

QP Code: D 123660		Total Pages: 1	Name:
		Register No.	
<b>SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION, APRIL 2025</b>			
<b>BCA</b>			
<b>BCA2FS112 Data Analysis using Spread Sheet</b>			
<b>2024 Admission onwards</b>			
<b>Maximum Time :1.5 Hours</b>		<b>Maximum Marks :50</b>	
<b>Section A</b>			
<b>All Questions can be answered. Each Question carries 2 marks (Ceiling : 16 Marks)</b>			
1	Describe about data analysis tools.		
2	Describe Data Analysis Expression.		
3	Describe about date and time functions.		
4	Describe about sorting and filtering of data.		
5	Describe about data cleaning.		
6	Explain about sparklines and data bars.		
7	How can we find median and mode?		
8	Describe combination charts.		
9	Explain any two financial functions.		
10	Define regression.		
<b>Section B</b>			
<b>All Questions can be answered. Each Question carries 6 marks (Ceiling : 24 Marks)</b>			
11	Explain about components or user interface of spread sheet.		
12	Explain about various text functions available on spreadsheet.		
13	Differentiate INDEX and MATCH.		
14	Explain about the features of Excel.		
15	Explain about creating, grouping and summarizing data in pivot tables.		
<b>Section C</b>			
<b>Answer any ONE. Each Question carries 10 marks (1x10=10 Marks)</b>			
16	Explain about different types of charts. How can we create and customize charts.		
17	Explain about descriptive statistics and data analysis.		

**610506**

QP Code: D 123075		Total Pages: 2	Name:										
			Register No.										
<b>SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION, APRIL 2025</b>													
<b>BCA</b>													
<b>BCA2CJ103 / BCA2MN102 - Numerical Analysis and Optimization Techniques</b>													
<b>2024 Admission onwards</b>													
<b>Maximum Time : 2 Hours</b>			<b>Maximum Marks :70</b>										
<b>Section A</b>													
<b>All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)</b>													
1	State Simpson's (1/3) <sup>rd</sup> rule.												
2	State the formula for bisection method												
3	Write Newton Raphson formula.												
4	Write the equation of Lagrange's interpolating polynomial through $(x_0, y_0)$ and $(x_1, y_1)$												
5	Using Trapezoidal rule find $\int_0^2 x^2 dx$												
6	Write Simpson's Three- Eighths Rule formula.												
7	What are the functions of O.R?												
8	What are unbalanced transportation problems?												
9	What are slack and surplus variables?												
10	Write short notes on LCM.												
<b>Section B</b>													
<b>All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)</b>													
11	Given $f(2) = 5, f(2.5) = 6$ . Evaluate $f(2.2)$ using Lagrange's method												
12	Use Newton-Raphson method to find a root of the equation $x^3 - 2x - 5 = 0$												
13	Using Newton's forward interpolation formula find the cubic polynomial for the data  <table style="margin-left: 40px; border: none;"> <tr> <td>X:</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>Y:</td> <td>1</td> <td>2</td> <td>1</td> <td>10</td> </tr> </table>			X:	0	1	2	3	Y:	1	2	1	10
X:	0	1	2	3									
Y:	1	2	1	10									
14	Find the approximate value of $\int_0^1 \frac{1}{1+x} dx$ using Trapezoidal rule												
15	AB Ltd manufactures two products A and B. To manufacture one unit of A, two units of material X and 4 units of material Y are required. To manufacture one unit of B, three units of X and two units of Y is required. As the raw material X is in short supply, not more than 16 units of X can be used. At least 16 units of material Y must be used in order to meet												

**610392**

	committed sales of A and B. Cost per unit of material X and Y are Rs. 2.5 and Rs. 25 respectively. You are required to formulate mathematical model																														
16	<p>Solve the linear programming problem graphically</p> $\text{Max } z = 4x_1 + 3x_2$ <p>Subject to the constraints</p> $2x_1 + x_2 \leq 1000$ $x_1 + x_2 \leq 800$ $x_1 \leq 400, x_2 \leq 700$ $x_1 \geq 0, x_2 \geq 0$																														
17	Distinguish between Assignment problem and Transportation problem.																														
18	<p>Find the initial solution of the following Transportation problem using Vogel's Approximation method</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th><math>D_1</math></th> <th><math>D_2</math></th> <th><math>D_3</math></th> <th><math>D_4</math></th> <th>Supply</th> </tr> </thead> <tbody> <tr> <th><math>O_1</math></th> <td>190</td> <td>300</td> <td>500</td> <td>100</td> <td>70</td> </tr> <tr> <th><math>O_2</math></th> <td>700</td> <td>300</td> <td>400</td> <td>600</td> <td>90</td> </tr> <tr> <th><math>O_3</math></th> <td>400</td> <td>100</td> <td>600</td> <td>200</td> <td>180</td> </tr> <tr> <th>Demand</th> <td>50</td> <td>80</td> <td>70</td> <td>140</td> <td></td> </tr> </tbody> </table>		$D_1$	$D_2$	$D_3$	$D_4$	Supply	$O_1$	190	300	500	100	70	$O_2$	700	300	400	600	90	$O_3$	400	100	600	200	180	Demand	50	80	70	140	
	$D_1$	$D_2$	$D_3$	$D_4$	Supply																										
$O_1$	190	300	500	100	70																										
$O_2$	700	300	400	600	90																										
$O_3$	400	100	600	200	180																										
Demand	50	80	70	140																											
<b>Section C</b>																															
<b>Answer any ONE .Each Question carries 10 marks (1x10=10 Marks)</b>																															
19	<p>Use the simplex method to solve LPP</p> $\text{Max } z = 3x_1 + 2x_2$ <p>Subject to the constraints :</p> $x_1 + x_2 \leq 4$ $x_1 - x_2 \leq 2$ $x_1, x_2 \geq 0$																														
20	<p>Solve the following assignment problem for minimizing cost</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>I</th> <th>II</th> <th>III</th> <th>IV</th> </tr> </thead> <tbody> <tr> <th>A</th> <td>32</td> <td>26</td> <td>35</td> <td>38</td> </tr> <tr> <th>B</th> <td>27</td> <td>24</td> <td>26</td> <td>32</td> </tr> <tr> <th>C</th> <td>28</td> <td>22</td> <td>25</td> <td>34</td> </tr> <tr> <th>D</th> <td>10</td> <td>10</td> <td>16</td> <td>16</td> </tr> </tbody> </table>		I	II	III	IV	A	32	26	35	38	B	27	24	26	32	C	28	22	25	34	D	10	10	16	16					
	I	II	III	IV																											
A	32	26	35	38																											
B	27	24	26	32																											
C	28	22	25	34																											
D	10	10	16	16																											

