

Q 02. $P(A) = 0.2$, $P(B) = 0.5$ and $P(A \cap B) = 0.1$. Then $P(A|B)$ is

Ops:

- A. 0.5
- B. 0.6
- C. 0.3
- D. 0.2

Reset



Q 06. The set of all possible outcomes of a random experiment is

- Ops:
- A. Event
 - B. Outcome
 - C. Sample space
 - D. Independent events.

Reset

Q 07. if 2 books are picked at random from a shelf containing 2 novels

Q 59. Suppose that airplane engines operate independently and fail with probability equal to 0.5. If the airplane has 2 engines, what is the probability that none will fail during a flight?

- Ops:* A. 0.75 B. 0.55 C. 0.25 D. 0.77

Q 60. Let X and Y denote the amounts of two different types of impurities in a batch of a certain chemical product. Suppose that X and Y are independent random variables with variances $\sigma_x^2 = 2$ and $\sigma_y^2 = 3$. Find the variance of the random variable $Z = 2X - 3Y + 8$.

- (a) 35
(b) 36
(c) 42
(d) 43

- Ops:* A. a
B. b
C. c

ops: A. 0.0002

B. 0.0768

C. 1

D. 0.6733

Q 10. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)=0.49$, then find the variance

ops: A. 1

B. 0

C. 0.2499

D. 0.499

1. The probability that a patient recovers from a rare blood disease is 0.7. If 5 people are known to have contracted this disease, what is the probability that at least 4 survives?

A. 0.45

B. 0.233

C. 0.163

D. 0.53

the average, 1 in every 100 items is defective for a certain manufacturing process. What is the probability that the first item selected is the first defective item found?

0.0096

0.9904

Q 07. if 2 books are picked at random from a shelf cont

Ops: A. (2/6)

B. (1/2)

C. (3/5)

D. (1/6)

Reset

Q 08. The variance of the binomial distribution $b(x; n, p)$ is

- Ops:
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$
 - D. $np(1-p)$

Reset



Q 09. On the average, 1 in every 1000 items is defective. Find the probability that the first defective item found?

- Ops:
- A. 0.0001
 - B. 0.9904
 - C. 0.6534
 - D. 0.3148

Reset

Q 10. The events having no common outcomes are called:

- Ops:
- A. Equally likely events
 - B. Exhaustive events
 - C. Mutually exclusive events
 - D. Independent events

Reset

ons

Multiple Choice Questions

0 attempted

C. c

D. d

Q 53. The mean of the binomial distribution $b(x;n,p)$ is ...

Ops: A. np

B. p(1-p)

C. n(1-p)

D. np(1-p)

Q 54. The mean of the Poisson distribution $P(x;m)$ is ...

Ops: A. np

B. p(1-p)

C. n(1-p)

D. np(1-p)

... takes 4 printing errors per page. Find the probability that in a g



KESET

01 : 20 : 56

hour

min

sec

02. A and B are two independent events such that $P(A) = 0.6$, $P(B) = 0.5$, Then $P(A | B) =$

Ops: A. 0.12

B. 0.3

C. 0

D. 0.6

Reset

03. If A and B are independent events , then $P(A | B) =$

Ops: A. $P(A)$

B. 0

C. $P(A) + P(B)$

D. 1

Reset



01 : 20 : 14

hour

min

sec

17. Let $P(A | B) = 0.5$, $P(B) = 0.7$. Then $P(A \cap B) =$

Ops: A. 0.11

B. 0.39

C. 0.59

D. 0.35

Reset

18. A bag contains 2 red balls, 3 black balls. If 2 balls selected at random from the bag, find the probability that all the two balls selected are red.

Ops: A. $(1/10)$

B. $(1/20)$

C. $(2/10)$

D. $(3/10)$

Reset

Reset

Q 02. The set of all possible outcomes of a random experiment is

- Ops:**
- A. Event
 - B. Outcome
 - C. Sample space
 - D. Independent events.

Reset

Q 03. Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/9$, $F(1)=2/9$, $F(2)=3/9$ and $F(3)=4/9$.
 $P(X < 2) = \text{_____}$

- Ops:**
- A. $(1/8)$
 - B. $(2/9)$
 - C. $(3/9)$
 - D. 1

Reset

Submit

Q 05. A and B are two independent events such that $P(A)=0.6$, $P(B)=0.5$, Then $P(A|B)=$

- Ops:**
- A. 0.12
 - B. 0.3
 - C. 0
 - D. 0.6

Reset

01. Multiple Choice Questions

Q 01. For any experiment, the sample space $S = \{1, 2, 3, 4, 5, 6\}$. For any two events $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5\}$.

Ops: A. 1

B. (6/7)

C. (5/7)

D. (4/7)

Reset

Q 02. The set of all possible outcomes of a random experiment is

Ops: A. Event



B. Outcome

	1	0.15	0.05	0.02	
y	2	0.05	0.30	0.05	
	3	0.03	0.10	0.25	

Find μ_x

(a) 2.07

(b) 2.09

(c) 1.19

(d) 2.2

- : A. a
- B. b
- C. c
- D. d

Reset



- Let X be a discrete random variable with cumulative probability distribution function $P(X > 2)$

A. (1/4)

B. (1/2)

C. (3/4)

D. 1

Q 60. Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/8$, $F(1)=2/8$, $F(2)=1/2$, and $F(3)=7/8$. Find $P(X>2)$

- Ops:**
- A. (1/4)
 - B. (1/2)
 - C. (3/4)
 - D. 1

Reset

SECTION 05/01
[Previous Section](#)

SECTION 01/01
[Next Section](#)

Q 31. For any experiment, the sample space $S = \{a, b, c, d\}$. For any two events $A = \{a, b\}$ and $B = \{a, b, c\}$

- Ops:**
- A. 0
 - B. 0.2
 - C. 0.5
 - D. 1



Q 32. what is the probability of getting an even number between the numbers 1 to 100 ?

- Ops:**
- A. $(1/8)$
 - B. $(1/4)$
 - C. $(1/2)$
 - D. 1

- C. 0.2499
D. 0.499

3335

Q 29. If two cards are selected randomly one by one with replacement from a packet of 52 cards, what is the probability that both cards.

- Ops:** A. 1
B. $(1/2)$
C. $(1/4)$
D. $(1/16)$

Q 30. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=1/4$, $f(2)=1/2$, then $P(X>0) =$

- Ops:** A. $(1/2)$
B. $(1/4)$
C. $(3/4)$
D. 1

Q 55. The probability that a person living in a certain city owns a dog is estimated to be 0.4. Find the probability that the 5th person interviewed in the city is the 5th one to own a dog.

- s: A. 0.022
B. 0.045
C. 0.044
D. 0.055

Reset

- c. (2/10)
- d. (3/10)

Q.52. A bag contains 2 black balls and 3 green balls. If two balls are selected randomly, what is the probability that both are black?

- Dps:
- A. 0.1
 - B. 0.4
 - C. 0.76
 - D. 0.23

Reset

53. The events having no common outcomes are called:

- Dps:
- A. Equally likely events
 - B. Exhaustive events
 - C. Mutually exclusive events
 - D. Independent events

Reset

4. If two cards are selected randomly one by one with replacement from a packet of 52 cards, what is the probability that both are red cards?

- A. 1
- B. (1/2)
- C. (1/4)
- D. (1/16)

Q 07. Consider the density function $f(x) = k C(2,x)$, $x=0,1,2$ and $f(x) = 0$ elsewhere , then $k=?$

- Ops: A. 1
B. (1/4)
C. (3/4)
D. (5/8)

Q 08. Suppose that airplane engines operate independently and fail with probability equal to 0.5. If the airplane has 2 engines, what is the probability that none will fail during a flight ?

- Ops: A. 0.75
B. 0.55
C. 0.25
D. 0.77

Q 09. Suppose that airplane engines operate independently and fail with probability equal to 0.2. If the airplane has 2 engines, what is the probability that none will fail during a flight ?

- Ops: A. 0.75
B. 0.64
C. 0.9
D. 0.77

Q 36. Suppose that airplane engines operate independently and fail with probability 0.05. If there are four engines, what is the probability that none will fail during a flight?

- Ops: A. 0.75
B. 0.64
C. 0.9
D. 0.77

red.

- Ops:
- A. (1/10)
 - B. (1/20)
 - C. (2/10)
 - D. (3/10)

Reset

Q 37. For any experiment, the sample space $S = \{HH, HT, TH, TT\}$. For

- Ops:
- A. (3/4)

Q 51. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops:** A. 0.77
B. 0.98
C. 0.8
D. 0.67

Q 52. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=5/16$, $f(2)=7/16$, then cumulative distribution function $F(1)=?$

- Ops:** A. $(6/16)$

Q 05. Find the expected number of tails when a fair coin is tossed twice.

- Ops:
- A. 0
 - B. 0.5
 - C. 1
 - D. 0.75

Reset

Q 06. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)=0.49$, then find the variance

- Ops:
- A. 1
 - B. 0
 - C. 0.2499
 - D. 0.499

Q 08. X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4 | X > 1)$

- Ops: A. (1/2)
B. (1/3)
C. (2/3)
D. 1

Reset

Q 09. What is the probability of getting a total of atleast 4 when a pair of fair dice is tossed?

- Ops: A. 0.57
B. 0.55
C. 0.92
D. 0.45

Reset

Q 10. The mean of the binomial distribution $b(x; n, p)$ is ...

- Ops: A. np
B. $p(1-p)$
C. $n(1-p)$
D. $np(1-p)$

Probability that none will fall during a flight.?

- Ops: A. 0.75
B. 0.55
C. 0.25
D. 0.77

Q 18. What is the probability of getting a total of 8 or 12 when a pair of fair dice is tossed?

- Ops: A. $(2/9)$
B. $(8/36)$
C. $(6/36)$
D. $(7/36)$

Reset

Q 19. In Tossing a fair coin 5 times find the probability of getting 1st tail in 5th trial.

- Ops: A. $(1/32)$
B. $(1/16)$
C. $(1/12)$
D. $(1/4)$

Reset

distribution of X .
Ans: $P(X=1) = 0.1, P(X=2) = 0.4, P(X=3) = 0.3, P(X=4) = 0.2$. Find the marginal probability.

Ops: A. 0.2
B. 0.3
C. 0.6
D. 0.5

[Reset](#)

Q 34. From a lot of 4 missiles, 2 are selected at random and fired. If the lot contains 2 defective missiles that will not fire, what is the probability that exactly 1 will fire.

- Ops: A. $(1/3)$
B. $(2/3)$
C. $(1/6)$
D. $(2/6)$

[Reset](#)

Q 35. In rolling a fair die what is the probability of getting 3 , if its known that the toss of the die resulted in a odd number.

- Ops: A. 1
B. $(1/2)$
C. $(1/3)$
D. $(1/4)$

[Reset](#)

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- Ops: A. (1/15)
B. (1/23)
C. (1/11)
D. (1/22)

Q 21. What is the probability of getting a total of 7 OR 11 when a pair of fair dice is tossed?

- Ops: A. (2/9)
B. (8/36)
C. (5/36)
D. (7/36)

Reset

Q 22. If X and Y are two independent random variables, then covariance of X and Y is _____

Submit

- Ops: A. 0
B. 1

D. 1

Q 32. Consider the density function $f(x) = k C(2,x)$, $x=0,1,2$ and $f(x) = 0$ elsewhere

- Ops:**
- A. 1
 - B. (1/4)
 - C. (3/4)
 - D. (5/8)

Reset

Q 33. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.2$, $f(1,0)=0.3$, $f(1,1)=0.4$. Find the distribution of Y.

- Ops:**
- A. 0.2
 - B. 0.3
 - C. 0.6

- Ops:**
- A. np
 - B. p(1-p)
 - C. n(1-p)
 - D. np(1-p)

Reset

Q 11. Let X be a random variable with probability distribution function $f(x) = 2(1-x)$ for $0 < x < 1$ and $f(x) = 0$ elsewhere

- Ops:**
- A. 0.35
 - B. 0.55
 - C. 0.25
 - D. 0.85

Reset

Q 12. Consider the density function $f(x) = kx$, $0 < x < 1$ and $f(x) = 0$ elsewhere , then $k=?$

- Ops:**
- A. 1
 - B. 2
 - C. 3
 - D. 5

Reset

Q 13. What is the probability of getting a total of atmost 10 if a dice is rolled twice?

Q 03. If X follows poisson probability distribution with probability of success is 0.03. If the total number of trials is 100, then the probability of getting exactly 3 successes is

- Ops:**
- A. 0.5768
 - B. 0.4232
 - C. 0.6472
 - D. 0.3528

Reset

- Ops:** A. 1
B. 0
C. 0.2499
D. 0.499

Reset

Q 07. if the joint probability distribution of X and Y is given by $f(x,y) = (x + 2y)/18$ for $x=1,2$ and $y=1,2$. Then $P(X > 1 | Y = 1)$ is

- Ops:** A. $(7/18)$
B. $(4/36)$
C. $(4/18)$
D. $(7/36)$

Reset

Q 08. X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4 | X > 0)$ is

- Ops:** A. $(1/2)$
B. $(1/3)$
C. $(2/3)$
D. 1

- B. 0.0768
 C. 1
 D. 0.6733

Q 28. For any experiment, the sample space $S = \{1, 2, 3, 4, 5, 6\}$. For any two events $A = \{1, 2, 3, 4\}$ and $B = \{2, 3, 5, 6\}$, find $P(A \cap B)$.

- Ops:** A. 1
B. (6/7)
C. (5/7)
D. (4/7)

Reset

Q 36. In rolling a fair dice 5 times; what is the probability of getting 2 numbers of sixes?

- Ops: A. 0.16
B. 0.2
C. 0.05
D. 0.52

Q 37. If two cards are selected randomly one by one with replacement from a packet of 52 cards, what is the probability that both of them are red cards.

- Ops: A. 1
B. $(1/2)$
C. $(1/4)$
D. $(1/16)$

Reset

Q 38. The probability that a patient recovers from a rare blood disease is 0.7. If 5 people are known to have contracted the disease, what is the probability that at least 4 survives?

- Ops: A. 0.45
B. 0.233
C. 0.163
D. 0.53

Reset

Submit

For cumulative distribution function $F(x)$, if $F(-\infty)=0$, then $F(\infty)=$

Ops: A. 0
B. -1
C. 1
D. 0.5

Reset

Q 42. Let X and Y are two discrete random variables with joint probability distribution $f(x, y)$. The conditional distribution of the random variable Y given that $X = x$, $f(y|x)$

(a) $\frac{h(y)}{g(x)}$, $g(x) > 0$
(b) $\frac{g(x)}{h(y)}$, $h(y) > 0$
(c) $\frac{f(x, y)}{h(y)}$, $h(y) > 0$
(d) $\frac{f(x, y)}{g(x)}$, $g(x) > 0$

Ops: A. a
B. b
C. c
D. d

Reset

		x		
		1	2	3
y	1	0.15	0.05	0.02
	2	0.05	0.30	0.05
	3	0.03	0.10	0.25

Find μ_x

- (a) 2.07
- (b) 2.09
- (c) 1.19
- (d) 2.2

Ops:

- A. a
- B. b
- C. c
- D. d

Reset

Q 19. The mean of the Poisson distribution $P(x;m)$ is ...

- Ops:**
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$
 - D. $np(1-p)$

$$f(x,y) = \begin{cases} \frac{2}{3}(x+2y), & 0 \leq x \leq 1, 0 \leq y \leq 1, \\ 0 & \text{elsewhere.} \end{cases}$$

The marginal density of X

- A) $\frac{2}{3}(x+1)$
- B) $\frac{2}{3}(1/2 + 2y)$
- C) $\frac{2}{3}(y+1)$
- D) $\frac{2}{3}(1/2 + 2x)$

Ops: A. a
B. b

Q 55. For any constant k, $E(k)$ is

- Ops:
- A. 0
 - B. k
 - C. 1
 - D. $k/2$

Reset

Q 56. Let X be a random variable with the following probability distribution

X	3	6	5
$f(x)$	$1/5$	$1/2$	$3/10$

Find $E(Z)$, where $Z = (5X+1)$

Q 41. The mean of the binomial distribution $b(x;n,p)$ is ...

Ops: A. np

B. p(1-p)

C. n(1-p)

D. np(1-p)



Q 37. For any experiment, the sample space $S = \{HH, HT, TH, TT\}$. For any two events $A = \{HH, HT\}$ and $B = \{HT, TH\}$, $P(A \cap B) =$

- Ops:
- A. (3/4)
 - B. (2/ 4)
 - C. (1/ 8)
 - D. (1/3)

Q 38. What is the probability of getting a total of atleast 4 when a pair of fair dice is tossed?

- Ops:
- A. 0.57
 - B. 0.55
 - C. 0.92
 - D. 0.45

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Q 48. A and B are two independent events such that $P(A) = 0.6$, $P(A \cap B) = 0.2$, Then $P(B|A) =$

- Ops:**
- A. (1/2)
 - B. (1/4)
 - C. (2/3)
 - D. (1/3)

Reset

Q 49. Let X and Y are two discrete random variables with joint probability distribution $f(x, y)$, conditional distribution of the random variable Y given that $X = x$, $f(y|x)$

(a) $\frac{h(y)}{g(y)}$, $g(y) > 0$

probability that at most one will fail during a flight?

- Ops: A. 0.1122
B. 0.5568
C. 0.8192
D. 0.5622

Q 08. if the joint probability distribution of X and Y is given by $f(x,y) = (x + 2y)/18$ for $x=1,2$ and $y=1,2$. Then P()

- Ops: A. $(7/18)$
B. $(4/36)$
C. $(4/18)$
D. $(7/36)$

Reset

Q 11. If A and B are independent events , then $P(A|B)=$

- Ops:**
- A. P(A)
 - B. 0
 - C. $P(A) + P(B)$
 - D. 1

Reset

Q 12. The set of all possible outcomes of a random experiment is

Q 04. The mean of the Poisson distribution $P(x;m)$ is ...

- Ops:**
- A. np
 - B. p(1-p)
 - C. n(1-p)
 - D. np(1-p)

Reset

nit

Q 10. The variance of the binomial distribution $b(x;n,p)$ is ...

- Ops:**
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$
 - D. $np(1-p)$

Reset

Q 11. If A and B are independent events, then $P(A|B)$ is

Q 58. The variance of the Poisson distribution $P(x; m)$ is ...

- Ops: A. np
B. p(1-p)
C. n(1-p)
D. np(1-p) 

Q 59. For cumulative distribution function $F(x)$, if $F(-\infty)=0$, then $F(\infty)=.....$

- Ops: A. 0
B. -1
C. 1
D. 0.5

[Reset](#)

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Q 60. From past experience it is known that 5% of the products produced by a company are defectives. If 10 items are selected randomly from a lot. Find the probability that exactly 1 among those 10 is defective.

(b) 42

- Ops: A. a
B. b
C. c
D. d

Q 56. What is the probability of getting a total of 7 OR 11 when a pair of fair dice is tossed?

- Ops: A. $(2/9)$
B. $(8/36)$
C. $(5/36)$
D. $(7/36)$

[Reset](#)

Q 57. In rolling a fair die what is the probability of getting 3 , if its known that the toss of the die resulted in a odd number.

