

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)BBA DEGREE EXAMINATION MAY 2026
(First Semester)Branch – BUSINESS ADMINISTRATION / BUSINESS ADMINISTRATION(IS)/ BUSINESS
ADMINISTRATION(RM)/ BUSINESS ADMINISTRATION(LOGISTICS)MANAGERIAL STATISTICS

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	Graphs of frequency distribution are called (i)Histogram (ii)Bar Chart (iii) Pie Chart (iv)None of these	K1	CO1
	2	Three dimensional diagrams are also known as (i)Bardiagrams (ii)volume diagrams (iii) Rectangles (iv)None of these	K2	CO1
2	3	Given mean as 25 mode as 26 the median would be (i)25 (ii)25.33 (iii) 26 (iv)25.67	K1	CO2
	4	The sum of the deviations of individual observations is zero from (i)Median (ii)Mode (iii) Actual Mean (iv)Weighted Mean	K2	CO2
3	5	The line of best fit is obtained by (i)Correlation Analysis (ii) Standard error (iii) Regression Analysis (iv) Method of Least Squares	K1	CO3
	6	Pearson's coefficient of correlation always lies between (i)-2 and +2 (ii)-1 and +1 (iii) -1and 0 (iv) 0 and +1	K2	CO3
4	7	A time series consists of data arranged (i)Chronologically (ii)Geographically (iii) serially (iv) intermittently	K1	CO4
	8	Secular trend refers to (i)short term movement (ii) Medium term movement (iii) Long term movement (iv) Seasonal Movement	K2	CO4
5	9	The function to calculate the Range of data in Excel is: (i) RANGE S() (ii) Range () (iii) RANGE P() (iv)MAX()-MIN()	K1	CO5
	10	The following Excel function is used to find the mean of a number of items: (i) = MEAN () (ii) =AVERAGE () (iii) =SUM() (iv) =FIND AVERAGE()	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.	On what sum of money will be the difference between the simple interest and the compound interest for 2years at 5% per annum be equal to Rs.50?	K2	CO1
		(OR)		

Cont...

