NDA 2 2024

LIVE

MATHS REVISION

CLASS 14

NAVJYOTI SIR

SSBCrack EXAMS

27 August 2024 Live Classes Schedule

9:00AM	27 AUGUST 2024 DAILY DEFENCE UPDATES	DIVYANSHU SIR

SSB INTERVIEW LIVE CLASSES

9:30AM	MOCK PERSONAL INTERVIEWS	ANURADHA MA'AM

NDA 2 2024 LIVE CLASSES

11:00AM	GK - CURRENT AFFAIRS REVISION - CLASS 3	DIVYANSHU SIR
1:00PM	MATHS REVISION - CLASS 14	NAVJYOTI SIR
2:00PM	CHEMISTRY REVISION - CLASS 7	SHIVANGI MA'AM
5:30PM	ENGLISH - REVISION - CLASS 8	ANURADHA MA'AM

CDS 2 2024 LIVE CLASSES

11:00AM	GK - CURRENT AFFAIRS REVISION - CLASS 3	DIVYANSHU SIR
2:00PM	CHEMISTRY REVISION - CLASS 7	SHIVANGI MA'AM
3:00PM	MATHS REVISION - CLASS 14	NAVJYOTI SIR
5:30PM	ENGLISH - REVISION - CLASS 8	ANURADHA MA'AM

REVISION TOPICS :

- Statistics
- Probability

Q) What is $\int \tan^{-1}(\sec x + \tan x)\,dx$ equal to?

(a) $\frac{\pi x}{4} + \frac{x^2}{4} + c$

(b) $\frac{\pi x}{2} + \frac{x^2}{4} + c$

(c) $\frac{\pi x}{4} + \frac{\pi x^2}{4} + c$

(d) $\frac{\pi x}{4} - \frac{x^2}{4} + c$

$\sin 2x = \frac{2\tan x}{1+\tan^2 x}$

$\cos 2x = \frac{1-\tan^2 x}{1+\tan^2 x}$

$\sec x + \tan x = \frac{1+\sin x}{\cos x} = 1 + \left(\frac{2\tan x/2}{1+\tan^2 x/2}\right) \Big/ \frac{1-\tan^2 x/2}{1+\tan^2 x/2} = \frac{(1+\tan x/2)^2}{1-\tan^2 x/2} = \frac{1+\tan x/2}{1-\tan x/2}$

$$\frac{1+\tan x/2}{1-\tan x/2} = \frac{\tan \pi/4 + \tan x/2}{1-(\tan \frac{\pi}{4})\tan x/2} = \tan\left(\frac{\pi}{4}+\frac{x}{2}\right)$$

$$I = \int \tan^{-1}(\sec x + \tan x)\,dx = \int \tan^{-1}\left(\tan\left(\frac{\pi}{4}+\frac{x}{2}\right)\right)dx$$

$$= \int\left(\frac{\pi}{4}+\frac{x}{2}\right)dx = \frac{\pi}{4}x + \frac{x^2}{4} + C$$

Q) What is $\int \tan^{-1}(\sec x + \tan x)\,dx$ equal to?

(a) $\frac{\pi x}{4} + \frac{x^2}{4} + c$

(b) $\frac{\pi x}{2} + \frac{x^2}{4} + c$

(c) $\frac{\pi x}{4} + \frac{\pi x^2}{4} + c$

(d) $\frac{\pi x}{4} - \frac{x^2}{4} + c$

Ans: (a)

Q) Students of three sections of a class, having 30, 30 and 40 students appeared for a test of 100 marks. The arithmetic means of the marks of the three sections are 72.2, 69.0 and 64.1 in that order. What is the arithmetic mean of the marks of all the students of the three sections?

(a) 66.6
(b) 67.3
(c) 68.0
(d) 70.6

$$= \frac{(30 \times 72.2) + (30 \times 69.0) + (40 \times 64.1)}{30 + 30 + 40} = \frac{\quad}{100}$$

Q) Students of three sections of a class, having 30, 30 and 40 students appeared for a test of 100 marks. The arithmetic means of the marks of the three sections are 72.2, 69.0 and 64.1 in that order. What is the arithmetic mean of the marks of all the students of the three sections?