- Ops: A. 1
B. $(1/2)$
C. $(1/3)$
D. $(1/4)$

[Reset](#)

Q 04. For any experiment, the sample space $S = \{HH, HT, TH, TT\}$. For any two events $A = \{ HH, HT \}$

- Ops:
- A. (3/4)
 - B. (2/ 4)
 - C. (1/ 8)
 - D. (1/3)

Reset

Instructions
Sections
01. Multiple Choice Questions
01 / 60 attempted

01. Multiple Choice Questions

Q 01. What is the probability of getting a total of 7 (RR-LL when a pair of fair dice is thrown)?
Ops: A. (2/9)
B. (8/36)
C. (5/36)
D. (7/36)

Reset

Q 02. Let X be a discrete random variable with probability mass function $f(0)=1/8$, $f(1)=2/8$, $f(2)=3/8$, $f(3)=2/8$, then cumulative distribution function $F(2)=?$
Ops: A. (6/8)
B. (7/8)
C. 2/8
D. (3/8)

Q 03. If X is a random variable with variances $\sigma_x^2 = 5$, find the variance of the random

msi



- D. (4/6)
- C. (5/6)
- D. 1

Q 05. A and B are two independent events such that $P(A)=0.6$, $P(A \cap B)=0.2$, Then $P(B|A)=$

- Ops:**
- A. (1/2)
 - B. (1/4)
 - C. (2/3)
 - D. (1/3)

Reset

Q 49. $P(A)=0.2$, $P(B)=0.5$ and $P(A \cup B) =0.5$, then $P(A \cap B)=$

- Ops:** A. 0.5
B. 0.6
C. 0.3
D. 0.2

Reset

Q 41. Find the Mean of the data set 1.7, 2.2, 3.9, and 3.11

- Ops:
- A. 2.73
 - B. 3.17
 - C. 3.71
 - D. 2.93

Reset

- B. 1/2
C. 1/5
D. 3/10

Q 38. A random variable X has a mean $\mu = 10$, a variance $\sigma^2 = 4$, and an unknown probability distribution. Using Chebyshev's theorem, $P(4 < X < 16)$

(a) $\leq \frac{8}{9}$
(b) $\geq \frac{9}{8}$
(c) $\geq \frac{8}{9}$
(d) $\leq \frac{9}{8}$

Ops: A. a
B. b
C. c
D. d

Reset

Q 39. In rolling a fair die what is the probability of getting 2 , if its already known that an even number has turned up.

Ops: A. 1
B. (1/2)
C. (1/3)

Q 01. The events having no common outcomes are called:

- Ops:**
- A. Equally likely events
 - B. Exhaustive events
 - C. Mutually exclusive events
 - D. Independent events

Reset

- B. 0.4232
C. 0.6472
D. 0.3528

18335



Q 04. if the joint probability distribution of X and Y is given by $f(x,y) = (x + y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1) =$

- Ops: A. $(7/36)$
B. $(4/36)$
C. $(4/30)$
D. $(7/30)$

Reset



Q 05. Consider the following statement:

- Ops: A. 1/10
B. 1/2
C. 1/5
D. 3/10

Reset

Q 06. A random variable X has a mean $\mu = 10$, a variance $\sigma^2 = 4$, and an unknown probability distribution. Using Chebyshev's theorem, $P(4 < X < 16)$

- (a) $\leq \frac{8}{9}$
(b) $\geq \frac{9}{8}$
(c) $\geq \frac{8}{9}$
(d) $\leq \frac{9}{8}$

- Ops: A. a
B. b
C. c

Q 03. If X represents the number of heads when a fair coin is tossed once, then $\text{Var}(X)$ is ...

Ops: A. 0

B. 0.5

C. 0.25

D. 0.75

Reset

Q 04. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$.

Q 02. If A and B are independent events , then $P(A|B)=$

- Ops:**
- A. $P(A)$
 - B. 0
 - C. $P(A) + P(B)$
 - D. 1

Reset

- C. 0.917
D. 0.455

Q 04. A random variable X has a mean $\mu = 8$ and a variance $\sigma^2 = 9$. Using Chebyshev's theorem, the minimum value of $P(2 < X < 14)$ is

- (a) 3/4
(b) 1/2
(c) 2/3
(d) 1/3

Ops: A. a
B. b
C. c
D. d

D. 0.75

Reset

Q 04. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of X .

- Ops: A. 0.5
B. 0.2
C. 0.3
D. 0.6

Q 05. The probability that a regularly scheduled train departs on time is $P(D) = 0.80$; The probability that it arrives on time is $P(A) = 0.85$; and the probability that it departs and arrives on time is $P(D \cap A) = 0.72$. Find the probability that a train departed on time, given that it has arrived on time.

- Ops: A. 0.84
B. 0.94
C. 0.9
D. 0.87

Reset

Q 41. Find the Mean of the data set 1.7, 2.2, 3.9, and 3.11



- Ops:**
- A. 2.73
 - B. 3.17
 - C. 3.71
 - D. 2.93

Reset

balls?

Ops: A. 0.1

B. 0.4

C. 0.76

D. 0.23

Q 44. X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4 | X > 1)$

- Ops:**
- A. (1/2)
 - B. (1/3)
 - C. (2/3)
 - D. 1

Q 45. Probability of hitting the target is 0.7 and 3 shots are fired independently. Find the probability of hitting the target twice.

- Ops:**
- A. 0.22
 - B. 0.375
 - C. 0.441
 - D. 0.523

X be a discrete random variable with probability mass function $f(0) = 1/4, f(1) = 5/16, f(2) = 7/16$, then cumulative

that at most 1 will not fire.

- Ops: A. 0.5 
B. 0.6
C. 0.2
D. 0.3

Q 13. Let X and Y are two discrete random variables with joint marginal probability distribution of discrete random va

(a) $\sum_x f(x, y)$

(b) $\sum_y f(x, y)$

(c) $\sum_y \sum_x f(x, y)$

(d) $\sum_x \sum_y f(x, y)$

Ops: A. a

B. b

C. c

- A. $\sigma^2/2$
C. 0.51
D. 0.073

Q 06. If X is a random variable with variances $\sigma_x^2 = 5$, find the variance of the random variable $Z = 5X - 10$

(a) 100

(b) 233

(c) 259

(d) 125

- : A. a
B. b
C. c
D. d

Q 01. Find the Mean of the data set 1.7, 2.2, 3.9, and 3.11

- Ops: A. 2.73
B. 3.17
C. 3.71
D. 2.93

[Reset](#)

Q 02. Suppose that airplane engines operate independently and fail with probability equal to 0.2. If the airplane has 4 engines, what is the probability that at most one will fail during a flight?

- Ops: A. 0.1122
B. 0.5568
C. 0.8192
D. 0.5622



3. In a certain assembly plant, 3 machines, M1, M2 and M3 , make 20%, 50%,and 30%, respectively, of the products. It is known that each machine experiences that 2%, 3%and 2% of the products made by each machine, respectively, are defective. Now, suppose that a product is randomly selected. What is the probability that it is defective?

0.024

Q 14. For any experiment, the sample space $S = \{a, b, c, d\}$. For any two events $A = \{a, b\}$ and $B = \{a, b, c\}$, then $P(A \cap B) =$

- Ops: A. 0
B. 0.2
C. 0.5
D. 1

Q 15. compute the value of the constant 'k' used in the following probability distribution $f(x) = k(x+2)$, $0 < x < 1$ elsewhere 0.

- Ops: A. $(2/5)$
B. $(1/4)$
C. $(1/2)$
D. 1

b)

Q 16. The probability that a person will die when he or she contracts a virus infection is 0.001. Of the next 4000 people infected, what is the mean number who will die?

- Ops: A. 2
B. 4
C. 10
D. 40

Q 17. Let X and Y are two discrete random variables with joint probability distribution $f(x, y)$. The conditional distribution of the random variable Y given that $X = x$, $f(y|x)$

(a) $\frac{h(v)}{g(x)}$, $g(x) > 0$

- Ops: A. a
B. b
C. c
D. d

Reset

Q 11. Let X be a random variable with probability distribution function $f(x) = 2(1-x)$ for $0 < x < 1$ and $f(x)=0$ elsewhere, then $P(0.5 < x < 1)$ is

-
- Ops: A. 0.35
B. 0.55
C. 0.25
D. 0.85



Q 12. From a lot of 6 missiles, 4 are selected at random and fired. If the lot contains 2 defective missiles that will not fire, what is the prob.

0 - 1/6

Q 07. In a certain industry, 2 printing machines, M1 and M2 make 50% each from the total printing items. It is known from past experience that 2% and 3% of the printing items made by each machine, respectively, are defective. Now, suppose that a finished item is randomly selected. What is the probability that it is defective?

- Ops: A. 0.034
B. 0.143
C. 0.025
D. 0.325

[Reset](#)

Q 08. On average, per hour 7 number of customer arrives at an atm . Compute the probability that more than 2 customer will arrive in the atm in a given hour.

- Ops: A. 0.971
B. 0.871
C. 0.029
D. 0.028

Q 09. X is a discrete random variable with probability function $f(x) = 1/4$ for $x=3, 4, 5, 6$. Then $P(4 \leq X \leq 6)$

D. 0.523

Q 46. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=5/16$, $f(2)=7/16$, then cumulative distribution function $F(1)=?$

- Ops:**
- A. $(6/16)$
 - B. $(7/16)$
 - C. 1
 - D. $(9/16)$

Q 47. If the probability distribution for the rando variable X are $f(0)=0.51$, $f(1)=0.49$, then find $E(4X+1)$

- Ops:**
- A. 2.96
 - B. 3.24
 - C. 1.96
 - D. 4.2

What is the probability of getting a total of atleast 4 when a pair of fair dice is tossed?

Q 21. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)=0.49$

- Ops:**
- A. 1
 - B. 0
 - C. 0.2499
 - D. 0.499

2. Let X be a discrete random variable with cumulative probability distrib

Q 01. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops:*
- A. 0.77
 - B. 0.98
 - C. 0.8
 - D. 0.67

Q 53. Let X be a discrete random variable with probability mass function

- Ops:**
- A. (1/2)
 - B. (1/4)
 - C. (3/4)
 - D. 1



Q 54. According to a genetic theory, a certain cross of guinea pigs



Kiran Patel

Candidate ID: 29575912

00 : 48 : 23

Instructions**Sections****Q1. Multiple Choice Questions**

28 / 20 attempted

Q 48. The probability that a person will die when he or she contracts a virus infection is 0.001. Of the next 4000 people infected, what is the mean number who will die?

- Ops: A. 2
B. 4
C. 10
D. 40

Q 49. What is the probability of getting a total of atleast 4 when a pair of fair dice is tossed?

- Ops: A. 0.57
B. 0.55
C. 0.92
D. 0.45

Reset

Q 50. For any experiment, the sample space $S = \{a, b, c, d\}$. For any two events $A = \{a, b\}$ and $B = \{a, b, c\}$, then $P(A \cap B) =$

- Ops: A. 0
B. 0.2
C. 0.5
D. 1

Submit

Q 60. If X follows poisson probability distribution with probability of success is

- Ops:**
- A. 0.5768
 - B. 0.4232
 - C. 0.6472
 - D. 0.3528



SECTION 00/01

Previous Section

SECTION 01/01

Next Section

- C. c
- D. d

Q 53. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=1/4$, $f(2)=1/2$, then $P(X>0) =$
Ops: A. (1/2)
B. (1/4)
C. (3/4)
D. 1

Q 54. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white offspring in the ratio

Q 25. If the events A and B are mutually exclusive then $P(A \cap B) = \dots$

- Ops:**
- A. 1
 - B. $P(A)$ 
 - C. 0
 - D. $P(B)$

Q 26. Find the value of c for which $f(x) = c(2x+1)$, for $x=0,1,2$; then $c=?$

D. 0.055

Reset

Q 11. Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/8$, $F(1)=2/8$, $F(2)=1/2$, and $F(3)=1$ then $P(X>2)$

- Ops:**
- A. (1/4)
 - B. (1/2)
 - C. (3/4)
 - D. 1

Q 12. What is the probability of getting a total of atmost 10 if a dice is rolled twice?

- Ops:**
- A. 0.175
 - B. 0.556
 - C. 0.917
 - D. 0.455

Q 45.

For what value of 'k' so that $f(x,y) = k(2x+y)$, $x=0,1$ and $y=1,2$ will be a joint distribution function.

(a) $1/12$

(b) 1

(c) $1/2$

(d) $1/4$

- Ops: A. a
B. b
C. c
D. d

Q 46. A bag contains 3 red balls, 5 black balls. In a random sample of 3 balls, find the probability that at least one ball is red.

- Ops: A. 0.2342
B. 0.5444
C. 0.267
D. 0.1772

Q 47. Let X be a discrete random variable with cumulative probability distribution function

$$P(X \leq 2) = \dots$$

Q 53. If X is a random variable with variances $\sigma_x^2 = 5$, find the variance of the random variable $Z = 5X - 10$

(a) 100

(b) 233

(c) 259

(d) 125

Ops: A. a

B. b

C.

Reset

- Q 41. compute the value of the constant 'k' used in the following probability distribution.
- Ops: A. (2/5)
B. (1/4)
C. (1/2)
D. 1

- Q 42. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white probability that among 5 offspring 2 will be red, 2 black and 1 white.
- Ops: A. 0.502
B. 0.0768
C. 1
D. 0.6733

- Q 43. Consider the density function $f(x) = kx$, $0 < x < 1$ and $f(x) = 0$ elsewhere. Then $k =$
- Ops: A. 1
B. 2
C. 3
D. 5

- Q 44. Suppose that airplane engines operate independently and the probability that one engine fails during a flight is 0.05. What is the probability that none will fail during a flight?

Ops: A. 0.75

- B. 4
- C. 10
- D. 40

Q 14. Let A and B be two independent events such that $P(A) = 1/5$ and $P(A \cap B) = 1/10$. Then find $P(B) \dots$

- Ops:**
- A. $1/10$
 - B. $1/2$
 - C. $1/5$
 - D. $3/10$

Q 15. The probability that a patient recovers from a rare blood disease is 0.4. If 6 people are known to have contracted the disease, what is the probability that at most one will not survive?

- Ops:**
- A. 0.5
 - B. 0.041
 - C. 0.235
 - D. 1

	1	0.15	0.05	0.02
y	2	0.05	0.30	0.05
	3	0.03	0.10	0.25

Find μ_x

(a) 2.07

(b) 2.09

(c) 1.19

(d) 2.2

Q 31. The probability that a patient recovers from a rare blood disease is 0.4. If 6 people are known to have contracted the disease, what is the probability that at most one will not survive?

- Ops:** A. 0.5
B. 0.041
C. 0.235
D. 1

Q 32. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops:** A. 0.77
B. 0.98
C. 0.8
D. 0.67

Submit

D. 0.020

54. compute the value of the constant 'k' used
in the following probability distribution
 $f(x)=k(x+2)$, $0 < x < 1$ elsewhere 0.

Ops: A. (2/5)

B. (1/4)

C. (1/2)

arrives at an atm . Compute the probability that more than 2 customer will arrive in the atm in a given hour.

- Ops:
- A. 0.971
 - B. 0.871
 - C. 0.029
 - D. 0.028

54. compute the value of the constant 'k' used in the following probability distribution
 $f(x)=k(x+2)$, $0 < x < 1$ elsewhere 0.

- Ops:
- A. $(2/5)$
 - B. $(1/4)$



$$(d) \sum_x \sum_y f(x, y)$$

- Ops: A. a
B. b
C. c
D. d

Reset

Q 22. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the ratio of 1:2:2. Find is the probability that among 5 off spring 2 will be red, 2 black and 1 white.

- Ops: A. 0.502
B. 0.0768
C. 1
D. 0.6733

Q 23. In a certain industry, 2 printing machines, M1 and M2 make 50% each from the total printing items. It is known from past experience that 2% and 3% of the priting items made by each machine, respectively, are defective. Now, suppose that a finished item is randomly selected. What is the probability that it is defective?

- Ops: A. 0.034
B. 0.143

Q 20. The probability that a patient recovers from a rare blood disease is 0.2. If 10 people are known to have contracted the disease, what is the probability that at most one survives?

- Ops:**
- A. 0.5
 - B. 0.3758
 - C. 0.235
 - D. 1

Q 21. Let X and Y are two discrete random variables with joint probability distribution $f(x,y)$. The

probability that neither is available when needed?

- Ops:** A. 0.0004
B. 0.014
C. 0.088
D. 0.0084

- B. -1
C. 1
D. 0.5

Reset

Q 25. For any experiment, the sample space $S = \{a, b, c, d\}$. For any two events $A = \{a, b\}$ and $B = \{a, b, c\}$, then $P(A \cap B) =$

- Ops:** A. 0
B. 0.2
C. 0.5
D. 1

Q 26. If X follows Binomial probability distribution with probability of success is 0.3. If the total number of trials is 10, then $P(X > 3)$

- Ops:** A. 0.1122
B. 0.6496
C. 0.3504
D. 0.5622

Q 44. If the arrival (A) and departure (D) of a regular aircraft are independent events, if the probability of arrival on time is $P(A) = 0.80$, Then the probability of arrival on time is $P(D) = \dots$

- Ops:**
- A. 0.9
 - B. 0.8
 - C. 0.72
 - D. 1

Q 17. Let A and B be two independent events such that $P(A) = 1/5$ and $P(A \cap B) = 1/10$. Then find $P(B)$...

Ops: A. 1/10

B. 1/2

C. 1/5

D. 3/10

Q 18. If X follows Binomial probability distribution with probability of success is 0.3. If the total number of trials is 10, then $P(X > 3)$

Ops: A. 0.1122

B. 0.6496

C. 0.3504

D. 0.5622

Ops: A. 0.5768

B. 0.4232

C. 0.6472

D. 0.3528

- B. 3.17
- C. 3.71
- D. 2.93

Reset

Q 02. Suppose that airplane engines operate independently and fail with probability equal to 0.2. If the airplane has 4 engines, what is the probability that at most one will fail during a flight?

- Ans:**
- A. 0.1122
 - B. 0.5568
 - C. 0.8192
 - D. 0.5622

 3. In a certain assembly plant, 3 machines, M₁, M₂ and M₃, make 20%, 50%, and 30%, respectively, of the products. It is known that 2%, 3% and 2% of the products made by each machine, respectively, are defective. Now, if a product is selected at random, what is the probability that it is not defective?

- Ops:**
- A. (7/18)
 - B. (4/36)
 - C. (4/18)
 - D. (7/36)

Reset

Q 47. On average a student makes 2 mistakes per page. What is the probability in a given page the student will make at least one mistake?

- Ops:**
- A. 0.594
 - B. 0.445
 - C. 0.564
 - D. 0.786



Q 48. If X follows Binomial probability distribution with probability of success is 0.3. If the total number of trials is 10

- Ops:**
- A. 0.1122

01. Multiple Choice Questions

Q 01. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are randomly selected from a lot, find the probability that at most 1 among those 10 is defective.

- Ops: A. 0.77
B. 0.98
C. 0.8
D. 0.67

Q 02. A bag contains 2 red balls, 3 black balls . If 2 balls selected at random from the bag, find the probability that both balls selected are red.

- Ops: A. $(1/10)$
B. $(1/20)$

- s: A. 0.1947
B. 0.8153
C. 0.6472
D. 0.3528

In a certain assembly plant, 3 machines, M1, M2 and M3 , make 20%, 50%,and 30%, respectively.

Q 04. If X represents the number of heads when a fair coin is tossed once, then $\text{Var}(X)$ is

- Ops:**
- A. 0
 - B. 0.5
 - C. 0.25
 - D. 0.75
-

Q 05. Let X be a discrete random variable with probability mass function $f(0)=1/8$, $f(1)=3/8$, $f(2)=3/8$, $f(3)=1/8$, then $P(X>0) =$

- Ops:**
- A. $(16/8)$
 - B. $(3/8)$
 - C. $(1/8)$
 - D. $(7/8)$
-

Q 06. In Tossing a fair coin 3 times find the probability of getting 1st head in 2nd trial.

- Ops:**
- A. $(1/4)$
 - B. $(1/16)$
 - C. $(1/12)$
 - D. $(1/32)$
-

Q 07. Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/9$, $F(1)=2/9$, $F(2)=3/9$ and $F(3)=1$ then,

$$P(X<2)=\text{-----}$$

- Ops:**
- A. $(1/8)$
 - B. $(2/9)$
 - C. $(3/9)$

Q 08.

