A-PDF Watermark DEMO: Purchase from www.A-PDF Com to remove the Watern INTERMEDIATE PART-II (12" CLASS) **STATISTICS** PAPER-II 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. $8 \times 2 = 16$ Write the p.d.f of a Normal Distribution and define each term of it. (i) (ii) Discuss the importance of Normal Distribution. (iii) In a Normal Distribution $\sigma^2 = 25$. Find Mean Deviation. A Normal Distribution has a mean $\mu = 85$ and Standard Deviation $\sigma = 4.5$. Find value of Q_1 . (iv) In a normal distribution $\mu_4 = 708$ find μ_2 . (v) (vi) If n = 200, X = No. of defective = 25 find 95% confidence Interval for the proportion of defective. What is the difference between Point Estimation and Interval Estimation? (vii) Define Level of Confidence. (viii) Define the term Test Statistic. (ix) Define the Level of Significance. (x) What is the difference between RAM and ROM? (xi) (xii) Define the Central Processing Unit. 3. Attempt any eight parts. $8 \times 2 = 16$ (i) What is Population? (ii) Define Statistic. Define the non-sampling error. (iii) (iv) Describe the Sampling with replacement. (v) Define term Sampling Frame. If $\delta = 4$, N = 6 and n = 2 then find $\delta_{\bar{x}}$ for sampling without replacement. (vi) Define the term Regressand. (vii) Write two properties of the least Squares Regression Line. (viii) If $\overline{X} = 50$, $\overline{Y} = 110$ and a = 10. Find the values of b. (ix) Define the coefficient of Correlation. (x) Write two formula's of the coefficient of Correlation. (xi) If $b_{yx} = -1.6$ and $b_{xy} = -0.4$ Find the value of r_{xy} . (xii) 4. Attempt any six parts. $6 \times 2 = 12$ Interpret the meaning of Q = -1. (i) Define the term Rank Correlation. (ii) Write formula for Coefficient of Association. (iii) (iv) Define analysis of Time Series. (v) Define Signal. (vi) Explain Seasonal Trend. (vii) Give two examples of Secular Trend. (viii) Write name of short term Variation of Time Series. (ix) Define Historigram. **SECTION-II** NOTE: - Attempt any three questions. 5.(a) In a Normal Distribution, Mean is 250 and Standard deviation is 100. Find (i) $P(150 \le x \le 270)$ (ii) $P(x \ge 180)$ 4 Scores on a National Education Achievement Test are Normally Distributed with $\mu = 500$ (b) and $\delta = 100$. What is the 95th percentile of this distribution? (i) (ii) What are lower and upper quartiles of this distribution? If the size of the simple random sample from an infinite population is 36 and the standard error of 6.(a)the mean is 2. What must be the size of the sample become if the standard error is to be reduced A random sample of 36 cases is drawn from a negatively skewed probability distribution (b) with a mean of 2 and a standard deviation of 3. Find the mean and standard error of the sampling distribution of \bar{X}

P.T.O

7.(a) Given that:- n = 7, $\Sigma x = 35.9$, $\Sigma x^2 = 186.19$. Compute 90% confidence interval for μ .

Given that: n = 10, $\bar{x} = 27$, $\sigma = 1.2$. Test that $\mu \le 26.3$ at $\alpha = 0.05$. (b) Assume that sample is taken from normal population.

8.(a) Find regression equation of Y on X from the following information:-

$$r_{xy} = 0.6$$
, $\overline{X} = 12$, $\overline{Y} = 20$
 $S_x = 1.5$, $S_y = 2$

From the following information compute coefficient of correlation. (b)

$$N = 25$$
 $\Sigma D_x = 160$ $\Sigma D_x = 1622$
 $\Sigma D_y = 661$ $\Sigma D_y^2 = 24829$
 $\Sigma D_x D_y = 5396$ where

Y- 661

9.(a) Find the chi-square (χ^2) using $\alpha = .05$ to the following attributes:-

Attribute	A_1	B_1	C_1
α	30	45	75
β	75	30	45

(b) Fit a second degree parabola for the following data:-

Year	1985	1990	1995	2000	2005
Values	13	16	18	10	8

SECTION-III (PRACTICAL)

10. NOTE: - Attempt any three parts. $3 \times 5 = 15$

- A population consists of 2, 4, 6. Consider all possible samples of size two with (a) replacement from this population. Find mean of sampling distribution of variances.
- (b) In a random sample of 500, forty are defectives. Compute 99% confidence interval for the proportion of defectives in the population.
- Determine the regression line Y on X and find the value of \hat{Y} when X is 7. (c)

X	4	5	3	6	12
Y	4	6	5	7	8

(d) Can we say that education depends on sex? Use $\alpha = 0.05$.