(a) 66.6 (b) 67.3

(c) 68.0 (d) 70.6

Ans: (c)

Q) The mean of 10 observations is 5. If 2 is added to each observation and then multiplied by 3, then what will be the new mean ?

(a) 5
(b) 7
(c) 15
(d) 21

change in observations $\Rightarrow$ same change in mean

$(5+2)\times 3 = 7\times 3 = 21$

Q) The mean of 10 observations is 5. If 2 is added to each observation and then multiplied by 3, then what will be the new mean ?

(a) 5
(b) 7
(c) 15
(d) 21

Ans: (d)

Q) Variance is always independent of the change of

(a) origin but not scale
(b) scale only
(c) both origin and scale
(d) None of the above

Q) Variance is always independent of the change of

(a) origin but not scale
(b) scale only
(c) both origin and scale
(d) None of the above

change in origin → adding something

change in scale → multiplying something

Ans: (a)

Q) If two regression lines between height (x) and weight (y) are $4y - 15x + 410 = 0$ and $30x - 2y - 825 = 0$, then what will be the correlation coefficient between height and weight?

(a) $\frac{1}{3}$ (b) $\frac{1}{2}$ (c) $\frac{2}{3}$ (d) $\frac{3}{4}$

$4y - 15x + 410 = 0$

$y = \frac{15x}{4} - \frac{410}{4}$

$b_{yx} = \left(\frac{15}{4}\right)$

$30x - 2y - 825 = 0$

$x = \frac{2y}{30} + \frac{825}{30}$

$\left(b_{xy} = \frac{2}{30} = \frac{1}{15}\right)$

Corr. coeff. $= \sqrt{b_{yx} \times b_{xy}}$

$= \sqrt{\frac{15}{4} \times \frac{1}{15}}$

$= \left(\frac{1}{2}\right)$ //

Q) If two regression lines between height (x) and weight (y) are $4y - 15x + 410 = 0$ and $30x - 2y - 825 = 0$, then what will be the correlation coefficient between height and weight?

(a) $\frac{1}{3}$ (b) $\frac{1}{2}$ (c) $\frac{2}{3}$ (d) $\frac{3}{4}$

Ans: (b)

Q) The variance of 20 observations is 5. If each observation is multiplied by 2, then what is the new variance of the resulting observations ?

(a) 5
(b) 10
(c) 20
(d) 40

$5 \times (2)^2 = 5 \times 4 = 20$

Q) The variance of 20 observations is 5. If each observation is multiplied by 2, then what is the new variance of the resulting observations ?

(a) 5
(b) 10
(c) 20
(d) 40

Ans: (c)

Q) What is the arithmetic mean of the series ${}^{n}C_0, {}^{n}C_1, \ldots\ldots {}^{n}C_n, ?$

(a) $\dfrac{2^n}{n}$

(b) $\dfrac{2^n}{(n+1)}$

(c) $\dfrac{2^{(n+1)}}{n}$

(d) $\dfrac{2^{(n+1)}}{(n+1)}$

$$\frac{{}^{n}C_0 + {}^{n}C_1 + \cdots {}^{n}C_n}{n+1}$$

$$= \left(\frac{2^n}{n+1}\right)$$

$$(1+x)^n = {}^{n}C_0 x^0 + {}^{n}C_1 x^1 + {}^{n}C_2 x^2 + \cdots {}^{n}C_n x^n$$

If $x = 1$

$$(1+1)^n = {}^{n}C_0 + {}^{n}C_1 + {}^{n}C_2 + {}^{n}C_3 + \cdots {}^{n}C_n \rightarrow 2^n$$

Q) What is the arithmetic mean of the series ${}^{n}C_0, {}^{n}C_1, \ldots\ldots {}^{n}C_n, ?$

(a) $\frac{2^n}{n}$

(b) $\frac{2^n}{(n+1)}$

(c) $\frac{2^{(n+1)}}{n}$

(d) $\frac{2^{(n+1)}}{(n+1)}$

Ans: (b)

Q) In a test in Mathematics, 20% of the students obtained "first class". If the data are represented by a pie chart, what is the central angle corresponding to "first class"?