Let X be a random variable with the following probability distribution:

X	3	6	5
$f(x)$	1/5	1/2	3/10

Find $E(Z)$, where $Z = (5X+1)$

- a) 15.5
- b) 25.5
- c) 26.5
- d) 13.5

Ops: A. a

B. b

C. c

D. d

Q 09. if the joint probability distribution of X and Y is given by $f(x,y) = (x+y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1) =$

- Ops: A. (7/36)
- B. (4/36)
- C. (4/30)
- D. (7/30)

Q 10. Let X be a discrete random variable with cumulative probability distribution function $F(-1)=1/8$, $F(1)=1/4$, $F(2)=3/8$ and $F(4)=1$ then

Probability Function $f(x) =$

D. d

Reset

Q 58. If two cards are selected randomly one by one with replacement from a packet of 52 cards, what is the probability that both of them are red cards.

- Ops:**
- A. 1
 - B. $(1/2)$
 - C. $(1/4)$
 - D. $(1/16)$

Q 59. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=1/4$, $f(2)=1/2$, then $P(X>0) =$

- Ops:**
- A. $(1/2)$
 - B. $(1/4)$
 - C. $(3/4)$
 - D. 1

Q 60. X is a discrete random variable with probability function $f(x)=1/4$ for $x= -1,2,3,4$. Then $P(X < 4 | X > 1)$

- Ops:**
- A. $(1/2)$
 - B. $(1/3)$
 - C. $(2/3)$
 - D. 1

(c) 1.19

(d) 2.2

Ops: A. a

B. b

C. c

D. d

[Reset](#)

Q 35. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will hit by fewer than 3 hurricanes

Ops: A. 0.735

B. 0.265

C. 0.8853

D. 0.1247

Q 36. What is the probability of getting a total of atmost 10 if a dice is rolled twice?

Ops: A. 0.175

B. 0.556

C. 0.917

D. 0.455

The joint distribution of X and Y is given by $f(x,y) = (x+2y)/18$ for $x=1,2$ and $y=1,2$. Then $P(X > 1, Y=1) =$

Q X is a discrete random variable with probability function $f(x) = 1/6$ for $x = 1, 2, 3, 4, 5, 6$. Then $P(X < 5 | X > 2)$

19.

- Ops:
- A. (1/2)
 - B. (1/3)
 - C. (2/3)
 - D. 1

Q what is the probability of getting an even number between the numbers 1 to 100 ?

Q 06. Consider the density function $f(x) = kx$, $0 < x < 1$ and $f(x) = 0$ elsewhere , then $k=?$

- Ops:**
- A. 1
 - B. 2
 - C. 3
 - D. 5

Q 09. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of Y.

- Ops:
- A. 0.2
 - B. 0.3
 - C. 0.6
 - D. 0.5

Q 25. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops: A. 0.77
B. 0.98
C. 0.8
D. 0.67

Q 53. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the expected value of $g(X,Y)=XY$

- Ops:**
- A. 0.2
 - B. 0.6
 - C. 1
 - D. 1.2

Q 54. Determine the value of c so that the function $f(x, y) = c xy$ for $x=1, 2, 3$ and $y=1, 2, 3$ represents joint probability distributions of the random variables X and Y

- (a) 1/30
- (b) 1/34
- (c) 1/36
- (d) 1/38

- Ops:**
- A. a
 - B. b
 - C. c
 - D. d

distribution of X.

- Ops:
- A. 0.5
 - B. 0.2
 - C. 0.3
 - D. 0.6

Q 40. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=5/16$, $f(2)=7/16$, then cumulative distribution function $F(1)=?$

- Ops:**
- A. (6/16)
 - B. (7/16)
 - C. 1
 - D. (9/16)

- B. (1/2)
- C. (1/4)
- D. (1/16)

Reset

Q 08. In a certain assembly plant, 3 machines, M₁, M₂ and M₃ , make 20%, 50%,and 30%, respectively, of the products. It is known from past experience that 2%, 3%and 2% of the products made by each machine, respectively, are defective. Now, suppose that a finished product is randomly selected. What is the probability that it is defective?

- Ops:**
- A. 0.034
 - B. 0.143
 - C. 0.025
 - D. 0.325

Q 09. If two cards are selected from a packet of 52 cards at rando , what is the probability that both of them are king?

- Ops:**
- A. (4/221)
 - B. (1/221)

errors is exactly one. (Use Poisson distribution)

- Ops: A. 0.393
B. 0.272
C. 0.51
D. 0.073

Q 56. Find the probability that a person flipping a coin gets first head in the 4th flip.

- Ops: A. $(1/2)$
B. $(1/16)$
C. $(1/8)$
D. 1

Q 57. if the joint probability distribution of X and Y is given by $f(x,y) = (x+y)/36$ for $x=1,2,3$ and $y=1,2,3$.

- Ops: A. $(7/36)$
B. $(1/36)$

Let X = no. of times hitting the target (no. of success), $x = 0, 1, 2, 3$

$$P(\text{success}) = P(\text{hitting the target}) = \frac{3}{4}$$

$$P(\text{failure}) = \frac{1}{4}$$

Therefore

$$(i) P(X=2) = f(2) = b(2; 3, \frac{3}{4}) = \binom{3}{2} \left(\frac{3}{4}\right)^2 \left(\frac{1}{4}\right)^{3-2}$$

$$(ii) P(X=x) = f(x) = b(x; 3, \frac{3}{4}) = \binom{3}{x} \left(\frac{3}{4}\right)^x \left(\frac{1}{4}\right)^{3-x}, x = 0, 1, 2, 3$$



Note: The mean and variance of binomial distribution $f(x) = b(x; n, p)$ are $\mu = np$ and $\sigma^2 = npq$

(Q.11) The probability that a patient recovers from a delicate heart operation is 0.9. What is the probability that exactly 5 of the next 7 patients having this operation survive?

Ans:

Let X = no. of patients recovered from the heart operation i.e. $x = 0, 1, 2, \dots, 7$

Here, $n = 7$, $p = 0.9$, $q = 0.1$

hence,

$$\binom{7}{5} (0.9)^5 (0.1)^{7-5}$$

- C. 0
D. 0.6

Reset

Q 60. Let X be a discrete random variable with cumulative probability distribution function $F(-1)=1/8$, $F(1)=1/4$, $F(2)=3/8$ and $F(4)=1$ then probability function $f(2) =$

- Ops:** A. $(1/8)$
B. $(1/2)$
C. $(3/8)$
D. 1

SECTION 00/01
[Previous Section](#)

SECTION 01/01
[Next Section](#)

$$\text{Ans: } \sum_x \sum_y f(x,y)$$

$$(d) \sum_x \sum_y f(x,y)$$

- Ops:
- A. a
 - B. b
 - C. c
 - D. d

Q 53. X is a discrete random variable with probability function $f(x) = 1/6$ for $x = 1, 2, 3, 4, 5, 6$. Then $P(X < 5 | X > 2)$

- Ops:
- A. $(1/2)$
 - B. $(1/3)$
 - C. $(2/3)$
 - D. 1

- Q 23.** X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4 | X > 1)$
- Ops:** A. (1/2)
B. (1/3)
C. (2/3)
D. 1
- Q 24.** The probability that a person will die when he or she contracts a virus infection is 0.001. Of the next 4000 people what is the mean number who will die?
- Ops:** A. 2
B. 4
C. 10
D. 40
- Q 25.** Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find probability distribution of X .
- Ops:** A. 0.5
B. 0.2
C. 0.3

Q 59. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x) = 0$ elsewhere, then $P(0.3 < X < 0.8) = ?$

- Ops:
- A. 1
 - B. 0.5
 - C. 0.55
 - D. 0.65

Q 60. Consider the density function $f(x) = 2(x-1)$, $1 < x < 2$, $f(x) = 0$ elsewhere, then $P(1.5 < X < 2) = ?$

- Ops:
- A. 1
 - B. 0.5
 - C. 0.75
 - D. 0.65

SECTION 0001
Previous

SECTION 0001
Next Section



- Q50. If the density function $f(x) = kx$, $0 < x < 1$ and $f(x) = 0$ elsewhere, then $k = ?$*
- Ops:** A. 1
B. 2
C. 3
D. 5

- Q51.** A random variable X has a mean $\mu = 8$ and a variance $\sigma^2 = 9$. Using Chebyshev's theorem, the minimum value of $P(2 < X < 14)$ is
- (a) $3/4$
(b) $1/2$
(c) $2/3$
(d) $1/3$

- Ops:** A. a
B. b
C. c
D. d

01. Multiple Choice Questions

Q 01. For any experiment, the sample space $S = \{1, 2, 3, 4, 5, 6\}$. For any two events $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5\}$,

Ops: A. 1

B. (6/7)

C. (5/7)

D. (4/7)

Reset

Q 02. The set of all possible outcomes of a random experiment is

Ops: A. Event



B. Outcome

For what value of 'k' so that $f(x,y) = k(2x+y)$, $x=0,1$ and $y=1,3$ will be a valid joint distribution function.

(a) 1/12

(b) 1

(c) 1/2

(d) 1/4

- Ops: A. a D.
B. b
C. c
D. d

Q 59. A and B are two independent events such that $P(A)=0.6$, $P(A \cap B)=0.2$. Then $P(B|A)=$

- Ops: A. (1/2)
B. (1/4)
C. (2/3)
D. (1/3)

Reset

01. Multiple Choice Questions

Q 01. $P(A)=0.2$, $P(B)=0.5$ and $P(A \cup B) =0.5$, then $P(A \cap B)=$

- Ops:**
- A. 0.5
 - B. 0.6
 - C. 0.3
 - D. 0.2

Reset

Reset

Q 02. The set of all possible outcomes of a random experiment is

- Ops: A. Event
B. Outcome
C. Sample space
D. Independent events.

Reset

Q 03. Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/9$, $F(1)=2/9$, $F(2)=3/9$ and $F(3)=4/9$.
 $P(X < 2) = \text{_____}$

- Ops: A. $(1/8)$
B. $(2/9)$
C. $(3/9)$
D. 1

Reset

Q 02. If A and B are independent events , then $P(A|B)=$

- Ops:**
- A. $P(A)$
 - B. 0
 - C. $P(A) + P(B)$
 - D. 1

Reset

Q 05. A and B are two independent events such that $P(A)=0.6$, $P(B)=0.5$, Then $P(A|B)=$

- Ops:**
- A. 0.12
 - B. 0.3
 - C. 0
 - D. 0.6

Reset



Q 06. Let $P(A)=0.2$, $P(B)=0.3$. Then $P(A \cup B)=...?$

- Ops:**
- A. Equal to 0.5
 - B. less than equal to 0.5
 - C. greater than 0.5

- C. 0.917
D. 0.455

Q 04. A random variable X has a mean $\mu = 8$ and a variance $\sigma^2 = 9$. Using Chebyshev's theorem, the minimum value of $P(2 < X < 14)$ is

- (a) 3/4
(b) 1/2
(c) 2/3
(d) 1/3

Ops: A. a
B. b
C. c
D. d

Q 05. Consider the following statement:

- Ops: A. 1/10
B. 1/2
C. 1/5
D. 3/10

Reset

Q 06. A random variable X has a mean $\mu = 10$, a variance $\sigma^2 = 4$, and an unknown probability distribution. Using Chebyshev's theorem, $P(4 < X < 16)$

- (a) $\leq \frac{8}{9}$
(b) $\geq \frac{9}{8}$
(c) $\geq \frac{8}{9}$
(d) $\leq \frac{9}{8}$

- Ops: A. a
B. b
C. c

- B. 0.4232
C. 0.6472
D. 0.3528

18335



Q 04. if the joint probability distribution of X and Y is given by $f(x,y) = (x + y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1) =$

- Ops: A. $(7/36)$
B. $(4/36)$
C. $(4/30)$
D. $(7/30)$

Reset

probability that at most one will fail during a flight?

- Ops: A. 0.1122
B. 0.5568
C. 0.8192
D. 0.5622

Q 08. if the joint probability distribution of X and Y is given by $f(x,y) = (x + 2y)/18$ for $x=1,2$ and $y=1,2$. Then P()

- Ops: A. $(7/18)$
B. $(4/36)$
C. $(4/18)$
D. $(7/36)$

Reset

Q 04. if the joint probability distribution of X and Y is given by $f(x,y) = (x + y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1) =$

- Ops:
- A. (7/36)
 - B. (4/36)
 - C. (4/30)
 - D. (7/30)

Reset

Q 44. Let X and Y are two discrete random variables with joint probability distribution $f(x, y)$. The conditional distribution of the random variable Y given that $X = x$, $f(y|x)$

(a) $\frac{h(y)}{g(x)}, \quad g(x) > 0$

(b) $\frac{g(x)}{h(y)}, \quad h(y) > 0$

(c) $\frac{f(x, y)}{h(y)}, \quad h(y) > 0$

(d) $\frac{f(x, y)}{g(x)}, \quad g(x) > 0$

- Ops: A. a
B. b
C. c
D. d

Reset



A. 0.0700

C. 1

D. 0.6733

Q 38. what is the probability of getting an even number between the numbers 1 to 100 ?

- Ops: A. (1/8)
B. (1/4)
C. (1/2)
D. 1

Reset

Q 39. In rolling a fair die what is the probability of getting 3 , if its known that the toss of the die resulted in a odd number.

- Ops: A. 1
B. (1/2)
C. (1/3)
D. (1/4)

Q 40. On average, a textbook has 4 printing errors per page. Find the probability that in a given page the number of printing errors is exactly

Q 17. From past experience it is known that 5% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, Find the probability that exactly 1 among those 10 is defective.

- Ops: A. 0.22
B. 0.3
C. 0.67
D. 0.95

Q 18. For any constant k , $\text{Var}(k)$ is

- Ops: A. 0
B. k
C. 1
D. $k/2$

[Reset](#)

Q 19. If X follows Binomial probability distribution with probability of success is 0.5. If the total number of trials is 10, then $P(2 < X < 5)$ is ...

Q 03. If X is a random variable with variances $\sigma_x^2 = 5$, find the variance of the random variable $Z = 5X - 10$

- (a) 100
- (b) 233
- (c) 259
- (d) 125

Ops: A. a
B. b
C. c
D. d

[Reset](#)

Q 04. X is a discrete random variable with probability function $f(x) = 1/6$ for $x=1,2,3,4,5,6$. Then $P(2 < X < 6)$

Ops: A. (3/6)
B. (4/6)

78335-84



- Ops: A. a
B. b
C. c
D. d

Q 46. Which of the following cannot be the probability of an event?

- Ops: A. 0
B. 0.5
C. 1
D. -1

Reset

Q 47. The probability that a patient recovers from a rare blood disease is 0.2. If 10 people are known to have contracted the disease, what is the probability that at most one survives?

- Ops: A. 0.5
B. 0.3758
C. 0.235

- B. 0.014
C. 0.088
D. 0.0084

Q 30. Find the probability that a person flipping a coin gets 2nd head in the 3rd flip.

- Ops: A. $(1/2)$
B. $(1/4)$
C. $(1/8)$
D. 1

Q 31. In tossing a fair coin 5 times find the probability of getting 1st tail in 5th trial.

- Ops: A. $(1/32)$
B. $(1/16)$
C. $(1/12)$
D. $(1/4)$

Reset

D. 0.3528

Q 53. For any constant k , $E(k)$ is

- Ops: A. 0
B. k
C. 1
D. $k/2$

78335-8453



Q 54. The mean of the binomial distribution $b(x; n, p)$ is ...

- Ops: A. np
B. $p(1-p)$
C. $n(1-p)$
D. $np(1-p)$

Reset

Q 55. Let X be a random variable with probability distribution function $f(x) = 2(1-x)$ for $0 < x < 1$ and $f(x) = 0$ elsewhere, then $P(0.5 < x < 1)$ is

- Ops: A. 0.35
B. 0.55

Q 50.

- D. 0.2

Q 50. What is the probability of getting a total of 7 OR 11 when a pair of fair dice is tossed?

- Ops: A. $(2/9)$
B. $(8/36)$
C. $(5/36)$
D. $(7/36)$

[Reset](#)

Q 51. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x)=0$ elsewhere then the cumulative distribution $F(0.5)$ is

- Ops: A. 0
B. 1
C. 0.75
D. 0.25

Q 52. If X follows poisson probability distribution with probability of success is 0.03. If the total number of trials is 100, then $P(X>3)$ is ...

- Ops: A. 0.1947
B. 0.8153

- Q 48.
- B. 0.3758
 - C. 0.235
 - D. 1

Q 48. If A and B are independent events , then $P(A|B)=$

- Ops:
- A. $P(A)$
 - B. 0
 - C. $P(A) + P(B)$
 - D. 1

[Reset](#)

Q 49. On average, a textbook has 2 printing errors per page. Find the probability that in a given page the number of printing errors is 1 or less.
(Use Poisson distribution)

- Ops:
- A. 0.406
 - B. 0.434
 - C. 0.241
 - D. 0.2

D. 0.85

Q 56. X is a discrete random variable with probability function $f(x) = 1/6$ for $x = 1, 2, 3, 4, 5, 6$. Then $P(X < 5 | X > 2)$

- Ops: A. $(1/2)$
B. $(1/3)$
C. $(2/3)$
D. 1

Q 57. The mean of the Poisson distribution $P(x; m)$ is ...

- Ops: A. np
B. $p(1-p)$
C. $n(1-p)$
D. $np(1-p)$

[Reset](#)

Q 58. Let X and Y denote the amounts of two different types of impurities in a batch of a certain chemical product. Suppose that X and Y are independent random variables with variances $\sigma_x^2 = 2$ and $\sigma_y^2 = 3$. Find the variance of the random variable $Z = 2X - 3Y + 8$.

Q 10. The mean of the binomial distribution $b(x;n,p)$ is ...

- Ops:**
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$
 - D. $np(1-p)$

Reset

Q 11. Let X be a random variable with probability distribution function $f(x)=2(1-x)$ for $0 < x <$

-
- Ops:**
- A. 0.35

Section

11. Multiple Choice Questions

48 / 100 correct

C) 26.5
D) 13.5

- Ops: A. a
B. b
C. c
D. d

Q 57.

If joint density function of two continuous random variables X and Y is given by

$$f(x,y) = \begin{cases} \frac{2}{3}(x+2y), & 0 \leq x \leq 1, 0 \leq y \leq 1, \\ 0 & \text{elsewhere.} \end{cases}$$

The marginal density of X

- A) $\frac{2}{3}(x+1)$
B) $\frac{2}{3}(1/2 + 2y)$
C) $\frac{2}{3}(y+1)$
D) $\frac{2}{3}(1/2 + 2x)$

Ops: A. a

B. b

C. c

D. d

Reset

Submit

Q 14. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)=0.49$, then find $E(4X+1)$

- Ops: A. 2.96
B. 3.24
C. 1.96
D. 4.2

Q 15. Find the probability that a person flipping a coin gets first head in the 4th flip.

- Ops: A. (1/2)
B. (1/16)
C. (1/8)
D. 1

Reset

Submit

Q 16. If Y follows Binomial probability distribution with probability of success is 0.2. If the total number of trials is 10, then $P(Y=2) =$

DELL



D. 0.75

Reset

Q 06. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)=0.49$, then find

Ops: A. 1

B. 0

C. 0.2499

D. 0.499

Reset

Q 07. if the joint probability distribution of X and Y is given by $f(x,y) = (x + 2y)/18$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X \neq Y)$ is

Q 51. If the events A and B are mutually exclusive then $P(A \cap B) = \dots$

- Ops:**
- A. 1
 - B. $P(A)$
 - C. 0
 - D. $P(B)$

Reset

Q 52. The probability that a patient recovers from a rare blood disease is 0.4. If 6 people are diagnosed with the disease, what is the probability that at most one will not survive?

Q 11. If A and B are independent events , then $P(A|B)=$

Ops: A. P(A)

B. 0

C. $P(A) + P(B)$

D. 1

Reset

Q 12. The set of all possible outcomes of a random experiment is

D. 0.75

Reset

Q 04. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of X.

- Ops: A. 0.5
B. 0.2
C. 0.3
D. 0.6

Q 05. The probability that a regularly scheduled train departs on time is $P(D) = 0.80$; The probability that it arrives on time is $P(A) = 0.85$; and the probability that it departs and arrives on time is $P(D \cap A) = 0.72$. Find the probability that a train departed on time, given that it has arrived on time.

