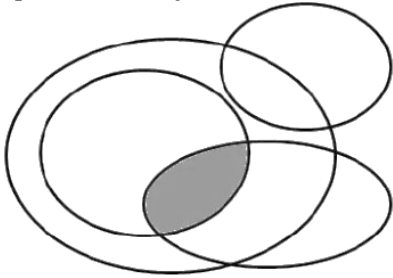


SCIR NET General Aptitude Life Science PYP Held on July. 2024 Shift-1

Q1. If Pencils are Erasers, some Erasers are Sharpener, some Erasers are Crayons, no Crayons are Sharpener but some Crayons are Pencils then in the given Venn diagram, which of the following is represented by the shaded area?



- (a) Pencils and Sharpener but not Erasers and Crayons
- (b) Pencils and Erasers but not Sharpener and Crayons
- (c) Pencils, Erasers, and Sharpener but not Crayons
- (d) Pencils, Erasers and Crayons but not Sharpener

Q2. A chess board contains 64 squares of 5 cm size, in 8 rows and 8 columns, alternately black and white. What is the total length of edges (in m) between the squares in the chessboard?

- (a) 2.8
- (b) 3.2
- (c) 5.6
- (d) 6.4

Q3. In a class, boys secure 69% marks on the average while girls secure 72% marks on the average. If the average marks of the entire class is 70% which of the following statements is valid?

- (a) The total number of students in the class is two times the number of girls.
- (b) The total number of students in the class is three times the number of boys.
- (c) The boys are two times the number of girls.
- (d) The girls are two times the number of boys.

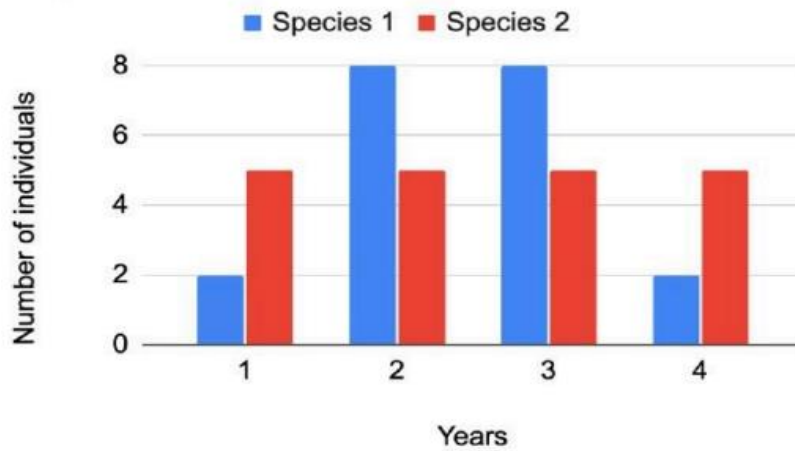
Q4. A ball of moulding clay, whose radius is a , is remoulded into a cube. What is the approximate length of the side of the largest cube that can be so made?

- (a) $0.8a$
- (b) $1.2a$
- (c) $1.6a$
- (d) $2a$

Q5. A cardboard sheet of size $60 \text{ cm} \times 60 \text{ cm}$ is used to make hollow cubes having sides of 5 cm. What is the maximum number of cubes that can be made?