Sex	Education				
	Middle	Secondary	College		
Male	30	45	75		
Female	75	30	45		

(e) Calculate three years moving average for the following time series:-

Years	1992	1993	1994	1995	1996
Values	402	410	425	420	418

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L	TISTICS PAPI	INTERMEDIATE PA ER-II		•	OWED: 20 Minutes
~		OBJECTI'			MARKS: 17
think Cutting as giv BUBI Q.No.	is correct, fill that cing or filling two or men in objective type of BLES are not filled.	ices for each objective type q rcle in front of that question ore circles will result in zero question paper and leave othe Do not solve question on this	number. Use mark mark in that quest ers blank. No credi s sheet of OBJECT	ter or pen ion. Atten it will be a	to fill the circles. npt as many questions warded in case
(1)		ation, the maximum ordinate is			
	(A) Mean	(B) Variance	(C) Standard devia	tion	(D) Q_1
(2)		tion, Mean, Median and Mode	are:		
	(A) Unequal	(B) Equal	(C) Bell shaped		(D) None of these
(3)	In a Normal Distribi	ution Mean deviation is equal	to:-		
	(A) 0.7979	(B) 0.7979σ	(C) 0.6745		(D) 0.67456 σ
(4)	Sample is a sub-set of	f:			
•	(A) Population	(B) Data	(C) Set		(D) Distribution
(5)	Any measure of the I	population is called:-			
	(A) Finite	(B) Parameter	(C) Without replac	ement	(D) Random
(6)	Probability distributi	on of a Statistic is called:-			
	(A) Sampling	(B) Parameter	(C) Data	(D) Sa	mpling dis <mark>tri</mark> bution
(7)	Estimation is of two	types:- (A) One sided and t	wo sided (B)	Type-I and	d type-II error
~	(C) Point estimation	and interval estimation	(D) Biased and unb	oiased	
(8)	Null hypothesis is de	noted by:-			
	(A) H _o	(B) H_1	(C) ∝		(D) <i>β</i>
(9)	A hypothesis may be	classified as:-			
	(A) Simple	(B) Composite	(C) Null	(b) Al	l of these
(10)	The regression equation	ion always passes through:.			
	(A) (x, y)	(B) (a, b)	(C) (\bar{x}, \bar{y})	(D) $(\bar{x}$	(x, y)
(11)	A perfect positive con	rrelation is signified by:-			
	(A) 0	(B) -1	(C) +1	(D) -1	to +1
(12)	If $r_{xy} = 0$ then x	and y are:-			
~	(A) Independent	(B) Dependent	(C) Zero	(D) As	sociated
(13)	A qualitative characte		(0)	(2)110	
	(A) Constant	(B) Variable	(e) Attribute	(D) As	sociation
(14)	The range of Chi-Squ	` ,	N(C) I IIII I III	(2)110	
	(A) 0 to ∞	(B) $-\infty$ to 0	(C) $-\infty$ to $+\infty$	(D) 0 to	o n
(15)	In the multiplicative i	` ,		(-)	
()		./	(C) $Y = a + bx$	(D) Y:	$= a + bx + cx^2$
(16)		bold the numbers of normal ed		, .	
` (w	. X	(B) Three	(C) Four	(D) Fiv	/e
(17)	One byte equals:-			· /- /	
	(A) 8 bits	(B) 4 bits	(C) 6 bits	(D) 12	bits
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ăpe	r Code		2016 (S	S) Ro	ll No	
Num	ber: 81	.83	INTERMEDIATE PA	ART-II (12 th CLA	ASS)	
STA	FISTICS	PAP	ER-II	T	IME ALL	OWED: 20 Minutes
			<u>OBJECT</u>			M MARKS: 17
Note:	You have	four cho	ices for each objective type rcle in front of that questio	question as A, B, C	and D. Ti rker or ner	he choice which you to fill the circles.
Cuttin	ng or filling	two or m	iore circles will result in zei	ro mark in that que:	stion. Atte	mpt as many question
as giv	en in object	ive type (question paper and leave ot	hers blank. No cree	dit will be	awarded in case
Q.No.		t illied.	Do not solve question on the	its sheet of Obsect	(IVE IAI	EIK.
(1)		iplicative	model of time series:-			
	(A) $Y = T$	+S+C	+I (B) $Y = TSCI$	(C) $Y = a + bx$	(D) Y	$y'=a+bx+cx^2$
(2)	In second of	degree pa	rabola the numbers of norma	l equations is:-		
W	Two		(B) Three	(C) Four	(D) F	ive
(3)	One byte e	quals:-				
,	(A) 8 bits		(B) 4 bits	(C) 6 bits	(D) 1	2 bits
(4)	In a North	al Distrib	ution, the maximum ordinate	e is at:-		
	(A) Mean		(B) Variance	(C) Standard dev	iation	(D) Q_i
(5)	In a Norma	al Distrib	ution, Mean, Median and Mo	ode are:		