- Ops: A. 0.84
B. 0.94
C. 0.9
D. 0.87

Reset

Q 58. The variance of the Poisson distribution $P(x;m)$ is ...

- Ops: A. np
B. $p(1-p)$
C. $n(1-p)$
D. $np(1-p)$

Q 59. For cumulative distribution function $F(x)$, if $F(-\infty)=0$, then $F(\infty)=....$

- Ops: A. 0
B. -1
C. 1
D. 0,5

Reset

Submit

Q 60. From past experience it is known that 5% of the products produced by a company are defectives. If 10 items are selected from a lot, Find the probability that exactly 1 among those 10 is defective.

- B. 1/2
C. 1/5
D. 3/10

Q 38. A random variable X has a mean $\mu = 10$, a variance $\sigma^2 = 4$, and an unknown probability distribution. Using Chebyshev's theorem, $P(4 < X < 16)$

- (a) $\leq \frac{8}{9}$
(b) $\geq \frac{9}{8}$
(c) $\geq \frac{8}{9}$
(d) $\leq \frac{9}{8}$

Ops: A. a
B. b
C. c
D. d

Reset

Q 39. In rolling a fair die what is the probability of getting 2 , if its already known that an even number has turned up.

Ops: A. 1
B. (1/2)
C. (1/3)

C. (6/36)

D. (7/36)

Reset

Q 07. Which of the following cannot be the probability of an event?

Ops: A. 0

B. 0.5

C. 1

D. -1

Reset

Q 08. Find the expected number of tails when a fair coin is tossed twice.

Ops: A. 0

B. 0.5

C. 1

D. 0.75

Reset

Q 10. The variance of the binomial distribution $b(x;n,p)$ is ...

Ops: A. np

B. p(1-p)

C. n(1-p)

D. np(1-p)

Reset

Q 11. If A and B are independent events, then $P(A|B) =$

Reset

Q 02. The set of all possible outcomes of a random experiment is

- Ops: A. Event
B. Outcome
C. Sample space
D. Independent events.

Reset

Q 03. Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/9, F(1)=2/9, F(2)=3/9$ and $P(X<2)=$ -----

- Ops: A. $(1/8)$
B. $(2/9)$
C. $(3/9)$
D. 1

Reset

01. Multiple Choice Questions

Q 01. For any experiment, the sample space $S = \{1, 2, 3, 4, 5, 6\}$. For any two events $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5\}$, then $P(A \cap B) =$

Ops: A. 1

B. (6/7)

C. (5/7)

D. (4/7)

Reset

Q 02. The set of all possible outcomes of a random experiment is

Ops: A. Event



B. Outcome

01. Multiple Choice Questions
06 / 60 attempted

Q 04. Let $P(A|B) = 0.5$, $P(B) = 0.7$. Then $P(A \cap B) =$

- Ops: A. 0.11
B. 0.39
C. 0.59
D. 0.35

Reset

Q 05. A and B are two independent events such that $P(A) = 0.6$, $P(B) = 0.5$. Then $P(A|B) =$

- Ops: A. 0.12
B. 0.3
C. 0
D. 0.6

Reset

Q 06. Let $P(A) = 0.2$, $P(B) = 0.3$. Then $P(A \cup B) = \dots ?$

- Ops: A. Equal to 0.5
B. less than equal to 0.5
C. greater than 0.5

Q 35. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will be hit by fewer than 3 hurricanes

- Ops: A. 0.735
B. 0.265
C. 0.8853
D. 0.1247

Q 36. What is the probability of getting a total of 7 OR 11 when a pair of fair dice is tossed?

- Ops: A. (2/9)
B. (8/36)
C. (5/36)
D. (7/36)

Reset

Q 37. Determine the value of c so that the function $f(x, y) = c xy$ for $x=1, 2, 3$ and $y=1, 2, 3$ represents joint probability distributions of the random variables X and Y

Submit

Q 02. The probability that a person living in a certain city owns a dog is estimated to be 0.4. Find the probability that the 7th person randomly interviewed in the city is the 5th one to own a dog.

- Ops:
- A. 0.022
 - B. 0.045
 - C. 0.044
 - D. 0.055

[Reset](#)

Q 03. If two cards are selected from a packet of 52 cards one by one with replacement, what is the probability that both of them are red cards?

- Ops:
- A. $(1/2)$
 - B. $(1/4)$
 - C. $(1/16)$

Sectores**01. Multiple Choice Questions**

61 / 60 correct

Q1. Multiple Choice Questions

Q 01. The probability that a patient recovers from a rare blood disease is 0.2. If 10 people are known to have contracted the disease, what is the probability that at most one survives?

- A. 0.5
- B. 0.3758
- C. 0.235
- D. 1

Q 02. $P(A)=0.2$, $P(B)=0.5$ and $P(A \cup B) = 0.5$, then $P(A \cap B) =$

- Ops:
- A. 0.5
 - B. 0.6
 - C. 0.3
 - D. 0.2

Reset

Q 03. If A and B are independent events , then $P(A|B) =$

- Ops:
- A. $P(A)$
 - B. 0
 - C. $P(A) + P(B)$
 - D. 1

Submit

Q 04. Consider the density function $f(x) = kx$, $0 < x < 1$ and $f(x) = 0$ elsewhere , then $k=?$

Ops:

- A. 1

Q 01. Find the value of c for which $f(x) = c(2x+1)$, for $x=0,1,2$; then $c=?$

- Ops: A. (1/5)
B. (1/21)
C. (1/11)
D. (1/9)

Reset

Q 02. Let X be a discrete random variable with probability mass function $f(0)=1/8$, $f(1)=3/8$, $f(2)=3/8$, $f(3)=1/8$, then $P(X>0) =$

- Ops: A. (16/8)
B. (3/8)
C. (1/8)
D. (7/8)

Reset

Q 03. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the probability that among 5 off spring 2 will be red, 2 black and 1 white.

01. Multiple Choice Questions

Q 01. Suppose that airplane engines operate independently and fail with probability p . What is the probability that at most one will fail during a flight?

- Ops: A. 0.1122
B. 0.5568
C. 0.8192
D. 0.5622

Reset

Q 02. A bag contains 3 red balls, 5 black balls . In a random sample of 3 balls, what is the probability that exactly 1 ball is red?

- Ops: A. 0.2342
B. 0.5444
C. 0.267
D. 0.1772

Reset

Q 03. Consider the density function $f(x)= k C(2,x)$, $x=0,1,2$ and $f(x) =0$ elsewhere.

- Ops: A. 1
B. $(1/4)$
C. $(3/4)$
D. $(5/8)$

Reset

MC - Mathematics Chapter 10 (Probability)

Q 01. Let $P(A|B) = 0.5$, $P(B) = 0.7$. Then $P(A \cap B) =$

- Ops: A. 0.31
B. 0.39
C. 0.58
D. 0.35

Reset

Q 02. If two cards are selected from a packet of 52 cards at random, what is the probability that both of them are kings?

- Ops: A. $(4/221)$
B. $(1/221)$
C. $(1/16)$
D. $(2/16)$

Q 03. From a lot of 6 missiles, 4 are selected at random and fired. If the lot contains 2 defective missiles that will not fire, what is the probability that at most 1 will not fire.

- Ops: A. 0.5
B. 0.6
C. 0.2
D. 0.3

Q 04. In rolling a fair dice 5 times; what is the probability of getting 2 numbers of sixes?

- Ops: A. 0.16



Q 05. If A and B are independent events , then $P(A|B)=$

Ops: A. P(A)

B. 0

C. $P(A) + P(B)$

D. 1

Reset

Q 06. In a certain industry, 2 printing machines, M1 and M2 make 50% each from the total prints. 2% and 3% of the prints made by each machine, respectively, are defective. Now,

that exactly 1 will fire.

- Ops:
- A. (1/3)
 - B. (2/3)
 - C. (1/6)
 - D. (2/6)

Q 02. what is the probability of getting an even number between the numbers 1 to 100 ?

- Ops:
- A. (1/8)
 - B. (1/4)
 - C. (1/2)
 - D. 1

Reset

Q 03. Let X be a discrete random variable with cumulative probability distribution function $F(-1)=1/8$, $F(0)=1/2$.
probability function $f(2) =$

B. b

C. c

D. d

Q 26. Let X and Y are two discrete random variables with joint probability distribution $f(x, y)$. The marginal probability distribution of discrete random variable Y i.e. $h(y)$ is given by

(a) $\sum_x f(x, y)$

(b) $\sum_y f(x, y)$

(c) $\sum_y \sum_x f(x, y)$

(d) $\sum_x \sum_y f(x, y)$

Q 40. $P(A)=0.2$, $P(B)=0.5$ and $P(A \cup B) =0.5$, then $P(A \cap B)=$

- Ops:
- A. 0.5
 - B. 0.6
 - C. 0.3
 - D. 0.2

Reset

Q 41. In a certain assembly plant, 3 machines, M1, M2 and M3 , make 20%, 50%,and 30%, respectively, experience that 2%, 3%and 2% of the products made by each machine, respectively, are defective if randomly selected. What is the probability that it is defective?

- B. (1/4)
- C. (3/4)
- D. (5/8)

Q 32. The set of all possible outcomes of a random experiment is

- Ops:**
- A. Event
 - B. Outcome
 - C. Sample space
 - D. Independent events.

Reset

Q 33. Which of the following cannot be the probability of an event?

- Ops:**
- A. 0
 - B. 0.5
 - C. 1
 - D. -1

Reset

- Ops: A. 0.57
B. 0.55
C. 0.92
D. 0.45

Q 10. Find the expected number of tails when a fair coin is tossed twice.

- Ops: A. 0
B. 0.5
C. 1
D. 0.75

Reset

Q 11. In rolling a fair die what is the probability of getting 2 , if its already known that an even num

18. $E(X) =$

A. 0.667

B. 1.000

C. 1.333

D. 1.500

Next

19. A coastal area of Florida is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will be hit by at least 4 to 6 hurricanes.

A. 0.0005

B. 0.0485

C. 0.4955

D. 0.8138

Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=5/16$, $f(2)=7/16$, then cumulative distribution function $F(x)=?$

A. $6/16$

B. $11/16$

Next

D. 0.9998

Reset

Q50. Let X and Y denote the amounts of two different types of impurities in a batch of a certain chemical product. Suppose that X and Y are independent random variables with variances $\sigma_x^2 = 2$ and $\sigma_y^2 = 3$. Find the variance of the random variable $Z = 2X - 3Y + 8$.

- (a) 35
- (b) 36
- (c) 42
- (d) 43

s: A. a
B. b
C. c
D. d

A bag contains 2 red balls, 3 black balls. If 2 balls selected at random from the bag, find the probability that all the two balls selected are red.

SECTIONS

01. Multiple Choice Questions
06 / 60 attempted

01. Multiple Choice Questions

Q 01. What is the probability of getting a total of atleast 4 when a pair of fair dice is tossed?

- Ops: A. 0.57
B. 0.55
C. 0.92
D. 0.45

Reset

Q 02. In Tossing a fair coin 5 times find the probability of getting 1st tail in 5th trial.

- Ops: A. (1/32)
B. (1/16)
C. (1/12)
D. (1/4)

Reset

Q 03. For any constant k, $\text{Var}(k)$ is

- Ops: A. 0
B. k
C. 1
D. $k/2$

Reset

Q 57. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will be hit by
to 6 hurricanes

- ps:**
- A. 0.5695
 - B. 0.4405
 - C. 0.4972
 - D. 0.5138

- C. 0.51
D. 0.073

Reset

Q 06. If X is a random variable with variances $\sigma_x^2 = 5$, find the variance of the random variable $Z = 5X - 10$

- (a) 100
(b) 233
(c) 259
(d) 125

Ops: A. a
B. b
C. c
D. d



... percent from the total printing items. It is known from past experience that

Q 11. Let X be a random variable with probability distribution function $f(x) = 2(1-x)$ for $0 < x < 1$ and $f(x) = 0$ elsewhere, then $P(0.5 < x < 1)$ is

- Ops: A. 0.35
B. 0.55
C. 0.25
D. 0.85

12. From a lot of 6 missiles, 4 are selected at random and fired. If the lot contains 2 defective missiles that will not fire, what is the probability that at most 1 will not fire.

- Ops: A. 0.5

C. c

D. d

Q 14. From past experience it is known that 5% of the products produced by a company are defective. If 10 products are selected randomly from a lot, Find the probability that exactly 1 among those 10 is defective.

Ops: A. 0.22

B. 0.3

C. 0.67

D. 0.95

Q 15. If X and Y are two independent random variables, then covariance of X and Y is _____

Q 17. Let X be a random variable with probability distribution function $F(x) = 1$ for $0 < x < 1$ and $F(x) = 0$ elsewhere. What is the probability that $X > 0.5$?

Ops: A. 0.45

B. 0.85

C. 0.75

D. 0.25

Q 18. If 2 books are picked at random from a shelf containing 2 novels and 3 dictionary, what is the probability that a disctionary is selected?

Ops: A. 0.16

- B. 0.94
C. 0.9
D. 0.87

Reset

Q 14. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will have 6 hurricanes

- Ops:** A. 0.735
B. 0.265
C. 0.8853
D. 0.1247

Q 15. In Tossing a fair coin 3 times find the probability of getting 1st head in 2nd trial.

- Ops:** A. $(1/4)$
B. $(1/16)$

Sections

01. Multiple Choice Questions
25 / 60 attempted

Q 32.

Let X and Y are two discrete random variables with joint probability distribution $f(x, y)$. The marginal probability distribution of discrete random variable Y i.e. $h(y)$ is given by

(a) $\sum_x f(x, y)$

(b) $\sum_y f(x, y)$

(c) $\sum_y \sum_x f(x, y)$

(d) $\sum_x \sum_y f(x, y)$

- Ops: A. a
B. b
C. c
D. d

Q 33. Consider the density function $f(x) = k C(2, x)$, $x=0, 1, 2$ and $f(x) = 0$ elsewhere, then $k = ?$

- Ops: A. 1
B. $(1/4)$
C. $(3/4)$
D. $(5/8)$

Submit

B. 0.014

C. 0.088

D. 0.0084

Reset

- Q 49.** On average, a textbook has 2 printing errors per page. Find the probability that in a given page there are 1 or less errors. (Use Poisson distribution)

Ops: A. 0.406



B. 0.434

C. 0.241

D. 0.2

:

- Q 50.** Find the probability that a person flipping a coin gets first head in the 4th flip.

Score: A (1/2)

Ops: A. Equally likely events

B. Exhaustive events

C. Mutually exclusive events

D. Independent events

Reset

Q 40. Let X be a discrete random variable with cumulative probability distribution function $F(-1)=1/8$, $F(1)=1/4$, $F(2)=3/8$ and $F(4)=1$ then probability function $f(2) =$

Ops: A. $(1/8)$

B. $(1/2)$

C. $(3/8)$

D. 1

Reset

Q 41. If X follows Binomial probability distribution with probability of success is 0.5. If the total number of trials is 10, then $P(2 < X < 5)$ is

Ops: A. 0.2223

B. 0.6272

C. 0.6496

D. 0.4504

Q 42. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)=0.49$, then find $E(4X+1)$

Reset



Q 25. The probability that a person will die when he or she contracts a virus infection is 0.05. If 100 people contract the virus, what is the mean number who will die?

Ops: A. 2

B. 4

C. 10

D. 40

Q 26. If X follows poisson probability distribution with probability of success is 0.03. If t

Q 10. Let X and Y denote the amounts of two different types of certain chemical product. Suppose that X and Y are independent with variances $\sigma_X^2 = 2$ and $\sigma_Y^2 = 3$. Find the variance of $Z = 2X - 3Y + 8$.



- (a) 35
- (b) 36
- (c) 42
- (d) 43

Ops: A. a

B. b

C. c

D. d

.....using Chebyshev's theorem, $P(4 < X < 16)$

.....probability

discrete random variable with probability mass function $f(0)=1/8, f(1)=3/8, f(2)=3/8, f(3)=1/8$, then $P(X>0) =$

A)

B)

C)

D)

discrete random variable with cumulative probability distribution function $F(0)=1/4, F(1)=1/2, F(2)=1$ then

- Q 27. Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/4$, $F(1)=1/3$, $F(2)=1$ then probability function $P(X=x)$
- Ops: A. 1/4
B. 1/2
C. 3/4
D. 1
- Q 28. A bag contains 3 red balls, 5 black balls . In a random sample of 3 balls, find the probability 2 red balls are selected.
- Ops: A. 0.2342
B. 0.5444
C. 0.267
D. 0.1772
- Q 29. Suppose that airplane engines operate independently and fail with probability equal to 0.5. If the airplane has 2 engines, what is the probability that none will fail during a flight ?
- Ops: A. 0.75
B. 0.55
C. 0.25
D. 0.77
- Q 30. What is the probability of getting a total of 8 or 12 when a pair of fair dice is tossed?

Q48. A. Equally likely events

B. Exhaustive events

C. Mutually exclusive events

D. Independent events

Reset

Q49. If the probability distribution for the random variable X are $P(0)=0.5$, $P(1)=0.4$, then find $P(X=1)$

A. 0.25

B. 0.34

C. 0.16

D. 0.42

Q50. A bag contains 2 red balls; 3 black balls . If 2 balls selected at random from the bag. Then the probability that both are red is

A. $(1/10)$

B. $(1/20)$

C. $(2/10)$

D. $(3/10)$

Reset

Q51. From past experience it is known that 2% of the products produced by a company are defective. If fifteen products are taken at a lot, find the probability that at most 1 among those 15 is defective.

A. 0.77

B. 0.98

C. 0.99

Ops: A. (1/10)

B. (1/20)

C. (2/10)

D. (3/10)

Reset

Q 51. From past experience it is known that 2% of the products produced in a company are defective. If a sample of 100 products is selected at random, find the probability that at most 1 among them will be defective.

Ops: A. 0.77

B. 0.98

C. 0.8

D. 0.67

Q 52. The probability that a regularly scheduled train departs on time is $P(D) = 0.98$. The probability that it arrives on time is $P(A) = 0.97$. Find the probability that the train arrived on time.

Ops: A. 0.84

B. 0.94

C. 0.9

D. 0.87

Reset

Q 53. What is the probability of getting a total of 8 or 12 when a pair of fair dice is thrown?

Ops: A. (2/9)

What is the probability of getting a total of 8 or 12 when a pair of fair dice are rolled?

- Ops:
- A. (2/9)
 - B. (8/36)
 - C. (6/36)
 - D. (7/36)

Reset

Q 18. In rolling a fair die what is the probability of getting 3 , if its known that the number is odd?

- Ops:
- A. 1

Q 19. Consider the density function $f(x) = \begin{cases} 2(x-1), & 1 < x < 2 \\ 0, & \text{elsewhere} \end{cases}$, then $P(1.5 < X < 2)$

Ops: A. 1

B. 0.5

C. 0.75

D. 0.65

- A. 0.75
B. 0.25

Reset

Q.46. If 2 books are picked at random from a shelf containing 2 novels and 3 dictionary, what is the probability that a dictionary is selected?

- Opts: A. $(2/6)$
B. $(1/2)$
C. $(3/5)$
D. $(1/6)$

Reset

Q.47. From a lot of 4 missiles, 2 are selected at random and fired. If the lot contains 2 defective missles that will not fire, what is the probability that exactly 1 will fire.

- Opts: A. $(1/3)$
B. $(2/3)$
C. $(1/6)$
D. $(2/6)$

Reset

If the probability distribution of a discrete variable X are $f(0)=0.51$, $f(1)=0.49$, then find the variance.

- Ops:
- A. 0.2223
 - B. 0.6272
 - C. 0.6496
 - D. 0.4504

Q 60. The probability that a person will die when he or she contracts a virus infection is 0.001. Of the next 4000 people infected , what is the mean number who will die?

- Ops:
- A. 2
 - B. 4
 - C. 10
 - D. 40

Reset

SECTION B1
Previous Section

SECTION B1
Next Section

C. 0.8853

D. 0.1247

58. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the ratio of 1:2:2. Find is the probability that among 5 off spring 2 will be red, 2 black and 1 white.

