SOMAIYA
VIDYAVIHAR UNIVERSITY

Somaiya School of Humanities and Social Science

QUESTION PAPERS

BRANCH: Bachelor of Science (Economics)	SEM: II
	APR-2025

Sr. No.	Subject	Available
1.	131U31C203 – Statistics for Economics II	
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

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VIDYAVIHAR UNIVERSITY

April 2025 Examination: End Semester Examination (UG/PG Programmes)		
Programme code: **Programme: B.sc Economics**	**Class:** FY.B.SC	**Semester:** II
Name of the Constituent College: S K Somaiya	**Name of the Department:** Economics	
Course Code:131U31C203	**Name of the Course: Statistics For Economics-II**	
Duration : 2 Hr.	**Maximum Marks : 60**	
Instructions: 1)Draw neat diagrams 2)Assume suitable data if necessary 3)		

<table>
<tr><th>Question No.</th><th></th><th>Max. Marks</th><th>CO</th></tr>
<tr><td>Q1</td><td>A] Perform a Two-way Anova on the given data
Treatment
<table>
<tr><th>Plot of land</th><th>A</th><th>B</th><th>C</th><th>D</th></tr>
<tr><td>I</td><td>38</td><td>40</td><td>41</td><td>39</td></tr>
<tr><td>II</td><td>45</td><td>42</td><td>49</td><td>36</td></tr>
<tr><td>III</td><td>40</td><td>38</td><td>42</td><td>42</td></tr>
</table>
Use 5% l.o.s</td><td>7M</td><td>CO 1</td></tr>
<tr><td></td><td>B] Strength test carried out on samples of two Yarn spun to the same count gave the following results
<table>
<tr><th></th><th>Sample size</th><th>Sample mean</th><th>Sample variance</th></tr>
<tr><td>Yarn A</td><td>4</td><td>52</td><td>42</td></tr>
<tr><td>Yarn b</td><td>9</td><td>42</td><td>56</td></tr>
</table>
The strength are expressed in pounds. Is the difference in mean strength significant of real difference in mean strength of sources from which the sample drawn ? at 5% l.o.s

OR

C] From the data given below about the treatment of 250 patients suffering from a disease, state whether the new treatment is superior to the conventional treatment
No. of patient
<table>
<tr><th>Treatment</th><th>Favourable</th><th>Not Favourable</th><th>Total</th></tr>
<tr><td>New</td><td>140</td><td>30</td><td>170</td></tr>
<tr><td>Conventional</td><td>60</td><td>20</td><td>80</td></tr>
<tr><td>Total</td><td>200</td><td>50</td><td>250</td></tr>
</table></td><td>8M

7M</td><td>CO 1

CO 2</td></tr>
</table>

	Use 5% l.o.s D] The Mean height obtained from a random sample of size 100 is 64 inches. The standard deviation of the distribution of height of the population is known to be 3 inches. Test the statement that the ,mean height of the population is 67 inches at 5% l.o.s	8M	CO 2
Q 2	A] Four jobs I,II,III,IV,V are to be processed on three Machines A,B and C in the order ABC	7M	CO 3

Processing Time (Hrs)

Jobs	Machine A	Machine B	Machine C
I	14	6	24
II	17	8	14
III	18	10	14
IV	23	9	9

B] Suggest optimum assignment of 4 workers A,B,C,D to 4 jobs I,II,III,IV. The time taken by different workers in completing the different jobs is given below. — 8M — CO 3

Jobs

	I	II	III	IV
A	8	10	12	16
B	11	12	15	8
C	9	6	5	14
D	15	14	9	7

Also find the total time taken in completing the jobs.

OR

C]) Calculate Chain base index number for the following — 7M — CO 3

Commodity	2002	2003	2004	2005
A	12	18	25	30
B	15	22	27	35
C	25	32	38	40

D] Calculate 3 yearly moving average for the following time series

Year	Time series
1996	53.6
1997	48.4
1998	45.6
1999	51.2
2000	46.8
2001	42.5
2002	40.7
2003	45.1
2004	39.6
2005	38.8

8M CO 3

Q 3

A] Estimator of Exponential Distribution — 7M CO 4

B] Find Simplex Method — 8M CO 4

Max Z=100X+80X

Subject to constraints:

$6X_1+4X_2 \leq 7200$

$2X_1+4X_2 \leq 4000$

OR

C] A company has 3 plants P1,P2 and P3. It supplies to 4 warehouse w1,w2 ,w3 and w4. Cost per unit and demand -supply data is as given below. Find optimal solution i) North-West ii) Least Cost Method — 7M CO 4

	W1	W2	W3	W4	Capacity
P1	10	12	18	22	400
P2	22	18	28	26	300
P3	30	36	52	40	300
Demand	50	150	350	450	

	D] Find solution of Assignment problem using Maximization Jobs I: A 42, B 30, C 30, D 24 | II: A 35, B 25, C 25, D 20 | III: A 28, B 20, C 20, D 16 | IV: A 21, B 15, C 15, D 12	8M	CO 4
Q 4	Answer 3 Out of 5	15M	
	A] Types of Error in Hypothesis		CO 1
	B] One Way Anova		CO 2
	C] Transportation Problem		CO 3
	D] Jobs sequencing		CO 4
	E] Time Estimate in Network Analysis		CO 3