(-)	(A) Unequ		(B) Equal	(C) Bell shaped		(D) None of these
(6)	. , -		oution, Mean deviation is equ	, ,		
(0)	(A) 0.7979		(B) 0.7979 σ	(C) 0.6745		(D) 0.67456 σ
(7)	Sample is		•			
(,)	(A) Popul		(B) Data	(C) Set		(D) Distribution
(8)	. '/' -		population is called:-			
(0)	(A) Finite		(B) Parameter	(C) Without repl	acement	(D) Random
(9)	` '		tion of a Statistic is called:-			
(2)	(A) Sampl	•	(B) Parameter	(C) Data	b	Sampling distribution
(10)	` ′ -	_	types:- (A) One sided ar			nd type-II error
(10)			n and interval estimation	(D) Biased and u	, . .	••
(11)	•		lenoted by:-	(2) 2		
(11)		ilicolo lo C		(C) ∝		(D) β
	$(A)H_o$		(B) H_1	(C) w		
(12)			be classified as:-		(D) \	All of those
	(A) Simp		(B) Composite	(C) Null	(D) A	All of these
(13)			ation always passes through:		(D)	(= ··)
	(A) (x, y))	(B) (a, b)	(C) (\bar{x},\bar{y})	(D)	(\bar{x}, y)
(14)	A perfect	positive o	correlation is signified by:-			
	(A) 0		(B) -1	(C) v/1	(D)	-1 to +1
			•			
(15)	/ /		x and y are:-			
	•		(B) Dependent	(C) Zero	(D) .	Associated
(16)	A qualitat	ive chara	cteristic is called:-			
	(A) Cons		(B) Variable	(C) Attribute	(D)	Association
(17)	The range	of Chi-S	quare distribution is:-			
	(A) 0 to o	ю	(B) $-\infty$ to 0	(C) $-\infty$ to $+\infty$	(D)	0 to <i>n</i>
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	r Code	2016 (S)		Roll No	
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STA	TISTICS PAPE	CR-II OBJECTIV		MAXIMUM	WED: 20 Minute
think Cutting as giv	is correct, fill that cing or filling two or men in objective type qualities are not filled.	ces for each objective type question of that question ore circles will result in zero question paper and leave other Do not solve question on this	uestion as A, B, number. Use m mark in that qu ers blank. No ci	C and D. The arker or pen to nestion. Attemp redit will be aw	choice which you o fill the circles. ot as many question arded in case
(1)	Null hypothesis is de	•			
	$(\mathbf{A})H_o$	(B) H_1	(C) ∝	(D) β
(2)	A hypothesis may be	classified as:-			-
	(A) Simple	(B) Composite	(C) Null	(D) All	of these
(3)	The regression equat	ion always passes through:			
	(A)(x,y)	(B) (a, b)	$(\mathcal{Q})(\bar{x},\bar{y})$	(D) $(\bar{x},$	<i>y</i>)
(4)	A perfect positive co	rrelation is signified by:-	_		
	(A) 0	(B) -1	(C) +1	(D) -1	to +1
(5)	If $r_{xy} = 0$ then x	and y are:-			
	(A) Independent	(B) Dependent	(C) Zero	(D) Asse	ociated
(6)	A qualitative charact	eristic is called:-			
	(A) Constant	(B) Variable	(C) Attribute	(D) Asse	ociation
(7)	The range of Chi-Squ	uare distribution is:-			
,	(A) 0 to ∞	(B) $-\infty$ to 0	$(C) -\infty \text{ to } +\infty$	(D) 0 to	n
(8)	lacksquare	model of time series:-			
	•	+I (B) $I = TSCI$	(C) $Y = a + b$.	x (D) $Y =$	$a + bx + cx^2$
(9)	In second degree par	abola the numbers of normal e	equations is:-		
. ,	(A) Two	(B) Three	(C) Four	(D) Five	· •
(10)	One byte equals:-	V		, ,	
	(A) 8 bits	(B) 4 bits	(C) 6 bits	(D) 12 b	its
(11)	In a Normal Distribu	ntion, the maximum ordinate is	at:-		
	(A) Mean	(B) Variance	(C) Standard de	eviation (D) Q_1
(12)	In a Normal Distribu	tion, Mean, Median and Mode	are:		
` ,	(A) Unequal	(B) Equal	(C) Bell shaped	i (D) None of these
(13)		ution, Mean deviation is equal	•		
	(A) 0.79 <mark>79</mark>	$(B) 0.7979 \sigma$	(C) 0.6745	(D) 0.67456 σ
(14)	Sample is a sub-set of	- /	,	·	
	(A) Population	(B) Data	(C) Set	(D) Distribution
(15)	Any measure of the p			·	•
` /	(A) Finite	(B) Parameter	(C) Without re	placement (D) Random
(16)	` '	on of a Statistic is called:-	. ,		
` '	(A) Sampling	(B) Parameter	(C) Data	\(\mathcal{D}\) Sam	pling distribution
(17)		types:- (A) One sided and t		(B) Type-I and	
. /		and interval estimation	(D) Biased and		