A. 0.502



B. 0.0768

C. 1

D. 0.6733

Let X be a discrete random variable with cumulative probability distribution function $F(0)=1/9$, $F(1)=2/9$, $F(2)=3/9$ and $F(3)=1$ then,
 $(\langle 2 \rangle) = \dots$

(1/8)

(2/9)

Q 10. A and B are two independent events such that $P(A)=0.6$, $P(B)=0.5$, Then $P(A|B)=$

- Ops: A. 0.12
B. 0.3
C. 0
D. 0.6

Reset

Q 11. Let X be a random variable with probability distribution function $f(x)=1$ for $0 < x < 1$ and $f(x)=0$ elsewhere, then $P(0.25 < x < 0.5)$ is _____

- Ops: A. 0.45
B. 0.85
C. 0.75
D. 0.25

Reset

Q 12. If 2 cards are selected randomly from a pack of 52 cards, what is the probability that both are king

- Ops: A. 0.004
B. 0.2987
C. 0.5438
D. 0.032

Reset

Q 13. On average a student misses 3 classes in a month. What is the probability that in a given month the student will miss anywhere between 3 to 5 classes (both inclusive)?

Ops: A. (1/2)

B. (1/4)

C. (3/4)

D. 1

Q 22. Find the Mean of the data set 1.7, 2.2, 3.9, and 3.11

Ops: A. 2.73

D. 1

Reset

Q 12. A bag contains 2 black balls and 3 green balls. If two balls are selected randomly, what is the probability that both of them are black balls?

- Ops:**
- A. 0.1
 - B. 0.4
 - C. 0.76
 - D. 0.23

Q 13. On the average, 1 in every 100 items is defective for a certain manufacturing process. What is the probability that the fifth item inspected is the first defective item found?

- Ops:**
- A. 0.0096
 - B. 0.9904
 - C. 0.6534
 - D. 0.3148

Q 37. if the joint probability distribution of X and Y is given by $f(x,y) = (x + 2y)/18$ for $x=1,2$ and $y=1,2$. Then $P(X > 1, Y=1) =$

- Ops: A. (7/18)
B. (4/36)
C. (4/18)
D. (7/36)

Reset

Q 38. For what value of ' k ' so that $f(x,y) = k(2x + y)$, $x=0,1$ and $y=1,3$ will be a valid joint distribution function.

- (a) 1/12
(b) 1
(c) 1/2
(d) 1/4

- Ops: A. a
B. b
C. c
D. d

Reset

Q 01. The variance of the Poisson distribution $P(x;m)$ is ...

- Ops:
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$
 - D. $np(1-p)$

Reset

Q 02. The mean of the Poisson distribution $P(x;m)$ is ...

- Ops:
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$
 - D. $np(1-p)$

Reset

Q 03. A bag contains 10 items out of which 3 are defective. If 4 items are selected randomly, what is the probability that exactly 2 of them are defective?

- Ops:
- A. 0.3
 - B. 0.4
 - C. 0.45
 - D. 0.55

Reset

Ops: A. (1/6)

B. (1/2)

C. (3/5)

D. (1/6)

Reset

Q 19. From a lot of 6 missiles, 4 are selected at random and fired. If the lot contains 2 defective missiles that will not fire, what is the probability that at most 1 will not fire.

Ops: A. 0.5

B. 0.6

C. 0.2

D. 0.3

Q 20. A bag contains 2 black balls and 3 green balls. If two balls are selected randomly, what is the probability that both of them are black?

B. (1/20)

C. (2/10)

D. (3/10)

Reset



Q 18. Let X be a discrete random variable in which probability distribution $f(x) = c(x+1)$

Ops: A. (1/15)

B. (1/23)

C. (1/11)

D. (1/22)

- Ops:** A. 0
B. 0.5
C. 1
D. 0.75

Reset

Q 12. Let X be a discrete random variable with cumulative probability distribution function $F(-1)=1/8$, $F(1)=1/4$, $F(2)=3/8$ and $F(4)=1$ then probability function $f(2) =$

- Ops:** A. $(1/8)$
B. $(1/2)$
C. $(3/8)$
D. 1

Q 13. For any experiment, the sample space $S= \{HH, HT, TH, TT\}$. For any two events $A=\{ HH, HT \}$ and $B=\{ HT, TH \}$, $P(A \cup B) =$

- A. Mutually exclusive events
D. Independent events

Reset

- Q 45.** Let X be a discrete random variable with probability mass function $f(0)=1/8, f(1)=3/8, f(2)=3/8, f(3)=1/8$, then $P(X>0) =$
- Ops: A. (16/8)
B. (3/8)
C. (1/8)
D. (7/8)

- Q 46.** Let A and B be two independent events such that $P(A) = 1/5$ and $P(A \cap B) = 1/10$. Then find $P(B) =$

- Ops: A. 1/10
B. 1/2
C. 1/5
D. 3/10

Reset

- Q 47.** The probability that a patient recovers from a rare blood disease is 0.2. If 10 people are known to have contracted the disease,

Ops: A. 72

B. 4

C. 10

D. 40

Reset

Q 22. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of X .

Ops: A. 0.5



B. 0.2

C. 0.3

D. 0.6

Q 23. Let X be a random variable with probability distribution function $f(x)=2(1-x)$ for $0 < x < 1$ and $f(x)=0$ elsewhere, then $P(0.5 < x$

Ops: A. 0.25

the probability that the no tire will fail during that period?

- Ops: A. 0.4004
B. 0.5996
C. 0.0002
D. 0.9998

[Reset](#)

Q 54. If two cards are selected randomly one by one with replacement from a packet of 52 cards, what is the probability that both of them are red cards.

- Ops: A. 1
B. $(1/2)$
C. $(1/4)$
D. $(1/16)$

[Reset](#)

Q 55. The probability that a patient recovers from a rare blood disease is 0.4. If 6 people are known to have contracted the disease, what is the probability that at most one will not survive?

- Ops: A. 0.5
B. 0.041
C. 0.235
D. 1

[Reset](#)

ASUS

Ops: A. 0.98

B. 0.94

C. 0.9

D. 0.87

Reset

Q.33. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will hit by anywhere 4 to 6 hurricanes

Ops: A. 0.5695

B. 0.4405

C. 0.4972

D. 0.5138

Q.34. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=5/16$, $f(2)=7/16$, then cumulative distribution function $F(1)=?$

Q 15. Let X be a discrete random variable with probability mass function

$$F(1) = ?$$

- Ops:
- A. (6/16)
 - B. (7/16)
 - C. 1
 - D. (9/16)

Reset

Q 16. Let X be a discrete random variable with probability mass function

Q 55. A and B are two independent events such that $P(A)=0.6$, $P(B)=0.5$, Then $P(A|B)=$

- Ops:**
- A. 0.12
 - B. 0.3
 - C. 0
 - D. 0.6

Q 56. For any experiment, the sample space $S= \{1,2,3,4,5,6\}$. For any two events $A=\{$

- Ops:**
- A. 1

Ops: A. 1

B. P(A)

C. 0

D. P(B)

Reset

Q 11. Find the probability that a person flipping a coin gets 2nd head

Ops: A. $(1/2)$

Q 13. On average a student misses 3 classes in a month. What is the probability that in a given month the student will miss anywhere between 3 to 5 classes(both inclusive)?

- Ops: A. 0.493
B. 0.443
C. 0.342
D. 0.667

Reset

Q 14. The probability that a person will die when he or she contracts a virus infection is 0.001. Of the next 4000 people infected , what is the mean number who will die?

- Ops: A. 2
B. 4
C. 10
D. 40

Reset

Q 15. Let X be a discrete random variable with probability mass function $f(0)=1/8$, $f(1)=2/8$, $f(2)=3/8$, $f(3)=2/8$, then cumulative distribution function $F(2)=$?

- Ops: A. $(6/8)$
B. $(7/8)$
C. $2/8$
D. $(3/8)$

Reset

Reset

Q32. The probability that a person living in a certain city owns a dog is estimated to be 0.4. Find the probability that the 7th person randomly interviewed in the city is the 5th one to own a dog.

- Ops:
- A. 0.022
 - B. 0.045
 - C. 0.044
 - D. 0.055

Reset

Q33. A and B are two independent events such that $P(A)=0.6$, $P(A \cap B)=0.2$. Then $P(B|A)=$

- Ops:
- A. $(1/2)$
 - B. $(1/4)$
 - C. $(2/3)$
 - D. $(1/3)$

Reset

Q34. Find the probability that a person flipping a coin gets first head in the 4th flip.

- Ops:
- A. $(1/2)$
 - B. $(1/16)$
 - C. $(1/8)$
 - D. 1

Reset

Q57. A city has two fire engines operating independently. The probability that a specific engine is available when needed is 0.95. Find the probability that neither is available when needed?

- Ops: A. 0.0004
B. 0.014
C. 0.088
D. 0.0064

Reset

Q58. Suppose that X and Y have the probability distribution $P(X=x, Y=y) = \frac{1}{12} \cdot 2^x \cdot 3^y$. Find the probability distribution of X.

- Ops: A. 0.5
B. 0.2
C. 0.3
D. 0.6

Q59. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that no greater than 3 hurricanes

- Ops: A. 0.735
B. 0.265
C. 0.8853
D. 0.1247

Reset

Q60. compute the value of the constant 'K' used in the following probability distribution function for the random variable

disease, what is the probability that at least 4 survives?

- Ops:
- A. 0.45
 - B. 0.233
 - C. 0.163
 - D. 0.53

[Reset](#)

Q 59. On average, a textbook has 2 printing errors per page. Find the probability that in a given page the number of printing errors is 1 or less. (Use Poisson distribution)

- Ops:
- A. 0.406
 - B. 0.434
 - C. 0.241
 - D. 0.2

[Reset](#)

Q 60. X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4 | X > 1)$

- Ops:
- A. $(1/2)$
 - B. $(1/3)$
 - C. $(2/3)$
 - D. 1

[Reset](#)

SECTION 00/01

[Previous Section](#)

SECTION 01/01

[Next Section](#)

Reset

Q 38. If the joint probability distribution of X and Y is given by $f(x,y) = (x+y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1)$ =

- Ops: A. (7/36)
B. (4/36)
C. (4/30)
D. (7/30)

Reset

Q 39. In Tossing a fair coin 5 times find the probability of getting 1st tail in 5th trial.

- Ops: A. (1/32)
B. (1/16)
C. (1/12)
D. (1/4)

Reset

Q 40. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will be exposed to 6 hurricanes.

- Ops: A. 0.5695
B. 0.4405
C. 0.4972
D. 0.5138

Reset

Q 19. Let X be a random variable with probability distribution function $f(x) = 1$ for $0 < x < 1$ and $f(x) = 0$ elsewhere, then $P(0.25 < x)$ is _____



- Ops: A. 0.45
B. 0.85
C. 0.75
D. 0.25

Q 20. Two tire-quality experts examine stacks of tires and assign a quality rating to each tire on a 3-point scale. Let X denote the rating given by expert A and Y denote the rating given by B . The following table gives the joint distribution for X and Y .

	X	
Y		
1		
2		
3		

Q 16. A bag contains 3 red balls, 5 black balls . In a random sample of 3 balls, find the probability 2 red balls are selected,

- Ops: A. 0.2342
B. 0.5444
C. 0.267
D. 0.1772

Reset

Q 17. For any experiment, the sample space $S= \{a,b,c,d\}$. For any two events $A=\{ a,b\}$ and $B=\{ a,b,c\}$, then $P(A \cap B)=$

- Ops: A. 0
B. 0.2
C. 0.5
D. 1

Reset

Q 18. On the average, 1 in every 100 items is defective for a certain manufacturing process. What is the probability that the fifth item inspected is the first defective item found?

- Ops: A. 0.0096
B. 0.9904
C. 0.6534
D. 0.3148

Reset

Q 19. A random variable X has a mean $\mu = 10$, a variance $\sigma^2 = 4$, and an unknown probability

Q 05. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of Y.

- Ops:
- A. 0.2
 - B. 0.3
 - C. 0.6
 - D. 0.5

[Reset](#)

Q 06. Which of the following cannot be the probability of an event?

- Ops:
- A. 0
 - B. 0.5
 - C. 1
 - D. -1

[Reset](#)

Q 07. Consider the density function $f(x)= 2(x-1)$, $1 < x < 2$, $f(x)=0$ elsewhere, then $P(1.5 < X < 2) = ?$

Sections

01. Multiple Choice Questions

25 / 60 attempted

- Q 16.** Let X be a random variable with probability distribution function $f(x)=2(1-x)$ for $0 < x < 1$ and $f(x)=0$ elsewhere, then $P(0.5 < x < 1)$ is _____
- Ops: A. 0.35
B. 0.55
C. 0.25
D. 0.85
- Q 17.** The probability that a patient recovers from a rare blood disease is 0.4. If 6 people are known to have contracted the disease, what is the probability that at most one will not survive?
- Ops: A. 0.5
B. 0.041
C. 0.235
D. 1
- Q 18.** Probability of hitting the target is 0.7 and 3 shots are fired independently. Find the probability of hitting the target twice.
- Ops: A. 0.22
B. 0.375
C. 0.441
D. 0.523
- Q 19.** Let X be a random variable with probability distribution function $f(x)=1$ for $0 < x < 1$ and $f(x)=0$ elsewhere, then $P(0.25 < x < 0.5)$

Submit

Q 43. If X represents the number of heads when a fair coin is tossed once, then $\text{Var}(X)$ is ...

- Ops: A. 0
B. 0.5
C. 0.25
D. 0.75

[Reset](#)

Q 44. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of X .

- Ops: A. 0.5
B. 0.2
C. 0.3
D. 0.6

[Reset](#)

Q 45. Let X be a random variable with probability distribution function $f(x)=1$ for $0 < x < 1$ and $f(x)=0$ elsewhere, then $P(0.25 < x < 0.5)$ is

- Ops: A. 0.45
B. 0.85
C. 0.75
D. 0.25

[Reset](#)

Q 35

Reset

Q 35. In Tossing a fair coin 3 times find the probability of getting 1st head in 2nd trial.

- Ops: A. (1/4)
B. (1/16)
C. (1/12)
D. (1/32)

Reset

Q 36. In rolling a fair die what is the probability of getting 3 , if its known that the toss of the die resulted in a odd number

- Ops: A. 1
B. (1/2)
C. (1/3)
D. (1/4)

Reset

Q 37. Let $P(A)=0.2$, $P(B)=0.3$. Then $P(A \cup B)=\dots?$

- Ops: A. Equal to 0.5
B. less than equal to 0.5
C. greater than 0.5
D. greater than equal to 0.5

Reset

D. d

Reset

Q 52. In Tossing a fair coin 3 times find the probability of getting 1st head in 2nd trial.

Ops: A. $(1/4)$

B. $(1/16)$

C. $(1/12)$

D. $(1/32)$

Q 53. Determine the value of c so that the function $f(x, y) = c xy$ for $x=1, 2, 3$ probability distributions of the random variables X and Y

Q 16. Let X be a discrete random variable with probability mass function $f(0)=1/4$

- Ops:
- A. (1/2)
 - B. (1/4)
 - C. (3/4)
 - D. 1

Reset

Q 17. What is the probability of getting a total of 8 or 12 when a pair of fair dice is rolled?

- Ops:
- A. (2/9)

Find $E(Z)$, where $Z = (5X + 1)$

- a) 15.5
- b) 25.5
- c) 26.5
- d) 13.5

Ops: A. a

B. b

C. c

D. d

Reset

Q55

The mean of the Poisson distribution $P(x; m)$ is ...

- A. np
- B. p(1-p)
- C. n(1-p)
- D. np(1-p)

[Reset](#)

5. For any constant k, $\text{Var}(k)$ is

- A. 0
- B. k
- C. 1
- D. k/2

[Reset](#)

Q56. A bag contains 2 red balls, 3 black balls . If 2 balls selected at random from the bag, find the probability that all the two balls selected are red.

- Ops:
- A. $(1/10)$
 - B. $(1/20)$
 - C. $(2/10)$
 - D. $(3/10)$

[Reset](#)

- B. $O(p(1-p))$
C. $O(n(1-p))$
D. $O(np(1-p))$

Reset

Q 60. If X follows Binomial probability distribution with probability of success is 0.3. If the total number of trials is 10, then $P(X > 3)$ is ...

- Ops: A. 0.1122
B. 0.6496
C. 0.3504
D. 0.5622

D.

Reset

Q 21. If two cards are selected from a packet of 52 cards at random, what is the probability that both of them are king?

Ops: A. (4/221)

B. (1/221)

C. (1/16)

D. (2/16)



Q 22. Determine the value of c so that the function $f(x, y) = c xy$ for $x=1, 2, 3$ and $y=1, 2, 3$ represents joint probability distributions of the random variables X and Y

(a) 1/30

(b) 1/34

(c) 1/36

C. (5/7)

D. (4/7)

Reset

Q 57. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x) = 0$ elsewhere, then $P(0.3 < X < 0.8) = ?$

Ops: A. 1

B. 0.5

C. 0.55

D. 0.65



Q 58. On average a student makes 2 mistakes per page. What is the probability in a given page to error?

Q 40. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will be hit by anywhere from 6 hurricanes.

- Ops:
- A. 0.5695
 - B. 0.4405
 - C. 0.4972
 - D. 0.5138

[Reset](#)

Q 41. The probability that a patient recovers from a rare blood disease is 0.7. If 5 people are known to have contracted the disease, what is the probability that at least 4 survives?

- Ops:
- A. 0.45
 - B. 0.233
 - C. 0.163
 - D. 0.53

[Reset](#)

Q 42. Let X and Y are two discrete random variables with joint probability distribution $f(x, y)$. The conditional distribution of the random variable Y given that $X = x$, $f(y|x)$

Ops: A. 0.971

B. 0.871

C. 0.029

D. 0.028



Q 46. In rolling a fair die what is the probability of getting 2 , if its already known that an

Ops: A. 1

B. (1/2)

C. (1/3)

D. (1/4)

Q 47. The variance of the binomial distribution $b(x;n,p)$ is ...

Q 01. If X follows poisson probability distribution with probability of success is 0.03. If the total number of trials is 100, then $P(X > 3)$ is

- Ops: A. 0.1947
B. 0.8153
C. 0.6472
D. 0.3528

Q 02. If the arrival (A) and departure (D) of a regularly scheduled train occurs independently with probability 0.72 and the probability of departs on time is $P(D) = 0.80$; Then the probability of arrival on time is $P(A)$ is.....

- Ops: A. 0.9
B. 0.8
C. 0.72
D. 1

Q 03. Find the probability that a person flipping a coin gets 2nd head in the 3rd flip.

- Ops: A. $(1/2)$
B. $(1/4)$
C. $(1/8)$
D. 1

Q 28. For any constant k , $E(k)$ is

- Ops:
- A.
 - B. k
 - C.
 - D.

Reset

Q 29. The probability that a patient recovers from a rare blood disease
probability that at least 4 survives?

- Ops:
- A.

Sections

01. Multiple Choice Questions
25 / 60 attempted

Reset

Amita Mondalra
Candidate ID: 29076304

00 : 22 : 04
hour min sec

Q 35. X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4 | X > 1)$

- Ops: A. (1/2)
B. (1/3)
C. (2/3)
D. 1

Q 36. Let X be a discrete random variable in which probability distribution $f(x) = c(x+4)$, for $x=0,1,2,3$; then $c=?$

- Ops: A. (1/15)
B. (1/23)
C. (1/11)
D. (1/22)

Q 37. If X follows poisson probability distribution with probability of success is 0.03. If the total number of trials is 100, then $P(X < 3)$ is ...

- Ops: A. 0.5768
B. 0.4232
C. 0.6472
D. 0.3528

Submit

Q 38. In a certain assembly plant, 3 machines, M1, M2 and M3, make 20%, 50% and 30%, respectively, of the products. It is known

Q 30. X is a discrete random variable with probability function $f(x) = 1/4$ for $x=3,4,5,6$. Then $P(4 < X < 6)$

- Ops:**
- A. (1/4)
 - B. (4/6)
 - C. (5/6)
 - D. 1

Q 31. Suppose that airplane engines operate independently and fail with probability equal to 0.5. If the airplane has 2 engines, what is the probability that none will fail during a flight?