(a) 20° (b) 36° (c) 72° (d) 144°

$\frac{20}{100} \times 360^\circ = \frac{1}{5} \times 360^\circ = 72$

Q) In a test in Mathematics, 20% of the students obtained "first class". If the data are represented by a pie chart, what is the central angle corresponding to "first class"?

(a) 20° (b) 36° (c) 72° (d) 144°

Ans: (c)

Q) In which one of the following cases would you expect to get a negative correlation?

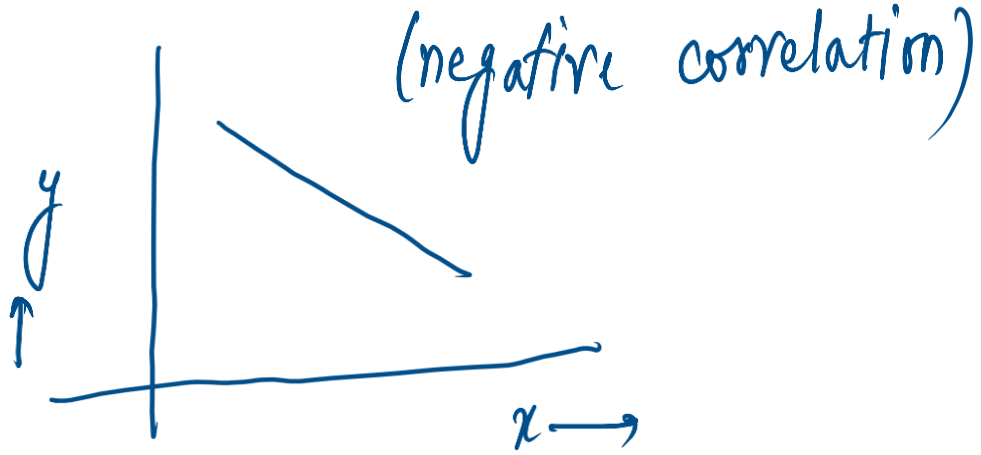
(a) The ages of husbands and wifes

(b) Shoe size and intelligence

(c) Insurance companies profits and the number of claims they have to pay

(d) Amount of rainfall and yield of crop

If $x \uparrow$, then $y \downarrow$



Q) In which one of the following cases would you expect to get a negative correlation?

(a) The ages of husbands and wifes
(b) Shoe size and intelligence
(c) Insurance companies profits and the number of claims they have to pay
(d) Amount of rainfall and yield of crop

Ans: (c)

Q) The mean and standard deviation of a set of values are 5 and 2 respectively. If 5 is added to each value, then what is the coefficient of variation for the new set of values?

(a) 10 (b) 20 (c) 40 (d) 70

New mean = $5 + 5 = 10$

New S.D. = 2

$$\text{coeff. of var.} = \frac{SD\ (\sigma)}{\text{Mean}} \times 100 = \frac{2}{10} \times 100 = 20$$

Q) The mean and standard deviation of a set of values are 5 and 2 respectively. If 5 is added to each value, then what is the coefficient of variation for the new set of values?

(a) 10 (b) 20 (c) 40 (d) 70

Ans: (b)

Q) If two variables X and Y are independent, then what is the correlation coefficient between them?

(a) 1
(b) –1
(c) 0
(d) None of these

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(a) 1 (b) –1
(c) 0 (d) None of these

Imp. → coefficient of correlation / correlation coefficient (r) ↓ (properties)

Ans: (c)

Q) The variance of 25 observations is 4. If 2 is added to each observation, then the new variance of the resulting observations is

(a) 2 (b) 4 (c) 6 (d) 8

Q) The variance of 25 observations is 4. If 2 is added to each observation, then the new variance of the resulting observations is

(a) 2 (b) 4 (c) 6 (d) 8

Ans: (b)

Q) Which one of the following can be obtained from an ogive?

