SCIR NET General Aptitude Physical Science PYP Held on Dec. 2023 Shift-2

Q1. In how many ways can a menu be made from 5 dishes, if the menu contains either 3 or 4 dishes?
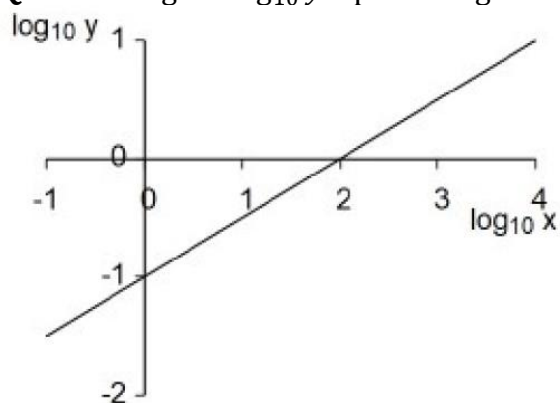2.0
(a) 2
(b) 3
(c) 7
(d) 15

Q2. All the four entries in column A must be matched with all those in column B. Each correctly matched option gets one mark and no mark is awarded otherwise. Which of the following mark(s) CANNOT be scored?
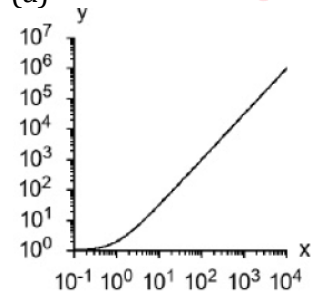(a) 3
(b) 1
(c) 2
(d) 4

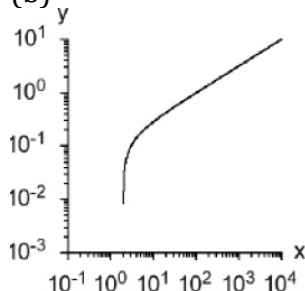**Q3.** In the figure $\log_{10} y$ is plotted against $\log_{10} x$

When y is plotted against x, then the plot in the provided range is
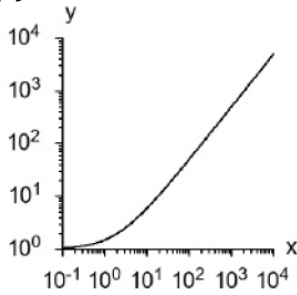(a)

(b)

(c)

(d)
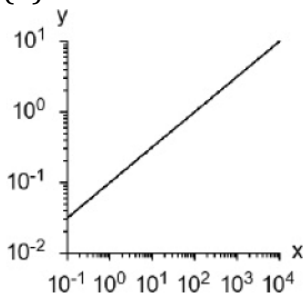
Q4. Four children had 27 apples among them. No child had less than 5 apples. If no two children had the same number of apples, then which of the following could NOT be the number of apples a child had?
(a) 5
(b) 6
(c) 8
(d) 9

Q5. In 1979, Ramesh's age was the sum of the digits of his year of birth. In 2017, on his birthday, what was his age?
(a) 49
(b) 57
(c) 60
(d) 64

Q6. What is the minimum number of pourings needed to get 4 litre of milk from a fully filled 8 litre can, using ungraduated empty 5 and 3 litre cans? No milk should be wasted.
(a) 4
(b) 5
(c) 6
(d) 8

Q7. Radius of a sphere is measured with 5% uncertainty. What is the uncertainty in the volume, determined from this radius?
(a) 5%
(b) 6.6%
(c) 125%
(d) 15

Q8. A truck from a post office is sent to collect post from a plane as per schedule. The plane lands ahead of schedule, therefore its contents are transported by a rickshaw. The rickshaw meets the truck 30 minutes after the arrival of plane, and the post is transferred. The truck returns to the post office 20 minutes early. How early did the plane arrive? (Assume all transactions are instantaneous.)
(a) 10 minutes
(b) 20 minutes
(c) 30 minutes
(d) 40 minutes

Q9. A person's viral load measured in some unit was 15, 25, 50, 200, 300, 150 and 30 on days 1 to 7, respectively. The maximum relative change took place between 2.0
(a) day 3 to day 4.
(b) day 4 to day 5.
(c) day 5 to day 6.
(d) day 6 to day 7.

Q10. The time seen in a mirror placed opposite a numberless analog (with hands) wall clock is 4 h 55 min. What approximately is the correct time?
(a) 4 h 55 min
(b) 5 h 05 min
(c) 7 h 05 min
(d) 1 h 35 min

Q11. For every 5 chocolates that Ramesh gets, Suresh gets 3 chocolates. Geeta gets 3 chocolates for every 2 chocolates that Suresh gets. If Geeta has 18 chocolates, then the sum of chocolates with Ramesh and Suresh is
(a) 16
(b) 30
(c) 32
(d) 38

Q12. In a market, you can buy a mango for Rs.10, a lemon for Re 1 and 8 chillies for Re 1. How many of these items do you need to buy to get a mix of 100 items for exactly Rs. 100?
(a) 6 mangoes, 22 lemons, 72 chillis
(b) 7 mangoes, 21 lemons, 72 chillis
(c) 1 mango, 9 lemons, 80 chillis
(d) 8 mangoes, 12 lemons, 80 chillis

Q13. The sum of the two positive integers is 14. Then their product CANNOT be divisible by
(a) 12
(b) 13
(c) 14
(d) 49