- Ops:**
- A. 0.75
 - B. 0.55
 - C. 0.25
 - D. 0.77

Q 32. Let X and Y are two discrete random variables with joint probability distribution $f(x, y)$. The marginal probability distribution of discrete random variable Y i.e. $h(y)$ is given by

(a) $\sum_y f(x, y)$

(b) $\sum_x f(x, y)$

Submit

If X is a random variable with variances $\sigma_x^2 = 5$, find the variance of the random variable $Z = 5X - 10$

- (a) 100
- (b) 233
- (c) 259
- (d) 125

Ops: A. a
B. b
C. c
D. d

[Reset](#)

Q 43. A random variable X has a mean $\mu = 8$ and a variance $\sigma^2 = 9$. Using Chebyshev's

Q 32. Suppose that airplane engines operate independently and fail with probability equal to 0.2. If the airplane has 2 engines, what is the probability that none will fail during a flight ?

- Ops: A. 0.75
B. 0.64
C. 0.9
D. 0.77

[Reset](#)

Q 33. $P(A)=0.2$, $P(B)=0.5$ and $P(A \cup B) =0.5$, then $P(A \cap B)=$

- Ops: A. 0.5
B. 0.6
C. 0.3
D. 0.2

[Reset](#)

Q 34. Find the value of c for which $f(x) = c(2x+1)$, for $x=0,1,2$; then $c=?$

- Ops: A. $(1/5)$
B. $(1/21)$
C. $(1/11)$
D. $(1/9)$

[Reset](#)

Q 35. In rolling a fair dice 5 times; what is the probability of getting 2 numbers of sixes?

D. (1/32)

Q 53. Determine the value of c so that the function $f(x, y) = c xy$ forms probability distributions of the random variables X and Y

(a) 1/30

(b) 1/34

(c) 1/36

(d) 1/38

Ops: A. a

B. b

C. c

00 : 21 : 44
hour min sec

Q 43.

A random variable X has a mean $\mu = 8$ and a variance $\sigma^2 = 9$. Using Chebyshev's theorem, the minimum value of $P(2 < X < 14)$ is

- (a) $3/4$
- (b) $1/2$
- (c) $2/3$
- (d) $1/3$



Ops: A. a

B. b

C. c

D. d

Q 44. The events having no common outcomes are called:

Ops: A. Equally likely events
B. Exhaustive events
C. Mutually exclusive events
D. Independent events

Reset

Q 32. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability fewer than 3 hurricanes

Ops: A. 0.735

B. 0.265

C. 0.8853

D. 0.1247

Q 33. What is the probability of getting a total of 7 OR 11 when a pair of fair dice

Q 18. In rolling a fair die what is the probability of getting 3 , if its known that

- Ops:
- A. 1
 - B. $(1/2)$
 - C. $(1/3)$
 - D. $(1/4)$

Reset

Q 19. The mean of the binomial distribution $b(x;n,p)$ is ...

- Ops:
- A. 0.034
 - B. 0.143
 - C. 0.025
 - D. 0.325

Q 39. For any experiment, the sample space $S = \{1, 2, 3, 4, 5, 6\}$. For any two events $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5, 6\}$, $P(A \cup B) =$

- Ops:
- A. 1
 - B. $(6/7)$
 - C. $(5/7)$
 - D. $(4/7)$

[Reset](#)

Q 29. Let A and B be two independent events such that $P(A) = 1/5$ and $P(A \cap B) = 1/10$. Then find $P(B)$...

- Ops: A. 1/10
B. 1/2
C. 1/5
D. 3/10

Reset

Q 30. Find the probability that a person flipping a coin gets 2nd head in the 3rd flip.

- Ops: A. (1/2)
B. (1/4)
C. (1/8)
D. 1

Reset

Q 31. In rolling a fair die what is the probability of getting 2 , if its already known that an even number has turned up.

- Ops: A. 1
B. (1/2)
C. (1/3)
D. (1/4)

Reset

Q 32. Suppose that airplane engines operate independently and fail with probability equal to 0.2. If the airplane has 2 engines, what is the probability that none will fail during a flight ?

- Ops: A. 0.75

B. 0.5

C. 0.75

D. 0.65

Q 20. What is the probability of getting a total of atmost 10 if a dice is rolled twice?

Ops: A. 0.175

B. 0.556

C. 0.917

D. 0.455

Q 21. Let X be a discrete random variable with probability mass function $f(0)=1/4$,

(1/2)

Q 26.

If the mean of a random variable X is 10, then $P(X > 3)$ is _____

- Ops: A. 0.1122
B. 0.6496
C. 0.3504
D. 0.5622

[Reset](#)

Q 27. If X and Y are two independent random variables, then covariance of X and Y is _____

- Ops: A. 0
B. 1
C. -1
D. 2

[Reset](#)

Q 28. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x) = 0$ elsewhere then the cumulative distribution $F(0.5)$ is

- Ops: A. 0
B. 1
C. 0.75
D. 0.25

[Reset](#)

Q 29. Let A and B be two independent events such that $P(A) = 1/5$ and $P(A \cap B) = 1/10$. Then find $P(B) ...$

D. Independent events

Reset

Q 45. On average, per hour 7 number of customer arrives at an atm . Compute the arrive in the atm in a given hour.

Ops: A. 0.971

B. 0.871

C. 0.029

D. 0.028

Q 46. In rolling a fair die what is the probability of getting 2 , if its already kno

Q 57. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will hit by fewer than 3 hurricanes

Ops: A. 0.735

B. 0.265

C. 0.8853

D. 0.1247

Q 58. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the ratio of 1:2:2. Find probability that among 5 off spring 2 will be red, 2 black and 1 white.

Q 11. Find the probability that a person flipping a coin gets 2nd head in the 1st flip.

- Ops:
- A. (1/2)
 - B. (1/4)
 - C. (1/8)
 - D. 1

Reset

Q 12. Let X be a random variable with the following distribution:

X	3	6	5
$f(x)$	$1/5$	$1/2$	$3/10$

Q 04. A bag contains 10 items out of which 3 are defective. If 4 items are selected randomly, what is the probability that exactly 2 of them are defective?



- Ops:
- A. 0.3
 - B. 0.4
 - C. 0.45
 - D. 0.55

Q 05. In a certain assembly plant, 3 machines, M1, M2 and M3 , make 20%, 50% and 30%, respectively, of known from past experience that 2%, 3% and 2% of the products made by each machine, respectively, suppose that a finished product is randomly selected. What is the probability that it is defective?

Ops: A. 0.034

B. 0.143

C. 0.025

D. 0.325

Q 36. Let X and Y are two discrete random variables with joint probability distribution $f(x,y)$. The conditional distribution of the random variable Y given that $X = x$, $f(y|x)$

(a) $\frac{h(y)}{g(x)}, \quad g(x) > 0$

(b) $\frac{g(x)}{h(y)}, \quad h(y) > 0$

(c) $\frac{f(x,y)}{h(y)}, \quad h(y) > 0$

(d) $\underline{f(x,y)}, \quad g(x) > 0$

Q 21. 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 function $f(1) =$

- Ops: A. (1/4)
B. (1/2)
C. (3/4)
D. 1

Reset

Q 22. if 2 books are picked at random from a shelf containing 2 novels and 3 dictionary, what is the probability that a disctionary is selected?

- Ops: A. (2/6)
B. (1/2)
C. (3/5)
D. (1/6)

Reset

Q 23. The probability that a regularly scheduled train departs on time is $P(D) = 0.80$; The probability that it arrives on time is $P(A) = 0.85$; and the probability that it departs and arrives on time is $P(D \cap A) = 0.72$. Find the probability that a train departed on time, given that it has arrived on time.

- Ops: A. 0.84
B. 0.94
C. 0.9
D. 0.87

Reset

Q 07. The mean of the Poisson distribution $P(x; m)$ is ...

Ops: A. $\textcircled{O} np$

B. $\textcircled{O} p(1-p)$

C. $\textcircled{O} n(1-p)$

D. $\textcircled{O} np(1-p)$

Q 08. The probability that a regularly scheduled train departs on time is 0.85; and the probability that it departs and arrives on time is given that it has arrived on time.

Sections

01. Multiple Choice Questions

25 / 60 attempted

- Q 27.** On average a student misses 3 classes in a month. What is the probability that in a given month the student will miss anywhere between 3 to 5 classes (both inclusive)?
- Ops: A. 0.493
B. 0.443
C. 0.342
D. 0.667
- Q 28.** If the joint probability distribution of X and Y is given by $f(x,y) = (x+y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1) =$
- Ops: A. (7/36)
B. (4/36)
C. (4/30)
D. (7/30)
- Q 29.** If 2 books are picked at random from a shelf containing 2 novels and 3 dictionary, what is the probability that a dictionary is selected?
- Ops: A. (2/6)
B. (1/2)
C. (3/5)
D. (1/6)

Submit

Q 45. If two cards are selected from a packet of 52 cards at random , what is the probability that both of them are king?

- Ops: A. (4/221)
B. (1/221)
C. (1/16)
D. (2/16)

Reset

Q 46. In rolling a fair die what is the probability of getting 3 , if its known that the toss of the die resulted in an odd number.

- Ops: A. 1
B. (1/2)
C. (1/3)
D. (1/4)

Reset

Q 47. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of X.

- Ops: A. 0.5
B. 0.2
C. 0.3
D. 0.6

Reset

Q 48.

QUESTION 24. A random variable X has the following probability distribution:

X	3	6	5
$f(x)$	$1/5$	$1/2$	$3/10$

Find $E(Z)$, where $Z = (5X+1)$

- a) 15.5
- b) 25.5
- c) 26.5
- d) 13.5

Ops: A. a
B. b
C. c
D. d

[Reset](#)

Q 25. In a certain assembly plant, 3 machines, M1, M2 and M3 , make 20%, 50%,and 30%, respectively, of the products. It is known from past experience that 2%, 3%and 2% of the products made by each machine, respectively, are defective. Now, suppose that a finished product is randomly selected. What is the probability that it is defective?

Ops: A. 0.034
B. 0.143
C. 0.025
D. 0.325

[Reset](#)

marginal probability distribution of discrete random variable Y i.e. $h(y)$ is given by

(a) $\sum_x f(x, y)$

(b) $\sum_y f(x, y)$

(c) $\sum_y \sum_x f(x, y)$

(d) $\sum_x \sum_y f(x, y)$

Ops: A. a

B. b

C. c

D. d

[Reset](#)

Q 49. For any experiment, the sample space $S = \{HH, HT, TH, TT\}$. For any two events $A = \{ HH, HT \}$ and $B = \{ HT, TH \}$, $P(A \cup B) =$

Ops: A. (3/4)

B. (2/ 4)

C. (1/ 8)

D. (1/3)

[Reset](#)

C. 0.5438

D. 0.032

Reset



Q 29. Let A and B be two independent events such that $P(A) = 1/5$ and $P(A \cap B) = ?$

Ops: A. 1/10

B. 1/2

C. 1/5

D. 3/10

Ops: A. (1/5)

B. (1/21)

C. (1/11)

D. (1/9)

Reset

Q 27. A bag contains 3 red balls, 5 black balls . In a random sample of 3 balls, find the probability 2 red balls are selected.

Ops: A. 0.2342

B. 0.5444



C. 0.267

D. 0.1772

Q 28. From a lot of 4 missiles, 2 are selected at random and fired. If the lot contains 2 defective missiles that will not fire, what is the probability that exactly 1 will fire.

Ops: A. (1/3)

Q 06. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)$

Ops: A. 1

B. 0

C. 0.2499

D. 0.499

Reset

Q 07. Let X be a discrete random variable with probability mass function
function $F(2)=?$

Ops: A. $(6/8)$

is

ANSWER: If the average number of events in 100, then $P(X > 5)$

- Ops: A. 0.1947
B. 0.8153
C. 0.6472
D. 0.3528

[Reset](#)

- Q 57.** On average, per hour 7 number of customer arrives at an atm . Compute the probability that more than 2 customer will arrive in the atm in a given hour.

- Ops: A. 0.971
B. 0.871
C. 0.029
D. 0.028

[Reset](#)

- Q 58.** The probability that a patient recovers from a rare blood disease is 0.7. If 5 people are known to have contracted the disease, what is the probability that at least 4 survives?

- Ops: A. 0.45
B. 0.233
C. 0.163
D. 0.53

[Reset](#)

D. (2/3)

C. (1/6)

D. (2/6)

Reset

Q 60. compute the value of the constant 'k' used in the following probability distribution $f(x)=k(x+2)$, $0 < x < 1$ elsewhere 0

Ops: A. (2/5)

B. (1/4)

C. (1/2)

D. 1



SECTION 0001

Previous Section

SECTION 0101

Next Section

D. 0.3528

Reset



Q 27. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the probability distribution of X.

Ops: A. 0.5

B. 0.2

C. 0.3

D. 0.6

Sections

01. Multiple Choice Questions
25 / 60 attempted

Q 23. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of X .

- Ops: A. 0.5
B. 0.2
C. 0.3
D. 0.6

Q 24. In Tossing a fair coin 3 times find the probability of getting 1st head in 2nd trial.

- Ops: A. $(1/4)$
B. $(1/16)$
C. $(1/12)$
D. $(1/32)$

Q 25. On average, per hour 7 number of customer arrives at an atm. Compute the probability that more than 2 customer will arrive in the atm in a given hour.

- Ops: A. 0.971
B. 0.871
C. 0.029
D. 0.028

Submit

Q 50. The set of all possible outcomes of a random experiment is

- Ops:
- A. Event
 - B. Outcome
 - C. Sample space
 - D. Independent events.

Reset

Q 51. What is the probability of getting a total of 8 or 12 when a pair of fair dice is tossed?

- Ops:
- A. $(2/9)$
 - B. $(8/36)$
 - C. $(6/36)$
 - D. $(7/36)$

Reset

Q 52. For any constant k , $E(k)$ is

- Ops:
- A. 0
 - B. k
 - C. 1
 - D. $k/2$

Reset

Q 53. A car has four tires operating independently. The probability that a specific tire fails during a certain period is 0.12. What is the probability that no tire will fail during that period?



Q 48. X is a discrete random variable with probability function $f(x) = 1/6$ for $x=1,2,3,4,5,6$. Then $P(2 < X < 6)$

- Ops:
- A. (3/6)
 - B. (4/6)
 - C. (5/6)
 - D. 1

Q 49. Find the expected number of tails when a fair coin is tossed twice.

- Ops:
- A. 0
 - B. 0.5
 - C. 1
 - D. 0.75

Submit

- B. b
- C. c
- D. d

Reset

Q 13. What is the probability of getting a total of atleast 4 when a pair of dice is thrown?

- Ops:
- A. 0.57
 - B. 0.55
 - C. 0.92
 - D. 0.45

Reset

D. (1/4)

Q 13.

For what value of 'k' so that $f(x, y) = k(2x + y)$, $x = 0$ distribution function.



(a) 1/12

(b) 1

(c) 1/2

(d) 1/4

Ops: A. a

- Q 50.** From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.
- Ops: A. 0.77
B. 0.96
C. 0.8
D. 0.67
- Q 51.** Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the marginal probability distribution of Y.
- Ops: A. 0.2
B. 0.3
C. 0.6
D. 0.5
- Q 52.** On average a student makes 2 mistakes per page. What is the probability in a given page the student will make at least 2 errors?
- Ops: A. 0.594

- B. 0.4232
C. 0.6472
D. 0.3528

If the total number of trials is 100, then $P(X < 3)$ is

- Q 38.** In a certain assembly plant, 3 machines, M₁, M₂ and M₃, make 20%, 50% and 30%, respectively, of the products. It is known from past experience that 2%, 3% and 2% of the products made by each machine, respectively, are defective. Now, suppose that a finished product is randomly selected. What is the probability that it is defective?

- Ops: A. 0.034
B. 0.143
C. 0.025
D. 0.325

- Q 39.** For any experiment, the sample space $S = \{1, 2, 3, 4, 5, 6\}$. For any two events $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5, 6\}$, $P(A \cup B) =$

- Ops: A. 1
B. $(6/7)$
C. $(5/7)$
D. $(4/7)$

Reset

D. 2.93

Reset



Q 23. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x)=0$ elsewhere then the cu

Ops: A. 0

B. 1.

C. 0.75

D. 0.25

- C. 0.6
- D. 0.5

Q 52. On average a student makes 2 mistakes per page. What is the probability in a given page the student will make at least 2 errors?
Ops: A. 0.594
B. 0.445
C. 0.564
D. 0.786

Q 53. What is the probability of getting a total of 7 OR 11 when a pair of fair dice is tossed?

- Ops:
- A. (2/9)
 - B. (8/36)
 - C. (5/36)
 - D. (7/36)

[Reset](#)

Q 54. The variance of the Poisson distribution $P(x; m)$ is ...

Q 42. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)=0.49$, then find $E(4X+1)$

- Ops: A. 2.96
B. 3.24
C. 1.96
D. 4.2

[Reset](#)

Q 43. Let X be a random variable with probability distribution function $f(x)=2(1-x)$ for $0 < x < 1$ and $f(x)=0$ elsewhere, then $P(0.5 < x < 1)$ is _____

- Ops: A. 0.35
B. 0.55
C. 0.25
D. 0.85

[Reset](#)

Q 44. For any experiment, the sample space $S= \{1,2,3,4,5,6\}$. For any two events $A=\{1,2,3,4\}$ and $B=\{3,4,5,6\}$, $P(A \cup B) =$

- Ops: A. 1
B. $(6/7)$
C. $(5/7)$
D. $(4/7)$

[Reset](#)

Q 45. If two cards are selected from a packet of 52 cards at random, what is the probability that both of them are king?

Once: A. $(1/4221)$

Q 07. Consider the density function $f(x) = 2(x-1)$, $1 < x < 2$, $f(x)=0$ elsewhere, then $P(1.5 < X < 2) = ?$

- Ops:
- A. 1
 - B. 0.5
 - C. 0.75
 - D. 0.65

[Reset](#)

Q 08. X is a discrete random variable with probability function $f(x) = 1/6$ for $x=1,2,3,4,5,6$. Then $P(2 < X < 6)$

- Ops:
- A. $(3/6)$
 - B. $(4/6)$
 - C. $(5/6)$
 - D. 1

[Reset](#)

Q 09. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will bit by fewer than 3 hurricanes

- Ops:
- A. 0.735
 - B. 0.265
 - C. 0.8853
 - D. 0.1247

[Reset](#)

Q 10. A and B are two independent events such that $P(A)=0.6$, $P(B)=0.5$, Then $P(A|B)=$

Ops: A. (2/9)

B. (3/9)

C. (6/9)

D. (7/9)

Reset

Q 52. Let X be a discrete random variable with cumulative probability distribution function $F(-1)=1/8$, $F(1)=1/4$, $F(2)=3/8$ and $F(4)=1$ then probability function $f(2) =$

Ops: A. (1/8)

B. (1/2)

C. (3/8)

D. 1



Q 53. X is a discrete random variable with probability function $f(x) = 1/6$ for $x = 1, 2, 3, 4, 5, 6$. Then $P(X < 5 | X > 2)$

Ops: A. (1/2)

B. (1/3)

probability function $f(x) =$

- Ans: A. (1/8)
B. (1/2)
C. (3/8)
D. 1

Q 53. X is a discrete random variable with probability function $f(x) = 1/6$ for $x = 1, 2, 3, 4, 5, 6$. Then $P(X < 5 | X > 2)$

- Ops: A. (1/2)
B. (1/3)
C. (2/3)
D. 1

Q 54. A and B are two independent events such that $P(A) = 0.6$, $P(B) = 0.5$. Then $P(A|B) =$

- Ops: A. 0.12
B. 0.3

Q 04. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=5/16$, $f(2)=7/16$, then cumulative distribution function $F(1)=?$

Ops: A. (6/16)

B. (7/16)

C. 1

D. (9/16)



Q 05. Let X and Y denote the amounts of two different types of impurities in a batch of a certain chemical product. Suppose that X and Y are independent random variables with variances $\sigma_X^2 = 2$ and $\sigma_Y^2 = 3$. Find the variance of the random variable $Z = 2X - 3Y + 8$.