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Number			TE PART-II (12 th	I IME VE	LOWED: 20 Min	iutes
STATI		OF	BJECTIVE	MAXIMU	M MARKS: 17	
Note: Y	You have four cho		tre tune question as A.	B, C and D. T	The choice which y	ou
think is	correct, fill that ci	rcie in ironi oi that	It in gore mark in that	question. Att	empt as many que	stions
BUBBL	ES are not filled.	Do not solve questi	on on this sheet of OB	JEC IIVE I A		
Q.No.1 (1)	Any measure of the	population is called:	-			
	A) Finite	(B) Parameter	(C) Withou	t replacement	(D) Random	
(2) I	Probability distribut	tion of a Statistic is c	alled:-		/	
	(A) Sampling	(B) Parameter	(C) Data		Sampling distributi	on
(3)	Estimation is of two	o types:- (A) One	sided and two sided	• • • • • •	and type-II error	
	(C) Point estimation	n and interval estima	tion (D) Biased	and unbiased		
(4)	Null hypothesis is o	denoted by:-				
	(A) A o	(B) H_1	(C) ∝		(D) β	
(5)	A hypothesis may	be classified as:-				
()	(A) Simple	(B) Composite	(C) Null	(b)	All of these	
(6)	The regression equ	ation always passes	through:.			
	(A) (x, y)	(B) (a, b)	$(\mathscr{C}) \ (\bar{x}, \bar{y})$	(D)	(\bar{x}, y)	
(7)	A perfect positive	correlation is signific	ed by:-			
(,)			(C) +1	(D) -1 to +1	
	(A) 0	(B) -1				
(8)	If $r_{xy} \neq 0$ then	x and y are:-				
` /	(A) Independent	(B) Dependent	(C) Zero	(D) Associated	
(9)	~	acteristic is called:-				
(7)	(A) Constant	(B) Variable	(C) Attrib	oute (E) Association	
(10)	` ′ ^	Square distribution i	s:-			
• •	(A) 0 to ∞	$(B) - \infty \text{ to } 0$	(C) -∞ to	$(1) \infty + c$	0) 0 to <i>n</i>	
(11)	· .	ive model of time ser	ries:-			
(11)		C+I (B) $Y=$		a + bx (I	Y = a + bx + cx	.2
2 a de S			rs of normal equations is	s:-		
(12)		(B) Three	(C) Four	(1	D) Five	
(12)	(A) Two One byte equals:		. ,			
(13)	(A) 8 bits	(B) 4 bits	(C) 6 bit	s (1	D) 12 bits	
(1.4)		tribution, the maxim	um ordinate is at:-			
(14)		(B) Variance	(C) Stan	dard deviation	(D) Q_1	
(4. E)	(A) Mean	tribution, Mean, Mee	tian and Mode are:			
(15)		(B) Equal	(C) Bell	shaped	(D) None of	these
	(A) Unequal	stribution, Mean dev	•	_		
(16)		$(B) 0.7979 \sigma$	(C) 0.67	745	(D) 0.67456	σ
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BOARD OF INTERMEDIATE AND SECONDARY EDUCATION,

