

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION DECEMBER 2024
(Second Semester)

Branch – COMMERCE (BUSINESS PROCESS SERVICES)

STATISTICS FOR BUSINESS PROCESS

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	A frequency distribution can be: (a) Discrete (b) continuous (c) both (a) and (b) (d) none of (a) and (b)	K1	CO1
	2	When an item of expenditure is 20% of the total expenditure, the angle of the sector in the pie diagram is _____ degrees. (a) 20 (b) 40 (c) 72 (d) 100	K2	CO1
2	3	Kurtosis refers to (a) histogram (b) symmetry (c) peakedness (d) mean	K1	CO2
	4	Range for the values 10,10,10,10,10 and 10 is (a) 0 (b) 5 (c) 10 (d) 60	K2	CO2
3	5	The nature of correlation between two variables is known from (a) Bar diagram (b) Pie diagram (c) Pictogram (d) Scatter diagram	K1	CO3
	6	When $b_{XY} = -0.2$ and $b_{YX} = -0.8$, $r =$ (a) 0.16 (b) 0.4 (c) -0.4 (d) -0.10	K2	CO3
4	7	The outcome of tossing a coin is a: (a) simple event (b) mutually exclusive event (c) complementary event (d) compound event	K1	CO4
	8	Given that $P(A)=1/3$, $P(B)=3/4$ and $P(A \cup B)=11/12$, probability $P(B/A)$ is: (a) 1/6 (b) 4/9 (c) 1/2 (d) 3/12	K2	CO4
5	9	Which function is not available in the MS Excel? (a) Sum (b) Min (c) Max (d) subtract	K1	CO5
	10	Which comment is used to find the variance based on the sample (a) VAR (b) VARP (c) STDEV (d) SKEW	K2	CO5

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO																																																		
1	11.a.	The following are the percentage marks of 50 students in an examination: <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>39</td><td>39</td><td>43</td><td>62</td><td>30</td><td>47</td><td>33</td><td>46</td><td>17</td><td>38</td></tr> <tr><td>10</td><td>36</td><td>29</td><td>40</td><td>32</td><td>24</td><td>57</td><td>42</td><td>15</td><td>30</td></tr> <tr><td>39</td><td>53</td><td>47</td><td>64</td><td>31</td><td>07</td><td>37</td><td>47</td><td>27</td><td>43</td></tr> <tr><td>36</td><td>39</td><td>25</td><td>34</td><td>30</td><td>50</td><td>76</td><td>42</td><td>43</td><td>56</td></tr> <tr><td>40</td><td>29</td><td>22</td><td>30</td><td>65</td><td>32</td><td>36</td><td>39</td><td>70</td><td>36</td></tr> </table> Construct a frequency distribution table from the above data taking the classes as 10-20, 20-30, 30-40 etc.,	39	39	43	62	30	47	33	46	17	38	10	36	29	40	32	24	57	42	15	30	39	53	47	64	31	07	37	47	27	43	36	39	25	34	30	50	76	42	43	56	40	29	22	30	65	32	36	39	70	36	K3	CO1
		39	39	43	62	30	47	33	46	17	38																																											
10	36	29	40	32	24	57	42	15	30																																													
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40	29	22	30	65	32	36	39	70	36																																													
(OR)																																																						

Cont...

