	030,900
	(A) 1	(B) 0	(C) -1	(D) -2
(8)	In a normal distribution,	M.D(x) is equal to:-		
	(A) $.8989\sigma$	(B) $.7979  \sigma$	(C) .6969 σ	(D) .5959σ
(9)	In a normal distribution	if mean = 50, then the val	lue of Median is:-	
	(A) 50	(B) 40	(C) 30	(D) 60
(10)	A sample is a part of the			
	(A) Sampling	(B) Population	(C) Unit	(D) None of these
(11)	Any value calculated fro	m sample data is called:-		***
	(A) Error	(B) μ	(C) Statistic	(D) Bias
(12)	The complete list of all t	he sampling units are call	led:-	
	(A) Sampling frame	(B) Sample design	(C) Sampled population	(D) Target population
(13)	A point estimation is use	d to estimate the unknow	n true value of population:-	
	(A) Data	(B) Parameter	(C) Estimation	(D) Estimate
(14)	The probability of type -	II error is denoted by:-		1.1
	(A) α	(B) β	(C) $1 - \beta$	(D) $1-\alpha$
(15)	If $n < 30$ and $\sigma$ unknown	own we use:-		

(17)In regression equation  $\hat{y} = a + bx$ ,  $\sum (y - \hat{y}) = 1$ (A) - 1(B) 0 (C) 1

The dependence of one variable upon other is called:-

(B) Z - test

(B) Correlation

(A) F-test

(A) Regression

(16)

(C) t - test

(C) Covariance

(D) 2

(D) Chi - square test

(D) None of these

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2018 (A)

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Number: 41

4187

## INTERMEDIATE PART-II (12th CLASS)

### STATISTICS PAPER-II (NEW SCHEME)

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 questions on this sheet of OBJECTIVE PAPER.

Q.N	0.1					
(1)	Systematic component o	f variation in a time serie	es is called:-			
	(A) Component	(B) Noise	(C) Signal	(D) Series		
(2)	Fire in a factory is an ex-	ample of:-				
	(A) Secular trend	(B) Cyclical variation	on (C) Seasonal variation	(D) Irregular variation		
(3)	The number of instruction	ons processed in one seco	nd is called:-			
	(A) Data	(B) Storage	(C) Accuracy	(D) Speed		
(4)	In a normal distribution,	$P(-\infty < \times < +\infty)$ is e	qual to:-			
	(A) 1	(B) 0	(C) -1	(D) $-2$		
(5)	In a normal distribution,	M.D(x) is equal to:-				
	(A) $.8989 \sigma$	(B) $.7979  \sigma$	(C) .6969 σ	(D) $.5959\sigma$		
(6)	In a normal distribution i	f mean = 50, then the val	ue of Median is:-	V. V. 18324 5		
	(A) 50	(B) 40	(C) 30	(D) 60		
(7)	A sample is a part of the	φ		NO.		
	(A) Sampling	(B) Population	(C) Unit	(D) None of these		
(8)	Any value calculated from sample data is called:-					
	(A) Error	(B) μ	(C) Statistic	(D) Bias		
(9)	The complete list of all the	ne sampling units are call	ed:-	W. W. 1911		
	(A) Sampling frame	(B) Sample design	(C) Sampled population	(D) Target population		
(10)	A point estimation is use	d to estimate the unknow	n true value of population:-	, , , , , , , , , , , , , , , , , , ,		
	(A) Data	(B) Parameter	(C) Estimation	(D) Estimate		
(11)	The probability of type – II error is denoted by:-					
	(A) α	(B) β	(C) $1 - \beta$	(D) $1-\alpha$		
(12)	If $n < 30$ and $\sigma$ unkno	wn we use:-				
	(A) F – test	(B) Z – test	(C) t – test	(D) Chi – square test		
(13)	The dependence of one v	ariable upon other is calle	ed:-	(-)		
	(A) Regression	(B) Correlation	(C) Covariance	(D) None of these		
14)	In regression equation $\hat{y}$	$= a + bx,  \sum (y - \hat{y}) =$	-	- N. A. P. A. C. C. C. S. S. S. S. S.		
	(A) - 1	(B) 0	(C) 1	(D) 2		
15)	The value of correlation of	coefficient r lies between	en:-			

