Reg. No										

AR 24

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B.B.A. (First Semester - Regular) Examinations, January – 2026

25BBA104 – Statistics and Logical Thinking

Time: 2 hrs | Maximum: 60 Marks

(The figures in the right hand margin indicate marks.)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions

		CO #	Blooms Level
a.	Write the formula for Harmonic Mean (H.M.).	CO1	K1
b.	The mean of a distribution is 40 and the median is 42. Find the mode.	CO3	K3
c.	If PEN is coded as QFO, how will INK be coded?	CO2	K2
d.	Find the 10th term of a G.P. if first term = 3 and common ratio = 2.	CO4	K3
e.	Find the Range and Coefficient of Range for the data: 5, 10, 15, 25, 30, 35,40	CO3	K3

PART – B **(10 x 5 = 50 Marks)**

Answer ***all*** the questions

		Marks	CO #	Blooms Level
2. a.	Find the missing frequencies in the following frequency distribution. The A.M. of the given data is 11.09.	10	CO 3	K4

Class (x)	9.3–9.7	9.8–10.2	10.3–10.7	10.8–11.2	11.3–11.7	11.8–12.2	12.3–12.7	12.8–13.2	Total
Frequency (f)	2	5	-	-	14	6	3	1	60

(OR)

b.	Given below is the distribution of profits (in '000 rupees) earned by 94 percent of the retail grocery shops in a city.	10	CO 4	K4

Profit Class (₹ '000)	0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90
Number of Shops (Cumulative)	0	5	14	27	48	68	83	91	94

Calculate the modal value.

3.a.	Define Correlation Analysis. Explain the steps involved in calculating the coefficient of correlation using Karl Pearson's method. Also interpret the values of the coefficient of correlation (r).	10	CO 2	K3

(OR)

b.	Find and interpret the coefficient of correlation from the following data:	10	CO 4	K4

Cost (X)	39	65	62	90	82	75	25	98	36	78
Sales (Y)	47	53	58	86	62	68	60	91	51	84

4.a.	A standard pack of 52 playing cards contains 4 suits (Hearts, Diamonds, Clubs, Spades) with 13 cards in each suit. The pack is well shuffled before drawing cards. Answer the following questions:	10	CO 3	K3

I. One card is drawn at random from the pack. Find the probability that the card drawn is a heart.
II. One card is drawn at random from the pack. Find the probability that the card drawn is a face card. (Face cards are Jack, Queen and King.)
III. Two cards are drawn one after the other with replacement. Find the probability that both cards drawn are kings.
IV. Two cards are drawn one after the other without replacement. Find the probability that both cards drawn are black cards.

(OR)

b.	Define an event. Discuss the different kinds of events in probability with suitable examples.	10	CO 2	K2
5.a.	The following data relate to the scores obtained by 9 salesmen of a company in an intelligence test and their weekly sales (in Rs 1000's)	10	CO 4	K4

Salesmen	A	B	C	D	E	F	G	H	I
Test Scores	50	60	50	60	80	50	80	40	70
Weekly Sales	30	60	40	50	60	30	70	50	60

Obtain the regression equation of sales on intelligence test scores of the salesmen. If the intelligence test score of a salesman in 65, what would be his expected weekly sales.

(OR)

b.	Explain the concept and formula for probable error and standard error of Co-effi cient of correlation.	4	CO 2	K2
c.	Ravi starts from point A and walks 15 metres towards the North. He then turns right and walks 10 metres. After that, he turns left and walks 20 metres. He then turns left again and walks 5 metres. Finally, he turns right and walks 10 metres to reach point B. Based on the above information, answer the following: I. In which direction is point B from point A? II. What is the shortest distance between point A and point B? III. If Ravi now turns south from point B and walks 10 metres, how far will he be from point A? IV. In which direction will Ravi be facing at the end of his journey?	6	CO 3	K5
6.a.	Eight persons A, B, C, D, E, F, G and H are sitting around a circular table, facing the centre. Based on the following information, answer the questions given below: Given Conditions: • A is sitting second to the left of B. • C is sitting immediately to the right of A. • D is sitting opposite to C. • E is sitting between D and G. • F is sitting immediately to the left of B. • H is sitting opposite to A. Questions: I. Who is sitting immediately to the right of D? II. Who is sitting second to the left of H? III. Who is sitting opposite to B? IV. Which person is sitting between A and F?	8	CO 4	K4

(OR)

b.	In a certain code language, the following symbols are used to denote family relationships: • A + B means A is the father of B • A − B means A is the mother of B • A × B means A is the brother of B • A ÷ B means A is the sister of B Using the above information, study the expressions given below and answer the questions that follow: P + Q – R, R × S + T, T ÷ U, Q × V Questions: I. What is the relationship between P and R? II. How is S related to T? III. What is the relationship between T and U? IV. How is Q related to V?	8	CO 3	K2

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