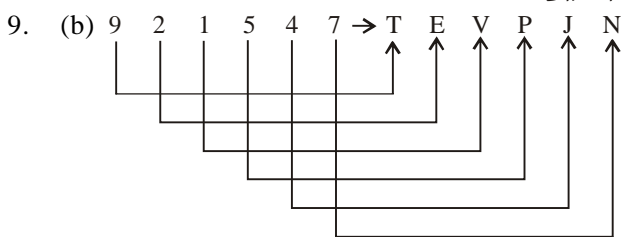
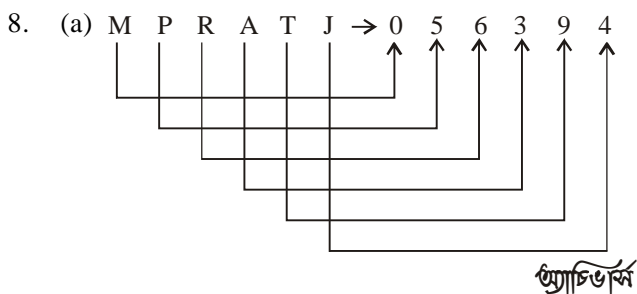


—: SSC CGL (Tier - 1) Practice Set 2023 :—

Answers with Explanation

1. (b) The causative organism of polio is virus. Similarly, the causative organism of anthrax is bacteria. অ্যাচিভার্স
2. (c) Tributary is a part of river. Similarly, branch is a part of tree and is analogous to tributary in the case of river.
3. (b) First Prime Minister of India was Pt. Jawaharlal Nehru while the first President of India was Dr. Rajendra Prasad.
4. (a) The letters have been written in the reverse order.
STAR ⇒ RATS
Similarly,
WARD ⇒ DRAW
5. (d) Money is carried in the wallet. Similarly, Letter is carried in an envelope.
6. (a) The son of P is brother of R and S. Q is uncle of R and S. অ্যাচিভার্স
7. (a) Husband of B's wife means B. A is the brother B. Therefore, A is the brother of C.



10. (d)

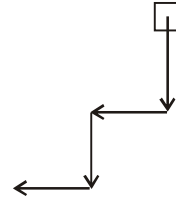
$\times \Rightarrow -$	$\div \Rightarrow +$
$+ \Rightarrow \times$	

Given expression
 $(16 \times 5) \div 5 + 3 = ?$
After conversion
 $? = (16 - 5) + 5 \times 3$
 or, $? = 11 + 5 \times 3$

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or, $? = 11 + 15 = 26$

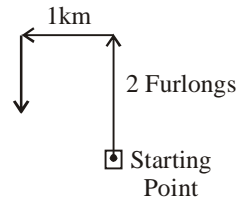
11. (a)



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It is clear from the diagram that he is in South-West direction. But there is no such option. After analysing the question carefully we think that most suitable answer should be option (a)

12. (d)



অ্যাচিভার্স

It is clear from the diagram that Lakshmi is facing towards south.

13. (c) Third Friday = 16th

∴ First Friday = 2nd

First Tuesday = 6th

∴ Fourth Tuesday = 27th

14. (b) The numbers 1, 3, 4 and 6 lie on the faces adjacent to the number 2. Therefore, the number 5 lies on the face opposite to the number 2.

15. (b) There is no 'U' letter in the given word. Therefore, the word INSTRUCTIONS cannot be formed. অ্যাচিভার্স

[A] B S [T] R A C T I O N [I] S [T] S
 ⇒ ATTRACTION

A B S T [R] A [C] T I O N [I] S T S
 ⇒ RATION

[A] B [S] T [R] A [C] T [I] O N I S T S
 ⇒ RACIAB

16. (d) There is no 'Y' letter in the given word. Therefore, the word ANALOGY cannot be formed. অ্যাচিভার্স

[C] H R O N O [L] O G I C [A] L
 ⇒ CALL

CHRONO LOGIC AL

⇒ LOGIC

C HR O NOLOG ICAL

⇒ CALICO

17. (b) Suppose the age of A is x years and that of B is y years. প্র্যাচিভর্স

According to question,

$x = y + 16$

or, $x - y = 16$ (i)

Again, $\frac{x}{3} = \frac{y}{2}$

or, $2x = 3y$

or, $2x - 3y = 0$ (ii)

From equations (i) and (ii)

$x = 48$ years

∴ $y = 48 - 16 = 32$ years

Thus, A = 48 years

B = 32 years

18. (b) Let son's age before 4 years = x
Present age of the son = x + 4 প্র্যাচিভর্স

At son's birth father's age

$= 3(x + 4) = 3x + 12$

The father's present age

$= (3x + 12) + (x + 4) = 48$

⇒ $4x = 48$ years - 16 = 32

⇒ $x = 8$ years

Therefore, 4 years ago the boy was

$= 12 - 4 = 8$ years

19. (c) Amit = 17 years
Rakesh = 17 - 5 = 12 years

∴ Anil = 12 + 3 = 15 years

20. (c) There are two alternating series
 $127 + 12 = 139$

$139 + 12 = 151$

$151 + 12 = 163$

And,

$131 + 10 = \boxed{141}$

$141 + 16 = 157$

$157 + 10 = 167$

21. (a) $5 - 9 = -4$
 $1 - 5 = -4$

$-3 - 1 = -4$

$-7 - (-3) = -4$

The difference between consecutive terms is always - 4.