(17) Qualitative variable is also called:(A) Frequency (B) A

The two attributes are independent if:-

(A) - 1 and 0

(A) Q = -1

(B) Attribute

(B) Q = 1

(B) - 1 and + 1

(C) Q = 2

(C) Class

(C) 0 and +1

(D) Q = 0

(D) - 2 and + 2

(D) None of these

40(Obj)(★★★★)-2018(A)-2500 (MULTAN)

		2018 (A)	Roll No:	
	INTE	ERMEDIATE PART-II (12th C	CLASS)	
STATISTICS		(OLD SCHEME)		
TIME ALLOW			MAXIMUM	MARKS. 8
		mber and its part number in answ	er book,	mats. c

		as given in the question paper.	
•		SECTION-I	
2.	CO	Attempt any eight parts.	$8 \times 2 = 1$
	(i)	Find the standard deviation, if $Q.D = 2.975$ for a normal distribution.	
	(ii)	In a normal distribution $\mu = 9$ , $Q_3 = 171$ , find S.D.	
	(iii)	Write down the points of inflexion in a normal distribution.	
	(iv)	In a normal distribution, $Q_1 = 8$ and $Q_3 = 17$ , find mean and $Q_2$ .	
	(v)	Define an unbiased estimator.	
	(vi)	Define Interval estimation.	
	(vii)	If $\bar{x} = 10$ and $p = 0.3$ , then find point estimator of $\pi$ and $\mu$ .	
	(viii)	What is Alternative Hypothesis?	
	(ix)	Explain the term Type I – error.	
	(x)	What is meant by level of significance?	
	(xi)	Define Low Level Language.	
	(xii)	Write two names of input devices of computer.	
3.	(i)	Attempt any eight parts.	$8 \times 2 = 16$
	(i) (ii)	What is the difference between Population and Sample?	
	(ii) (iii)	Differentiate between Parameter and Statistic. What is Sampling Error?	
	(iv)	What is Non-sampling error?	
	(v)	Define Sampling Frame.	
	(vi)	Define Random Sampling.	
	(vii)	Define Correlation.	
	(viii)	Given $\bar{y} = 1.87$ , $b = 0.25$ , $\bar{x} = 12.45$ find 'a'.	
	(ix)	Given $b_{xy} = 0.82$ , $r_{xy} = 0.97$ , find $b_{yx}$	
	(x)	Define Positive Correlation.	
	(xi)	Given $\hat{y} = 45 - 10x$ , find $\hat{y}$ when $x = 4$	
	(xii)	Given $r_{xy} = 0.8$ , $s_x = 4$ , $s_{xy} = 20$ . Find $S_y$	
1	(AII)		
4.	(i)	Attempt any six parts.	$6\times 2=12$
	(ii)	When two attributes are said to be negatively associated?  Define a contingency Table.	
	(iii)	Given $(AB) = 150$ , $(\alpha B) = 106$ , $(A\beta) = 272$ , $(\alpha \beta) = 1132$ and $n = 1660$ .	
	()	Find coefficient of association. $(Ap) = 212$ , $(ap) = 1132$ and $n = 1000$ .	
	(iv)	Define a Time Series.	
	(v)	What is meant by Business Cycle?	
	(vi)	Define Noise.	
	(vii)	Give two examples of Secular Trend.	
	(viii)	Define Additive model of time series.	
	(ix)	What are the merits of Free Hand Curve Method?	
		SECTION-II	
NO	TE: -	Attempt any three questions.	$3 \times 8 = 24$
5.(a	) If	x is normally distributed with mean = 25 and variance = 16 then find the probability.	
	(i)	$P(18 \le x \le 32)$ (ii) $P(x \ge 30)$	4
(b		normal distribution, the lower and upper quartiles are respectively 8 and 17.	
	Fin	d the Mean and Standard Deviation.	4
6.(a	) Tak	te all possible samples of size 3 without replacement from the population 2, 6, 8, 12	
	For	m sampling distribution of means and find its mean and variance.	
		$\sigma^2 (N-n)$	
	Vei	rify that (i) $\mu_{\overline{X}} = \mu$ (ii) $\sigma_{\overline{X}}^2 = \frac{\sigma^2}{n} \left( \frac{N-n}{N-1} \right)$	4
		$n \setminus N - 1$	

(b) Draw all possible samples of two letters each, with replacement from the letters of the word (i) Find proportion of letter "E" in each sample (ii) Make sampling distribution of proportions obtained in part(i) above and find its mean and variance

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(iii) Verify that: (i) 
$$\mu_{\hat{p}} = p$$
 (ii)  $\sigma_{\hat{p}}^2 = \frac{pq}{n}$ 

7.(a) Let two independent random samples each of size 100, from independent normal distributions  $N\left(\mu_1, \sigma_1^2\right)$  and  $N\left(\mu_2, \sigma_2^2\right)$  yield  $\bar{x}_1 = 4.8$ ,  $\hat{S}_1^2 = 8.64$ ,  $\bar{x}_2 = 5.6$ ,  $\hat{S}_2^2 = 7$ . Find a 95% confidence interval for  $\mu_2 - \mu_1$ .