(a) Mean
(b) Median
(c) Geometric Mean
(d) Mode

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(a) Mean
(b) Median
(c) Geometric Mean
(d) Mode

Ans: (b)

Q) The median of the observations 22, 24, 33, 37, $x+1$, $x+3$, 46, 47, 57, 58 in ascending order is 42. What are the values of 5th and 6th observations respectively?

(a) 42, 45
(b) 41, 43
(c) 43, 46
(d) 40, 40

Q) The median of the observations 22, 24, 33, 37, $x+1$, $x+3$, 46, 47, 57, 58 in ascending order is 42. What are the values of 5th and 6th observations respectively?

(a) 42, 45 (b) 41, 43
(c) 43, 46 (d) 40, 40

Ans: (b)

Q) The marks scored by two students A and B in six subjects are given below:

A	71	56	45	89	54	44
B	55	74	83	54	38	52

Which one of the following statements is correct ?

(a) The average scores of A and B are same but A is consistent

(b) The average scores of A and B are not same but A is consistent

(c) The average scores of A and B are same but B is consistent

(d) The average scores of A and B are not same but B is consistent

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(c) The average scores of A and B are same but B is consistent

(d) The average scores of A and B are not same but B is consistent

Ans: (d)

Q) If the slopes of the line of regression of Y and X and of X and Y are $30°$ and $60°$ respectively, then $r(X, Y)$ is :

(a) -1

(b) 1

(c) $\frac{1}{\sqrt{3}}$

(d) $-\frac{1}{\sqrt{3}}$

Q) If the slopes of the line of regression of Y and X and of X and Y are $30°$ and $60°$ respectively, then r(X , Y) is :

(a) -1 (b) 1

(c) $\frac{1}{\sqrt{3}}$ (d) $-\frac{1}{\sqrt{3}}$

Ans: (c)

Q) If the regression coefficient of Y on X is -6 and the correlation coefficient between X and Y is $-\frac{1}{2}$, then the regression coefficient of X on Y would be

(a) $\frac{1}{24}$ (b) $-\frac{1}{24}$ (c) $-\frac{1}{6}$ (d) $\frac{1}{6}$

Q) If the regression coefficient of Y on X is -6 and the correlation coefficient between X and Y is $-\frac{1}{2}$, then the regression coefficient of X on Y would be

(a) $\frac{1}{24}$ (b) $-\frac{1}{24}$ (c) $-\frac{1}{6}$ (d) $\frac{1}{6}$

Ans: (b)

Q) In computing a measure of the central tendency for any set of 51 numbers, which one of the following measures is well-defined but uses only very few of the numbers of the set?

(a) Arithmetic mean
(b) Geometric mean
(c) Median
(d) Mode

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(a) Arithmetic mean
(b) Geometric mean
(c) Median
(d) Mode

Ans: (d)

Q) The data below record the itemwise quarterly expenditure of a private organization :

Item of expenditure		**Amount (in lakh rupees)**
1.	Salaries	6.0
2.	TA & DA	4.9
3.	House rent and postage	3.6
4.	All other expenses	5.5
	Total :	20.0

The data is represented by a pie diagram. What is the sectorial angle of the sector with largest area?

(a) 120° (b) 108°

(c) 100° (d) 90°

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The data is represented by a pie diagram. What is the sectorial angle of the sector with largest area?

(a) 120° (b) 108°

(c) 100° (d) 90°

Ans: (b)

Q) Consider the two series of observations A and B as follows:

Series A	1019	1008	1015	1006	1002
Series B	1.9	0.8	1.5	0.6	0.2

If the standard deviation of the Series A is $\sqrt{38,}$ then what is the standard deviation of the Series B?

(a) 3.8

(b) $\sqrt{0.38}$

(c) 0.38

(d) $\sqrt{38}$

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Series B	1.9	0.8	1.5	0.6	0.2

If the standard deviation of the Series A is $\sqrt{38}$, then what is the standard deviation of the Series B?

