NDA

Q1. There is more than ..... to get the job done.
(a) one way (b) one ways
(c) any ways (d) any way

Ans : one way

Solution : The correct phrase is “more than one way,” a common expression meaning there are multiple solutions or approaches to a problem. It is grammatically correct and idiomatic. “Any way” is incorrect here because it doesn’t fit the structure of the phrase naturally.

Q2. The class decided to organise .....
(a) picnic (b) a picnic
(c) picnics (d) the picnic

Ans : a picnic

Solution : Here, “a picnic” does justice to the requirement of the blank because “picnic” is a singular countable noun and requires an article “a” before it. The class decides to organise any / a certain picnic. Therefore, indefinite article suits the need of the sentence.

Q3. Coeval:
(a) Person of roughly the same age.
(b) Person or organisation that cooperates with
others.
(c) Person employed to drive a private car.
(d) Person employed in taking.

Ans : Person of roughly the same age.

Solution : “Coeval” means a person or thing that existed at the same time as another, usually of the same age or period. It comes from Latin roots meaning “of the same age.” Option (b) implies co operation but not age, which changes the meaning entirely.

Q4. Imprest :
(a) Surprise attack by people.
(b) Money used to manage small expense.
(c) Sudden occurrence of laughter.
(d) Sudden increase in activity

Ans : Money used to manage small expense.

Solution : An “imprest” is a small sum of money given in advance to cover minor expenses,
especially in business settings. It’s usually replenished regularly. Options like “surprise attack” or “laughter” are unrelated to finance and
misrepresent the actual meaning of the term.

Q5. The Constitution of India ensures proportionate representation from all regions.
(a) balanced (b) partial
(c) unlikely (d) suffragette

Ans : partial

Solution : “Proportionate” means corresponding in size or amount to something else. “Partial” is the closest in meaning here, implying a share or part, as in partial representation. “Balanced” implies fairness, not quantity. “Unlikely” and “suffragette” are unrelated.

Q6. What happens when the sunlight travels through the Earth’s atmosphere?
(a) The blue colour is scattered more compared
to the red colour.
(b) The red colour is scattered more compared
to the blue colour.
(c) Both the blue and the red colours are scattered equally.
(d) The blue colour is not scattered but the red colour is scattered the most.

Ans : The blue colour is scattered more compared
to the red colour.

Solution : As wavelength of blue colour is the shortest, it scatters the most, while red colour scatters least.

Q7. When a solid body is partially or completely immersed in a fluid, the fluid exerts an upward force on the body. The magnitude of the force
is equal to

1. The mass of the body
2. The weight of the displaced fluid by the body Which of the above is/are correct?
   (a) 1 only (b) 2 only
   (c) Both 1 and 2 (d) Neither 1 nor 2

Ans : 2 only

Solution : According to Archimedes principle, the Buoyant force experienced by a body is equal to weight of fluid displaced by it.

Q8. Which one of the following is dimensionless quantity?
(a) Stress (b) Strain
(c) Pressure (d) Force

Ans : Strain

Solution : Strain = (Change in length) / (Original length) It is a unitless and hence dimensionless quantity.

Q9. Which one among the following elements is known to be discovered the earliest?
(a) Copper (b) Gold
(c) Oxygen (d) Uranium

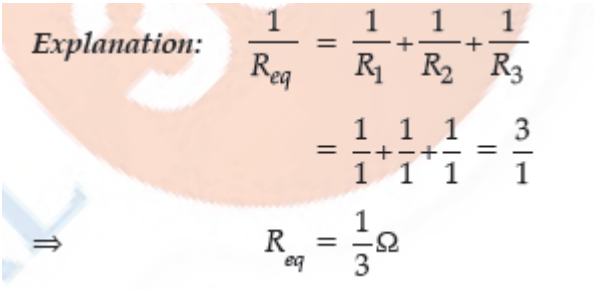
Ans : Copper

Solution : Copper was discovered earliest. Its use dates back to around 9000 BCE.