QP Code: D 122589		Total Pages: 1	Name:
			Register No.
<b>SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION, APRIL 2025</b>			
<b>BCA</b>			
<b>BCA2CJ101- Fundamentals of Programming ( C Language)</b>			
<b>2024 Admission onwards</b>			
<b>Maximum Time :2 Hours</b>		<b>Maximum Marks :70</b>	
<b>Section A</b>			
<b>All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)</b>			
1	List out the basic data types.		
2	Differentiate increment and decrement operators.		
3	Explain about mathematical functions.		
4	Describe the working of conditional operator.		
5	Describe about nesting of functions.		
6	Explain about operator precedence.		
7	Explain about the syntax of for loop.		
8	How can we read strings?		
9	Define recursion.		
10	Explain about function definition.		
<b>Section B</b>			
<b>All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)</b>			
11	Explain the structure of C program with an example.		
12	Explain about different types of looping structures.		
13	Explain about string handling functions.		
14	Differentiate structure and union.		
15	How can we pass arrays to functions?		
16	Describe about various categories of functions.		
17	Explain the concept of pointers.		
18	Explain about dynamic memory allocation.		
<b>Section C</b>			
<b>Answer any ONE .Each Question carries 10 marks (1x10=10 Marks)</b>			
19	Explain in detail about C tokens.		
20	Explain about 2D arrays in detail.		

**610164**

QP Code: D 122739		Total Pages:2		Name:					
				Register No.					
<b>SECOND SEMESTER (CUFYUGP) DEGREE EXAMINATION APRIL 2025</b>									
(BCA)									
BCA2CJ102 / BCA2MN101 - Statistical Foundation for Computer Applications									
2024 Admission onwards									
Maximum Time : 2 Hours				Maximum Marks :70					
<b>Section A</b>									
All Questions can be answered. Each Question carries 3 marks (Ceiling : 24 Marks)									
1	Define primary and secondary data.								
2	Find the geometric mean of 2, 3, 4								
3	Calculate mean : 5, 23, 45, 50, 92, 40, 52, 16								
4	State the principle of least squares.								
5	What do you mean by regression?								
6	Define point estimation.								
7	Give classical definition of probability.								
8	What is sample space? Write the sample space when two coins are tossed.								
9	Define Poisson distribution.								
10	Given the p.m.f of a random variable $f(x) = kx, x = 1,2,3,4,5$ . Find the value of k.								
<b>Section B</b>									
All Questions can be answered. Each Question carries 6 marks (Ceiling : 36 Marks)									
11	Find Quartile deviation for the following data								
	Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	
	No. of Students	2	4	5	9	10	5	15	
12	Calculate variance for the following data								
	Marks	:	0-20	20-40	40-60	60-80	80-100		
	No. of students	:	10	15	30	35	10		
13	Find rank correlation for the following data								
	X	50	60	70	65	80	85	90	92
	Y	60	70	75	63	80	82	86	90
14	Given the following data								
		X	Y						
	Arithmetic Mean	36	85						
	Standard Deviation	11	8						
	Correlation coefficient between X and Y = 0.66								
	(i) Find the two regression equations								
	(ii) Estimate the value of x when y = 75								

610278

15	The probability that A solves a problem is $\frac{2}{5}$ and the probability that B solves it is $\frac{3}{8}$ . If they try independently, find the probability that (i) both solve the problem (ii) none solves the problem.
16	A card is drawn from a pack of 52 cards. What is the probability that it is a (a) Face card, (b) Ace, (c) Red king, (d) Club or heart, (e) Spade queen
17	4 dice are thrown 162 times. The occurrence of '2 or 3' is considered a success. In how many throws, do you expect (i) exactly 2 success (ii) at least 1 success.
18	Define Normal distribution and state its properties.
<b>Section C</b>	
<b>Answer any ONE .Each Question carries 10 marks (1x10=10 Marks)</b>	
19	There are 2 urns containing 5 white and 4 black balls and the other containing 6 white and 5 black balls. One urn is chosen at random and one ball is drawn. If it is white, what is the probability that the urn selected is the first?
20	The scores in a test follow the normal law with mean 55 and S.D 12. Find the percentage of students scoring (i) above 75 (ii) between 65 and 75 (iii) between 48 and 70 (iv) below 40