

Test I

Type your answer and submit within 20 minutes. Answers received after 25 minutes will not be entertained. If you do not have a PC or Laptop, write on a paper, scan it with minimum size and submit. In this case you have to complete it within 20 minutes. Any submission received after scheduled time will not be entertained. Submit to gkpanda1963@gmail.com. If any question is wrong, justify to get mark.

Q1. Prove that $P(A \cup B^c | A \cap B) = 1$.

Q2. The mean of a binomial distribution is 4 and its standard deviation is $\sqrt{3}$. Find the value(s) of x for which the probability mass function $f(x)$ is maximum.

Q3. For what value of k $f(x) = (k^2 - 3k)x^2$ if $0 < x < 3$ and $f(x) = 0$ otherwise represents a probability density function?