	11.b.	<p>The monthly profits in rupees of 100 shops are distributed as follows:</p> <table border="1"> <thead> <tr> <th>Pofits per shop</th> <th>0-100</th> <th>100-200</th> <th>200-300</th> <th>300-400</th> <th>400-500</th> <th>500-600</th> </tr> </thead> <tbody> <tr> <td>Number of shop</td> <td>12</td> <td>18</td> <td>27</td> <td>20</td> <td>17</td> <td>06</td> </tr> </tbody> </table> <p>Construct Histogram and frequency polygon for the above data.</p>	Pofits per shop	0-100	100-200	200-300	300-400	400-500	500-600	Number of shop	12	18	27	20	17	06						
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Number of shop	12	18	27	20	17	06																
2	12.a.	<p>From the following data on daily sales of TV sets, test for the variance.</p> <table border="1"> <thead> <tr> <th>No. of TV sets</th> <th>5</th> <th>7</th> <th>10</th> <th>11</th> <th>15</th> <th>25</th> <th>30</th> </tr> </thead> <tbody> <tr> <th>No. of Days</th> <td>1</td> <td>3</td> <td>7</td> <td>6</td> <td>5</td> <td>2</td> <td>1</td> </tr> </tbody> </table>	No. of TV sets	5	7	10	11	15	25	30	No. of Days	1	3	7	6	5	2	1	K4	CO2		
	No. of TV sets	5	7	10	11	15	25	30														
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12.b.	<p>Compare the skewness of A and B.</p> <table border="1"> <thead> <tr> <th></th> <th>Q₁</th> <th>M</th> <th>Q₃</th> </tr> </thead> <tbody> <tr> <td>Series A</td> <td>40</td> <td>60</td> <td>80</td> </tr> <tr> <td>Series B</td> <td>62.85</td> <td>65.25</td> <td>72.15</td> </tr> </tbody> </table>		Q ₁	M	Q ₃	Series A	40	60	80	Series B	62.85	65.25	72.15									
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3	13.a.	List the properties of regression coefficient.																				
		(OR)																				
	13.b.	<p>The following table gives aptitude test scores and productivity indices of 8 randomly selected workers.</p> <table border="1"> <thead> <tr> <th>Aptitude Score</th> <th>57</th> <th>58</th> <th>59</th> <th>59</th> <th>60</th> <th>61</th> <th>62</th> <th>64</th> </tr> </thead> <tbody> <tr> <th>Productivity Index</th> <td>67</td> <td>68</td> <td>65</td> <td>68</td> <td>72</td> <td>72</td> <td>69</td> <td>71</td> </tr> </tbody> </table> <p>Analyze the relationship between the aptitude score and productivity index using karl pearson's coefficient of correlation.</p>	Aptitude Score	57	58	59	59	60	61	62	64	Productivity Index	67	68	65	68	72	72	69	71	K4	CO3
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4	14.a.	A bag contains 7 red and 5 white balls. 4 balls are drawn at random. Identify the probability that all of them are red.	K3	CO4																		
		(OR)																				
	14.b.	The probability that a boy will get a scholarship is 0.90 and that for a girl is 0.80. Identify the probability that at least one of them will get a scholarship.																				
5	15.a.	Explain the computation procedure to find average, median, mode and variance by using MS Excel.	K5	CO5																		
		(OR)																				
	15.b.	Explain the computation procedure to find skewness and correlation by using MS Excel.																				

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the method of preparation of a good questionnaire.	K5	CO1

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2	17	The annual profits of 22 companies are given below:					K4	CO2	
		Annual Profits (Rs. lakhs)	0-10	10-20	20-30	30-40			40-50
		No. of Companies	3	5	9	3	2		
		Discover mean, median and mode profits of the companies.							
3	18	The information given below relates to the advertisement expenditure and sales of a company.						K4	CO3
		Advertisement Expenditure (Rs.crores)	10	12	13	12	16		
		Sales (Rs.crores)	40	38	43	45	37	43	
		Analyze the average relationship between advertisement expenditure & sales by using two regression equations.							
4	19	In a bolt factory, machines M_1 , M_2 and M_3 manufacture respectively 25, 35 and 40 percent of the total output. Of their output 5, 4 and 2 percent respectively are defective bolts. One bolt is drawn at random from the product and is found to be defective. Test for the probability that it is manufactured in the machine M_3 ?						K4	CO4
5	20	Explain the procedure of computing correlation and regression using data analysis toolpak in MS Excel.						K5	CO5

Z-Z-Z

END