## PARUL UNIVERSITY

## FACULTY OF ENGINEERING & TECHNOLOGY

## B.TECH (3<sup>rd</sup>MIDEXAMINATION)

4<sup>th</sup> SEMESTER (SUMMER-2020-21)

SUBJECT NAME: PSNM

BRANCH: CSE

DATE: 12/03/2021

SUBJECT CODE: 203191251

TOTAL MARKS: 40

Sr.No.		Marks
Q.1	(A) Multiple Choice Questions	05
Q.I	(1) For two variables $u$ and $v$ , if an increment in values of $u$ ensures a decrement in values of $v$ then correlation is said to be	
	(2) Which of the following is a transcendental equation? (a) $x^3 + 2x^2 + x - 1 = 0$ (b) $x^2 - 2x - 1 = 0$ (c) $\cos x + xe^x = 0$ (d) All of the above	
	(3) If the amount of change in one variable tends to bear a constant ratio to the amount of change in the other variable then the correlation is said to be  (a) positive correlation (b) Simple correlation (c) Negative correlation (d) None of these	
	(4) $E\nabla = \frac{1}{2}$ (a) $\Delta$ (b) $\nabla E$ (c) (a) and (b) both (d) None of the above	
	<ul> <li>(5) As soon as a new value of a variable is found by iteration, it is used immediately in the following equations, this method is called</li> <li>(a) Gauss Seidel Method (b) Gauss Jacobi Method</li> <li>(c) Gauss Elimination Method (d) None of the above</li> </ul>	
<u> </u>	(B) Compulsory Question	05
		15.4
	(1)(1 + $\Delta$ )(1 - $\nabla$ )= (2)The first divided difference for argument $x_0$ and $x_1$ is	
· (1)	(3) If nth difference polynomial of degree n is zero.(True/False)	To garden her
	c - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	<b>1</b>
	(4)Process of using known to estimate unknown to (5)Write Iterative formula for finding the cube root of N by Newton – Raphson method.	
117 118	Illethou.	
Q.2	Attempt any four (Short Questions)	12
<b>V</b> :-	(1) From the following data, Calculate the value n. $\sum x = 4, \sum y = 4, \sum x^2 = 44, \sum y^2 = 44 \sum xy = -40, r = -1$	