(b) A random sample of 10 from a population gave  $\overline{X} = 20$  and sum of squares of deviation from mean is 144. Test  $H_0: \mu = 19.5$  against  $H_1: \mu > 19.5$  at  $\alpha = 0.05$ 

8.(a) Fit a regression line of Y on X using the following data:-

Given  $\sum xy = 350$ , n = 10,  $\overline{x} = 5$ ,  $\overline{y} = 6$ ,  $S_{-}^{2} = 4$ ,  $S_{-}^{2} = 9$ 

- (b) Given  $\sum xy = 350$ , n = 10,  $\bar{x} = 5$ ,  $\bar{y} = 6$ ,  $S_x^2 = 4$ ,  $S_y^2 = 9$  compute the coefficient of correlation  $(r_{xy})$ .
- 9.(a) There are 240 A's and 270 B's in 600 observations. What would be the number of AB if A and B are independent?

  (b) The following table shows the number of road accidents in Punjab, years 2000 to 2006.

  Years | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |

 Years
 2000
 2001
 2002
 2003
 2004
 2005
 2006

 Values
 24
 20
 30
 37
 40
 40
 48

Find trend values  $\hat{y}$  by the semi-average method.

#### SECTION-III (PRACTICAL)

10. NOTE: - Attempt any three parts.

 $3 \times 5 = 15$ 

4

A family have 5 children, the sex of child is given below:

Child 1 2 3 4 5

Sex Boy Girl Girl Boy Boy

Select all possible sample of size 3 without replacement, make the sampling distribution of proportion of "boy" in the sample and verify that  $\mu_{\hat{p}} = p$  and  $\sigma_{\hat{p}} = \sqrt{\frac{pq}{n} \cdot \frac{N-n}{N-1}}$ 

- (b) Given that  $\bar{x}_1 = 75$ ,  $n_1 = 9$ ,  $\sum (x_1 \bar{x}_1)^2 = 1482$ ,  $\bar{x}_2 = 60$ ,  $n_2 = 16$ ,  $\sum (x_2 \bar{x}_2)^2 = 1830$  Find 90 % confidence interval for  $\mu_1 \mu_2$ .
- (c) Fit a 2<sup>nd</sup>-degree parabola to the following data, taking the year as independent variable:

  | Year | 1990 | 1993 | 1996 | 1999 | 2002 | 2005 | 2008 |
  | Values | 87 | 42 | 33 | 29 | 36 | 69 | 79 |
- (d) The following table shows the marks of six students in two subjects:-

1	Math	38	62	56	42	59	48
	Stat	64	89	84	60	73	69

Calculate coefficient of rank correlation.

(e) The following table shows the dependence of C.P.U's capacities on the region of internet provisions:-

Capacities						
Regions	Below 300	450	500	Above 500		
Urban	76	78	44	38		
Rural	24	30	28	42		

Test the hypothesis of no dependence at 5 % level of significance.

