



# SOMAIYA

## VIDYAVIHAR UNIVERSITY

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

### QUESTION PAPERS

|                                               |          |
|-----------------------------------------------|----------|
| BRANCH: Bachelor of Commerce (Data Analytics) | SEM: II  |
| ATKT                                          | APR-2026 |

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



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**Semester April 2026**

**Examination: End Semester Examination April 2026 (UG Programmes)**

|                                                       |                                                 |                                          |                     |
|-------------------------------------------------------|-------------------------------------------------|------------------------------------------|---------------------|
| <b>Programme code: 77</b>                             |                                                 | <b>Class: FY</b>                         | <b>Semester: II</b> |
| <b>Programme: FYBCOM with DS</b>                      |                                                 |                                          |                     |
| <b>Name of the Constituent College: SKSCBS</b>        |                                                 | <b>Name of the Department : Commerce</b> |                     |
| <b>Course Code: 231U77K201</b>                        | <b>Name of the Course: Statistical Analysis</b> |                                          |                     |
| <b>Duration : 2 Hrs.</b>                              | <b>Maximum Marks : 60</b>                       |                                          |                     |
| <b>Instructions: 1) All Questions are compulsory.</b> |                                                 |                                          |                     |
| <b>2) Figures to the right indicate full marks.</b>   |                                                 |                                          |                     |
| <b>3) Use of SIMPLE Calculator is allowed.</b>        |                                                 |                                          |                     |
| <b>4) Graph paper will be provided on request.</b>    |                                                 |                                          |                     |

| Question No. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Max. Marks | Co Attainment |    |    |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------|----|----|----|----|----------|---|---|---|---|---|------|---|---|----|---|---|----|--|
| Q.1. A       | 1) Illustrate Frequency of compounding and Effective annual rate.<br>2) Illustrate string functions in Excel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 03<br>04   |               |    |    |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
| 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.<br><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> | Medication | 10            | 12 | 9  | 15 | 13 | Exercise | 6 | 8 | 3 | 0 | 2 | Diet | 5 | 9 | 12 | 8 | 4 | 08 |  |
| Medication   | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12         | 9             | 15 | 13 |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
| Exercise     | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8          | 3             | 0  | 2  |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
| Diet         | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9          | 12            | 8  | 4  |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
|              | OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |               |    |    |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
| Q.1. C       | 1) What is ANOVA? Explain its types.<br>2) Write steps in Excel to do the following :<br>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<br>04   |               |    |    |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
| D            | 1) How will you do the following in Excel:<br>i) Hide column C<br>ii) Insert a row below row number 12<br>iii) Delete 5 <sup>th</sup> row D<br>iv) make a copy of your sheet1<br>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<br>04   |               |    |    |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |               |    |    |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |
| Q 2          | Prove that median lies between mean and mode for following data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 15         | CO2           |    |    |    |    |          |   |   |   |   |   |      |   |   |    |   |   |    |  |

|         |                                                                                                                                                                                                                                                                                    |       |       |       |       |        |       |       |       |       |    |               |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|--------|-------|-------|-------|-------|----|---------------|
|         | 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    |    |               |
|         | OR                                                                                                                                                                                                                                                                                 |       |       |       |       |        |       |       |       |       |    |               |
| 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 standard deviation for following data,<br>85,54,56,67,87,65,43                                                                                                                                                                                                                |       |       |       |       |        |       |       |       |       | 07 | CO2           |
|         |                                                                                                                                                                                                                                                                                    |       |       |       |       |        |       |       |       |       |    |               |
| Q 3     | Solve following Linear Programming problem using Simplex method.<br>Maximize $Z= 5x_1+7x_2$<br>Subject to,<br>$x_1+x_2\leq 70$<br>$x_1+2x_2\leq 100$<br>$2x_1+x_2\leq 120$<br>$x_1,x_2\geq 0$                                                                                      |       |       |       |       |        |       |       |       |       | 15 | CO3           |
|         | OR                                                                                                                                                                                                                                                                                 |       |       |       |       |        |       |       |       |       |    |               |
| Q 3     | Find IBFS for following transportation schedule using NWCR, LCM and VAM method.                                                                                                                                                                                                    |       |       |       |       |        |       |       |       |       | 15 | CO3           |
|         |                                                                                                                                                                                                                                                                                    | 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    |        |       |       |       |       |    |               |
| Q.4. A. | Answer the following concepts (Any 3 out of 5)                                                                                                                                                                                                                                     |       |       |       |       |        |       |       |       |       | 15 | CO<br>1,2,3,4 |
| 1.      | Give formula to calculate future and present value of annuity (both types)                                                                                                                                                                                                         |       |       |       |       |        |       |       |       |       |    |               |
| 2.      | Illustrate financial functions of excel.: rate(),pv(),fv()                                                                                                                                                                                                                         |       |       |       |       |        |       |       |       |       |    |               |
| 3.      | Find optimal assignment,                                                                                                                                                                                                                                                           |       |       |       |       |        |       |       |       |       |    |               |
|         |                                                                                                                                                                                                                                                                                    | P     | Q     | R     | S     |        |       |       |       |       |    |               |
|         | A                                                                                                                                                                                                                                                                                  | 60    | 50    | 40    | 45    |        |       |       |       |       |    |               |
|         | B                                                                                                                                                                                                                                                                                  | 40    | 45    | 55    | 30    |        |       |       |       |       |    |               |
|         | 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.                                                                                          |       |       |       |       |        |       |       |       |       |    |               |
|         |                                                                                                                                                                                                                                                                                    |       |       |       |       |        |       |       |       |       |    |               |