LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **STATISTICS**

FIRST SEMESTER – **NOVEMBER 2019**

UST 1501 – STATISTICAL METHODS

Time: 09:00-12)19 2:00	Dept.	No.				Max. : 100 Marks				
Answer ALL quest	ons			Section	1 – A		(10 X 2 = 20)				
1. Define Statis	tics.										
2. State the vari	2. State the various types of classification.										
3. Find the harn	3. Find the harmonic mean to the given data:										
100,200,300,	100,200,300,400										
4. Define range and co-efficient of range.											
5. Write down the normal equations for fitting an exponential curve.											
6. What is principle of least squares?											
7. Define rank c	7. Define rank correlation.										
8. List out any t	8. List out any two properties of regression co-efficient.										
9. What are the different types of association?											
10. For two attrik	outes A and	B, we hav	e (AB)	= 35; (4	A) = 55;	N =10	00 and $(B) = 65$. Find the missing values	5.			
		Section	$\mathbf{I} - \mathbf{B}$		(5 X 8 = 40)						
Answer Any FIVE	questions						(
Answer Any FIVE	questions arious type	s of diagram	ns.		1 4 1						
Answer Any FIVE 11. Explain the v 12. Draw the ogi	questions arious type ve curves a	s of diagram nd show the	ns. e media	n in gra	ph. Also 50-60	o checl	k your result by actual calculation.				
Answer Any FIVE 11. Explain the v 12. Draw the ogi C.I : f :	questions arious type ve curves a 0-10 1(3	s of diagram nd show the 0-20 20-30 9 15	ns. e media) 30-4(30	n in gra) 40-50 18	ph. Als 50-60 5	o checl	k your result by actual calculation.				
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3X + 2Y - 26 = 0

6X + Y - 31

Answer Any TWO questions

Calculate i) Mean of X and Y

ii) If variance of X is 25, Find the SD of Y.

17. a) Define Kurtosis and explain its types.

b) State the various properties of correlation co-efficient.

18. Write down the characteristics of Yule's co – efficient of association.

Section – C

(2 X 20 = 40)

19	. a) Des	scribe th	e variou	is meth	ods of c	collectin	ng prim	ary dat	a stati	ng their	relative	merits and deme	rits.
	b) Dra	w the hi	istograr	n of the	data an	nd hence	e find t	he mod	lal val	ue.			
	CI	:0-10	00 100 - 200 200 - 300				300	300 - 400 40) - 500	500 - 600	
	f	: 13 18 27					20)		17	6		
20	. a) Cal	culate P	earson'	s co-eff	icient o	f skewr	ness for	the fol	llowin	ig data:			
	Wage	s	: 10-15	5 15-2	0 20 -2	25 25-	30 30	-35 35	5 -40	40-45	45-50		
	No.of	Worker	s: 8	16	5 30) 4	45 (52	32	15	6		
	b) Co	mpute Q	uartile	Deviation	on from	the fol	lowing	data:					
	Х	:	10-20	20-30	30-40	40-50	50-60) 60-70) 70-	80			
	f	:	12	19	5	10	9	6	6				
21	a) Fin	d the tw	o rooroo	ssion lir	as for t	ha follo	wing d	lata					
<i>L</i> 1	v	u the two	o regres	22	$\frac{105}{22}$	24	owing u	ומומ. 27	77	20	20	20	
	Λ V	•	12	23	25 21	24	20	27	27	20	50 25	30 26	
	I b) Eva	alain tha	15 Voriou	20 a typos d	21	20	21	<i>LL</i>	23	24	23	20	
	$0) L_{\lambda}$		variou	stypes		auon.							
22	. a) Fit	a quadra	tic equ	ation to	nine pa	airs of v	alues:						
	Х	:	1	2	3	4	5	6	7	8	9		
	Y	:	2	6	7	8	10	11	11	10	9		
	b) Ac	cording	to the s	urvey t	he follo	wing re	esults w	vere obt	tained	•			
								Boys		Gir	ls		
	No. of students appeared at an examination							800		200)		
	Married							150		50	50		
	Married and successful							70		20			
	Unmarried and successful									110)		
Find the association between marital status and the success in the examination both for boys and girls by													

using Yule's co-efficient of association.