Q10. If three resistors of 1 Ohm each, connect in parallel to each other, then resultant resistance is
(a) 1 Ohm (b) 1/3 Ohm
(c) 3 Ohm (d) 9 Ohm

Ans : 1/3 Ohm

Solution :

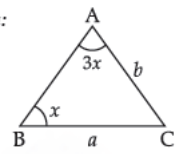


Q11. One of the angles of the triangle is
(a) 15° (b) 30°
(c) 45° (d) 75°

Ans : 30°

Solution :

Explanation:



$$\frac{a}{\sin 3x} = \frac{b}{\sin x}$$

$$\Rightarrow \quad \frac{a}{b} = \frac{\sin 3x}{\sin x}$$

$$\Rightarrow \quad 2 = \frac{\sin 3x}{\sin x} \Rightarrow 2\sin x = 3\sin x - 4\sin^3 x$$

$$\Rightarrow \sin x\,(1 - 4\sin^2 x) = 0 \Rightarrow \sin x = \frac{1}{2}$$

$$\Rightarrow \quad x = 30^\circ$$

Q12. Consider the following statements:
I. The triangle is right-angled.
II. One of the sides of the triangle is 3 times the other.
III. The angles A, C and B of the triangle are in AP.
Which of the statements give above is/are correct?
(a) I only (b) II and III only
(c) I and III only (d) I, II and III

Ans : I and III only

Solution :

Explanation: $\angle B = x = 30^\circ$, $\angle A = 3x = 90^\circ$,
$\angle C = 180^\circ - 120^\circ = 60^\circ$
$\therefore$ Triangle is right-angled.
$\therefore$ 30°, 60° and 90° are in A.P.
So options (I) and (III) are only correct.

Q13. The sum of the first 8 terms of a GP is 5 times the sum of its first 4 terms. If r ¹ 1 is the common ratio, then what is the number of possible real values of k?
(a) One (b) Two
(c) Three (d) More than three

Ans : Two

Solution :

Explanation: $S_8 = 5S_4$

$$\frac{a(r^8-1)}{r-1} = \frac{5.a(r^4-1)}{r-1}$$

$$\Rightarrow \quad \frac{r^8-1}{r^4-1} = 5 \Rightarrow \frac{(r^4-1)(r^4+1)}{r^4-1} = 5$$

$$\Rightarrow \quad r^4 = 4 \Rightarrow r = \pm\sqrt{2}, \pm\sqrt{2}i$$

Q14. If one root of the equation x2– kx + k = 0 exceeds the other by $2\sqrt{3}$ then which one of
the following is a value of k?
(a) 3 (b) 6
(c) 9 (d) 12

Ans : 6

Solution :

Explanation: Here, $\alpha + \beta = k, \alpha\beta = k$

$$\text{and } \alpha - \beta = (2\sqrt{3})$$

$$\therefore \quad (\alpha-\beta)^2 = (\alpha+\beta)^2 - 4\alpha\beta$$

$$\Rightarrow \quad (2\sqrt{3})^2 = k^2 - 4k$$

$$\Rightarrow \quad k^2 - 4k - 12 = 0 \Rightarrow k^2 - 6k + 2k - 12 = 0$$

$$\Rightarrow \quad (k-6)(k+2) = 0 \Rightarrow k = -2, 6$$

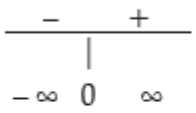
Q15 : Consider the following statements:
I. f(x) is an increasing function.
II. f(x) has local maximum at x = 0
Which of the statements given above is/are
correct?
(a) I only (b) II only
(c) Both I and II (d) Neither I nor II

Ans : Neither I nor II

Solution :

Explanation: $f(x) = x^2 + 9$

$f'(x) = 2x = 0 \Rightarrow x = 0$



$\therefore f(x)$ is increasing on $[0, \infty]$

and $f(x)$ is decreasing on $(-\infty, 0)$

So, $f(x)$ is minimum at $x = 0$

Hence both statements are wrong.