	per Code		2018 (A)	Roll No.	
Nu	mber: 8181	INTERMEDI	ATE PART-II (12	th CLASS)	
ST	ATISTICS PA	PER-II (OLD S	CHEME)		
TIN	ME ALLOWED: 2	0 Minutes	<b>OBJECTIVE</b>	MA	XIMUM MARKS: 1
Cut as g BUI Q.N	ik is correct, fill that ting or filling two or iven in objective typ BBLES are not filled o.1	circle in front of that more circles will rest e question paper and l. Do not solve quest	t question number. U ult in zero mark in th leave others blank. I ions on this sheet of C	se marker or pat question. As No credit will be OBJECTIVE P	ttempt as many question
(1)	$X \sim N(50, 49),$	if $Y = X - 7$ , then	standard deviation of	Y is:-	
	(A) 7	(B) 14	(C) 0		(D) 49
(2)	The mean and star	ndard deviation of the	standard normal distrib	oution are respe	ctively:-
	(A) 1 and 0	(B) 0 and 1	(C) $\mu$ and $\sigma^2$		(D) None
(3)	In a normal curve	$\mu \pm \sigma$ covers:-			
	(A) 50 % area	(B) 68.27 % area	(C) 95.45 % area		(D) 99.73 % area
(4)	A value calculated	from population data	is called:-		, 40/
	(A) Statistic	(B) Parameter	(C) Standard error		(D) None
(5)	Standard error of	mean is the standard de	eviation of:-		****
	(A) Sample	(B) Population	(C) Sampling distr	ribution of mea	n (D) None
(6)	A border patrol ch	neck point that stops ev	ery passenger van is:-		
	(A) Simple randor	n sampling (B) System	natic sampling (C) Co	omplete enume	ration (D) None
(7)	Level of significar				
	(A) β	(B) $(1 - \beta)$	(C) α		(D) $(1 - \alpha)$
(8)	A hypothesis that	does not specifies all v	alues of the parameters	s is called:-	
	(A) Simple hypoth	esis (B) Composite h	ypothesis (C) Statist	ical hypothesis	(D) None
(9)		hat provides a basis fo			W. C. C.
	(A) Population st	atistic (B) Test statist	ic (C) Level of signif	ficance	(D) None
(10)	In the regression e	quation $\hat{y} = a + bx$ , y	is called:-		
		ariable (B) Depender		ercept	(D) None
(11)	$b_{yx}$ and $b_{xy}$ all	ways have:-		1.171	
	(A) Same signs	(B) Opposi		ıs	(D) None
(12)	In the regression ed	quation $\hat{x} = c + dy$ ,	c is called:-		
	(A) Y-intercept	(B) $X - int$	ercept (C) Indeper	ident variable	(D) Dependent variable
(13)	If $(AB) < \frac{(A)(B)}{n}$	, the association between	een two attributes A a	nd B is:-	
	(A) Negative	(B) Positive	(C) Zero		(D) None
(14)	The coefficient of a	association lies between	n:-		4
	(A) 0 to 1	(B) $-\infty$ to	$\infty$ (C) -1 to	+1	(D) $-1 \text{ to } 0$
(15)	The graph of time s	series is called:-			A.M. C.C./C

(D) Pie diagram

(C) Ogive

(A) 8 bits (C) 6 bits (B) 4 bits (D) 12 bits 40(Obj)(☎)-2018(A)-130 (MULTAN)

(B) Histogram

(A) Historigram

(A) Secular trend

One byte equals:-

(16)

(17)

Pa	iper Code		2018 (A	()	Roll No.	
N	umber: 8183	INTERM	EDIATE PA	ART-II (12th C		
ST	ATISTICS PA	APER-II (OL				
TIN	ME ALLOWED:			JECTIVE	MAX	XIMUM MARKS: 1
Cut as g	iting or filling two o given in objective ty BBLES are not fille	r more circles wil pe question paper d. Do not solve q	that question I result in zer and leave oth uestions on th	number. Use in that query blank. No consistence of OBJ	, C and D. T narker or pe uestion. Atte eredit will be ECTIVE PA	The choice which you n to fill the circles. empt as many question
(1)	If $(AB) < \frac{(A)(n)}{n}$	$\frac{B}{}$ , the association	between two	attributes A and	B is:-	
	(A) Negative	(B) Po	ositive	(C) Zero		(D) None
(2)	The coefficient o	f association lies b	etween:-			(D) I tone
	(A) 0 to 1	(B) -	∞ to ∞	(C) $-1$ to $+1$		(D) $-1$ to 0
(3)	The graph of time	e series is called:-		V-2		(B) 1100
	(A) Historigram	(B) H	istogram	(C) Ogive		(D) Pie diagram
(4)	Increase in the m	umber of patients i			s:-	(b) He diagram
	(A) Secular trend			on (C) Cyclical		(D) Irregular variation
(5)	One byte equals:-			- 121 54 (135m)	,	(D) megular variatio
	(A) 8 bits	(B) 41	oits	(C) 6 bits		(D) 12 bits
(6)	$X \sim N(50, 49)$	, if $Y = X - 7$ , t	hen standard d		_	(D) 12 ons
	(A) 7	(B) 14				(D) 40
(7)		ndard deviation of			n are respecti	(D) 49
	(A) 1 and 0	(B) 0 and 1		and $\sigma^2$	ir are respecti	
(8)	In a normal curve		(0) /	una o		(D) None
. 7	(A) 50 % area		VG\ 0.	42.00		
(9)		(B) 68.27 % a		5.45 % area		(D) 99.73 % area
(-)	(A) Statistic	I from population of (B) Parameter				
(10)	1,1,2,0,2,2,2,2	mean is the standar	1-2-	andard error		(D) None
(10)	(A) Sample					
(11)		(B) Population neck point that stop		mpling distributi	on of mean	(D) None
1-0					-T	-51.47%
(12)		n sampling (B) Sys	stematic sampi	ing (C) Compl	ete enumerati	on (D) None
95.53	(A) β	(B) $(1-\beta)$	(C) a			200
(13)	12.55				and the	(D) $(1 - \alpha)$
(10)		does not specifies a				
(14)	(A) Simple hypoth A rule or formula t					(D) None
,		atistic (B) Test sta				(D) M
(15)	In the regression ed					(D) None
	(A) Independent va					2011
			ident variable	(C) I – intercep	t	(D) None
(16)	$b_{yx}$ and $b_{xy}$ al	ways have:-				r.
	(A) Same signs	(B) Opr	osite signs	(C) N		Sec 65

