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24PAU206/ 22PAU208N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION DECEMBER 2025
(Second Semester)

Branch – **COMMERCE (PROFESSIONAL ACCOUNTING)**

STATISTICS FOR BUSINESS

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	The statistical data are analysed by using a) Statistical methods b) Algebric method c) Numerical method d) Geometric method	K1	CO1
	2	Statistics are aggregate of _____. a) Facts b) Trend c) Subject d) Value	K2	CO1
2	3	_____ is the difference between the values of the first and third quartiles. a) Quartiles b) Percent c) Deciles d) Range	K1	CO1
	4	The values which divide the data into 10 equal parts are called _____. a) Quartiles b) Percent c) Deciles d) Range	K2	CO1
3	5	_____ is used in the estimation of relationship between the dependent and one or more independent variables. a) Analysis b) Co efficient c) Deviation d) Correlation and Regression	K1	CO1
	6	Two or more than two variables is studied with the help of a) Regression b) Correlation c) Trigonometry d) Probability	K2	CO1
4	7	Data arranged in relation to time is known as _____. a) Time series b) Seasonal index c) Secular trend d) Forecasting	K1	CO1
	8	The value of the variable tends to increase or decrease over a long period of time is a) Secular trend b) Cyclical fluctuation c) Seasonal variation d) Irregular variation	K2	CO1
5	9	If a coin is tossed once, the probability of getting a head is a) 1 b) ½ c) 1/3 d) 0	K1	CO1
	10	Two dice are thrown together. The probability of getting a double six is a) 1/12 b) 1/36 c) 1/18 d) 1/6	K2	CO1

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

<table>
<tr><th>Module No.</th><th>Question No.</th><th>Question</th><th>K Level</th><th>CO</th></tr>
<tr><td rowspan="5">1</td><td>11.a.</td><td>Explain the Limitations of Statistics.</td><td rowspan="5">K2</td><td rowspan="5">CO1</td></tr>
<tr><td colspan="2">(OR)</td></tr>
<tr><td rowspan="3">11.b.</td><td rowspan="3">Represent the following data by a pie diagram.
<table><tr><th>Items</th><th>Expenditure (Rs. In lakhs)</th></tr><tr><td>Food</td><td>87</td></tr><tr><td>Cloth</td><td>49</td></tr><tr><td>Education</td><td>33</td></tr><tr><td>Others</td><td>11</td></tr></table></td></tr>
<tr><td rowspan="4">2</td><td rowspan="2">12.a.</td><td rowspan="2">Find the Geometric Mean from the following data:
<table><tr><td>x</td><td>10</td><td>15</td><td>25</td><td>40</td><td>50</td></tr><tr><td>f</td><td>4</td><td>6</td><td>10</td><td>7</td><td>3</td></tr></table></td><td rowspan="4">K4</td><td rowspan="4">CO2</td></tr>
<tr><td colspan="2">(OR)</td></tr>
<tr><td>12.b.</td><td>Given data value: 62, 39, 50, 89, 75, 100, and 29. Now, the highest data value is 100, and the lowest value is 29. Find range</td></tr>
<tr><td rowspan="3">3</td><td>13.a.</td><td>Bring out the difference between correlation and Regression.</td><td rowspan="3">K5</td><td rowspan="3">CO3</td></tr>
<tr><td colspan="2">(OR)</td></tr>
<tr><td>13.b.</td><td>Enumerate two regression equations.</td></tr>
<tr><td rowspan="3">4</td><td rowspan="2">14.a.</td><td rowspan="2">Calculate by a suitable method, the index number of price from the following data:
<table><tr><td>Commodity</td><td colspan="2">2002</td><td colspan="2">2012</td></tr><tr><td></td><td>Price</td><td>Quantity</td><td>Price</td><td>Quantity</td></tr><tr><td>A</td><td>10</td><td>20</td><td>16</td><td>10</td></tr><tr><td>B</td><td>12</td><td>34</td><td>18</td><td>42</td></tr><tr><td>C</td><td>15</td><td>30</td><td>20</td><td>26</td></tr></table></td><td rowspan="3">K5</td><td rowspan="3">CO4</td></tr>
<tr><td colspan="2">(OR)</td></tr>
<tr><td>14.b.</td><td>Find the 3 year moving average from the following time series data.
<table><tr><td>Year</td><td>1967</td><td>1968</td><td>1969</td><td>1970</td><td>1971</td><td>1972</td><td>1973</td><td>1974</td></tr><tr><td>Sales (in tones)</td><td>4</td><td>7</td><td>10</td><td>16</td><td>20</td><td>25</td><td>32</td><td>40</td></tr></table></td></tr>
<tr><td rowspan="3">5</td><td>15.a.</td><td>In a class of 50 students, 20 study Mathematics, 15 study Statistics, and 10 study both Mathematics and Statistics. A student is chosen at random. Find the probability that the student studies:
a) Mathematics or Statistics
b) Neither Mathematics nor Statistics.</td><td rowspan="3">K3</td><td rowspan="3">CO5</td></tr>
<tr><td colspan="2">(OR)</td></tr>
<tr><td>15.b.</td><td>A bag contains 6 white and 4 black balls. Two balls are drawn at random without replacement. Find the probability that both are white.</td></tr>
</table>