Q14. A bird keeps flying continuously between two trains, that are following each other on a straight track. The train behind is slower than the one ahead by 1.5 km/h. If the speed of the bird is 20 km/h. what distance would the bird cover in an hour?
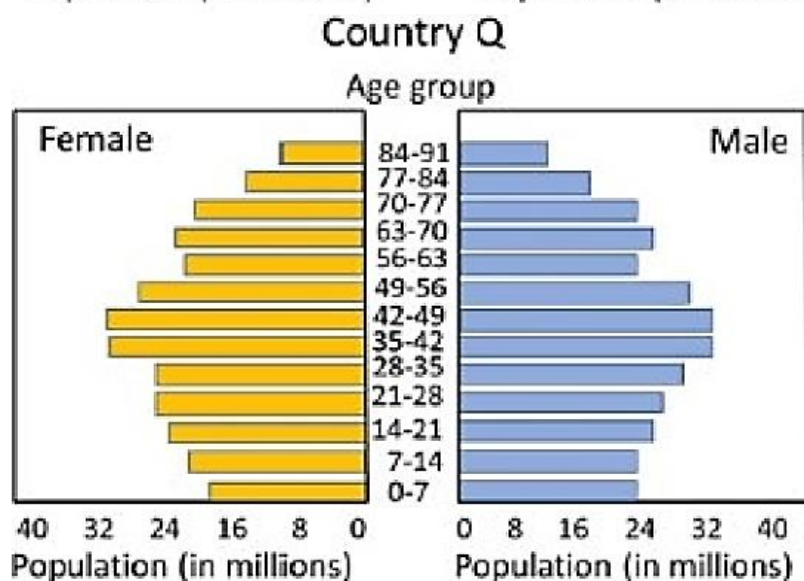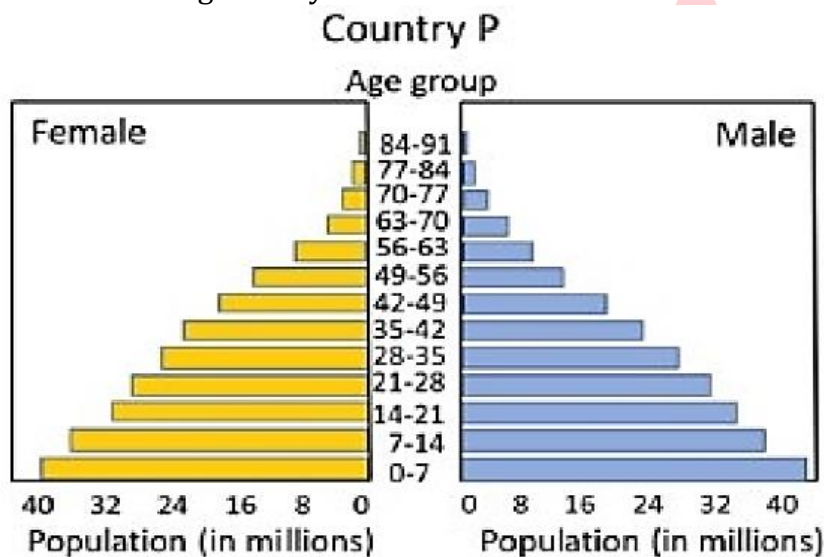(a) 20 km
(b) 30 km
(c) 50 km
(d) 60 km

Q15. SCRIPT: DIRECTOR :: ??: CHEF
Choose the most appropriate option from the following to fill the blank
(a) MENU
(b) RECIPE
(c) RESTAURANT
(d) MEAL

Q16. The figure shows age-wise bar graph of male and female population of two countries. Which one of the following is likely to be true?

Country P
Age group

(a) Country Q has higher life expectancy
(b) Country P has higher per-capita income
(c) The population of country P is decreasing more rapidly than Q
(d) Country P has better health facilities

Q17.
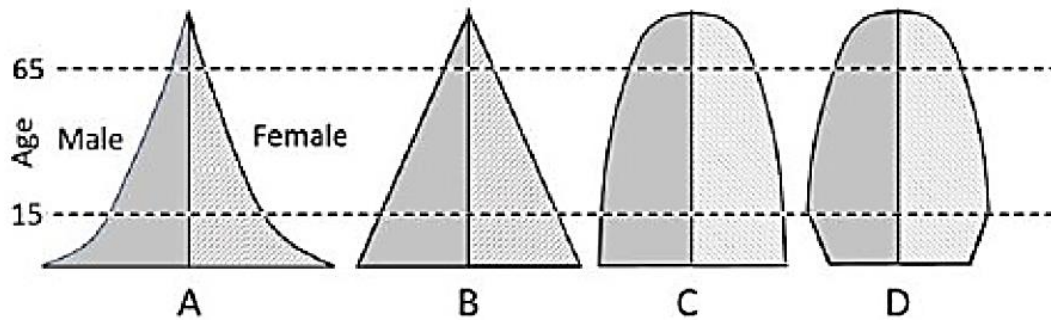
The above figures show population pyramids to four countries A, B, C and D. The country showing the most stable population is
(a) C
(b) A
(c) B
(d) D

Q18. What is the value of x in the given magic square. (i.e, a square grid in which the sum of the numbers in rows, columns and diagonals is the same)?

x	x-5	8
x+1	y	y-2
2	9	4

(a) 6
(b) 4
(c) 3
(d) 1

Q19. If a < x < b then for which of the following relations does 0 < y < 1 always hold?
(a) $y = \frac{a - x}{b + a}$
(b) $y = \frac{x - a}{b - a}$
(c) $y = \frac{x - b}{b - a}$
(d) $y = \frac{b - x}{a + b}$

Q20. A letter is drawn at random from the following string of letters.
R A M U K Y A J N A S
What is the probability that it is NOT a vowel?
(a) 1/2
(b) 6/11
(c) 7/11
(d) 8/11