

1. (D)

EPHEMERAL is derived from “Ephemeron” which is a mayfly (having life of only hours or a few days). Hence Ephemeral means short lived.

2. (C)

Erudition means knowledge acquired by study, research etc or scholarship

Scholar means a learned person

Same relation is found in skill: craftsman

3. (A)

Disincentives: something that prevents or discourages action

Incitement: to provoke and urge on

Restrictions: the act of restricting

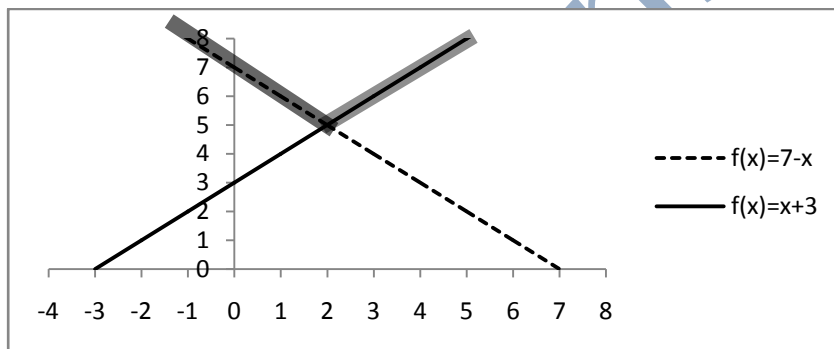
Restrains: to prevent from doing, exhibiting, or expressing something

4. (C)

Decline best suits the sentence

5. (C)

By plotting the functions,



The portions of lines marked dark is $f(x) = \max(7 - x, x + 3)$

For $f(x)$ to have minimum value, according to graph, value of x must be the intersection point. Thus,

$$7 - x = x + 3$$

$$\Rightarrow x = 2$$

Thus $x = 2$ lies in between the range, $2 \leq x < 6$

6. (B)

“Beijing Olympics was a landmark in India’s Olympic history” best describes the above passage.

7. (B)

The series can be rewritten as follows which is a GP (geometric progression) series.

$$\begin{aligned} & \left(\frac{1}{2} + \frac{1}{2^3} + \frac{1}{2^5} + \dots \right) - \left(\frac{1}{2^2} + \frac{1}{2^4} + \frac{1}{2^6} + \dots \right) + \left(\frac{1}{3} + \frac{1}{3^2} + \frac{1}{3^3} + \dots \right) \\ &= \frac{1}{2} \left(\frac{1 - \left(\frac{1}{2^2}\right)^n}{1 - \frac{1}{2^2}} \right) - \frac{1}{2^2} \left(\frac{1 - \left(\frac{1}{2^2}\right)^n}{1 - \frac{1}{2^2}} \right) + \frac{1}{3} \left(\frac{1 - \left(\frac{1}{3}\right)^n}{1 - \frac{1}{3}} \right) \\ &= \frac{2}{3} \left(1 - \frac{1}{2^{2n}} \right) - \frac{1}{3} \left(1 - \frac{1}{2^{2n}} \right) + \frac{1}{2} \left(1 - \frac{1}{3^n} \right) \\ &= \frac{2}{3} - \frac{1}{3} + \frac{1}{2} = \frac{5}{6} \quad (\text{as } n \rightarrow \text{infinity, } \frac{1}{n} = 0) \end{aligned}$$

8. (C)

Let, K = set of linguists who know Kannada

Te = set of linguists who know Telugu

Ta = set of linguists who know Tamil

According to question,

$$n(K \cup Te \cup Ta) = 50$$

$$n(K \cap Te \cap Ta) = 4$$

$$n(Te \cap Ta) = 7 + 4 = 11$$

$$n(K \cap Ta) = 5 + 4 = 9$$

$$n(Te \cap K) = 6 + 4 = 10$$

$$n(Ta) = 24$$

$$n(K) = 24$$

$$n(Te) = x$$

Thus,

$$\begin{aligned} & n(K \cup Te \cup Ta) \\ &= n(Ta) + n(K) + n(Te) - n(Te \cap Ta) - n(K \cap Ta) - n(Te \cap K) \\ & \quad + n(K \cap Te \cap Ta) \\ & \Rightarrow 50 = 24 + 24 + x - 11 - 9 - 10 + 4 \\ & \Rightarrow x = 28 \end{aligned}$$

The number of linguists who knew only Telugu = $28 - 7 - 4 - 6 = 11$

9. (B)

If we add $m\%$ to 100 litres of water we have $(100 + m)$ litres now and on removing $n\%$ we have $\{(100 + m) - n * (100 + m)/100\}$ litres of waters. In order to retain 100 liters of water n should be lesser than m because $m\%$ of 100 have to be equal to $n\%$ of $(100 + m)$ liters.

10. (A)

Let, number of questions attempted correct = r
number of questions attempted wrong = w
number of questions not attempted = u

Total number of questions = $r + w + u = 65$

$$\Rightarrow w = 65 - r - u$$

Again according to question, $r - (w/4) - (u/8) = 37$

$$\Rightarrow r - (65 - r - u)/4 - u/8 = 37$$

Solving this we get,

$$10r + u = 426$$

As 1 mark for each correct answer and $10r$ gives a number which is multiple of 10 and close to 426 (as u is least possible number). 420 and 430 both are close to 426 and multiple of 10. As u is added to $10r$, then $10r$ must be 420. Thus,

$$u = 426 - 420 = 6$$

$$r = 42 \text{ and } w = 17$$

By cross check,

$$42 - 17/4 - 6/8 = 37$$