

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BCom DEGREE EXAMINATION DECEMBER 2024
(First Semester)**

Branch – **COMMERCE (BUSINESS ANALYTICS)**

STATISTICS FOR BUSINESS ANALYTICS

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	Which of the following is a primary method of data collection? a) Textbook b) Survey c) Online article d) Lecture	K1	CO1
	2	The classification and tabulation of data falls under: a) Descriptive statistics b) Inferential statistics c) Qualitative data analysis d) Predictive analysis	K2	CO1
2	3	Which of the following is NOT a one-dimensional diagram? a) Bar chart b) Line chart c) Histogram d) Pie chart	K1	CO2
	4	What does a time series graph typically show? a) Comparison of multiple datasets b) Relationship between variables c) Distribution over time d) Distribution of frequencies	K2	CO2
3	5	Simple random sampling without replacement means: a) A sample item is not returned to the population after selection b) Each item has equal probability of being selected again c) Each group is randomly selected d) The population is divided into strata	K1	CO3
	6	In cluster sampling, clusters are formed based on: a) Random chance b) Demographics c) Probability d) Geographic location	K2	CO3
4	7	Which measure of central tendency is least affected by extreme values? a) Arithmetic mean b) Median c) Mode d) Geometric mean	K1	CO4
	8	The harmonic mean is best used in cases involving: a) Skewed distributions b) Rates and ratios c) Normal distributions d) Percentile calculations	K2	CO4
5	9	Quartile deviation measures: a) Total range of data b) Average deviation from the mean c) Spread of the middle 50% of data d) Standard deviation	K1	CO5
	10	Kurtosis refers to the: a) Skewness of data b) Flatness or peakedness of a distribution c) Variability in data d) Measure of central tendency	K2	CO5

Cont...

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.	Describe the steps involved in collecting primary and secondary data. Provide examples of when each method would be appropriate.	K2	CO1																	
	(OR)																				
	11.b.	Define statistics and discuss its origin and development.																			
2	12.a.	Use the following data on the weight of products (in kg) to construct a histogram: Weight: 10, 15, 20, 25, 30 Frequency: 5, 10, 15, 8, 2	K3	CO2																	
	(OR)																				
	12.b.	Explain the construction of a time series graph.																			
3	13.a.	Describe the sampling errors	K2	CO3																	
	(OR)																				
	13.b.	Illustrate the cluster sampling method with a real-life example.																			
4	14.a.	Describe the Geometric mean and Harmonic mean with its limitations	K3	CO4																	
	(OR)																				
	14.b.	Compute the mode from the following: <table><tr><td>Size</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr><tr><td>Frequency</td><td>20</td><td>22</td><td>25</td><td>29</td><td>30</td><td>18</td><td>14</td><td>13</td><td>12</td></tr></table>			Size	20	21	22	23	24	25	26	27	28	Frequency	20	22	25	29	30	18
Size	20	21	22	23	24	25	26	27	28												
Frequency	20	22	25	29	30	18	14	13	12												
5	15.a.	Discuss on the Skewness and Kurosis	K2	CO5																	
	(OR)																				
	15.b.	Describe the standard deviation and range with its limitations.																			

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 key stages of statistical investigation.	K2	CO1																		
2	17	Discuss the two-dimensional diagrams with some examples	K4	CO 2																		
3	18	Elucidate the concept of Simple random sampling with and without replacement by examples.	K2	CO 3																		
4	19	Compute Mean, Q2 and Mode from the following distribution:	K3	CO 4																		
		<table><tr><td>Marks</td><td>10-20</td><td>20-30</td><td>30-40</td><td>40-50</td><td>50-60</td><td>60-70</td><td>70-80</td><td>80-90</td></tr><tr><td>No. of Students</td><td>14</td><td>17</td><td>25</td><td>21</td><td>16</td><td>19</td><td>14</td><td>13</td></tr></table>			Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	No. of Students	14	17	25	21	16	19	14	13
		Marks			10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90										
No. of Students	14	17	25	21	16	19	14	13														
5	20	Compute variance, standard deviation and mean deviation from the following distribution:	K2	CO 5																		
		<table><tr><td>X</td><td>0-10</td><td>10-20</td><td>20-30</td><td>30-40</td><td>40-50</td><td>50-60</td><td>60-70</td><td>70-80</td></tr><tr><td>F</td><td>14</td><td>18</td><td>20</td><td>25</td><td>30</td><td>15</td><td>19</td><td>21</td></tr></table>			X	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	F	14	18	20	25	30	15	19	21
		X			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80										
F	14	18	20	25	30	15	19	21														

Z-Z-Z

END