

Q 58. From past experience it is known that 2% of the products produced by a company are defectives. If 10 items are selected randomly, 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 59. 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 60. 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



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Q 56. 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

Reset

Q 57. 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 58. 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

Submit

D. d

Reset

Q 53. 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

Reset

Q 54. A city has two fire engines operating independently. The probability that a specific engine is available when needed is 0.88. What is the probability that neither is available when needed?

Ops: A. 0.0004

B. 0.014

C. 0.088

D. 0.0084

Reset

Q 55. The set of all possible outcomes of a random experiment is

Ops: A. Event

B. Outcome

C. Sample space

D. Independent events.

Reset

unctions

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Multiple Choice Questions

attempted

Q 51. 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

Reset

Q 52. 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

Reset

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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

Q 50. 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

ions

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

Reset

Multiple Choice Questions

Attempted

Q 46. 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

Reset

Q 47. 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 48. 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

Submit

D. 0.325

Reset

Q 44. 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 45. 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

Reset

Q 46. 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)

Q 41. 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

Reset

Q 42. 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 43. 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



unctions

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Multiple Choice Questions

attempted

D. 1

Reset

Q 39. 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. $(1/8)$

Reset

Q 40. 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

Reset

Submit

Reset

Q 36. 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 37. 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 38. 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,
 $P(X<2)=----$

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

Reset

questions

Submit



- C. 0.025
D. 0.325

Reset

Questions

Q 33. 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

Reset

Q 34. 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 35. 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

C) $\frac{2}{3}(y + 1)$

D) $\frac{2}{3}(1/2 + 2x)$

Ops: A. a

B. b

C. c

D. d

Reset

Q 31. 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 32. 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



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Multiple Choice Questions
60 attempted

Q 29. 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

Reset

Q 30. 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

D. d

Reset

Multiple Choice Questions

Attempted

Q 26. 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

Reset

Q 27. 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 28. $P(A)=0.2$, $P(B)=0.5$ 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

Submit

given by B . The following table gives the joint distribution for X and Y .

		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 22. 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 23. 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 24. On average a student makes 2 mistakes per page. What is the probability in a given page the student will make at least 2 error?

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

Reset

Q 19. Which of the following cannot be the probability of an event?

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

Reset

Q 20. 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 21. 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

Reset

Submit



Reset

Q 16. 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

Q 17. 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

Reset

Q 18. 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

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Q 13. 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 14. For any constant k , $E(k)$ is

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

Reset

Q 15. 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

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D. np(1-p)

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Q 10. 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 11. 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)

Reset

Q 12. 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

- Q48. If $P(X=0) = 0.25$, $P(X=1) = 0.49$, then find the variance.
- Type: A. 0.1
B. 0.9
C. 0.2999
D. 0.4999

Answer:

Q49. The probability that a regularly scheduled train departs on time is $P(D) = 0.90$. 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.

- Type: A. 0.88
B. 0.694
C. 0.65
D. 0.687

Answer:

Q50. The variance of the Poisson distribution $P(\lambda | m)$ is ...

- Type: A. 12
B. 0.6149
C. 0.6169
D. 0.6159

Answer:

Reset

Q 07. 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

Reset

Q 08. 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 09. The variance of the Poisson distribution $P(x; m)$ is ...

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

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B. 0.2

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 05. 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

Reset

Q 06. 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

01. Multiple Choice Questions

60 questions, 1 mark each

Q 01. 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 4 to 6 hurricanes

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

Reset

Q 02. 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 03. 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