1	11.b.	Interpret the following table to draw an ogive curve and determine the median and the lower and upper quartiles <table><tr><td>Wages</td><td>70-80</td><td>80-90</td><td>90-100</td><td>100-110</td><td>110-120</td><td>120-130</td><td>130-140</td><td>140-150</td></tr><tr><td>Number of workers</td><td>12</td><td>18</td><td>35</td><td>42</td><td>50</td><td>45</td><td>20</td><td>8</td></tr></table>	Wages	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	Number of workers	12	18	35	42	50	45	20	8	K2	CO1												
Wages	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150																										
Number of workers	12	18	35	42	50	45	20	8																										
2	12.a.	Apply the mean from the following data <table><tr><td>X</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><td>10</td></tr><tr><td>f</td><td>21</td><td>30</td><td>28</td><td>40</td><td>26</td><td>34</td><td>40</td><td>9</td><td>15</td><td>57</td></tr></table>	X	1	2	3	4	5	6	7	8	9	10	f	21	30	28	40	26	34	40	9	15	57	K3	CO2								
	X	1	2	3	4	5	6	7	8	9	10																							
f	21	30	28	40	26	34	40	9	15	57																								
12.b.	(OR) Apply the range and semi interquartile range of wages <table><tr><td>Wages</td><td>30-32</td><td>32-34</td><td>34-36</td><td>36-38</td><td>38-40</td><td>40-42</td><td>42-44</td></tr><tr><td>labourers</td><td>12</td><td>18</td><td>16</td><td>14</td><td>12</td><td>8</td><td>6</td></tr></table>	Wages	30-32	32-34	34-36	36-38	38-40	40-42	42-44	labourers	12	18	16	14	12	8	6																	
Wages	30-32	32-34	34-36	36-38	38-40	40-42	42-44																											
labourers	12	18	16	14	12	8	6																											
3	13.a.	Illustrate karl pearson's coeffieicient of correlation from the following data: <table><tr><td>Wages</td><td>100</td><td>101</td><td>102</td><td>102</td><td>100</td><td>99</td><td>97</td><td>98</td><td>96</td><td>95</td></tr><tr><td>Cost of living</td><td>98</td><td>99</td><td>99</td><td>97</td><td>95</td><td>92</td><td>95</td><td>94</td><td>90</td><td>91</td></tr></table>	Wages	100	101	102	102	100	99	97	98	96	95	Cost of living	98	99	99	97	95	92	95	94	90	91	K3	CO3								
	Wages	100	101	102	102	100	99	97	98	96	95																							
Cost of living	98	99	99	97	95	92	95	94	90	91																								
13.b.	(OR) Apply the coefficient of correlation and obtain the lines of regression <table><tr><td>X</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>Y</td><td>9</td><td>8</td><td>10</td><td>12</td><td>11</td><td>13</td><td>14</td></tr></table> Obtain an estimate of Y should correspond to the average X=6.2	X	1	2	3	4	5	6	7	Y	9	8	10	12	11	13	14																	
X	1	2	3	4	5	6	7																											
Y	9	8	10	12	11	13	14																											
4	14.a.	Apply the average seasonal movement for the following series <table><tr><td>year</td><td>1st Quarter</td><td>2nd Quarter</td><td>3rd Quarter</td><td>4th Quarter</td></tr><tr><td>2003</td><td>3.5</td><td>3.9</td><td>3.4</td><td>3.6</td></tr><tr><td>2004</td><td>3.5</td><td>4.1</td><td>3.7</td><td>4.0</td></tr><tr><td>2005</td><td>3.5</td><td>3.9</td><td>3.7</td><td>4.2</td></tr><tr><td>2006</td><td>4.0</td><td>4.6</td><td>3.8</td><td>4.5</td></tr><tr><td>2007</td><td>4.1</td><td>4.4</td><td>4.2</td><td>4.5</td></tr></table>	year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	2003	3.5	3.9	3.4	3.6	2004	3.5	4.1	3.7	4.0	2005	3.5	3.9	3.7	4.2	2006	4.0	4.6	3.8	4.5	2007	4.1	4.4	4.2	4.5	K3	CO4
	year	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter																													
2003	3.5	3.9	3.4	3.6																														
2004	3.5	4.1	3.7	4.0																														
2005	3.5	3.9	3.7	4.2																														
2006	4.0	4.6	3.8	4.5																														
2007	4.1	4.4	4.2	4.5																														
14.b.	(OR) Construct three yearly moving averages, calculate the trend values <table><tr><td>Year</td><td>Production</td><td>Year</td><td>Production</td></tr><tr><td>1998</td><td>15</td><td>2003</td><td>25</td></tr><tr><td>1999</td><td>18</td><td>2004</td><td>29</td></tr><tr><td>2000</td><td>17</td><td>2005</td><td>33</td></tr><tr><td>2001</td><td>20</td><td>2006</td><td>36</td></tr><tr><td>2002</td><td>23</td><td>2007</td><td>40</td></tr></table>	Year	Production	Year	Production	1998	15	2003	25	1999	18	2004	29	2000	17	2005	33	2001	20	2006	36	2002	23	2007	40									
Year	Production	Year	Production																															
1998	15	2003	25																															
1999	18	2004	29																															
2000	17	2005	33																															
2001	20	2006	36																															
2002	23	2007	40																															
5	15.a.	Explain how Excel can be used to measure correlation between two variables.	K2	CO5																														
	15.b.	(OR) Explain the difference between Average, Median, and Mode. SNGL in 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	A sum of money invested at compounded interest amounts to Rs.21632at the end of second year and Rs 22497.28 at the end of third year.find the rate of interest and the sum invested.	K3	CO1																
2	17	Construct out the mode from the following series <table border="1"><tr><td>X</td><td>0-5</td><td>5-10</td><td>10-15</td><td>15-20</td><td>20-25</td><td>25-30</td><td>30-35</td></tr><tr><td>F</td><td>1</td><td>2</td><td>5</td><td>14</td><td>10</td><td>9</td><td>2</td></tr></table>	X	0-5	5-10	10-15	15-20	20-25	25-30	30-35	F	1	2	5	14	10	9	2	K3	CO2
X	0-5	5-10	10-15	15-20	20-25	25-30	30-35													
F	1	2	5	14	10	9	2													
3	18	Construct the means of X and Y variables and the coefficient of correlation between them from the following two regression equations $2Y-X-50=0$ $3Y-2X-10=0$	K3	CO3																
4	19	Inspect the trend values by the method of least squares from the data given below and estimate the sales for 2018. <table border="1"><tr><td>Year</td><td>2011</td><td>2012</td><td>2013</td><td>2014</td><td>2015</td></tr><tr><td>Production</td><td>12</td><td>18</td><td>20</td><td>23</td><td>27</td></tr></table>	Year	2011	2012	2013	2014	2015	Production	12	18	20	23	27	K4	CO4				
Year	2011	2012	2013	2014	2015															
Production	12	18	20	23	27															
5	20	Explain how Excel can be used to compute measures of central tendency (mean, median, mode).	K3	CO5																

Z-Z-Z

END