SECTION -C (30 Marks)

Answer **ANY THREE** questions
ALL questions carry **EQUAL** Marks (3 × 10 = 30)

<table>
<tr><th>Module No.</th><th>Question No.</th><th>Question</th><th>K Level</th><th>CO</th></tr>
<tr><td>1</td><td>16</td><td>The dividend given by Oswal Agro Ltd. From 2018 to 2023 is given below.
<table><tr><td>2018</td><td>2019</td><td>2020</td><td>2021</td><td>2022</td><td>2023</td></tr><tr><td>20</td><td>30</td><td>32</td><td>42</td><td>50</td><td>50</td></tr></table>Represent the following data by a bar diagram.</td><td>K2</td><td>CO1</td></tr>
<tr><td>2</td><td>17</td><td>The expenditure of 10 families in Rupees are given below:
<table><tr><td>Family</td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td><td>H</td><td>I</td><td>J</td></tr><tr><td>Expenditure</td><td>30</td><td>70</td><td>10</td><td>75</td><td>500</td><td>8</td><td>42</td><td>250</td><td>40</td><td>36</td></tr></table>Calculate the arithmetic mean.</td><td>K4</td><td>CO2</td></tr>
<tr><td>3</td><td>18</td><td>From the following data, find Bowley's co-efficient of skewness
<table><tr><td>S.No.</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>Marks</td><td>3</td><td>6</td><td>13</td><td>23</td><td>18</td><td>10</td><td>5</td><td>7</td><td>8</td></tr></table></td><td>K5</td><td>CO3</td></tr>
<tr><td>4</td><td>19</td><td>Assuming that trend is absent determine if there is any seasonability in the data given below:
<table><tr><th>Year</th><th>I Quarter</th><th>II Quarter</th><th>III Quarter</th><th>IV Quarter</th></tr><tr><td>2000</td><td>3.8</td><td>3.7</td><td>5.8</td><td>4.3</td></tr><tr><td>2001</td><td>4.2</td><td>4.8</td><td>4.3</td><td>3.7</td></tr><tr><td>2002</td><td>5.0</td><td>5.5</td><td>2.3</td><td>7.4</td></tr><tr><td>2003</td><td>7.2</td><td>6.3</td><td>4.2</td><td>8.8</td></tr></table>What are the seasonal indices for various quarters?</td><td>K5</td><td>CO4</td></tr>
<tr><td>5</td><td>20</td><td>A box contains 5 red balls and 3 black balls. Two balls are drawn one after the other without replacement. Find the probability that:
a) Both are red.
b) The second ball is red, given that the first is black.
c) The first ball is black, given that the second is red.</td><td>K3</td><td>CO5</td></tr>
</table>

Z-Z-Z END