

Paper CSIR Earth Sciences 2024

Q1. An ecologist catches 25 fish tags them and releases them back in the pond. She catches 30 fish on the next day, of which 10 carry the tag. Assuming that the fish in the pond remain unchanged and each fish has equal probability of being caught, what is the estimated number of fish in the pond?

- (a) 30
- (b) 75
- (c) 150
- (d) 300

Q2. The following dishes are offered in a restaurant.

Starter: Tomato Soup or Vegetable Salad or Chicken Soup

Main course: Chicken Biryani or Fish Biryani or Veg Biryani

Dessert: Gulabjamun or Rasagulla A meal is prepared selecting one item from each category.

What is the probability that a randomly drawn up menu is vegetarian?

- (a) $1/3$
- (b) $5/8$
- (c) $2/9$
- (d) $1/2$

Q3. An eagle is sitting at the top of a 100 m high vertical cliff and a mouse is at the base of the cliff. The mouse starts running away from the cliff on a level ground in a straight line at a speed 10 m/s. The eagle spots the mouse and dives at 45° to the ground at a speed of 20 m/s and captures the mouse. The time at which the eagle started the dive is

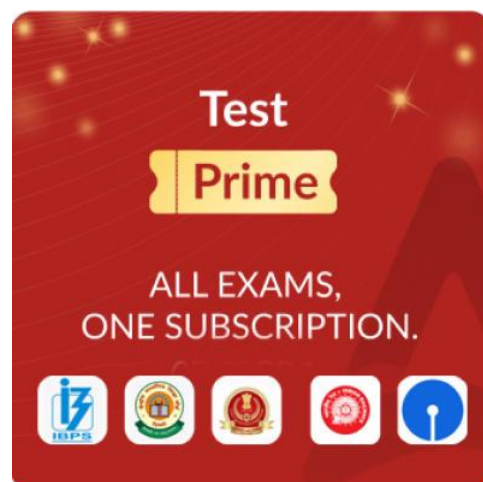
- (a) around 3 s after the mouse started running.
- (b) around 5 s after the mouse started running.
- (c) around 7 s after the mouse started running.
- (d) the same at which the mouse started running.

Q4. Two vessels contain $\frac{3}{8}$ L and $\frac{2}{7}$ L of alcohol. Water is added to both vessels to make each solution measure 1L. When these solutions are mixed, the alcohol to water ratio would be approximately

- (a) 16:21
- (b) 1:4
- (c) 1:2
- (d) 1:3

Q5. A wholesale shopkeeper purchased 200 identical watches and sold the first 50 at 10% profit, the next 50 at 20% profit, the next 50 at 25% profit and the last 50 at 40% profit. If his total profit was Rs 19000, at what total cost did he buy the watches?

- (a) Rs 76000
- (b) Rs 80000
- (c) Rs 86000
- (d) Rs 98000



Test Prime

ALL EXAMS,
ONE SUBSCRIPTION.

Logos: IIT, NEET, JEE, UPSC, and others.

Q6. BOTANY is to PLANTS as PHILOSOPHY is to _____

- (a) REGULATIONS
- (b) RELIGIONS
- (c) IDEAS
- (d) POLITICS

Q7. In a five-floor building, a lawyer, a doctor, a teacher, an artist and an engineer occupy different floors. The artist has to go up three floors to meet the engineer, whereas the engineer has to come down four floors to visit the doctor. The lawyer lives just a floor above the teacher. The floors are occupied from the lowest to the topmost by

- (a) artist, doctor, teacher, lawyer, engineer.
- (b) artist, doctor, teacher, engineer, lawyer.
- (c) doctor, artist, teacher, lawyer, engineer.
- (d) doctor, artist, lawyer, teacher, engineer.

Q8. A boy talking about his age said "The day before yesterday I was 15, now I am 16 and next year I shall turn 18". Then

- (a) he must have lied.
- (b) he was making the assertion on 29th February.
- (c) his birthday is on 29th February and he was making the assertion on 1st March.
- (d) his birthday is on 31st December and he was making the assertion on 1st January.

Q9. The addition of a three-digit number and the number with the same digits in reverse order, is 1089. The middle digit of that number must be

- (a) 9
- (b) 8
- (c) 0
- (d) 4

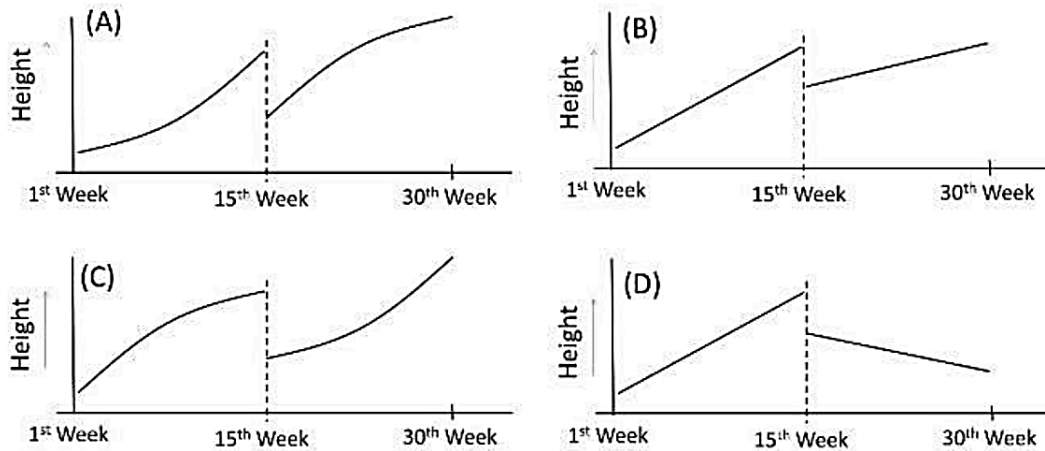
Q10. A referendum on a proposal involved 3500 participants. Among the participants 1700 were men and the rest were women. 1450 participants, of whom 800 were men, voted against while 1500 participants voted in favour. 200 women abstained. How many women voted for the proposal?