In the regression equation  $\hat{x} = c + dy$ , c is called:

(B) X – intercept

(17)

(A) Y-intercept

Pal	per Code		2018 (2	A)	Roll No	
Nu	mber: 8185	INTERME	DIATE P.	ART-II (12th C	CLASS)	
STA	ATISTICS PAI	PER-II (OLD				
TIM	TE ALLOWED: 20			JECTIVE	MA	XIMUM MARKS:
Cutt as gi	ing or filling two or in the control of the control	circle in front of the more circles will re question paper a Do not solve que	ective type hat questio esult in zer nd leave ot	question as A, B n number. Use r o mark in that q hers blank. No c	, C and D. narker or p juestion. At	The choice which you en to fill the circles. tempt as many question awarded in case
(-)	(A) $\beta$	(B) $(1 - \beta)$	(C)	au.		
(2)			100			(D) $(1 - \alpha)$
,2)	A hypothesis that d					
(3)	(A) Simple hypothe A rule or formula the					(D) None
	(A) Population sta	tistic (B) Test sta	tistic (C)	Level of significa	nce	(D) None
4)	In the regression eq	uation $\hat{y} = a + bx$	, y is called	l:-		
	(A) Independent va				ept	(D) None
5)	$b_{yx}$ and $b_{xy}$ alv	vays have:-				
	(A) Same signs	(B) Opp	osite signs	(C) No signs		(D) None
6)	In the regression eq	uation $\hat{x} = c + dy$	, c is calle	ed:-		
					nt variable	(D) Dependent variable
7)	If $(AB) < \frac{(A)(B)}{n}$	, the association be	tween two	attributes A and	B is:-	
	(A) Negative	(B) Posi		(C) Zero		(D) None
8)	The coefficient of as	ssociation lies betw	veen:-			
	(A) 0 to 1	(B) -∞	to ∞	(C) $-1$ to $+1$		(D) -1 to 0
9)	The graph of time se	eries is called:-				
	(A) Historigram	(B) Histo	gram	(C) Ogive		(D) Pie diagram
10)	Increase in the num	ber of patients in a	hospital du	e to heat stroke is	s:-	
	(A) Secular trend	(B) Seaso	onal variation	on (C) Cyclical	variation	(D) Irregular variatio
11)	One byte equals:-					
	(A) 8 bits	(B) 4 bits	3	(C) 6 bits		(D) 12 bits
2)	$X \sim N(50, 49)$ , if	Y = X - 7, then	standard d	eviation of Y is:-		
	(A) 7	(B) 14	(C) (			(D) 49
3)	The mean and standa	ard deviation of the	standard n	ormal distribution	are respect	ively:-
	(A) 1 and 0	(B) 0 and 1		and $\sigma^2$		(D) None
4)	In a normal curve $\mu$	$t \pm \sigma$ covers:-				

(A) 50 % area

(B) 68.27 % area

(C) 95.45 % area

(D) 99.73 % area

A value calculated from population data is called:-(15)

(A) Statistic

(B) Parameter

(C) Standard error

(D) None

Standard error of mean is the standard deviation of:-(16)