	A / 31 11	1 11	_						C 42					
	(2) Using Newto	on's divi	ded diffe	rence int	erpolation	n, compi	ute the va	alue of f	(4)than					
	1	Delow:			2				8					
	y = f(x)	-	1		5	·	<u>/.</u>	1	4					
	$\left  \frac{y-f(x)}{x} \right $		1		5		5 .		4	•				
	(3) Perform thre	e iteration	ons of the	Bisection	on metho	d to obta	in the ro	ot of the	equation					
	$2\sin x - x = 0$	up to th	ree decir	nal place	s.	-								
	(4)A rocket is launched from the ground. Its acceleration is registered during the first													
	80 seconds and is given as follows.									- *				
	t(s) 0	10	20	30	40	50	60	70 .	80					
	$\begin{vmatrix} a(m) \\ a(n) \end{vmatrix}$ 30	31.63	33.34	35,47	37.75	40.33	43.25	46.69	50.67	1				
	(S <sup>2</sup> )													
	By Simpson's $\frac{1}{3}$ rule, find the velocity t=80s.													
5, 1					•			1.	<u> </u>	•				
	(5)Obtain the cu	bic poly	nomial w	hich tak	es the va	lue			×					
	X 0 1	2	3				•							
	Y 1 2	1	0											
Q.3	Attempt any two													
Q.3					1	D 10	1100	.1	,,,,,	08				
M = 1	(1)Find the num data	ber of m	en gettin	g wages	between	Ks.10 an	ia 12 troi	n the fol	lowing	(pic				
	Wages in Rs.	0-10		10-20	-:-	20-30		30-40	10					
	Frequency	9		30	· · ·	35		42	jı'					
	11 requeries   9   30   33   42									Acres de la constante de la co				
	(2) Find the real	root of t	he equat	ionlog	$x - \cos$	r = 0 co	preet to	four dec	imal	7,100				
	places.				القيد استخار	. 0,00	31100110	iota dec	illiai - j	100				
	(3) The following data regarding the heights (y) and weights (x) of 100 college													
	(3)The following	g data re	garding r	he heigh	ts (v) and	weights	(x) of 1	00 collec	70	Part of places				
	(3)The following	g data re	garding t	he heigh	ts (y) and	weights	s (x) of 1	00 colleg	ge	White sheet				
	students are give	en:		,		_	_	,,		9.00 m m m m m m m m m m m m m m m m m m				
	students are give $\sum x = 15000, \sum x = 15000$	$\sum x^2 = 2$	272500,	$\sum xy =$	1022250	$0, \sum y =$	6800,	$\nabla y^2 = 40$	63025					
	students are give $\sum x = 15000$ , $\sum x = 15000$ Find the coefficients	en: $\sum x^2 = 2$ ent of co	272500 .	$\sum xy =$	1022250	$0, \sum y =$	6800,	$\nabla y^2 = 40$	63025					
	students are give $\sum x = 15000$ , $\sum x = 15000$ Find the coefficing regression of here	en: $\sum x^2 = 2$ ent of could ght and	272500 , orrelation	$\sum xy = $ between	102225( n height a	$\int_{0}^{\infty} \int_{0}^{\infty} y =$ and weig	6800 ,∑ ht and al	$\nabla y^2 = 40$	63025					
Q.4	students are give $\sum x = 15000$ , $\sum x = 15000$ Find the coefficing regression of here	en: $\sum x^2 = 2$ ent of could ght and	272500 , orrelation	$\sum xy = $ between	102225( n height a	$\int_{0}^{\infty} \int_{0}^{\infty} y =$ and weig	6800 ,∑ ht and al	$\sum y^2 = 40$ so the ec	53025 Juation of	05				
Q.4	students are give $\sum x = 15000, \sum_{i=1}^{\infty} x_i = 150000, \sum_{i=1}^{\infty} x_i = 1500000, \sum_{i=1}^{\infty} x_i = 150000, \sum_{i=1}^{\infty} x_i = 150000, \sum_{i=1}^{\infty} x_i = 1500000, \sum_{i=1}^{\infty} x_i = 15000000, \sum_{i=1}^{\infty} x_i = 1500000000, \sum_{i=1}^{\infty} x_i = 150000000, \sum_{i=1}^{\infty} x_i = 15000000000000000, \sum_{i=1}^{\infty} x_i = 1500000000000000000000000000000000000$	en: $\sum x^2 = 2$ ent of cought and enge's for	272500 , orrelation	$\sum xy = $ between	102225( n height a	$\int_{0}^{\infty} \int_{0}^{\infty} y =$ and weig	6800 ,∑ ht and al	$\nabla y^2 = 40$	53025 Juation of	05				
Q.4	students are give $\sum x = 15000$ , $\sum x = 15000$ , Find the coefficing regression of heiotopy (A) Using Lagran partial fractions.	en: $\sum x^2 = 2$ ent of conglight and enge's for	272500 prelation weight.	$\sum xy = \frac{1}{x}$ between	1022250 n height a	$\int_{0}^{\infty} y = \frac{1}{x}$ and weig $\int_{0}^{\infty} \frac{3x^{2}}{(x-1)(x-1)} dx$	6800, $\sum_{\text{ht and al}} \frac{1}{1+x+1}$	$\sum y^2 = 40$ so the economic as a sum	63025 quation of	05				
