

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BCom DEGREE EXAMINATION MAY 2026
(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	The information collected for statistical investigation is called (i) Sample (ii) Data (iii) Number (iv) Variable	K1	CO1
	2	The next stage after classification in statistics is (i) Collection of data (ii) Sampling (iii) Tabulation (iv) Interpretation	K2	
2	3	Diagrammatic representation helps in making data more (i) Unstable (ii) Confusing (iii) Hidden (iv) Understandable	K1	CO2
	4	In a histogram, the bars are drawn for _____ data. (i) Discrete only (ii) Categorical (iii) Continuous (iv) Qualitative	K2	
3	5	Simple random sampling ensures that every unit in the population has an _____ chance of selection. (i) Equal (ii) Unequal (iii) Limited (iv) Fixed	K1	CO3
	6	In stratified sampling, each group is called a (i) Class (ii) Sample (iii) stratum (iv) Cluster	K2	
4	7	The number of observations is 30 and the value of arithmetic mean is 15. Then the sum of all values is _____. (i) 15 (ii) 45 (iii) 450 (iv) 2	K1	CO4
	8	For the data: 1, 4, 4, 4, 7, which statement is correct? (i) Mean is greater than Median and Mode (ii) Mode is greater than Mean (iii) Mean, Median, and Mode are all equal (iv) Median is greater than Mean	K2	
5	9	Kurtosis mainly describes the _____ of a distribution. (i) Position (ii) Shape (iii) Average (iv) Trend	K1	CO5
	10	The square of a standard deviation is called (i) Range (ii) Variance (iii) Skewness (iv) Mean Deviation	K2	

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.	Explain the various types of questionnaire and state the essentials of good questionnaire.	K2	CO1																			
	(OR)																						
	11.b.	Discuss the purpose, methods and importance of classification																					
2	12.a.	The following table gives the number of student appearing in various examinations from the school in 2012, 2013 and 2014. Construct the multiple bar diagram	K3	CO2																			
	<table><tr><th rowspan="2">Exam</th><th colspan="3">Number of students</th></tr><tr><th>2012</th><th>2013</th><th>2014</th></tr><tr><td>Class IX</td><td>300</td><td>400</td><td>500</td></tr><tr><td>Class X</td><td>200</td><td>240</td><td>300</td></tr><tr><td>Class XI</td><td>100</td><td>120</td><td>200</td></tr></table>				Exam	Number of students			2012	2013	2014	Class IX	300	400	500	Class X	200	240	300	Class XI	100	120	200
	Exam	Number of students																					
		2012			2013	2014																	
	Class IX	300			400	500																	
Class X	200	240	300																				
Class XI	100	120	200																				
(OR)																							

Cont....

	12.b.	Explain the importance and limitations of diagrammatic and graphical presentation of data.																											
3	13.a.	Discuss the systematic sampling and cluster sampling with an example.								K2	CO3																		
	(OR)																												
	13.b.	Differentiate the probability sampling and non-probability sampling.																											
4	14.a.	An investor is fond of investing in equity shares. During a period of falling prices in the stock exchange, a stock is sold at Rs 120 per share on one day, Rs 105 on the next and Rs 90 on the third day. The investor has purchased 50 shares on the first day, 80 shares on the second day and 100 shares on the third' day. What average price per share did the investor pay?								K3	CO4																		
	(OR)																												
	14.b.	If monthly income of families are the following, then show $A.M \geq GM \geq HM$ <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Families</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></tr> <tr> <td>Income ('000)</td><td>70</td><td>10</td><td>500</td><td>755</td><td>08</td><td>250</td><td>08</td><td>42</td></tr> </table>										Families	A	B	C	D	E	F	G	H	Income ('000)	70	10	500	755	08	250	08	42
Families	A	B	C	D	E	F	G	H																					
Income ('000)	70	10	500	755	08	250	08	42																					
5	15.a.	Calculate the coefficient of range separately for the two sets of data given below: <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Set I</td><td>8</td><td>10</td><td>20</td><td>9</td><td>15</td><td>10</td><td>13</td><td>28</td></tr> <tr> <td>Set II</td><td>30</td><td>35</td><td>42</td><td>50</td><td>32</td><td>49</td><td>39</td><td>33</td></tr> </table>								Set I	8	10	20	9	15	10	13	28	Set II	30	35	42	50	32	49	39	33	K3	CO5
	Set I	8	10	20	9	15	10	13	28																				
	Set II	30	35	42	50	32	49	39	33																				
(OR)																													
15.b.	Compute the Karl Pearson Coefficient of Skewness <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Marks</td><td>5</td><td>15</td><td>25</td><td>35</td><td>45</td><td>55</td></tr> <tr> <td>No.of Students</td><td>10</td><td>20</td><td>30</td><td>50</td><td>40</td><td>30</td></tr> </table>								Marks	5	15	25	35	45	55	No.of Students	10	20	30	50	40	30							
Marks	5	15	25	35	45	55																							
No.of Students	10	20	30	50	40	30																							