(a) 35

(b) 36

(c) 42

(d) 43

Ops: A. a

B. b

C. c

D. d



Q 40. Let X be a discrete random variable with probability mass function $f(0)=1/8$

Ops: A. (16/8)

B. (3/8)

C. (1/8)

D. (7/8)

Q 41. Let X be a random variable with probability distribution function $f(x)=$

- Ops:**
- A. (7/18)
 - B. (4/36)
 - C. (4/18)
 - D. (7/36)

Q 31. if 2 books are picked at random from a shelf containing 2 novels and 3 di

- Ops:**
- A. (2/6)
 - B. (1/2)
 - C. (3/5)
 - D. (1/6)

Reset

Ops:

- A. np
- B. p(1-p)
- C. n(1-p)
- D. np(1-p)

Reset

Q 20.

Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x)=0$ elsewhere then

Ops:

- A. 0
- B. 1
- C. 0.75
- D. 0.25

Reset

Ques: A. (3/6)

B. (4/6)

C. (5/6)

D. 1

Ques: 55. A and B are two independent events such that $P(A)=0.6$, $P(B)=0.5$, Then $P(A|B)=$

Ques: A. 0.12

Q 12. In Tossing a fair coin 5 times find the probability of getting 1st tail in 5th trial.

Ops: A. (1/32)

B. (1/16)

C. (1/12)

D. (1/4)

Q 13. For what value of 'k' so that $f(x, y) = k(2x + y)$, $x=0,1$ and distribution function.

probability that neither is available when needed?

- Ops:
- A. 0.0004
 - B. 0.014
 - C. 0.088
 - D. 0.0084

Reset

- Q43. Suppose that a die has faces labeled 1 through 6. If the die is rolled, what is the probability that the number showing will be even?
- A. a
 - B. b
 - C. c
 - D. d

Reset

Q 44. Suppose that airplane engines operate independently and fail with probability equal to 0.2. If the airplane has 2 engines, what is the probability that none will fail during a flight?

- Ops:
- A. 0.75
 - B. 0.64
 - C. 0.9
 - D. 0.77

Q 45. Find the Mean of the data set 1.7, 2.2, 3.9, and 3.11.

- Ops:
- A. 2.72

- Ops: A. Event
B. Outcome
C. Sample space
D. Independent events.

Reset

Q 47. Suppose that airplane engines operate independently and fail with probability equal to 0.5. If the airplane has 2 engines, what is the probability that none will fail during a flight ?

- Ops: A. 0.75
B. 0.55
C. 0.25
D. 0.77

Q 48. If the joint probability distribution of X and Y is given by $f(x,y) = (x+y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1) =$

- B. 0
- C. 0.2499
- D. 0.499

Reset

Q 07. Let X be a discrete random variable with probability mass function $f(0)$ function $F(2)=?$

- Ops:**
- A. $(6/8)$
 - B. $(7/8)$
 - C. $2/8$
 - D. $(3/8)$

Reset

Q 33. For any experiment, the sample space $S = \{1, 2, 3, 4, 5, 6\}$. For any two events

- Ops:
- A. 1
 - B. $(6/7)$
 - C. $(5/7)$
 - D. $(4/7)$

Reset

Q 34. Find the Mean of the data set 1.7, 2.2, 3.9, and 3.11

- Ops:
- A. 2.73

- C. greater than 0.5
- D. greater than equal to 0.5

Reset

Q 58. On average, a textbook has 2 printing errors per page. Find the probability that in a given page the number of printing errors is 1 or less. (Use Poisson distribution)

- Ops:
- A. 0.406
 - B. 0.434
 - C. 0.241
 - D. 0.2

Q 59. The mean of the binomial distribution $b(x; n, p)$ is ...

- Ops:
- A. np
 - B. p(1-p)
 - C. n(1-p)
 - D. np(1-p)

Reset

distribution. Using Chebyshev's rule,

(a) $\leq \frac{8}{9}$

(b) $\geq \frac{9}{8}$

(c) $\geq \frac{8}{9}$

(d) $\leq \frac{9}{8}$

- Ops:
- A. a
 - B. b
 - C. c
 - D. d

Reset

A and B are two independent events such that $P(A)=0.6$, $P(B)=0.5$. Then

- Ops:
- A. 0.12
 - B. 0.3
 - C. 0
 - D. 0.6

Reset

Q 27. Consider the density function $f(x) = k C(2, x)$, $x=0,1,2$ and $f(x) =$

interviewed in the city is the 5th one to own a dog.

- Ops: A. 0.037
B. 0.045
C. 0.044
D. 0.055

Q 39. On average, per hour 7 number of customer arrives at an atm . Compute the probability that more than 2 customer will arrive in the atm in a given hour.

- Ops: A. 0.971
B. 0.871
C. 0.029
D. 0.028

Q 40. Let $P(A)=0.2$, $P(B)=0.3$. Then $P(A \cup B)=...?$

- Ops: A. Equal to 0.5

Ops: A. 1

B. $(1/2)$

C. $(1/3)$

D. $(1/4)$

Reset

Q 19. The mean of the binomial distribution $b(x;n,p)$ is ...

Ops: A. np

B. $p(1-p)$

C. $n(1-p)$

D. $np(1-p)$

Reset

Q 09. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x)=0$ elsewhere then the cumulative distribution $F(0.5)$ is

- Ops: A. 0
B. 1
C. 0.75
D. 0.25



Q 10. Let X be a discrete random variable with cumulative probability distribution function $F(-1)=1/8$, $F(1)=1/4$, $F(2)=3/8$ and $F(4)=1$ then probability function $f(2) =$

- Ops: A. $(1/8)$
B. $(1/2)$
C. $(3/8)$
D. 1

Q 11. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=1/4$, $f(2)=1/2$, then $P(X>0) =$

- Ops: A. $(1/2)$
B. $(1/4)$

Ops: A. np

B. n(1-p)

C. n(1-p)

D. np(1-p)

Reset

Q 38. The probability that a person living in a certain city owns a dog is estimated to be 0.4. Find the probability that the 7th person randomly interviewed in the city is the 5th one to own a dog.

Ops: A. 0.022

B. 0.045

C. 0.044

D. 0.055

Q 39. On average, per hour 7 number of customer arrives at an atm . Compute the probability that more than 2 customer will arrive in the given hour.

Q 30. Find the probability that exactly 1 among those 10 is defective.

- Ops: A. 0.22
B. 0.3
C. 0.67
D. 0.95

Q 31. Consider the density function $f(x) = k C(2, x)$, $x=0,1,2$ and $f(x) = 0$ elsewhere , then $k=?$

- Ops: A. 1
B. $(1/4)$
C. $(3/4)$
D. $(5/8)$

Q 32. The probability that a regularly scheduled train departs on time is $P(D) = 0.80$; The probability that it arrives on time is $P(A)$. The probability that it departs and arrives on time is $P(D \cap A) = 0.72$. Find the probability that a train departed on time, given it arrived on time.

- Ops: A. 0.84

Q 27. A bag contains 3 red balls, 5 black balls. In a random sample of 3 balls, find the probability 2 red balls are selected.

Ops: A. 0.2342

B. 0.5444

C. 0.267

D. 0.1772

Q 28. From a lot of 4 missiles, 2 are selected at random and fired. If the lot contains 2 defective missiles that will not fire, what is the probability that exactly 1 will fire.

Ops: A. $(1/3)$

↳

B. $(2/3)$

C. $(1/6)$

D. $(2/6)$

Q 29. $P(A)=0.2$, $P(B)=0.5$ and $P(A \cup B) = 0.5$, then $P(A \cap B) =$

Ops: A. 0.5

a lot, Find the probability that exactly 1 among those 10 is defective.

- Ops:
- A. 0.22
 - B. 0.3
 - C. 0.67
 - D. 0.95



Q 31. Consider the density function $f(x) = k C(2, x)$, $x=0,1,2$ and $f(x) = 0$ elsewhere , then $k=?$

- Ops:
- A. 1

Q 17. Let A and B be two independent events such that $P(A) = 1/5$ and $P(A \cap B) = 1/10$. Then find $P(B)$...

- Ops: A. 1/10
B. 1/2
C. 1/5
D. 3/10

Q 18. If X follows Binomial probability distribution with probability of success is 0.3. If the total number of trials is 10, then $P(X > 3)$ is

- Ops: A. 0.1122
B. 0.6496
C. 0.3504
D. 0.5622

Q 19. A certain area of USA is on average, hit by 5 hurricanes a year. Find the probability that in a given year that area will bit by few hurricanes.

D. (1/9)

Reset



Q 13. Consider the density function $f(x) = k C(2,x)$, $x=0,1,2$ and $f(x) = 0$ elsewhere , then $k=?$

Ops: A. 1

B. (1/4)

C. (3/4)

D. (5/8)

Q 14. For any experiment, the sample space $S= \{HH,HT,TH,TT\}$. For any two events $A=\{ HH,HT\}$ and $B=\{ HT,TH\}$,



Instructions

Sections

Q3. Multiple Choice Questions

26 / 42 answered

Kiran Bell
Completed on 2023-09-22

00 : 48 : 02

Next

Prev

End

Q 42. Find the probability that a person flipping a coin gets first head in the 9th flip.

- Ops:
- A. (1/2)
 - B. (1/16)
 - C. (1/8)
 - D. 1

Q 43. Find the expected number of tails when a fair coin is tossed twice.

- Ops:
- A. 0
 - B. 0.5
 - C. 1
 - D. 0.75

Q 44. 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 function $f(x) =$

- Ops:
- A. (1/4)
 - B. (1/2)
 - C. (3/4)
 - D. 1

Submit

Q 32. Find the probability that a person flipping a coin gets 2nd head in the 3rd flip.

- Ops:**
- A. (1/2)
 - B. (1/4)
 - C. (1/8)
 - D. 1

Q 03. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops:
- A. 0.77
 - B. 0.98
 - C. 0.8
 - D. 0.67

- B. 0.2987
C. 0.5438
D. none

next

Q 10. A car has four tires operating independently. The probability that a specific tire fails during a certain period is 0.12. What is the probability that no tire will fail during that period?

- Ops: A. 0.4004
B. 0.5996
C. 0.0002
D. 0.9998

Submit



- B. (1/4)
C. (1/2)
D. 1

Reset

183

Q 30. Suppose that X and Y have the probability distribution $f(0,0)=0.1$, $f(0,1)=0.4$, $f(1,0)=0.3$, $f(1,1)=0.2$. Find the expected value of $g(X,Y)=XY$

- Ops: A. 0.2
B. 0.6
C. 1
D. 1.2

- B. 0.3
C. 0.6
D. 0.5

Re

Q 19. If the arrival (A) and departure (D) of a regularly scheduled train occurs independently with probability 0.72 and the probability of departs on time is $P(D) = 0.80$; Then the probability of arrival on time is $P(A)$ is.....

- Ops: A. 0.9
B. 0.8
C. 0.72
D. 1

Submit



Q 11. The mean of the Poisson distribution $P(x;m)$ is ...

- Ops:**
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$
 - D. $np(1-p)$

[Reset](#)

Q 12. If X follows poisson probability distribution with probability of success is 0.03. If the total nuber of trials is 100, then $P(X>3)$ is

- Ops:**
- A. 0.1947
 - B. 0.8153
 - C. 0.6472
 - D. 0.3528

[Submit](#)

Q10

Reset

Let X and Y denote the amounts of two different types of impurities in a batch of a certain chemical product. Suppose that X and Y are independent random variables with variances $\sigma_X^2 = 2$ and $\sigma_Y^2 = 3$. Find the variance of the random variable $Z = 2X - 3Y + 8$.

- (a) 35
- (b) 36
- (c) 42
- (d) 43

Ops: A. a

B. b

C. c

D. d

Q11. The probability that a patient recovers from a rare blood disease is 0.2. If 10 people are known to have suffered from this disease, find

the probability that at most one survives?

Ops: A. 0.5

B. 0.3758

C. 0.235

D. 1

Reset

Q 265

d) 135

A. 0.1

B. 0.6

C. 0.4

D. 0.04

Reset

14. On average, a textbook has 2 printing errors per page. Find the probability that in a given page the number of printing errors is 1 or less.
(Use Poisson distribution)

Ans: A. 0.406

B. 0.404

C. 0.241

D. 0.02

- Q 15. If the probability distribution for the random variable X are $f(0)=0.51$, $f(1)=0.49$, then find the variance.

Ans: A. 0.1

B. 0

C. 0.2499

D. 0.499

Reset

- Q 16. If two cards are selected from a packet of 52 cards at random, what is the probability that both of them are king?

Ans: A. 0.04231

- Ops: A. 0.2
B. 0.6
C. 1
D. 1.2

Q 31. If the arrival (A) and departure (D) of a regularly scheduled train occurs independently with probability $P(A) = 0.72$ and the probability of departs on time is $P(D) = 0.80$; Then the probability of arrival on time is $P(A)$ is....

- Ops: A. 0.9
B. 0.8
C. 0.72
D. 1

Q 32. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x) = 0$ elsewhere, then $P(0.3 < X < 0.8) = ?$

If $A = \{a, b\}$ and $B = \{a, b, c\}$, then $P(A \cap B) =$

- Ops: A. 0
B. 0.2
C. 0.5
D. 1

Reset

Q 46. If X follows poisson probability distribution with probability of success is 0.03. If the total number of trials is 100, then $P(X > 3)$ is

- Ops: A. 0.1947
B. 0.8153
C. 0.6472
D. 0.3528

Q 47. The probability that a patient recovers from a rare blood disease is 0.2. If 10 people are known to have contracted the disease, what is the probability that at most one survives?

- Ops: A. 0.5

Q 49. The mean of the Poisson distribution $P(x; m)$ is ...

- Ops: A. np
B. $p(1-p)$
C. $n(1-p)$
D. $np(1-p)$

Reset

Q 50. A bag contains 10 items out of which 3 are defective. If 4 items are selected randomly, what is the probability that at exactly 2 of them are defective?

- Ops: A. 0.3
B. 0.4
C. 0.45
D. 0.55

Q 56. In rolling a fair dice 5 times; what is the probability of getting 2 numbers of sixes?

- Ops: A. 0.16
B. 0.2
C. 0.05
D. 0.52

Reset



Q 57. From past experience it is known that 5% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, Find the probability that exactly 1 among those 10 is defective.

- Ops: A. 0.22
B. 0.3
C. 0.67
D. 0.95

Q 58. The mean of the binomial distribution $b(x;n,p)$ is ...

- Ops: A. np
B. $p(1-p)$
C. $(n-p)$

Q 51. X is a discrete random variable with probability function $f(x) = 1/6$ for $x=1,2,3,4,5,6$. Then $P(2 < X < 6)$

- Ops:**
- A. (3/6)
 - B. (4/6)
 - C. (5/6)
 - D. 1

mean number who will die?

- Ops: A. 2
B. 4
C. 10
D. 40

Reset

Q 43. If X follows poisson probability distribution with probability of success is 0.03. If the total nuber of trials is 100, then $P(X < 3)$ is

- Ops: A. 0.5768
B. 0.4232
C. 0.6472
D. 0.3528

Q 44. A random variable X has a mean $\mu = 8$ and a variance $\sigma^2 = 9$. Using Chebyshev's theorem, the minimum value of $P(2 < X < 14)$ is

- Q 27.** What is the probability of getting a total of atleast 4 when a pair of fair dice is tossed?
- Ops:**
- A. 0.57
 - B. 0.55
 - C. 0.92
 - D. 0.45
-
- Q 28.** In a certain industry, 2 printing machines, M₁ and M₂ make 50% each from the total printing items. It is known from past experience that 2% and 3% of the printing items made by each machine, respectively, are defective. Now, suppose that a finished item is randomly selected. What is the probability that it is defective?
- Ops:**
- A. 0.034
 - B. 0.143
 - C. 0.025
 - D. 0.325
-
- Q 29.** On average a student misses 3 classes in a month. What is the probability that in a given month the student will miss anywhere between 3 to 5 classes (both inclusive)?
- Ops:**
- A. 0.402

Q 44. A random variable X has a mean $\mu = 8$ and a variance $\sigma^2 = 9$. Using Chebyshev's theorem, the minimum value of $P(2 < X < 14)$ is

- (a) $3/4$
- (b) $1/2$
- (c) $2/3$
- (d) $1/3$

Ops: A. a
B. b
C. c

Q 53. X is a discrete random variable with probability function $f(x) = 1/4$ for $x=3,4,5,6$. Then $P(4 < X < 6)$

- Ops:**
- A. (1/4)
 - B. (4/6)
 - C. (5/6)
 - D. 1

Q 54. For any experiment, the sample space $S = \{1, 2, 3, 4, 5, 6\}$. For any two events $A = \{1, 2, 3, 4\}$ and $B = \{3, 4, 5, 6\}$, $P(A \cap B) =$

Q 39. if the joint probability distribution of X and Y is given by $f(x,y) = (x + y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1) =$

- Dps:**
- A. (7/36)
 - B. (4/36)
 - C. (4/30)
 - D. (7/30)

40. If X follows Binomial probability distribution with probability of success is 0.3. If the total number of trials is 10, then $P(X > 3)$ is

- Ops:**
- A. 0.1122
 - B. 0.6496
 - C. 0.3504
 - D. 0.5622

Q 25. Consider the density function $f(x) = k C(2,x)$, $x=0,1,2$ and $f(x) = 0$ elsewhere , then $k=?$

- Ops:**
- A. 1
 - B. $(1/4)$
 - C. $(3/4)$
 - D. $(5/8)$

Q 26. A bag contains 3 red balls, 5 black balls. In a random sample of 3 balls, find the probability 2 red ba

that at most 1 will not fire.

Q 04. A lot contains 5 missiles, 2 of which are defective. If one missile is randomly selected and fired, if the lot contains 2 defective missiles that will not fire, what is the probability

- Ops: A. 0.5
B. 0.6
C. 0.2
D. 0.3

Reset



Q 05. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops: A. 0.77
B. 0.98
C. 0.8
D. 0.67

Q 06. Let X be a discrete random variable with probability mass function $f(0)=1/8$, $f(1)=3/8$, $f(2)=3/8$, $f(3)=1/8$, then $P(X>0) =$

- Ops: A. $(16/8)$

Q 29. From past experience it is known that 5% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, Find the probability that exactly 1 among those 10 is defective.

- Ops:**
- A. 0.22
 - B. 0.3
 - C. 0.67
 - D. 0.95

Q 30. The mean of the Poisson distribution $P(x; m)$ is ...

- Ops:**
- A. np
 - B. $n(1-p)$

Q 11. Find the probability that a person flipping a coin gets 2nd head in the 3rd flip.

- Ops:**
- A. (1/2)
 - B. (1/4)
 - C. (1/8)
 - D. 1

Q 12. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=5/16$, $f(2)=7/16$, then cumulative $F(1)=?$

- Ops:**
- A. (6/16)

Q 58. X is a discrete random variable with probability function $f(x) = 1/6$ for $x = 1, 2, 3, 4, 5, 6$. Then $P(X < 5 | X > 2)$

- Ops:**
- A. (1/2)
 - B. (1/3)
 - C. (2/3)
 - D. 1

Q 59. A random variable X has a mean $\mu = 8$ and a variance $\sigma^2 = 9$. Using Chebyshev's

Ops: A. 0.2342
B. 0.5444
C. 0.267
D. 0.1772

Reset

Q 27. What is the probability of getting a total of atleast 4 when a pair of fair dice is tossed?

Ops: A. 0.57
B. 0.55
C. 0.92
D. 0.45

78335

Questions

- Ops: A. 0.84
B. 0.94
C. 0.9
D. 0.87

[Reset](#)

Q 53. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the ratio of 1:2:2. Find is the probability that among 5 off spring 2 will be red, 2 black and 1 white.