(a) 3.8 (b) $\sqrt{0.38}$

(c) 0.38 (d) $\sqrt{38}$

Ans: (b)

Q) If $\sin\beta$ is the harmonic mean of $\sin\alpha$ and $\cos\alpha$ and $\sin\theta$ is the arithmetic mean of $\sin\alpha$ and $\cos\alpha$, then which of the following is/are correct?

1. $\sqrt{2}\sin\left(\alpha+\frac{\pi}{4}\right)\sin\beta=\sin 2\alpha$
2. $\sqrt{2}\sin\theta=\cos\left(\alpha-\frac{\pi}{4}\right)$

Select the correct answer using the code given below.

(a) 1only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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2. $\sqrt{2}\sin\theta=\cos\left(\alpha-\frac{\pi}{4}\right)$

Select the correct answer using the code given below.

(a) 1only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Ans: (c)

Q) There is 25% chance that it rains on any particular day. What is the probability that there is at least one rainy day within a period of 7 days?

(a) $1-\left(\frac{1}{4}\right)^7$

(b) $\left(\frac{1}{4}\right)^7$

(c) $\left(\frac{3}{4}\right)^7$

(d) $1-\left(\frac{3}{4}\right)^7$

$P(\text{rain on 1 day}) = \frac{1}{4}$

$P(\text{no rain on 1 day}) = 1 - \frac{1}{4} = \frac{3}{4}$

$P(\text{atleast 1 rainy day in 7 days})$

$= 1 - P(\text{no rain in 7 days})$

$= 1 - \left(\frac{3}{4}\right)^7$

$P(\text{no rainy day in 7 days})$

$= \left(\frac{3}{4}\right) \times \left(\frac{3}{4}\right) \cdots \frac{3}{4}$

$= \left(\frac{3}{4}\right)^7$

Q) There is 25% chance that it rains on any particular day. What is the probability that there is at least one rainy day within a period of 7 days?

(a) $1-\left(\frac{1}{4}\right)^7$

(b) $\left(\frac{1}{4}\right)^7$

(c) $\left(\frac{3}{4}\right)^7$

(d) $1-\left(\frac{3}{4}\right)^7$

Ans: (d)

Q) A salesman has a 70% chance to sell a product to any customer. The behaviour of successive customers is independent. If two customers A and B enter, what is the probability that the salesman will sell the product to customer A or B?

(a) 0.98 (b) 0.91
(c) 0.70 (d) 0.49

$P(A \cup B) = P(A) + P(B) - P(A \cap B)$

$= \frac{70}{100} + \frac{70}{100} - \left(\frac{70}{100}\right)\left(\frac{70}{100}\right)$

$= \frac{140}{100} - \frac{49}{100} = \frac{91}{100} = 0.91$

$P(A \cap B) = P(A) \cdot P(B)$ (for independent events)

Q) A salesman has a 70% chance to sell a product to any customer. The behaviour of successive customers is independent. If two customers A and B enter, what is the probability that the salesman will sell the product to customer A or B?

(a) 0.98
(b) 0.91
(c) 0.70
(d) 0.49

Ans: (b)

Q) For two dependent events A and B, it is given that $P(A) = 0.2$ and $P(B) = 0.5$. If $A \subseteq B$, then the values of conditional probabilites $P(A|B)$ and $P(B|A)$ are respectively

$A \subseteq B$

$\Rightarrow A \cap B = A$

(a) $\frac{2}{5}, \frac{3}{5}$

(b) $\frac{2}{5}, 1$

(c) $1, \frac{2}{5}$

(d) Information is insufficient

$$P(A/B) = \frac{P(A \cap B)}{P(B)} = \frac{P(A)}{P(B)} = \frac{0.2}{0.5} = \frac{2}{5}$$

$$P(B/A) = \frac{P(A \cap B)}{P(A)} = \frac{P(A)}{P(A)} = 1$$

Q) For two dependent events A and B, it is given that $P(A) = 0.2$ and $P(B) = 0.5$. If $A \subseteq B$, then the values of conditional probabilites $P(A|B)$ and $P(B|A)$ are respectively

(a) $\frac{2}{5}, \frac{3}{5}$

(b) $\frac{2}{5}, 1$

(c) $1, \frac{2}{5}$

(d) Information is insufficient

Ans: (b)

Q) The mean and standard deviation of a binomial distribution are 12 and 2 respectively. What is the number of trials?