(A) Sample

(B) Population

(C) Sampling distribution of mean

(D) None

A border patrol check point that stops every passenger van is:-(17)

(A) Simple random sampling (B) Systematic sampling (C) Complete enumeration (D) None

Pa	per Code			2018 (	A)	Roll No.	
Nu	umber: 8	187	INTE	RMEDIATE P			
ST	ATISTICS	P		(OLD SCHEM		LASS	
TIN	ME ALLOV				JECTIVE	144	VIMINANARUG
							XIMUM MARKS: 1
Cut as g	ting or fillingiven in object BBLES are noted	g two o	r more circle to tr r more circle pe question p d. Do not se	ont of that question es will result in ze paper and leave of olve questions on the olve questions of the olve questions of the olve of olve questions of olve questions of olve or olve olve olve olve olve olve olve olve or olve olve olve olve or olve olve olve olve olve olve olve olve olve olve	on number. Use a ro mark in that of thers blank. No of this sheet of OBJ	marker or po question. Att	The choice which you en to fill the circles. empt as many question awarded in case APER.
(1)	A value c	alculate	d from popu	lation data is called	i-		
	(A) Statis	tic	(B) Par	ameter (C)	Standard error		(D) None
(2)	Standard e	error of	mean is the	standard deviation	of:-		
	(A) Samp	ole	(B) Pop	oulation (C)	Sampling distribu	tion of mean	(D) None
(3)	A border	patrol c	heck point th	nat stops every pass			(2)110110
				(B) Systematic sam		olete enumera	ation (D) None
(4)	Level of s	ignifica	nce is denote	ed by:-			(2) 1 10110
	(A) β		(B) (1-	$-\beta$ ) (C)	α		(D) $(1 - \alpha)$
(5)	A hypothe	sis that	does not spe	cifies all values of	the parameters is	called:-	(2) (1 4)
				omposite hypothesi			(D) None
(6)				s a basis for testing			(D) None
				Γest statistic (C)			(D) None
(7)	In the regre	ession e	equation $\hat{y} =$	a + bx, y is called	!-	100	(D) None
				Dependent variable		m+	(D) M
ini				Transfer turing	c (c) I interce	ρt	(D) None
(8)	$v_{yx}$ and	U <sub>xy</sub> a	ways have:-				
	(A) Same	signs	(	B) Opposite signs	(C) No signs		(D) None
(9)	In the regre	ession e	quation $\hat{x} =$	c + dy, c is calle	d:-		7.57.11-45
				B) X – intercept		t variable (	D) Dependent variable
[10)				ation between two	attributes A and A	B is:-	D) Dependent variable
	(A) Negati	ve	(I	3) Positive	(C) Zero		(D) None
11)	The coeffic	ient of	association li	es between:-			(2) 1,610
	(A) 0 to 1			3) -∞ to ∞	(C) $-1$ to $+1$		(D) -1 to 0
12)	The graph of	of time	series is calle		1.0		(2)
	(A) Historia	gram	(E	B) Histogram	(C) Ogive		(D) Pie diagram
13)	Increase in	the nur	nber of patie	nts in a hospital du		5	(D) The diagram
	(A) Secular			3) Seasonal variation			(D) Irregular variation
14)	One byte eq	uals:-			( ) - ) - 1 - 1 - 1 - 1	aration .	(D) megular variation
	(A) 8 bits		(B	3) 4 bits	(C) 6 bits		(D) 12 bits
15)	$X \sim N(50)$	, 49),		7, then standard de			(12) 12 0115
	(A) 7		(B) 14	(C) 0	SA 4 101		(D) 46
6)	The mean ar	nd stand		n of the standard no	ormal distribution	are reasonti-	(D) 49
				The second of th	The distribution	are respectiv	ciy:-
	(A) I and 0		(B) 0 and	1 (()	and $\sigma^2$		(D) None

(B) 68.27 % area (C) 95.45 % area

(A) 50 % area

(C) 95.45 % area (D) 99.73 % area 40(Obj)(なななか)-2018(A)-130 (MULTAN)

## BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN OBJECTIVE KEY FOR INTERMEDIATE AMNUAL/SUPPLY EXAMINATION, 2018

Name of Subject:	5747 islies (4)	Session:	STATISTICS-	17
Group 1st	(New Schome	) Group: 2nd	Cold	4 2 2 2
Residence of the			5 80 80 10 7 7 7 7	

