**SC531 QUIZ #02**

Time allowed: 20 minutes. Maximum marks:12.

Note:

1. Use the values of M and N which you have already calculated.

2. The probability density function shown below, of a continuous random variable X, is to be used for Q-3 and Q-4 below.

pdf of continuous RV X

X = 0 X = 20 X axis 🡪

Q-1. A given discrete random variable denoted by X has integer values in the range 1 <= X <= 20, all of which are equi-probable. Find the probability that X has any value in the range M <= X <= N.  
  
Q-2. A fair coin is tossed 10 times. Find the probability that it turns up HEAD exactly M times.

For the next two questions, consider the probability density function shown in the diagram above.

Q-3. Find Prob( X <= M ).

Q-4. Find Prob( M <= X <= N ).