- (a) 24
- (b) 36
- (c) 72
- (d) 144

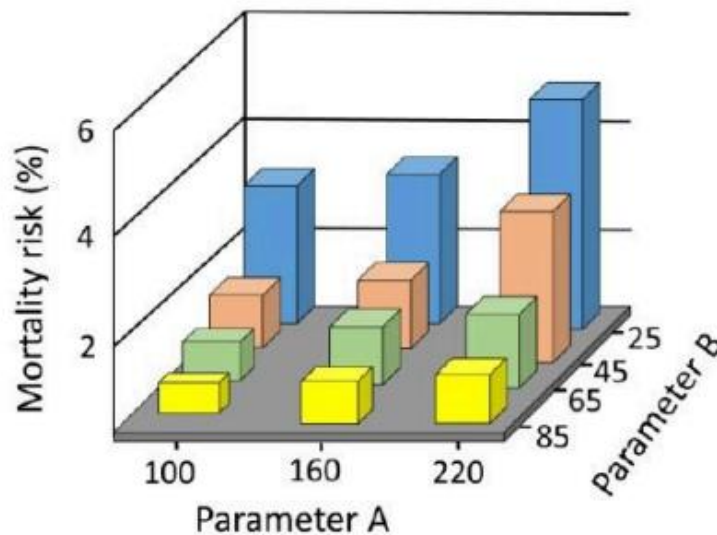
Q6. The graph shows the distribution of lifespan (in years) for individuals from species 1 and species 2



If μ and σ represent mean and standard deviation of the lifespan, respectively, then, which of the following statements is true?

- (a) $\mu_1 > \mu_2 ; \sigma_1 > \sigma_2$
- (b) $\mu_1 = \mu_2 ; \sigma_1 = \sigma_2$
- (c) $\mu_1 = \mu_2 ; \sigma_1 > \sigma_2$
- (d) $\mu_1 = \mu_2 ; \sigma_1 < \sigma_2$

Q7. The following graph shows the mortality risk of a disease with respect to parameters A and B.



Which of the following combinations of parameters is associated with the lowest mortality risk? 45 6 85 220 Parameter B

- (a) The lowest value of A-B
- (b) The lowest value of B-A
- (c) The lowest values of both A and B
- (d) The highest values of both A and B

Q8. The largest integer between 1 and 10^5 when written in words that does not contain the letter 'N' or 'n' in its name is

- (a) 88
- (b) 100000
- (c) 88888
- (d) 8

Q9. Three comparable brands of 1 litre cans of a liquid detergent are available in a shop with different offers as shown in the table.

Brand	List price (in Rs per can)	Offer
A	320	1/3rd extra
B	332	1 free for 3
C	300	20% discount

If 4 litres of detergent is to be purchased, then the best choice (based on unit price) would be

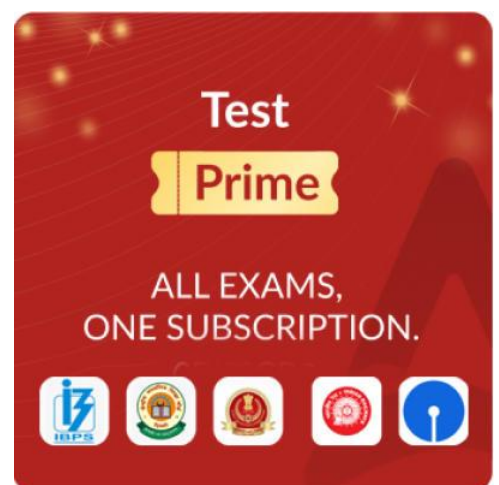
- (a) A or B
- (b) A or C
- (c) B or C
- (d) B

Q10. If liars always lie and truthful persons never, and in a group of 10 persons everyone calls all others liars, then the number of liars among the 10 is

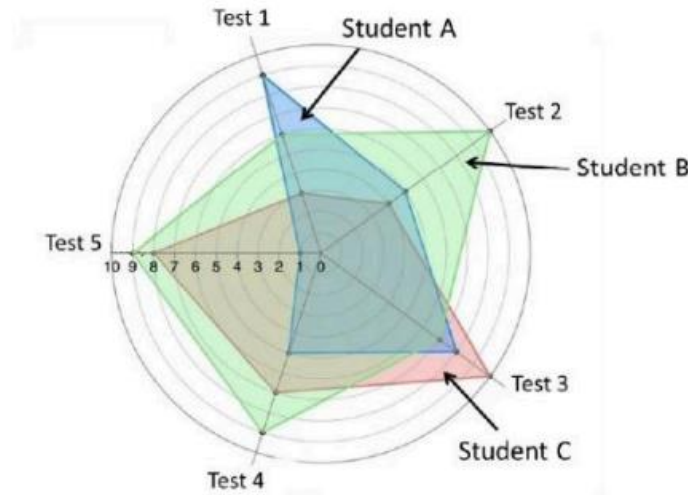
- (a) 10
- (b) 9
- (c) 5
- (d) 1

Q11. The difference between a three-digit number (with non-repeating digits) and the same number in the reverse order is always divisible by

