	2 hours						MARK
Instruc	tions :			eta.	b evoda	Mode for the	l (iii) bae
	Section I is	compulsor	TV.				
	Solve any 3			nII			
3)	Only simple	e calculator	rs are allowe	ed.			
4)	Figures to the	he right in	dicate full m	narks.			
			SEC	TION - I		16-20	
Q. 1 A)	For the fol	llowing dat	ta, find com	bined aver	rage if b	oth the grou	ne are ta
	together.	5	10 m - 31	8 Mile - 18		28-82	ps are ta
				Gr. I		Gr. II	
	No of obse	antion a					
						65	
	Averge .			325		487	
B)	Define : i) Coeffic	ient of Rang	çe			
	i	ii) Coeffic	ient of Quar	tile devati	noitielen on.		
	If $Q_1 = 23$		$Q_3 = 54.5, F$			tion	
and the				6801	17		
C)	P(A) = 0.5	- D (D)	0 0 1				
	· (/1) 0.0	P(B) =	0.6 and				
				ts defined	on sam		
		0.9 for a	ny two even			ple space S 7	
	P (AUB) = 0 $\theta (A \cap B), 1$	0.9 for a P (A), P (B'	ny two even),			ple space S 7	
	$P (AUB) = (0)$ $\theta (A \cap B), I$ $Define : i$	0.9 for a P (A), P (B') Value i	ny two even), ndex numbe	omulii səb odmulii x er		ple space S 7	
	$P (AUB) = (0)$ $\theta (A \cap B), I$ $Define : i$	0.9 for a P (A), P (B') Value i	ny two even),	omulii səb odmulii x er		ple space S 7	
D)	P (AUB) = (θ (A∩B), I Define : i) ii Find geome	0.9 for a P (A), P (B') Value i i) indeper	ny two even), ndex numbe ndent events	odunu zab odunu z sec sect		ple space S 7	Then find
D)	P (AUB) = (0) $\theta (A \cap B), I$ Define : i) iii Find geometry Xi :	0.9 for a P (A), P (B') Value i i) indeper etric mean 133	ny two even), ndex numbe ndent events	er soon data		ple space S 7 ans ^q (ii) site q (ii) viibonne 821	Then find
D)	P (AUB) = (θ (A∩B), I Define : i) ii Find geome	0.9 for a P (A), P (B') Value i i) indeper etric mean	ny two even), ndex numbe ndent events	owing data	a.	ple space S 7 2889 (ii) edzi9 (iii)	Then find
D) E)	$P (AUB) = (0)$ $\theta (A \cap B), I$ $Define : i)$ ii $Find geometry Xi :$ $Fi :$	0.9 for a P (A), P (B') Value i i) indeper etric mean 133 2	ny two even), ndex numbe ndent events for the follo 148 3 3	owing data 363 4 4	a. 3	ple space S 7 ans ⁴ (ii) site i (iii) site	Then find
D) E)	$P (AUB) = (0)$ $\theta (A \cap B), I$ $Define : i)$ ii $Find geometry Xi :$ $Fi :$	0.9 for a P (A), P (B') Value i i) indeper etric mean 133 2 iissing free	ny two even), ndex numbe ndent events for the follo 148 3 3	owing data 363 4 4	a. 3	ple space S 7 and (ii) odzia (iii) (iii) (iii) 821	Then find
D) E)	P (AUB) = (θ (A∩B), I Define : i) ii Find geome Xi : Fi : Find the m mean is 38 Marks	0.9 for a P (A), P (B') Value i i) indeper etric mean 133 2 iissing free	ny two even), ndex numbe ndent events for the follo 148 3 3	er sowing data 363 4 4 ne followin	a. 666 3 1g data į	ple space S 1 821 5 given that ari	Then find
D) E)	P (AUB) = (θ (A∩B), I Define : i) ii Find geome Xi : Fi : Find the m mean is 38 Marks No. of	0.9 for a P (A), P (B') Value i i) indeper etric mean 133 2 hissing free	ny two even), ndex numbe ndent events 1 for the follo 148 3 3 guoncy for th	owing data bowing data 363 4 4 ne followin 40	a. 3	ple space S 7 ans ⁴ (ii) site i (iii) site	Then find
D) E)	P (AUB) = (θ (A∩B), I Define : i) ii Find geome Xi : Fi : Find the m mean is 38 Marks	0.9 for a P (A), P (B') Value i i) indeper etric mean 133 2 iissing free 3 : 10	ny two even), ndex number ndent events 1 for the follo 148 3 3 guoncy for th 20 30	owing data 363 4 4 ne following 40	a. 666 3 1g data į	ple space S 7 821 5 given that ari 60 70	Then find
D) E) F)	P (AUB) = (θ (A∩B), I Define : i) ii Find geome Xi : Fi : Find the m mean is 38 Marks No. of Students	0.9 for a P (A), P (B') Value i i) indeper etric mean 133 2 hissing free 3 : 10 : 8	ny two even), ndex number ndent events 148 3 3 quoncy for th 20 30 11 20	er sowing data 363 4 4 ne followin 40 25	a. 466 3 ng data (50	ple space S 7 821 5 given that ari 60 70 10 3	Then find
D) E) F)	P (AUB) = (θ (A∩B), 1 Define : i) ii Find geome Xi : Fi : Find the m mean is 38 Marks No. of Students The profits r	0.9 for a P (A), P (B') Value i i) indeper etric mean 133 2 nissing free 3 : 10 : 8 made by 20	ny two even), ndex number ndent events 1 for the follo 148 3 3 quoncy for th 20 30 11 20	er sowing data 363 4 4 ne followin 40 25 ndors on a	a. 466 3 ng data s 50 -	ple space S 7 821 5 given that ari 60 70 10 3 ar day are give	Then find
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D) E) F)	P (AUB) = 0 θ (A∩B), 1 Define : i) ii Find geome Xi : Fi : Find the m mean is 38 Marks No. of Students The profits r Pro	0.9 for a P (A), P (B') Value i i) indeper etric mean 133 2 hissing free 3 : 10 : 8 made by 20 ofit in Rs. 200-300	ny two even), ndex number ndent events 1 for the follo 148 3 3 quoncy for th 20 30 11 20	er sowing data 363 4 4 ne followin 40 25 ndors on a	a. 466 3 ng data s 50 - perticula 5. of ver	ple space S 7 821 5 given that ari 60 70 10 3 ar day are give	Then find
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1.111	d (i) Median (ii) los	ver quartile	0		Ę.	
	d (i) Median (ii) lov l (iii) Mode for the ab		Q ₁			
B)	Find variance and st			ollowing da	ta giving distr	
	of ages (in yrs.) of Ll					
	Ages (in yrs.	(8. (No. of po	olicyholde	Figures to 81	
	16-20 20-24	1 - 1	SECTIO	4		
	28-32			-		
	32-36	1.1	D	3		
C)	The two regression li	ines for a ce	rtain bivariate	data are f	ound to be	
	4y - 15 <i>x</i> +	530 = 0 a	nd 20 <i>x</i> -3y-9	975 = 0		
	Find : i) \overline{x} and	\overline{y}				
	ii) Correla	tion coeffic	lent r.			
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.3 A)	(Solve any Three) Find : (i) Laspeyre (ii) Paasche	onderson SI SI e's Index Nu 's Index Nu	CTION - II		11 Q ₁₁ = 20), P (A) = 0.5 P (ABB4 = (6 (ADB), 1	
.3 A)	(Solve any Three) Find : (i) Laspeyre (ii) Paasche	e's Index Nu 's Index Nu Index Num	ECTION - II umber mber per for the foll	o a a a 18) 9 a 19 a a a) 9 (A) 9 owing data	11 $Q_{11} = 20$ 1. P (A) = 0.5 P (AUB) = 0 0 (ADB), 1 Define : 1)	
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	(Solve any Three) Find : (i) Laspeyre (ii) Paasche (iii) Fisher's	e's Index Nu 's Index Nu Index Num	ECTION - II umber mber per for the follo	owing data	11 Q ₁₁ = 20 1. P (A) = 0.5 P (AUB) = 0.5 6 (ADB), 1 1. 00	
	(Solve any Three) Find : (i) Laspeyre (ii) Paasche (iii) Fisher's Commodity Sugar Wheat	s's Index Nu 's Index Num Index Num 19 Price 20 11	ECTION - II umber mber per for the follo 90 Quantity	owing data 20 Price 35 20	00 Quantity	
	(Solve any Three) Find : (i) Laspeyre (ii) Paasche (iii) Fisher's Commodity Sugar	s's Index Nu 's Index Nu Index Num 19 Price 20	ECTION - II amber mber per for the foll 90 Quantity 55	owing data 20 Price 35	00 Quantity 60	
. 3 A)	(Solve any Three) Find : (i) Laspeyre (ii) Paasche (iii) Fisher's Commodity Sugar Wheat	s's Index Nu 's Index Num Index Num 19 Price 20 11	ECTION - II umber mber ber for the follo 90 Quantity 55 10	owing data 20 Price 35 20	00 Quantity 60 15	