(a) 2
(b) 12
(c) 18
(d) 24

Binomial distribution

Mean = np

Variance = npq

Standard deviation = $\sqrt{npq}$

$np = 12$ —— (1)

$npq = 2^2$ —— (2)

$q = \frac{4}{12}$ [(2) ÷ (1)]

$q = \frac{1}{3}$

$p = 1 - \frac{1}{3} = \frac{2}{3}$

$n\left(\frac{2}{3}\right) = 12$

$n = \frac{12 \times 3}{2} = 18$

Q) The mean and standard deviation of a binomial distribution are 12 and 2 respectively. What is the number of trials?

(a) 2
(b) 12
(c) 18
(d) 24

Ans: (c)

Q) There are n socks in a drawer, of which 3 socks are red. If 2 of the socks are chosen randomly and the probability that both selected socks are red is $\frac{1}{2}$, then what is the value of n?

(a) 3 (b) 4

(c) 5 (d) 6

$$\frac{{}^3C_2}{{}^nC_2} = \frac{1}{2} \Rightarrow 2 \times 3 = {}^nC_2$$

$$6 = {}^nC_2$$

$$\frac{n!}{(n-2)!\,2!} = 6$$

$$\frac{n!}{(n-2)!} = 12$$

$$n(n-1) = 12$$

$$n = 4$$

Q) There are n socks in a drawer, of which 3 socks are red. If 2 of the socks are chosen randomly and the probability that both selected socks are red is $\frac{1}{2}$, then what is the value of n?

(a) 3
(b) 4
(c) 5
(d) 6

Ans: (b)

Q) In a class of 125 students 70 passed in Mathematics, 55 passed in Statistics and 30 passed in both. What is the probability that a student selected at random from the class has passed in only one subject?

(a) 13/25 (b) 3/25 (c) 17/25 (d) 8/25

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(a) 13/25 (b) 3/25 (c) 17/25 (d) 8/25

Ans: (a)

Q) What is the probability that an interior point in a circle is closer to the centre than to the circumference?

(a) $\frac{1}{4}$ (b) $\frac{1}{2}$

(c) $\frac{3}{4}$

(d) It cannot be determined

Q) What is the probability that an interior point in a circle is closer to the centre than to the circumference?

(a) $\frac{1}{4}$ (b) $\frac{1}{2}$

(c) $\frac{3}{4}$

(d) It cannot be determined

Ans: (a)

Q) What is the probability that the roots of the equation $x^2 + x + n = 0$ are real, where $n \in N$ and $n < 4$?

(a) 0

(b) $\frac{1}{4}$

(c) $\frac{1}{3}$

(d) $\frac{1}{2}$

Q) What is the probability that the roots of the equation $x^2 + x + n = 0$ are real, where $n \in N$ and $n < 4$?

(a) 0

(b) $\frac{1}{4}$

(c) $\frac{1}{3}$

(d) $\frac{1}{2}$

Ans: (a)

Q) Let A, B and C be three mutually exclusive and exhaustive events associated with a random experiment. If $P(B) = 1.5\ P(A)$ and $P(C) = 0.5\ P(B)$, then $P(A)$ is equal to

(a) $\frac{3}{4}$ (b) $\frac{4}{13}$ (c) $\frac{2}{3}$ (d) $\frac{1}{2}$

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(a) $\frac{3}{4}$ (b) $\frac{4}{13}$ (c) $\frac{2}{3}$ (d) $\frac{1}{2}$

Ans: (b)

Q) Two independent events A and B are such that $P(A \cup B) = \frac{2}{3}$ and $P(A \cap B) = \frac{1}{6}$. If $P(B) < P(A)$, then what is $P(B)$ equal to ?

