

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION MAY 2026
(First Semester)

Common to Branches – **COMMERCE (RM)/COMMERCE (FT)/COMMERCE(BSI)**

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	Which of the following is not a type of data? a) Primary data b) Secondary data c) Tertiary data d) None of the above	K1	CO1
	2	A pie chart is used to represent a) Relationship between variables b) Parts of a whole c) Time-based data d) Frequency distribution only	K2	CO1
2	3	The most commonly used measure of central tendency is a) Median b) Mean c) Mode d) Range	K1	CO2
	4	Which measure is best suited when extreme values are present in data? a) Mean b) Median c) Mode d) Range	K2	CO2
3	5	The range of Karl Pearson's coefficient of correlation is a) 0 to 1 b) -1 to +1 c) 0 to ∞ d) -∞ to +∞	K1	CO3
	6	If two variables move in opposite direction, the correlation is a) Negative b) Positive c) Zero d) Infinite	K2	CO3
4	7	The base year in index numbers is taken as a) 0 b) 1 c) 100 d) Any fixed reference year	K1	CO4
	8	Time series data are collected over a) One point of time b) A period of time c) A group of individuals d) None of the above	K2	CO4
5	9	The probability of an impossible event is a) 0 b) 1 c) Between 0 and 1 d) Cannot be determined	K1	CO5
	10	Which of the following is a continuous probability distribution? a) Poisson b) Binomial c) Normal d) Geomtric	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.	Write short note on: a) Frequency Polygon b) Histogram	K3	CO1						
		(OR)								
	11.b.	Population of the four southern states of India in 2021 was given below. Represent the data by means of a suitable diagram.								
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">State</td><td style="width: 20%;">Andhra Pradesh</td><td style="width: 20%;">Karnataka</td><td style="width: 20%;">Kerala</td><td style="width: 25%;">Tamilnadu</td></tr> <tr> <td>Population</td><td>663</td><td>448</td><td>290</td><td>556</td></tr> </table>			State	Andhra Pradesh	Karnataka	Kerala	Tamilnadu	Population
State	Andhra Pradesh	Karnataka	Kerala	Tamilnadu						
Population	663	448	290	556						

Cont...

2	12.a.	Calculate the mean number of persons per house, given.						K4	CO2			
	X No. of persons		2	3	4	5	6					
	Y No. of houses		10	25	30	25	10					
(OR)												
	12.b.	Calculate co efficient of skewness for the following data 24 14 22 39 26 24 22 24 19										
3	13.a.	Bring out the difference between correlation and Regression.									K5	CO3
	(OR)											
	13.b.	Find regression lines:										
		x	3	5	6	8	9	11				
		y	2	3	4	6	5	8				
4	14.a.	Calculate by a suitable method, the index number of price from the following data:									K3	CO4
	Commodity		2002		2012							
		Price	Quantity	Price	Quantity							
	A	10	20	16	10							
	B	12	34	18	42							
	C	15	30	20	26							
(OR)												
	14.b.	Find the 3 year moving average from the following time series data										
		Year	1967	1968	1969	1970	1971	1972	1973	1974		
		Sales (in tones)	4	7	10	16	20	25	32	40		
5	15.a.	In a class of 50 students, 20 study Mathematics, 15 study Statistics, and 10 study both Mathematics and Statistics. A student is chosen at random. Find the probability that the student studies: a) Mathematics or Statistics b) Neither Mathematics nor Statistics									K3	CO5
	(OR)											
	15.b.	A coin is tossed 5 times. Find the probability of getting exactly 3 heads.										

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	Draw a Pie diagram to represent the following data: <table><tr><td>Item</td><td>Food</td><td>Cloth</td><td>Rent</td><td>Other Expenses</td></tr><tr><td rowspan="2">Family</td><td>A</td><td>240</td><td>160</td><td>80</td><td>200</td></tr><tr><td>B</td><td>300</td><td>300</td><td>200</td><td>400</td></tr></table>	Item	Food	Cloth	Rent	Other Expenses	Family	A	240	160	80	200	B	300	300	200	400	K3	CO1				
Item	Food	Cloth	Rent	Other Expenses																				
Family	A	240	160	80	200																			
	B	300	300	200	400																			
2	17	Calculate Q.D and its co-efficient from the following data. <table><tr><td>Marks</td><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td></tr><tr><td>No. of students</td><td>8</td><td>12</td><td>6</td><td>18</td><td>10</td><td>7</td><td>3</td></tr></table>	Marks	10	20	30	40	50	60	70	No. of students	8	12	6	18	10	7	3	K4	CO2				
Marks	10	20	30	40	50	60	70																	
No. of students	8	12	6	18	10	7	3																	
3	18	From the following data, find Bowley's co-efficient of skewness <table><tr><td>S.No.</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></tr><tr><td>Marks</td><td>3</td><td>6</td><td>13</td><td>23</td><td>18</td><td>10</td><td>5</td><td>7</td><td>8</td></tr></table>	S.No.	1	2	3	4	5	6	7	8	9	Marks	3	6	13	23	18	10	5	7	8	K5	CO3
S.No.	1	2	3	4	5	6	7	8	9															
Marks	3	6	13	23	18	10	5	7	8															
4	19	Fit a straight line trend under the method of least squares and also find the sales for 2016. <table><tr><td>Year</td><td>1989</td><td>1990</td><td>1991</td><td>1992</td><td>1993</td><td>1994</td><td>1995</td></tr><tr><td>Sales (in 1000)</td><td>80</td><td>90</td><td>92</td><td>83</td><td>94</td><td>99</td><td>92</td></tr></table>	Year	1989	1990	1991	1992	1993	1994	1995	Sales (in 1000)	80	90	92	83	94	99	92	K3	CO4				
Year	1989	1990	1991	1992	1993	1994	1995																	
Sales (in 1000)	80	90	92	83	94	99	92																	
5	20	A box contains 5 red balls and 3 black balls. Two balls are drawn one after the other without replacement. Find the probability that: a) Both are red. b) The second ball is red, given that the first is black. c) The first ball is black, given that the second is red.	K3	CO5																				