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Week new superior of Production (in '000 Kg) Group I & II combined 910 8 001940 9 925 10 950 11 970 12 930 Q. 4 A) Following is the bivariate data giving height (X) in cm. and weight (Y) in kg. of some children. (5)Then (X, Y) Values are (88,24), (92,22), (87,26), (89,34), (104,32), (100,27), (102,36), (92,27) (97,35), (98,25), (88,22), (90,31), (96,23), (98,38), (87,38), (101,32) (91,23), (87,28), (91,25), (95,33), Prepare bicariate frequency distribution taking Class intervals for X : 85 -90, 90-95, Class intervals for Y : 20-25, 25-30, Write marginal frequency distribution of X Write conditional frequency distribution when Y > 30 B) Give definition of saise to saise to mituditalib gaiwollol and the (5)Sample space (i) (ii) Mutually exclusive events. A committee ot 4 is to be formed from 3 engineers and 5 supervisors. Find the probability that the committee contains. 2 engineers & 2 superuisors. (i) at least 3 supervisors. (ii) Class - Interval Q. 5 A) Find correlation coefficient between profit per unit (X) and output (Y) using following data. (6)output (1000 tons) Profit per unit (Rs.) 7 900₅1100 10 1108 1300 15 0011500 12 6 11 5 8 7 6

JKXAAW

Also find regression equation of profit (X) on ourput (Y).

10

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B) C	viven the f	olowing data find	the missing value	es.		1
J C		Group I	Group II	Group	I & II com	bined
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	verage	04 925	43			
	/ariance	089 25	-		21	
tht (Y) in leg.	find area u	under the normal	nal distsibution wi curve such that l	P (110 < X		
	Following A and B.		ncome distributio	n of some	e workers i	n fact
36), (92,27)	OTH MAD	ne (in 100 Rs.)	(8, 26), (89,34), No.	of Worke	rs	
		(96,22), (98,3	Factory	A Fac	tory B	
		10-12	(01,25), (95,33), (05,33),		12	
	e e e	10-12 tiblet non	ectency distribut		20 9999	
		a a a group of the first of	X 85-90, 90-90 Y 8 20-25, 25-3		10	
		16 19	6 Of distribution of		5	3
(S) (S)			variability ?	ne shops,	plot	
	(i) Free	luency polygon				
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