- Ops: A. 0.502
B. 0.6769
C. 0.1
D. 0.6733

Q 54. The probability that a person living in a certain city owns a dog is estimated to be 0.4. Find the probability that the 7th person randomly interviewed in the city is the 5th one to own a dog.

- Ops: A. 0.022
B. 0.045
C. 0.044
D. 0.055

[Submit](#)

Q 10. For what value of 'k' so that $f(x,y) = k(2x+y)$, $x=0,1$ and $y=1,3$ will be a valid joint distribution function.

(a) 1/12

(b) 1

(c) 1/2

(d) 1/4

- Ops:**
- A. 0.1122
 - B. 0.6496
 - C. 0.3504
 - D. 0.5622

Q 25. Consider the density function $f(x) = k C(2,x)$, $x=0,1,2$ and $f(x) = 0$ elsewhere , then $k=?$

- Ops:**
- A. 1

- Ops:**
- A. 0.2223
 - B. 0.6272
 - C. 0.6496
 - D. 0.4504

Q 10. Suppose that airplane engines operate independently and fail with probability equal to 0.2. If the airplane has 2 engines, what is the probability that none will fail during a flight?

- Ops:**
- A. 0.75
 - B. 0.64
 - C. 0.9
 - D. 0.77

The probability that a patient recovers from a rare blood disease is 0.7. If 5 people are known to have contracted the disease, what is the probability that at least 4 survives?



- Ops:
- A. 0.45
 - B. 0.233
 - C. 0.163
 - D. 0.53

Reset

Q 32. On average, a textbook has 4 printing errors per page. Find the probability that in a given page the number of printing errors is exactly one. (Use Poisson distribution)

- Ops:
- A. 0.393
 - B. 0.272
 - C. 0.51
 - D. 0.073

Q 33. if the joint probability distribution of X and Y is given by $f(x,y) = (x + y)/36$ for $x=1,2,3$ and $y=1,2,3$. Then $P(X > 2, Y \leq 1) =$

- Ops:
- A. $(7/36)$
 - B. $(4/36)$

Q 01. The probability that a person will die when he or she contracts a virus infection is 0.001. Of the next 4000 people infected , what is the mean number who will die?

- Ops: A. 2
B. 4
C. 10
D. 40

Q 02. Let X be a discrete random variable with probability mass function $f(0)=1/4$, $f(1)=1/4$, $f(2)=1/2$, then $P(X>0) =$

- Ops: A. $(1/2)$
B. $(1/4)$
C. $(3/4)$
D. 1

Reset

Q 05. X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4 | X > 1)$

- Ops:**
- A. (1/2)
 - B. (1/3)
 - C. (2/3)
 - D. 1

Q 36. In a certain assembly plant, 3 machines, M1, M2 and M3 , make 20%, 50%,and 30%, respectively, of the products. It is known from past experience that 2%, 3%and 2% of the products made by each machine, respectively, are defective. Now, suppose that a finished product is randomly selected. What is the probability that it is defective?

- Ops:**
- A. 0.034
 - B. 0.143
 - C. 0.025
 - D. 0.325

Instructions

Sections

01. Multiple Choice Questions
56 / 60 attempted

C) 0.75
D) 0.25
Reset

Vijaya Sinha
Candidate ID: 29078332

00 : 15 : 16

Q 26.

If joint density function of two continuous random variables X and Y is given by

$$f(x,y) = \begin{cases} \frac{2}{3}(x+2y), & 0 \leq x \leq 1, 0 \leq y \leq 1, \\ 0 & \text{elsewhere.} \end{cases}$$

The marginal density of X

- A) $\frac{2}{3}(x+1)$
- B) $\frac{2}{3}(1/2 + 2y)$
- C) $\frac{2}{3}(y+1)$
- D) $\frac{2}{3}(1/2 + 2x)$

Ops: A. a
B. b
C. c
D. d

Submit

Q 03. In Tossing a fair coin 3 times find the probability of getting 1st head or 2nd tail

- Ops:
- A. (1/4)
 - B. (1/16)
 - C. (1/12)
 - D. (1/32)

Q 04. Let X be a discrete random variable with cumulative probability distribution function
probability function $f(2) =$

- Ops:
- A. (1/8)
 - B. (1/2)
 - C. (3/8)
 - D. 1

Q 05. Let X be a discrete random variable with probability mass function $f(x) =$

- Ops:
- A. (16/8)
 - B. (3/8)
 - C. (1/8)
 - D. (7/8)

Reset

Q. 39. Consider the following:
A. C_1
B. C_2
C. C_3

Q. 40. Suppose that an airline has four planes.
A. C_1
B. C_2
C. C_3
D. C_4

Q. 41. Consider the following:
A. C_1
B. C_2
C. C_3
D. C_4

Q. 42. Suppose that an airline has four planes.
A. $C_{0.75}$
B. $C_{0.85}$
C. $C_{0.95}$
D. $C_{0.99}$

Q 21. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the ratio of 1:2:2. Find is the probability that among 5 off spring 2 will be red, 2 black and 1 white.

- Ops:**
- A. 0.502
 - B. 0.0768
 - C. 1
 - D. 0.6733

Q 11. Let X be a discrete random variable with probability mass function $f(x) = \frac{1}{4}(x+1)$. Then $F(1) = ?$

$F(1) = ?$

Ops: A. (6/16)

B. (7/16)

C. 1

D. (9/16)

Q 12. Consider the density function $f(x) = 2(x-1)$, $1 < x < 2$. If x is a random variable, then $P(x > 1.5) = ?$

Ops: A. 1

B. 0.5

C. 0.75

D. 0.65

Q 13. X is a discrete random variable with probability function $f(x) = 10^{-x}$, $x = 1, 2, \dots$. Then $P(X > 2) = ?$

Ops: A. (1/2)

B. (1/3)

C. (2/3)

D. 1

Q 14. If X represents the number of heads when a fair coin is tossed twice. Then $P(X = 1) = ?$

Ops: A. 0

B. 0.5

- B. b
C. c
D. d

Reset

Q 22. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the ratio of 1:2:2. Find is the probability that among 5 off spring 2 will be red, 2 black and 1 white.

- Ops:** A. 0.502
B. 0.0768
C. 1
D. 0.6733

Q 23. In a certain industry, 2 printing machines, M1 and M2 make 50% each from the total printing items. It is known from past experience that 2% and 3% of the priting items made by each machine, respectively, are defective. Now, suppose that a finished item is randomly selected. What is the probability that it is defective?

- Ops:** A. 0.034

Q 05. Probability of hitting the target is 0.7 and 3 shots are fired independently. Find the probability of hitting the target twice.

- Ops:**
- A. 0.22
 - B. 0.375
 - C. 0.441
 - D. 0.523

Q 06. A bag contains 2 black balls and 3 green balls. If two balls are selected randomly, what is the probability that both of them are black balls?

- Ops:**
- A. 0.1
 - B. 0.4

- Ops:** A. 0.2
B. 0.3
C. 0.6
D. 0.9

[Reset](#)

Q 19. If the arrival (A) and departure (D) of a regularly scheduled train occurs independently with probability 0.72 and the probability of departs on time is $P(D) = 0.80$; Then the probability of arrival on time is $P(A)$ is....

- Ops:** A. 0.9
B. 0.8
C. 0.72
D. 1

[Submit](#)

Ops: A. 0.2342



B. 0.5444

C. 0.267

D. 0.1772

44. On the average, 1 in every 100 items is defective for a certain manufacturing process. What is the probability that

Q 26. If X follows Binomial probability distribution with probability of success is 0.3. If the total number of trials is 10, then $P(X>3)$ is

- Ops:**
- A. 0.1122
 - B. 0.6496
 - C. 0.3504
 - D. 0.5622

Q 27. Find the expected number of tails when a fair coin is tossed twice.

- Ops:**
- A. 0

D. 1

Reset

Q 52. Let X be a discrete random variable with probability mass function $P(X=x)$.
Ops: A. $(1/2)$
B. $(1/4)$
C. $(3/4)$
D. 1

Q 53. On average, a textbook has 2 printing errors per page. Find the probability
(Use Poisson distribution)

Ops: A. 0.406
B. 0.434
C. 0.241
D. 0.2

Q 54. A random variable X has a mean $\mu = 10$, a variance $\sigma^2 = 4$. Find the probability
distribution. Using Chebyshev's theorem, $P(4 < X < 16) \geq 0.75$

(a) $\leq \frac{8}{9}$

(b) $\geq \frac{9}{8}$

(c) $\geq \frac{8}{9}$

- Ops:**
- A. 0.84
 - B. 0.94
 - C. 0.9
 - D. 0.87

Reset

- Q 53.** According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the ratio of 1:2:2. Find is the probability that among 5 off spring 2 will be red, 2 black and 1 white.

- Ops:**
- A. 0.502
 - B. 0.0768
 - C. 1
 - D. 0.6733

X	3	6	5
f(x)	1/5	1/2	3/10

Find $E(Z)$, where $Z = (5X + 1)$

- a) 15.5
- b) 25.5
- c) 26.5
- d) 13.5

Ops: A. a

B. b

C. c

D. d

Reset

- B. (1/3)
C. (2/3)
D. 1

Q 57. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops:** A. 0.77
B. 0.98
C. 0.8
D. 0.67

Q 58. For any constant k , $E(k)$ is

- Ops:** A. 0
B. k
C. 1
D. $k/2$

01. Multiple Choice Questions

Q 01. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops:**
- A. 0.77
 - B. 0.98
 - C. 0.8
 - D. 0.67

Reset

Q 02. A bag contains 2 red balls, 3 black balls . If 2 balls selected at random from the bag, find the probability that all the balls selected are red.

- Ops:**
- A. (1/10)

- Ops:**
- A. 0.2
 - B. 0.3
 - C. 0.6
 - D. 0.5

Q 19. If the arrival (A) and departure (D) of a regularly scheduled train occurs independently with probability 0.72 and the probability of departs on time is $P(D) = 0.80$; Then the probability of arrival on time is $P(A)$ is.....

- Ops:**
- A. 0.9
 - B. 0.8
 - C. 0.72
 - D. 1

Submit

Reset

Q 59. Let $P(A|B) = 0.5$, $P(B) = 0.7$. Then $P(A \cap B) =$

- Ops:**
- A. 0.11
 - B. 0.39
 - C. 0.59
 - D. 0.35

78335.

Q 60. X is a discrete random variable with probability function $f(x) = 1/4$ for $x=3,4,5,6$. Then $P(4 < X < 6)$

- Ops:**
- A. $(1/4)$
 - B. $(4/6)$
 - C. $(5/6)$
 - D. 1



Q 55. The variance of the Poisson distribution $P(x; m)$ is ...

1033

- Ops:**
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$
 - D. $np(1-p)$

Q 56. X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4)$

- Ops:**
- A. $(1/2)$
 - B. $(1/3)$
 - C. $(2/3)$
 - D. 1

- A. 1
B. (1/2)
C. (1/3)
D. (1/4)

Reset

Q 14. On the average, 1 in every 100 items is defective for a certain manufacturing process. What is the probability that the fifth item inspected is the first defective item found?

- Ops:** A. 0.0096
B. 0.9904
C. 0.6534
D. 0.3148

Q 15. For cumulative distribution function $F(x)$, if $F(-\infty)=0$, then $F(\infty)=\dots$

Q 10. On average a student misses 3 classes in a month. What is the probability that in a given month the student will miss anywhere between 3 to 5 classes(both inclusive)?

- Ops:**
- A. 0.493
 - B. 0.443
 - C. 0.342
 - D. 0.667

Reset

Q 11. Suppose that airplane engines operate independently and fail with probability equal to 0.2. If the airplane has 4 engines, what is the probability that at most one will fail during a flight?

- Ops:**
- A. 0.1122
 - B. 0.5568
 - C. 0.8192
 - D. 0.5622

Q 12. If joint density function of two continuous random variables X and Y is given by

$$(2e^{-x-2y}) \quad 0 \leq x \leq 1, 0 \leq y \leq 1,$$

Q 13. Let X be a discrete random variable in which probability distribution $f(x) = c(x+4)$, for $x=0,1,2,3$; then $c=?$

- Ops:**
- A. (1/15)
 - B. (1/23)
 - C. (1/11)
 - D. (1/22)

Q 14. For any experiment, the sample space $S = \{1,2,3,4,5,6\}$. For any two events $A = \{1,2,3,4\}$ and $B = \{3,4,5,6\}$, $P(A \cup B) =$

- Ops:**
- A. 1
 - B. (6/7)
 - C. (5/7)
 - D. (4/7)

Q 15. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x) = 0$ elsewhere, then $P(0.3 < X < 0.8) = ?$

- Ops:**
- A. 1
 - B. 0.5
 - C. 0.55
 - D. 0.65

Q 16. The variance of the binomial distribution $b(x; n, p)$ is ...

- Ops:**
- A. np
 - B. $p(1-p)$
 - C. $n(1-p)$

D. np(1-p)

Reset

Q 56. X is a discrete random variable with probability function $f(x) = 1/4$ for $x = -1, 2, 3, 4$. Then $P(X < 4 | X > 1)$

- Ops: A. (1/2)
B. (1/3)
C. (2/3)
D. 1

Q 57. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly from a lot, find the probability that at most 1 among those 10 is defective.

- Ops: A. 0.77
B. 0.98
C. 0.8
D. 0.67

$$f(x,y) = \begin{cases} \frac{2}{3}(x+2y), & 0 \leq x \leq 1, 0 \leq y \leq 1, \\ 0 & \text{elsewhere.} \end{cases}$$

The marginal density of X

- A) $\frac{2}{3}(x+1)$
- B) $\frac{2}{3}(1/2 + 2y)$
- C) $\frac{2}{3}(y+1)$
- D) $\frac{2}{3}(1/2 + 2x)$

- Ops:
- A. a
 - B. b
 - C. c
 - D. d

00 : 15 : 13

Reset

Q 18. For any experiment, the sample space $S = \{a, b, c, d\}$. For any two events $A = \{a, b\}$ and $B = \{a, c, d\}$, then $P(A \cap B) = ?$

- Ops: A. 0
B. 0.2
C. 0.5
D. 1

Reset

Q 19. If X follows poisson probability distribution with probability of success is 0.03. If the total number of trials is 100, then $P(X < 3)$ is

- Ops: A. 0.5768
B. 0.4232
C. 0.6472
D. 0.3528

Q 20. $P(A) = 0.2$, $P(B) = 0.5$ and $P(A \cup B) = 0.5$, then $P(A \cap B) =$

- Ops: A. 0.5
B. 0.6
C. 0.3

Candidate ID: 25901961
00 : 14 : 37

D. 0.032

Reset

Q 29. If two cards are selected randomly one by one with replacement from a packet of 52 cards, what is the probability that both of them are red cards?

- Ops:**
- A. 1
 - B. $(1/2)$
 - C. $(1/4)$
 - D. $(1/16)$

Reset

Q 30. The probability that a person living in a certain city owns a dog is estimated to be 0.4. Find the probability that the 7th person randomly interviewed in the city is the 5th one to own a dog.

- Ops:**
- A. 0.022
 - B. 0.045
 - C. 0.044
 - D. 0.055

D. 0.3528

- Q 20. $P(A)=0.2$, $P(B)=0.5$ and $P(A \cup B) = 0.5$, then $P(A \cap B) =$
- Ops: A. 0.5
B. 0.6
C. 0.3
D. 0.2

Reset



- Q 21. The probability that a patient recovers from a rare blood disease is 0.7. If 5 people are known to have contracted the disease, what is the probability that at least 4 survives?
- Ops: A. 0.45
B. 0.233
C. 0.163
D. 0.53

$$\text{(c)} \quad \frac{h(y)}{h(y)}, \quad h(y) > 0$$

$$\text{(d)} \quad \frac{f(x,y)}{g(x)}, \quad g(x) > 0$$

- Ops:** A. a
B. b
C. c
D. d

Reset 

Q 48. If two cards are selected from a packet of 52 cards one by one with replacement, what is the probability that both of them are red cards?

- Ops:** A. $(1/2)$
B. $(1/4)$
C. $(1/16)$
D. $(1/8)$

D: d

Candidate ID: 2909160

00 : 14 : 20

Reset

Q 33. The set of all possible outcomes of a random experiment is

- Ops: A. Event
B. Outcome
C. Sample space
D. Independent events.

Reset

Q 34. The probability that a regularly scheduled train departs on time is $P(D) = 0.80$; The probability that it arrives on time is $P(A) = 0.85$; and the probability that it departs and arrives on time is $P(D \cap A) = 0.72$. Find the probability that a train departed on time, given that it has arrived on time.

- Ops: A. 0.84
B. 0.94
C. 0.9
D. 0.87

Q 35. If X represents the number of heads when a fair coin is tossed once, then $\text{Var}(X)$ is

- B. $p(1-p)$
C. $n(1-p)$
D. $np(1-p)$

Reset

Solving Key
Candidate ID: 29081603

00 : 13 : 59

Q 39. According to a genetic theory, a certain cross of guinea pigs will result in red, black and white off spring in the ratio of 1:2:2. Find is the probability that among 5 off spring 2 will be red, 2 black and 1 white.

- Ops: A. 0.502
B. 0.0768
C. 1
D. 0.6733

Q 40. Consider the density function $f(x) = 2x$, $0 < x < 1$, $f(x)=0$ elsewhere then the cumulative distribution $F(0.5)$ is

- Ops: A. 0
B. 1
C. 0.75
D. 0.25

Q 41. For any constant k , $E(k)$ is

Ans: A. 0

00 : 13 : 42

- A. $(4/36)$
- C. B. $(4/30)$
- D. C. $(7/30)$

Reset

- Q 44.** In rolling a fair die what is the probability of getting 2 , if its already known that an even number has turned up
- Ops:**
- A. 1
 - B. $(1/2)$
 - C. D. $(1/3)$
 - E. $(1/4)$

Reset

- Q 45.** On average a student misses 3 classes in a month. What is the probability that in a given month the student will miss anywhere between 3 to 5 classes(both inclusive)?
- Ops:**
- A. 0.493
 - B. 0.443
 - C. 0.342
 - D. 0.667

Theorem, the minimum value of $P(2 < X < 14)$ is

(a) $\frac{3}{4}$
(b) $\frac{1}{2}$
(c) $\frac{2}{3}$
(d) $\frac{1}{3}$

00 : 12 : 57

- Ops: A. a
B. b
C. c
D. d

Reset

Q 56. If X follows Binomial probability distribution with probability of success is 0.5. If the total number of trials is 10, then $P(2 < X < 5)$ is

- Ops: A. 0.2223
B. 0.6272
C. 0.6496
D. 0.4504

- C. $n(1-p)$
D. $np(1-p)$

[Reset](#)

Q 58. For cumulative distribution function $F(x)$, if $F(-\infty)=0$, then $F(\infty)=....$

- Ops: A. 0
B. -1
C. 1
D. 0.5

[Reset](#)

Q 59. The probability that a patient recovers from a rare blood disease is 0.2. If 10 people are known to have contracted the disease, what is the probability that at most one survives?

- Ops: A. 0.5
B. 0.3758
C. 0.235
D. 1

Q 60. Let A and B be two independent events such that $P(A) = 1/5$ and $P(A \cap B) = 1/10$. Then find $P(B) ...$

- Ops: A. 1/10

(c) $\sum_x \sum_y f(x, y)$

(d) $\sum_x \sum_y f(x, y)$

- Ops: A. a
B. b
C. c
D. d

Reset

Q 53. Let X be a random variable with probability distribution function $f(x) = 2(1-x)$ for $0 < x < 1$ and $f(x) = 0$ elsewhere, then $P(0.5 < x < 1)$ is _____

- Ops: A. 0.35
B. 0.55
C. 0.25
D. 0.85

Q 54. If X follows Binomial probability distribution with probability of success is 0.3. If the total number of trials is 10, then $P(X > 3)$ is