Q.	Paper Code	Paper Code	Paper Code	Paper Code
Nos	4181	4183	4185	4187
1	A	U	В	4187
2	B	A	D	D
3	A	B	BC	D
4	13	B	C	A
5	c	C	D	B
6	A	A	D	A
7	B	B	A	A B
8	B	B	B	(
9	C	D		A
10	A	D	B C	B
11	ß	C	C	B
12	B	D	A	C
13	D	D	B	A
14	B	A	B	A B
15	c	B	c	B
16	D		Α	D
17	D	A B	B	ß
18				
19				
20				

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

مر فیقلیٹ بابت کی حوالیہ برجہ امار کنگ کا اور و اور انگرین البت استحی موالیہ برجہ امار کنگ کا متحان کے عین مطابق استحان کا 2018 کا جہ سے مضمون (Subjective & Objective) کو بنظر عمیق چیک کرلیا ہے یہ پرچہ انثا نیہ ومعروضی (Subjective & Objective) کو بنظر عمیق چیک کرلیا ہے۔ یہ برچہ عمی کوئی غلطی نہ ہے۔ ہم نے موالیہ پرچہ کا اردو اور انگریز Version بھی چیک کرلیا ہے۔ یہ دوسی کوئی غلطی نہ ہے۔ ہم نے موالیہ پرچہ کا اردو اور انگریز Version بھی چیک کرلیا ہے۔ یہ دوسی کوئی غلطی نہ ہے۔ ہم نے موالیہ ہے تیار کردہ ہدایات کی معروضی (MCQs) کی بابت تقدیق کی جاتی میں بھی کی قتم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے اور ان کی روشنی میں Key بنائی ہے۔ نیز سب انگزامیز نر کیلئے تفصیلی مارکنگ ہدایات امارکنگ سیم (Rubrics) بھی تیار کر دی گئی ہیں۔

S.#	Name	Designation	Institution	Mobile No	Signature
1	M. Azom Porus	Assecte	Gout Emelson	628.	m. Des
2	AMIR AHMAD	ASSOCIATO	Got clase of	39350	Religi
3	AHSAN-UR-Dehas	A8800	God P.G Calles	03043136	120-7
Re-C	بسی قتم کی کوئی غلطی نہے۔ hecked By	میمل طور پرتسلی کر لی ہے۔ م	ی) معروض "Key" اور ہدایات کے حوالہ =	به پرچه(انثائیه+معروم	ہم نے درج بالاسوال
1	AFTAR AHMAD ANSARI	Aslowle	lovi College of kiluce	0353652036	aso
2	muhammad kia	Lectuser	Gout college civil Lines	0300637354	lufa
3					

# ثانوی و اعلیٰ ثانوی تعلیمی بورڈ، ملتان

# مورند: <u>89 - 20 - 16</u> مغمون: شماریات تسام برچن کرچن کروپ: جزل بدایات برائے مارکنگ Keyاولائیکیم انتوکیم (مارکنگ کیم) انٹریارٹ فرسٹ اسکینڈ سالاندا همنی امتحان 2018ء

انٹر پارٹ فرسٹ اسکنڈ سالانہ اضمنی امتحان 2018ء معن<del>در عصر طبعت ( E برہ زارعود )</del> Allempt any eight part cach of 2 marks . 882= 16 M2 = 16, 1 M4 = 30 = 3(16) = 768 Attempt any eight parts each of 2-marks: 8x2 = 16 Q3  $G_{H}^{2} = \left[ \frac{G^{2}}{n}, \frac{N-n}{N-1} \right] = \sqrt{\frac{3500}{100}} \times \frac{210}{309} = \sqrt{237.86} = 15.42$ 1x- y= 130+3.456 x at x=12: Y = 130 + 3.456(12) = 177.472 xii- 1=- 1.07 x 0.49 = -0.724 6x2 = 12 Allempt any sin parts each of 2-marks: 84 (a) = N- (A) = 100-40 = 60  $\frac{(A)(B)}{N} = \frac{364 \times 1024}{1216} = 306.52$ (AB) = 256 (AB) + (A)(B) so And B are not independent Diagram of Standard normal dist = 1 marks (0) solution and computing mean and S.D = 3 marks b) making Z = x-1 = 1 mark Diagram of z-dist = 1 marris Finding points "a" such That P(X = a) = 151. ] = 2 marks ENSAMI OUR Pla Cally P(x7,5) = 28%

Q. . . Q.