Q.4	students are give $\sum x = 15000$ , $\sum x = 15000$ , Find the coefficing regression of her (A) Using Lagrat partial fractions.  (B) Fit a straight	en: $\sum x^2 = 2$ ent of conglight and enge's for	272500 prelation weight.	$\sum xy = \frac{1}{x}$ between	1022250 n height a	$\int_{0}^{\infty} y = \frac{1}{x}$ and weig $\int_{0}^{\infty} \frac{3x^{2}}{(x-1)(x-1)} dx$	6800, $\sum_{\text{ht and al}} \frac{1}{1+x+1}$	$\sum y^2 = 40$ so the economic as a sum	63025 quation of	05				
Q.4 ,	students are given $\sum x = 15000$ , $\sum x = 15000$ , $\sum x = 15000$ . Find the coefficing regression of here.  (A) Using Lagrate partial fractions.  (B) Fit a straight $\sum x = 1000$	en: $\sum x^2 = 2$ ent of consight and onge's for the to the	272500 prelation weight.  Thula, expression following the following the second	$\sum xy = \frac{1}{x}$ between	1022250 n height a	$\int_{0}^{\infty} y = \frac{1}{x}$ and weig $\int_{0}^{\infty} \frac{3x^{2}}{(x-1)(x-1)} dx$	6800, $\sum_{\text{ht and al}}$ ht and al $\frac{1+x+1}{-2)(x-3)}$ alue of y	$\sum y^2 = 40$ so the economic as a sum	63025 quation of					
Q.4	students are give $\sum x = 15000$ , $\sum x = 15000$ , $\sum x = 15000$ . Find the coefficing regression of here.  (A) Using Lagrate partial fractions.  (B) Fit a straight	en: $\sum x^2 = 2$ ent of consight and onge's for the to the	272500 prelation weight.	$\sum xy = \frac{1}{x}$ between	1022250 n height a	$\int_{0}^{\infty} y = \frac{1}{x}$ and weighted $\int_{0}^{\infty} \frac{3x^{2}}{(x-1)(x-1)} dx$ $\int_{0}^{\infty} \frac{3x^{2}}{(x-1)(x-1)} dx$	6800, $\sum_{\text{ht and al}}$ ht and al $\frac{1+x+1}{-2)(x-3)}$ alue of y	$\sum y^2 = 40$ so the economic as a sum at x=2.5	63025 quation of					
Q.4	students are given $\sum x = 15000$ , $\sum x = 15000$ , $\sum x = 15000$ . Find the coefficing regression of here.  (A) Using Lagrate partial fractions.  (B) Fit a straight $\sum x = 0$ . $\sum x = 1$ .	en: $\sum x^2 = 2$ ent of cought and ange's for the coupling to the	272500 prelation weight.  rmula, example follow  1 1.8	$\sum xy = \frac{1}{2}$ spress the ing data.	1022250 n height a e functio Also, es 2 3.3	$\int_{0}^{\infty} y = \frac{1}{x}$ and weighted $\int_{0}^{\infty} \frac{3x^{2}}{(x-1)(x-1)} dx$ estimate v $\int_{0}^{\infty} \frac{3}{4} dx$	6800, $\sum_{\text{ht and al}}$ ht and al $\frac{+x+1}{-2)(x-3)}$ alue of y	$\sum y^2 = 40$ so the economic as a sum of at x=2.5 $4$ $6.3$	53025 quation of of					
Q.4	students are given $\sum x = 15000$ , $\sum x = 15000$ , $\sum x = 15000$ . Find the coefficing regression of height (A) Using Lagratial fractions.  (B) Fit a straight $\sum x = 0$ . $\sum x = 1000$ .	en: $\sum x^2 = 2$ ent of consight and ange's for the lowing s	272500 prelation weight.  Timula, expression of the following system system of the following system syst	$\sum xy = \frac{1}{2}$ spress the ing data.	1022250 n height a e functio Also, es 2 3.3	$\int_{0}^{\infty} y = \frac{1}{x}$ and weighted $\int_{0}^{\infty} \frac{3x^{2}}{(x-1)(x-1)} dx$ estimate v $\int_{0}^{\infty} \frac{3}{4} dx$	6800, $\sum_{\text{ht and al}}$ ht and al $\frac{+x+1}{-2)(x-3)}$ alue of y	$\sum y^2 = 40$ so the economic as a sum of at x=2.5 $4$ $6.3$	53025 quation of of	05				
Q.4	students are given $\sum x = 15000$ , $\sum x = 15000$ , $\sum x = 15000$ . Find the coefficing regression of here.  (A) Using Lagrate partial fractions.  (B) Fit a straight $\sum x = 1000$	en: $\sum x^2 = 2$ ent of consight and ange's for the lowing s	272500 prelation weight.  Timula, expression of the following system system of the following system syst	$\sum xy = \frac{1}{2}$ spress the ing data.	1022250 n height a e functio Also, es 2 3.3	$\int_{0}^{\infty} y = \frac{1}{x}$ and weighted $\int_{0}^{\infty} \frac{3x^{2}}{(x-1)(x-1)} dx$ estimate v $\int_{0}^{\infty} \frac{3}{4} dx$	6800, $\sum_{\text{ht and al}}$ ht and al $\frac{+x+1}{-2)(x-3)}$ alue of y	$\sum y^2 = 40$ so the economic as a sum of at x=2.5 $4$ $6.3$	53025 quation of of					
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