(a) $\frac{1}{4}$ (b) $\frac{1}{3}$

(c) $\frac{1}{2}$ (d) $\frac{1}{6}$

Q) Two independent events A and B are such that $P(A \cup B) = \frac{2}{3}$ and $P(A \cap B) = \frac{1}{6}$. If $P(B) < P(A)$, then what is $P(B)$ equal to ?

(a) $\frac{1}{4}$ (b) $\frac{1}{3}$

(c) $\frac{1}{2}$ (d) $\frac{1}{6}$

Ans: (b)

Q) Two symmetric dice flipped with each dice having two sides painted red, two painted black, one painted yellow and the other painted white. What is the probability that both land on the same colour ?

(a) $\frac{3}{18}$ (b) $\frac{2}{9}$

(c) $\frac{5}{18}$ (d) $\frac{1}{3}$

Q) Two symmetric dice flipped with each dice having two sides painted red, two painted black, one painted yellow and the other painted white. What is the probability that both land on the same colour ?

(a) $\frac{3}{18}$ (b) $\frac{2}{9}$

(c) $\frac{5}{18}$ (d) $\frac{1}{3}$

Ans: (c)

Q) A fair coin is tossed four times. What is the probability that at most three tails occur ?

(a) 7/9
(b) 15/16
(c) 13/16
(d) 3/4

Q) A fair coin is tossed four times. What is the probability that at most three tails occur ?

(a) 7/9
(b) 15/16
(c) 13/16
(d) 3/4

Ans: (b)

Q) A coin is tossed twice. If E and F denote occurrence of head on first toss and second toss respectively, then what is $P(E \cup F)$ equal to?

(a) $\frac{1}{4}$ (b) $\frac{1}{2}$

(c) $\frac{3}{4}$ (d) $\frac{1}{3}$

Q) A coin is tossed twice. If E and F denote occurrence of head on first toss and second toss respectively, then what is $P(E \cup F)$ equal to?

(a) $\frac{1}{4}$ (b) $\frac{1}{2}$

(c) $\frac{3}{4}$ (d) $\frac{1}{3}$

Ans: (c)

Q) An experiment consists of flipping a coin and then flipping it a second time if head occurs. If a tail occurs on the first flip, then a six-faced die is tossed once. Assuming that the outcomes are equally likely, what is the probability of getting one head and one tail?

(a) 1/4 (b) 1/36

(c) 1/6 (d) 1/8

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(c) 1/6 (d) 1/8

Ans: (d)

Q) Consider the following statements :

If A and B are independent events, then

1. A and $\overline{B}$ are independent.
2. $\overline{A}$ and B are independent.
3. $\overline{A}$ and $\overline{B}$ are independent.

Which of the above statements is/are correct?

(a) 3 only
(b) 1 and 2 only
(c) 1,2 and 3
(d) None of these

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Ans: (c)

Q) Consider the following statements :

1. If A and B are exhaustive events, then their union is the sample space.
2. If A and B are exhaustive events, then their intersection must be an empty event.

Which of the above statements is/are correct ?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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(b) 2 only
(c) Both 1 and 2
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Ans: (b)

Q) Two dice are thrown simultaneously. What is the probability that the sum of the numbers appearing on them is a prime number?

(a) $\frac{5}{12}$ (b) $\frac{1}{2}$

(c) $\frac{7}{12}$ (d) $\frac{2}{3}$

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(a) $\frac{5}{12}$ (b) $\frac{1}{2}$

(c) $\frac{7}{12}$ (d) $\frac{2}{3}$

Ans: (a)

Q) The probability that atleast one of the events A and B occurs is 3/5. If A and B occur simultaneously with probability 1/5, then $P(A') + P(B')$ is

(a) $\frac{2}{5}$

(b) $\frac{4}{5}$

(c) $\frac{6}{5}$

(d) $\frac{7}{5}$

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Ans: (c)

Q) If three natural numbers from 1 to 100 are selected randomly, then probability that all are divisible by both 2 and 3, is

(a) $\frac{4}{105}$

(b) $\frac{4}{33}$

(c) $\frac{4}{35}$

(d) $\frac{4}{1155}$

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Ans: (d)

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