## J-262

B.C.A. (Part-I) Examination, 2021
(Theoretical Foundation of Computer Science)
Paper - II
CALCULUS AND STATISTICAL ANALYSIS

## Time Allowed : Three Hours

Maximum Marks : 50
Minimum Pass Marks : 20
Note : Attempt any one question from each unit. All
questions carry equal marks.

## Unit-I

Q. 1. Evaluate $\lim _{x \rightarrow \pi / 2}(\sec x-\tan x)$.

## OR

Q. 2. Test the contininty of the following function at $x=1$ :

$$
f(x)=\left\{\begin{array}{ccc}
2 x+3 & , & \text { if } \\
2<1 \\
2, & \text { if } & x=1 \\
7-2 x & , & \text { if }
\end{array}\right.
$$

Q. 8. A bag contains 5 black and 11 white balls. Find the probability to draw one white ball from the
bag.

## Unit-V

Q. 9. Find out the binomial distribution to be expected by tossing 4 coins 320 times.

OR
Q. 10. Calculate the co-efficient of correlation between X and Y :
$\begin{array}{lllllll}X & 1 & 3 & 5 & 7 & 8 & 10\end{array}$
$\begin{array}{lllllll}Y & 8 & 12 & 15 & 17 & 18 & 20\end{array}$