MULTAN
OBJECTIVE KEY FOR INTER (PART 1/II) Supply Examination, 2016.
Name of Subject 5197167145 Session 2016 5)

Q. Nos.	Paper Code	Paper Code	Paper Code	Paper Code
	8181	8183	دها بي	B187
1.	a	b	a	b
2.	Ь	b	d	d
3.	b	a	C	C
4.	a	a	C	a
5.	b	6	a	d
6.	d	6	C	C
7.	C	a	a	C
8.	α	6	b	a
9.	d	d	b	C
10.	C	C	a	a
11.	C	a	a	b
12.	a	d	b	b
13.	-	C-	6	a
14.	a	C	a	a
15.	6	a	b	b
16.	b	C	d	b
17.	a	a	C	a
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PREPARED & CHECKED BY

Designation Institution Mobile No. Signature.

PETAL A HMAD ANSAR (Associate Negros) Contaction Mobile No. Signature.

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ثانوی و اعلیٰ ثانوی تعلیمی بورڈ، ملتان

موری: 201-20 منمون: 53/ 18/ 7/ پچه: 17 گروپ: جزل مدایات برائے مارکنگ Key نیوسیم ااولڈ سیم (مارکنگ سیم) مانشد ال و موضوسی مراسک کم ساللوز اضمنی امتوان 2016ء

انثريارك فرسية اسيكند سالاند احتمى المتحان 2016ء Subjective Q.No.2 1M.D = 0.7979 F = 3.9895 (iii) Q1 = H-0.67450 = 85-0.6745(4.5) ((0) 708 = 3 Hz => Mz2 = 236 => Mz=15.36 $\mu_4 = 3 \mu_2^2$ v) $P + \frac{1}{2} \frac{1}{2} \sqrt{\frac{p^{2}}{3}}$ $= 0.125 \pm 1.96 \sqrt{\frac{6.125}{200}} \sqrt{0.875}$ =(0.079,0.171)ix) b= \frac{10-10}{50}= 2 7= Jbyn x bxy = -0.8 xii) Q.No.4 i) Perpect ive association
by wattributes. G.No.5 of Correct value of z = Q. i) correct area = 0 = 02+06 ii) correct area = 0 = 04 5) 2 Marks for boin forts. general instructions

2 marks for 2 to 4 marks

a) correct value of n - 04 marks. DNO.6 mean = 02 marks. S.E = 02 = 02+02:04 correct formula = 01 (harby. correct calculation = 03 Marsh Q. Noi (a) (Ad) =04 = Marks (ط 04 harler correct value of 6 = 02 Mary 2 202 Mark Q.No.S Total = 04 Marks Correct formula = 01 marks. Correct answer of 7:=03 mosters a) covied take formula = 01 Mark.

of chi-square. Q.No. 9 correct value of $7^2 = 04 \text{ maker.}$ correct values of a,b,c=03 Max. correct Normal Egns formulae DSTED = 04 March five marks for each Part
(attempt any time)

OS * 3 = 15 Marks.