Q1. If A and B are two independent events such that P(A)= 0.2 and P(B)= 0.5,
Then what is P(B/A) ?

○ 0.1

○ 0.2

○ 0.5

○ 1

Q2. If 4 books are picked at random from a shelf containing 4 mathematics and 3
physics books, calculate the probability that 2 mathematics and 2 physics books
are selected.

○ 15/20

○ 18/35

○ 2/5

○ 2/7

Q3. For what value of 'k' f(x) = k x , x= 1,2 ,3,4 will be a valid probability mass
function.

○ 1

○ 1/2

○ 1/5

○ 1/10

Q4. Let X be a discrete random variable with cumulative probability distribution
function F(0)=1/4, F(1)=1/2,F(2)=1 then probability mass function f(1) =

○ 1/4

○ 1/5

○ 1/10

○ 1/15

Q5. $f(x)=1/4$, $x=1,2,3,4$. then $P(X>1)$ =

○ 1

○ 1/4

○ 3/4

○ 1/2

Q6. If probability of hitting the target is 0.8 and 5 shots are fired, what is the probability of hitting the target at most 3 times.

○ 0.15

○ 0.26

○ 0.77

○ 0.85

Q7. On average a student misses 5 classes in a month. What is the probability that in a given month the student will miss exactly 4 classes (use poison's distribution)?

○ 0.52

○ 0.44

○ 0.41

○ 0.17

Q8. In flipping a coin twice, let X= no heads. Then E(X)=

O 0

O 1

O 2

O 3

Q9. f(x)=1/2, x=-1,1. f(x)=0 , elsewhere. Calculate Var(x)

O 0

O 0.5

O 1

O 2

Q10. X is a discrete random variable such that Var(X)=2, Then Var(-2X-1)=

O 2

O 4

O 6

O 8

1. X and Y are two discrete random variables with joint probability distribution $f(x,y) = (x+y)/30$, x=1,2,3 and y=1,2,3. Check $f(x,y)$ is a valid join distribution. *

Your answer

2. X and Y are two random variables with joint probability distribution $f(x,y) = 2/5(3x+2y)$, $0<x<1, 0<y<1$. The marginal probability distribution of the random variable X is .... *

Your answer

3. Using Q.2 find $P(0<X<0.3, 0.3<Y<1)$ *

Your answer

4. Using Q.2 write the probability distribution of $P(Y|X)$ *

Your answer

5. Using Q.2 write the probability distribution of $P(X|Y)$ *

Your answer

6. If X and Y be any two independent RVs with var(X) and Var(Y) then find the Variance of Z=2X+3Y-5 *

Your answer

7. If X is the RV with E(X)=8, Var(X)=9 then find P(2<X<14), use Chebyshev's *

Your answer