- (a) 33
- (b) 22
- (c) 13
- (d) 31



Q12. The following spider diagram shows the marks obtained (out of 10) by three students in five tests.



Which one of the following is INCORRECT?

- (a) A scored more than C in total
- (b) B scored the highest in total
- (c) A never scored 10 marks in a test
- (d) In Test 5, the combined marks of A and C are equal to the marks of B.

Q13. How many integers can divide 1184 leaving a remainder of 29?

- (a) 8
- (b) 5
- (c) 7
- (d) 9

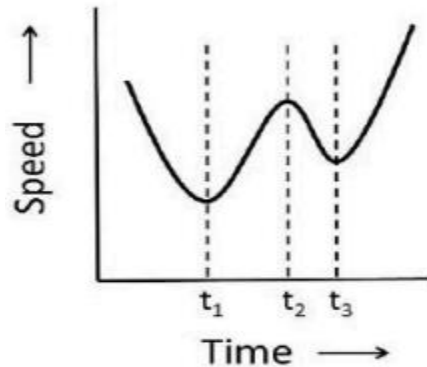
Q14. A pen, pencil and an eraser together cost Rs. 21. The pen costs as much more than the pencil as the pencil does than the eraser. How much does the pencil cost?

- (a) 5
- (b) 7
- (c) 9
- (d) 11

Q15. Human females have two X chromosomes, each of which can be passed on to their son or daughter with equal probability. Human males have one X chromosome which is passed on to their daughters and one Y chromosome which is passed on to their sons. Assuming equal numbers of males and females in a population, if an X chromosome is randomly sampled from the population, what is the probability that it was inherited from a female of the previous generation?

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

Q16. The speed of a car travelling with variable acceleration along a straight line is shown in the figure.



If a_1, a_2, a_3 are the accelerations at times t_1, t_2, t_3 , respectively, then

- (a) $a_1 = a_2 = a_3$
- (b) $a_1 > a_3 > a_2$
- (c) $a_2 > a_3 > a_1$
- (d) $a_3 > a_2 > a_1$

Q17. In a family of two males and three females, A is the daughter of B and sister of C. E is the spouse of B and mother of D. C is not the brother of D. Which of the following statements is NOT correct?

- (a) E is the mother of A
- (b) D is the sister of C
- (c) C is the daughter of B
- (d) A is the sister of D

Q18. A car is moving along a bend in a road. The bend forms a large quarter circle. If the distance between the left and right wheels of the car is 2 m, then the difference between the distances travelled by the inner wheels and the outer wheels (in m) as it traverses the bend is

- (a) 0
- (b) 2
- (c) π
- (d) 2π

Q19. Two rings made of metals A and B with ring A having a larger diameter, are placed concentrically leaving an annular gap. The thermal expansion coefficients of the two metals are C_A and C_B . Identify the correct statement(s) from the following.

- A. The gap will decrease if $C_A < C_B$.
- B. The gap will remain the same if $C_A = C_B$.
- C. The gap will increase if $C_A < C_B$.

- (a) Only A
- (b) A and B
- (c) Only C
- (d) B and C

Q20. The cost of 2 mangoes, 1 coconut and 2 bananas is Rs 71, while the cost of 5 mangoes, 3 coconuts and 4 bananas is Rs 182. What is the cost of 1 mango and 1 coconut?

- (a) It cannot be calculated
- (b) Rs 40
- (c) Rs 47
- (d) Rs 53