- (a) 800
- (b) 650
- (c) 950
- (d) 550

Q11. Two children A and B counted the number of chairs placed around a round table in the same direction, but starting at different chairs. A's 5th chair was B's 9th, while B's 3rd was A's 12th. The number of chairs was

- (a) 13
- (b) 14
- (c) 15
- (d) 21

Q12. 702012 Beginning from April of a year, the rate at which a tree became taller increased linearly for 15 weeks when it was trimmed down. From then on, the rate decreased linearly for the next 15 weeks.



Which graph correctly shows the height of the tree against time during this period?

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

Q13. Statistics of a certain test conducted to determine a disease are given in the table.

Category	Number of persons
True positive	8
False negative	3
False positive	2
True negative	12

The number of persons actually having the disease are

- (a) 11
- (b) 8
- (c) 20
- (d) 3

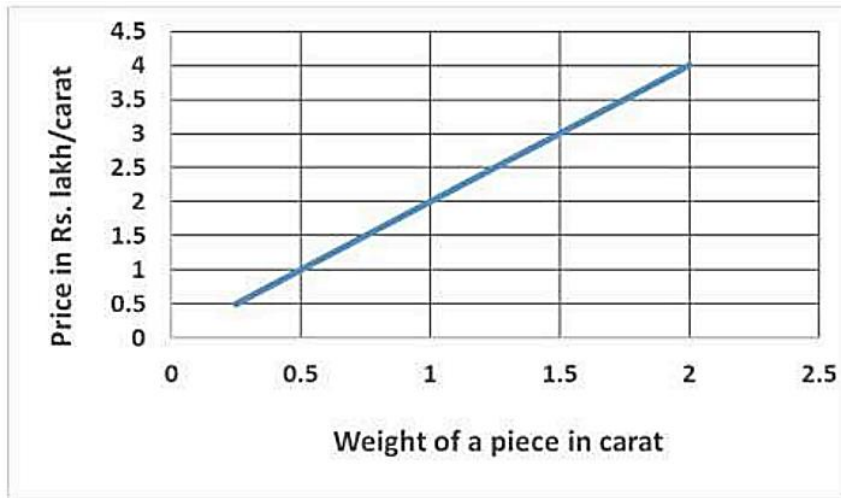
Q14. Two chords of a circle meeting at an angle 60° bisect each other. If the length of one chord is 10 cm, the length of the other chord (in cm) is

- (a) 53
- (b) $10/\sqrt{2}$
- (c) $10/\sqrt{3}$
- (d) 10

Q15. In a family, A is the son of P and brother of V. N is the sister of V. S is the nephew of V and B is the daughter-in-law of A. M is the mother of N. B is related to M as the

- (a) Granddaughter.
- (b) Daughter-in-law.
- (c) Grandson's wife.
- (d) Mother.

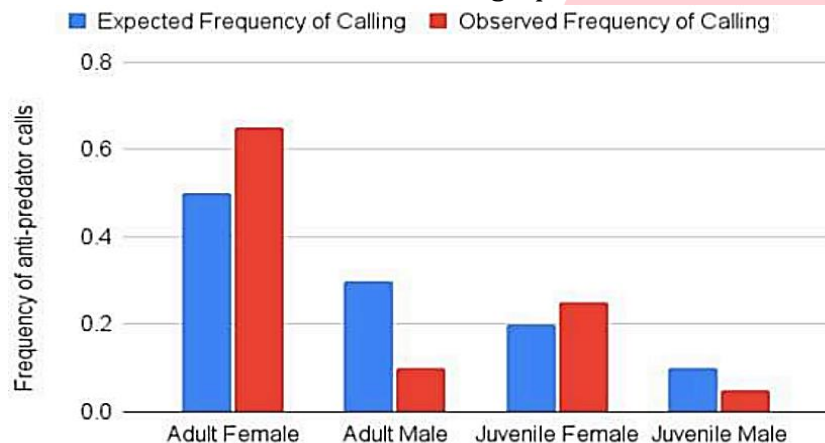
Q16. The variation in the per carat price of diamond by caratage is shown in the graph.



A person wants to buy 4 identical sized diamonds for Rs.4.5 lakh. What is the largest size of one such diamond (in carat)?

- (a) 0.5
- (b) 0.75
- (c) 1.125
- (d) 0.625

Q17. The graph depicts anti-predator calling behaviour in squirrels. Which one of the following conclusions can be drawn from the graph?



- (a) Adult males are less likely to see a predator than adult females.
- (b) Adult females make higher than expected anti-predator calls.
- (c) There are more adult females than adult males.
- (d) Juvenile males do not make anti-predator calls.

Q18. Which of the following can be a perfect square if X and Y are decimal digits?

- (a) 93XY215
- (b) 7XY0625
- (c) 613XY45
- (d) XY21375

Q19. In a leap year that began on a Tuesday, the third Saturday of March would fall on

- (a) March 14
- (b) March 15
- (c) March 16
- (d) March 21

Q20. Equality of which of the following quantities in two data sets of the same size will ensure equality of their standard deviations?

- (a) Their means.
- (b) The sums of positive and negative deviations from the respective means.
- (c) The averages of squares of all terms.
- (d) The averages of squares of all terms and their means.

