25MSU103/ 25ISU103/ 25RMU103/ 25BLU103/
22MSU103N/ 22ISU103N/ 22RMU103N/ 23BLU103R

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BBA DEGREE EXAMINATION DECEMBER 2025
(First Semester)

Common to Branches - **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	A man lent ₹ 60,000, partly at 5% and the rest at 4% simple interest. If the total annual interest is ₹ 2560, the money lent at 4% was a) 40,000 b) 44,000 c) 55,000 d) 35,000	K2	CO1
	2	A sum of money at some rate of simple interest amounts to ₹ 2,900 in 8 years and to ₹ 3,000 in 10 years. The rate of interest per annum is a) 4% b) 5% c) 3% d) 2%	K2	CO1
2	3	What is the sum of squares of deviations from Arithmetic mean? a) Zero b) Maximum c) Minimum d) 100	K1	CO2
	4	Sum of absolute deviations about median is a) Zero b) the greatest c) the least d) minimum	K2	CO2
3	5	Recall the range of the coeffiecient of Correlation. a) has no limits b) can be less than 1 c) can be more than 1 d) varies between +1 or - 1	K1	CO3
	6	When the two regression lines coincide, then the value of 'r' is a) 0 b) -1 c) 1 d) 0.5	K2	CO3
4	7	Variation of business cycle is an example of _____. a) Cyclical variations b) Seasonal variations c) Secular trend d) Irregular variations	K1	CO4
	8	Identify the most widely used method of measuring seasonal variations. a) Ratio to Moving Average Method b) Ratio to Trend Method c) the link relative method d) step deviation method	K2	CO4
5	9	Mention the function to calculate the Range of data in Excel is a) RANGE S() b) Range () c) RANGE P() d) MAX()-MIN()	K1	CO5
	10	Recall _____ Excel function that is used to find the mean of a number of items. a) = MEAN () b) =AVERAGE () c) =SUM() d) =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.	Find the simple interest on Rs.5000 at 10%for 3 years .find also the total amount.	K2	CO1
		(OR)		
	11.b.	A loan is repaid in 4 annual instalments of Rs.200 each if the rate of interest is 10%p.a find the amount of the loan		
2	12.a.	Interpret median from the following data: Mid values: 11-5 | 12-5 | 13-5 | 14-5 | 15-5 | 16-5 | 17-5 | 18-5 | 19-5 Frequency: 6 | 25 | 48 | 72 | 116 | 60 | 38 | 22 | 3	K2	CO2
		(OR)		
	12.b.	Compute arithmetic mean for the following data. Marks: 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 No.of .students: 5 | 10 | 25 | 30 | 20 | 10		

Cont...

<table>
<tr><td rowspan="4">3</td><td>13.a.</td><td>Compute Rank Correlation for the following:
<table>
<tr><td>Marks in Maths</td><td>85</td><td>60</td><td>73</td><td>40</td><td>90</td></tr>
<tr><td>Marks in Statistics</td><td>93</td><td>75</td><td>65</td><td>50</td><td>80</td></tr>
</table></td><td rowspan="4">K4</td><td rowspan="4">CO3</td></tr>
<tr><td colspan="2">(OR)</td></tr>
<tr><td>13.b.</td><td>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</td></tr>
<tr><td rowspan="4">4</td><td>14.a.</td><td>Analyse the seasonal indices from the following data using the average Method.
<table>
<tr><td>year</td><td>1st Quarter</td><td>2nd Quarter</td><td>3rd Quarter</td><td>4th Quarter</td></tr>
<tr><td>2018</td><td>72</td><td>68</td><td>80</td><td>70</td></tr>
<tr><td>2019</td><td>76</td><td>70</td><td>82</td><td>74</td></tr>
<tr><td>2020</td><td>74</td><td>66</td><td>84</td><td>80</td></tr>
<tr><td>2021</td><td>76</td><td>74</td><td>84</td><td>78</td></tr>
<tr><td>2022</td><td>78</td><td>74</td><td>86</td><td>82</td></tr>
</table></td><td rowspan="4">K3</td><td rowspan="4">CO4</td></tr>
<tr><td colspan="2">(OR)</td></tr>
<tr><td>14.b.</td><td>Construct four yearly moving averages,calculate the trend values
<table>
<tr><td>Year</td><td>Production</td><td>Year</td><td>Production</td></tr>
<tr><td>2002</td><td>464</td><td>2007</td><td>540</td></tr>
<tr><td>2003</td><td>515</td><td>2008</td><td>557</td></tr>
<tr><td>2004</td><td>518</td><td>2009</td><td>571</td></tr>
<tr><td>2005</td><td>467</td><td>2010</td><td>586</td></tr>
<tr><td>2006</td><td>502</td><td>2011</td><td>612</td></tr>
</table></td></tr>
<tr><td rowspan="3">5</td><td>15.a.</td><td>Explain data analysis toolpak in descriptive 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>Explain the functions of used to calculate Bivariate data.</td></tr>
</table>

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 Rs.50,440 is borrowed to be paid back in three yearly equal instalments.what is the annual instalment if the rate of interest is 5% per annum compounded yearly?	K3	CO1
2	17	Analyze (i) Mean (ii) Median (iii) Mode Marks below: 10, 20, 30, 40, 50 No.of.students: 3, 8, 17, 20, 22	K4	CO2
3	18	Obtain the two regression equations for the given data. X: 6, 2, 10, 4, 8 Y: 9, 11, 5, 8, 7	K4	CO3
4	19	Fit a straight line trend by the method of least squares. Year: 2019, 2020, 2021, 2022, 2023, 2024 Production: 24, 25, 29, 26, 22, 24 Estimate the likely production for the year 2027.	K3	CO4
5	20	Describe the various methods of dispersion using Excel functions.	K3	CO5

Z-Z-Z END