



SOMAIYA

VIDYAVIHAR UNIVERSITY

Dr. Shantilal K. Somaiya School of Commerce and Business Studies

QUESTION PAPERS

BRANCH: Bachelor of Commerce (HONS)	SEM: II
ATKT	NOV-2024 JUN-2025

Sr. No.	Subject	Available
1.	231U77K201 – Statistical Analysis & Optimization	✓
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		



LIBRARY



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Semester (December 2023 to April 2024)		
Examination: End Semester Examination April 2024 (UG Programmes)		
Programme code: 77 Programme: FYBCOM HONS	Class: FY	Semester: II
Name of the Constituent College: S K Somaiya College (SKSC)	Name of the Department : Commerce	
Course Code: 231U77K201	Name of the Course: Statistical Analysis and Optimization	
Duration : 2 Hrs.	Maximum Marks : 60	
Instructions: 1) All Questions are compulsory. 2) Figures to the right indicate full marks. 3) Use of SIMPLE Calculator is allowed. 4) Graph paper will be provided on request.		

Question No.		Max. Marks	Co Attainment																		
Q.1. A	1) Illustrate Frequency of compounding and Effective annual rate. 2) Illustrate string functions in Excel.	03 04	CO1																		
B	Three different techniques namely medication, exercises and special diet are randomly assigned to (individuals diagnosed with high blood pressure) lower the blood pressure. After four weeks the reduction in each person's blood pressure is recorded. Test at 5% level, whether there is significant difference in mean reduction of blood pressure among the three techniques. <table border="1"><tr><td>Medication.</td><td>10</td><td>12</td><td>9</td><td>15</td><td>13</td></tr><tr><td>Exercise</td><td>6</td><td>8</td><td>3</td><td>0</td><td>2</td></tr><tr><td>Diet</td><td>5</td><td>9</td><td>12</td><td>8</td><td>4</td></tr></table> Tabulated value : 3.8853	Medication.	10	12	9	15	13	Exercise	6	8	3	0	2	Diet	5	9	12	8	4	08	CO4
Medication.	10	12	9	15	13																
Exercise	6	8	3	0	2																
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	OR																				
Q.1. C	1) What is ANOVA? Explain its types. 2) Write steps in Excel to do the following : Name of students and marks scored in 7 subjects are entered in a worksheet from A1 to H11 of which first row contains headings. Find total, average, percentage in column I to K. Give proper headings. Also find the student scoring highest and lowest marks. In column k display percentage with 2 decimal places.	03 04	CO4 CO1																		
D	1) How will you do the following in Excel: i) Hide column C ii) Insert a row above row no 10 iii) Delete column D iv) make a copy of your sheet1 2) Mr. Ashok Rane borrowed Rs. 20,000 at 4% p.a. compounded annually for 10 years. Find the periodic payment he has to make.	04 04																			

Q 2	Find Mean, Median and Mode for following data	15	CO2																														
	<table><tr><td>CI</td><td>20-25</td><td>25-30</td><td>30-35</td><td>35-40</td><td>40-45</td><td>45-50</td><td>50-55</td><td>55-60</td><td>60-65</td></tr><tr><td>F</td><td>21</td><td>45</td><td>67</td><td>43</td><td>23</td><td>46</td><td>74</td><td>62</td><td>36</td></tr></table>	CI	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	F	21	45	67	43	23	46	74	62	36												
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Q 2 A	Two independent samples were collected, for the first sample of 42 units, the mean was 32.3 and standard deviation 3. For the second sample of 57 units, mean was 34 and standard deviation 4. Using 5% level of significance, test whether there is the difference in both means.	08	CO4																														
Q 2 B	Find coefficient of variation for following data, 85,54,56,67,87,65,43	07	CO2																														
Q 3	Solve following Linear Programming problem using Simplex method. Maximize $Z= 5x_1+7x_2$ Subject to, $x_1+x_2\leq 70$ $x_1+2x_2\leq 100$ $2x_1+x_2\leq 120$ $x_1,x_2\geq 0$	15	CO3																														
	OR																																
Q 3	Find IBFS for following transportation schedule using NWCR, LCM and VAM method.	15	CO3																														
	<table><tr><td></td><td>P</td><td>Q</td><td>R</td><td>S</td><td>Supply</td></tr><tr><td>A</td><td>38</td><td>60</td><td>100</td><td>24</td><td>7</td></tr><tr><td>B</td><td>140</td><td>60</td><td>80</td><td>120</td><td>10</td></tr><tr><td>C</td><td>80</td><td>20</td><td>120</td><td>40</td><td>18</td></tr><tr><td>Demand</td><td>5</td><td>8</td><td>7</td><td>15</td><td></td></tr></table>		P	Q	R	S	Supply	A	38	60	100	24	7	B	140	60	80	120	10	C	80	20	120	40	18	Demand	5	8	7	15			
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Q.4. A.	Answer the following concepts (Any 3 out of 5)	15	CO 1,2,3,4																														
1.	Explain the string functions : upper(),mid(),len(),proper(),trim()																																
2.	Illustrate financial functions of excel.: rate(),pv(),fv()																																
3.	Find optimal assignment,																																
	<table><tr><td></td><td>P</td><td>Q</td><td>R</td><td>S</td></tr><tr><td>A</td><td>60</td><td>50</td><td>40</td><td>45</td></tr><tr><td>B</td><td>40</td><td>45</td><td>55</td><td>30</td></tr><tr><td>C</td><td>55</td><td>70</td><td>60</td><td>50</td></tr><tr><td>D</td><td>45</td><td>45</td><td>40</td><td>45</td></tr></table>		P	Q	R	S	A	60	50	40	45	B	40	45	55	30	C	55	70	60	50	D	45	45	40	45							
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C	55	70	60	50																													
D	45	45	40	45																													
4.	Explain RIM condition																																
5.	For population mean 56 and sample mean 45 with standard deviation 13 of 100 observations. Write Null and alternate hypothesis also define the type of hypothesis with respective formula.																																