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	Distinguish between primary and secondary data. Explain the various methods of collecting primary data and point out the merits and demerits.	K2	CO1																																								
2	17	(i) Explain the frequency distribution (ii) Arrange the following in a frequency table taking the lowest class interval 10 – 20. <table><tr><td>23</td><td>84</td><td>61</td><td>87</td><td>43</td><td>81</td><td>84</td><td>59</td><td>66</td><td>33</td></tr><tr><td>58</td><td>81</td><td>58</td><td>46</td><td>76</td><td>81</td><td>87</td><td>57</td><td>83</td><td>95</td></tr><tr><td>81</td><td>87</td><td>57</td><td>86</td><td>95</td><td>85</td><td>67</td><td>75</td><td>40</td><td>73</td></tr><tr><td>61</td><td>62</td><td>84</td><td>86</td><td>77</td><td>70</td><td>62</td><td>91</td><td>73</td><td>72</td></tr></table>	23	84	61	87	43	81	84	59	66	33	58	81	58	46	76	81	87	57	83	95	81	87	57	86	95	85	67	75	40	73	61	62	84	86	77	70	62	91	73	72	K3	CO2
23	84	61	87	43	81	84	59	66	33																																			
58	81	58	46	76	81	87	57	83	95																																			
81	87	57	86	95	85	67	75	40	73																																			
61	62	84	86	77	70	62	91	73	72																																			
3	18	Discuss the simple random sampling with and without replacement with numerical examples and state their merits and demerits.	K2	CO3																																								
4	19	Compute the mean, median, mode values of hospitalisation time from the following records in hospital. <table><tr><td>Time (in days)</td><td>0-10</td><td>10-20</td><td>20-30</td><td>30-40</td><td>40-50</td></tr><tr><td>No.of Patients</td><td>460</td><td>730</td><td>260</td><td>150</td><td>90</td></tr></table>	Time (in days)	0-10	10-20	20-30	30-40	40-50	No.of Patients	460	730	260	150	90	K2	CO4																												
Time (in days)	0-10	10-20	20-30	30-40	40-50																																							
No.of Patients	460	730	260	150	90																																							
5	20	A study of 100 engineering companies gives the following information <table><tr><td>Profit (Rs in core)</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></tr><tr><td>Number of Companies</td><td>8</td><td>12</td><td>20</td><td>30</td><td>20</td><td>10</td></tr></table> Compute the standard deviation of the profit earned.	Profit (Rs in core)	0-10	10-20	20-30	30-40	40-50	50-60	Number of Companies	8	12	20	30	20	10	K2	CO5																										
Profit (Rs in core)	0-10	10-20	20-30	30-40	40-50	50-60																																						
Number of Companies	8	12	20	30	20	10																																						