

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BCom DEGREE EXAMINATION MAY 2025
(First Semester)
Branch – **COMMERCE (FOREIGN TRADE)**
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	In chronological classification data are classified on the basis a) Attributes b) Class interval c) Time d) Location	K1	CO1
	2	Diagrams and graphs are tools of a) Collection of data b) Analysis c) Presentation d) Summarization	K2	CO1
2	3	The sum of the deviations of individual observations is a) Mean b) Median c) Mode d) Range	K1	CO2
	4	The measure of variation that is least affected by extreme observations is a) Range b) Mean deviation c) Quartile deviation d) Standard deviation	K2	CO2
3	5	The coefficient of correlation a) Has no limit b) Can be less than 1 c) Can be more than 1 d) varied between ± 1	K1	CO3
	6	The regression lines cut each other at the point of a) Average of X and Y b) Average of X only c) Average of Y only d) Median of X and Y	K2	CO3
4	7	A good index number is one that satisfies a) Unit and Circular test b) Time reversal test c) Factor reversal test d) All the above tests	K1	CO4
	8	Laspeyre's index is based on a) Base Year Quantities b) Current Year Quantities c) Both of them d) Average of current and base year	K2	CO4
5	9	Much of the development in the theory of probability is associated with the name of a) Fisher b) Karl Pearson c) Spearman d) Bayes	K1	CO5
	10	If an event cannot take place, probability will be a) + 1 b) - 1 c) 0 d) None of these	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.	Explain the parts of the table.	K2	CO1	
	(OR)				
	11.b.	Present the following data by means of a pie diagram.			
		Items			Cost of Constructing a house(in per cent)
		Bricks			15%
		Cement			20%
Steel		15%			
Timber	10%				
Wages	25%				
Supervision	15%				

Cont...

2	12.a.	Apply Quartile deviation and Co-efficient of quartile deviation for the following data.										K3	CO2	
			Marks	10	20	30	40	50	60					
			No. of Students	4	7	15	8	7	2					
(OR)														
	12.b.	Explain the types of skewness.												
3	13.a.	Explain the methods of scatter diagram.										K4	CO3	
	(OR)													
	13.b.	Analyze the following data by using correlation coefficient.												
		Cost(Rs.)	39	65	62	90	82	75	25	98	36	78		
		Sales(Rs.)	47	53	58	86	62	68	60	91	51	84		
4	14.a.	Explain the general problems of constructing of an index number.										K3	CO4	
	(OR)													
	14.b.	From the following data construct an index for 2018 taking 2017 as base by the average of relatives methods using a) arithmetic mean and b) geometric mean.												
		Commodities	Price in 2017 (Rs.)				Price in 2018 (Rs.)							
		A	50				70							
		B	40				60							
		C	80				90							
		D	100				120							
		E	20				20							
5	15.a.	A bag contains 30 balls numbered from 1 to 30. One ball is drawn at random. Find the probability that the number of the drawn ball will be a multiple of a) 5 or 7 b) 3 or 7.										K4	CO5	
	(OR)													
	15.b.	Classify the properties of Binomial distribution.												

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 methods of collecting primary and secondary data.	K2	CO1																													
2	17	Analyze the following data by using Mean, Median and Mode. <table><tr><td>Class Group</td><td>2.5-12.5</td><td>12.5-22.5</td><td>22.5-32.5</td><td>32.5-42.5</td><td>42.5-52.5</td></tr><tr><td>Frequency</td><td>28</td><td>42</td><td>60</td><td>37</td><td>33</td></tr></table>	Class Group	2.5-12.5	12.5-22.5	22.5-32.5	32.5-42.5	42.5-52.5	Frequency	28	42	60	37	33	K4	CO2																	
Class Group	2.5-12.5	12.5-22.5	22.5-32.5	32.5-42.5	42.5-52.5																												
Frequency	28	42	60	37	33																												
3	18	The following are the Economics (X) and Statistics (Y) marks of the students; Form the two regression equations and also estimate the Y when X = 30. <table><tr><td>X</td><td>25</td><td>28</td><td>35</td><td>32</td><td>31</td><td>36</td><td>29</td><td>38</td><td>34</td><td>32</td></tr><tr><td>Y</td><td>43</td><td>46</td><td>49</td><td>41</td><td>36</td><td>32</td><td>31</td><td>30</td><td>33</td><td>39</td></tr></table>	X	25	28	35	32	31	36	29	38	34	32	Y	43	46	49	41	36	32	31	30	33	39	K3	CO3							
X	25	28	35	32	31	36	29	38	34	32																							
Y	43	46	49	41	36	32	31	30	33	39																							
4	19	Construct index number of price from the following data by applying i) Laspeyre's Method ii) Paasche's Method and iii) Fisher's Method <table><tr><td rowspan="2">Products</td><td colspan="2">2020</td><td colspan="2">2022</td></tr><tr><td>Price</td><td>Quantity</td><td>Price</td><td>Quantity</td></tr><tr><td>A</td><td>2</td><td>8</td><td>4</td><td>6</td></tr><tr><td>B</td><td>5</td><td>10</td><td>6</td><td>5</td></tr><tr><td>C</td><td>4</td><td>14</td><td>5</td><td>10</td></tr><tr><td>D</td><td>2</td><td>19</td><td>2</td><td>13</td></tr></table>	Products	2020		2022		Price	Quantity	Price	Quantity	A	2	8	4	6	B	5	10	6	5	C	4	14	5	10	D	2	19	2	13	K3	CO4
Products	2020			2022																													
	Price	Quantity	Price	Quantity																													
A	2	8	4	6																													
B	5	10	6	5																													
C	4	14	5	10																													
D	2	19	2	13																													
5	20	Explain the Normal distribution and state its properties.	K4	CO5																													