SAGE University Indore
Institute of Computer Application
Mid-Semester Test I
BCA semester I: Oct -2023

Institute Name: Computer Application	Subject- BRIDGE MATHEMATICS
Program Name: BCA	Branch: BCA
Semester: I	Section: A,B,C,D
Subject Code:	Session: July Dec 2023-24
Unit Test No:	Date of Test:_____13/10/2023_____
Max. Marks: 20	Allotted Time: (90 min duration max)

Course Outcome (CO) No.1:
Course Outcome (CO) No.2:
Course Outcome (CO) No.3:

Note: All Questions carry equal marks, Attempt any five questions.

Q1 a) A and B together have Rs. 1210. If $\frac{4}{15}$ of A's amount is equal to $\frac{2}{5}$ of B's amount, how much amount does B have?

b) Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:

c) A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 1000 more than D, what is B's share?

Q2 find mean median mode

0-10	2
10-20	3
20-30	6
30-40	7
40-50	8
50-60	5
60-70	5
70-80	4

Q3 find variance,standard deviation ,COV

100-105	5
105-110	7
110-115	8
115-120	6
120-125	4
125-130	3
130-135	2

Q4 a) Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

b) A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?

c) What is the probability of getting a sum 9 from two throws of a dice?

Q5) A batsman scored 110 runs which included 3 boundaries and 8 sixes. What percent of his total score did he make by running between the wickets?

a) A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had:

b) in an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was:

Q6 a) Let U = {1, 2, 3, 4, 5, 6}, A = {2, 3} and B = {3, 4, 5}.

Find A', B', A' ∩ B', A ∪ B

b) In a survey of 600 students in a school, 150 students were found to be drinking Tea and 225 drinking Coffee, 100 were drinking both Tea and Coffee. Find how many students were drinking neither Tea nor Coffee.

Q7 find quartile deviation, mean deviation from median of the following data

0-50	5
50-100	8
100-150	9
150-200	11
200-250	8
250-300	9
300-350	6
350-400	4

Q8 Find value of

A) $101^2 - 99^2$

b) if $X + 1/X = 5$, FIND $X^2 + 1/X^2$

C) $X - 1/X = 3$ FIND $X^3 + 1/X^3$