Therefore,

nth term = $x_n = -4n + z$

(Where z is an unknown number)

For, $n = 1, x_1 = 9$ প্র্যাচিভর্স

$9 = -4 \times 1 + z$

⇒ $z = 9 + 4 = 13$

∴ $x_{20} = -4 \times 20 + 13$

$= -80 + 13 = -67$

22. (c) $\equiv > \times \hat{\vee} \square$ প্র্যাচিভর্স
 $\downarrow \downarrow \downarrow \downarrow \downarrow$
 7 9 3 8 2

23. (c) Both the Premises are Particular Affirmative (I-type).

No Conclusion follows from the two Particular Premises.

Conclusion I is the Converse of the second Premise.

Conclusion II is the converse of the first Premise.

24. (b) $8 \times 5 - 28 = 40 - 28 = 12$

$10 \times 3 - 16 = 30 - 16 = 14$

$9 \times 4 = ? = 25$

⇒ $36 - ? = 25$

∴ $? = 36 - 25 = 11$

25. (c) **Columnwise** প্র্যাচিভর্স

First Column

$(7)^2 + (4)^2 + (2)^2 = 49 + 16 + 4 = 69$

Second Column

$(3)^2 + (9)^2 + (1)^2 = 9 + 81 + 1 = 91$

Third Column

$(2)^2 + (6)^2 + (5)^2 = 4 + 36 + 25 = 65$

26. (b) Seleucus I Nicator was a leading officer of Alexander the Great's League of Corinth and one of the Diadochi. In the Wars of the Diadochi that took place after Alexander's death, Seleucus established the Seleucid dynasty and the Seleucid Empire. He was defeated by the emperor of India, Chandragupta Maurya and accepted a matrimony alliance for 500 elephants after ceding the territories considered as part of India. প্র্যাচিভর্স

27. (b) Mohiniattam is a classical dance form from Kerala, one of the eight Indian classical dance forms recognized by the Sangeet Natak Akademi. It is considered a very graceful form of dance meant to be performed as solo recitals by women. Mohiniattam was popularized as a popular dance form in the nineteenth century by Swathi Thirunal, the Maharaja of the state of Travancore (Southern Kerala), and Vadivelu, one of the Thanjavur Quartet. The noted Malayalam poet Vallathol, who established the Kerala Kalamandalam dance school in 1930, played an important role in popularizing Mohiniattam in the 20th century. প্র্যাচিভর্স

28. (c) The basic principles of federalism are the distribution of powers between the Centre and the States. 📄
29. (b) Tapti river empties into the Gulf of Cambay of the Arabian Sea, forming an estuary. It is fed by monsoon rains. The mean flow rate is about 600 cu m per sec, with the maximum in the summer. The Tapti is navigable by small craft for a distance of 50 km from the mouth. In some places it is used for irrigation. The seaport of Surat is located in the estuary.
30. (b) Miguel Diaz-Canel recently became the first non-Castro leader in Cuba to be re-elected as president. He won a second five-year term in a parliamentary vote that had him as the sole candidate. The 62-year-old leader took over the reins in 2018 as Cuba's first civilian leader after around 60 years of hegemony by the Castro brothers. 📄
31. (c) The Hindu rate of growth refers to the low annual growth rate of the socialist economy of India before 1991, which stagnated around 3.5% from 1950s to 1980s, while per capita income growth averaged 1.3%. The term was coined by Indian economist Raj Krishnaa. It suggests that the low growth rate of India, a country with a high Hindu population was in a sharp contrast to high growth rates in other Asian countries, especially the East Asian Tigers, which were also newly independent. This meaning of the term, popularised by Robert McNamara, was used disparagingly and has connotations that refer to the supposed Hindu outlook of fatalism and contentedness.
32. (a) The Virupaksha Temple is located in Hampi near Bangalore, in the state of Karnataka in southern India. Virupaksha is a form of Shiva and has other temples dedicated to him. The temple's history is uninterrupted from about the 7th century when it was built by the Chalukyas. Evidence indicates there were additions made to the temple in the late Chalukyan and Hoysala periods, though most of the temple buildings are attributed to the Vijayanagar period. 📄
33. (c) Some fundamental rights apply for persons of any nationality whereas others are available only to the citizens of India. The right to life and personal liberty is available to all people and so is the right to freedom of religion. On the other hand, freedoms of speech and expression and freedom to reside and settle in any part of the country are reserved to citizens alone, including non-resident Indian citizens. Article 15 prohibits discrimination on the grounds only of religion, race, caste, sex, place of birth, or any of them. Article 16 guarantees equality of opportunity in matters of public employment and prevents the State from discriminating against anyone in matters of employment on the grounds only of religion, race, caste, sex, descent, place of birth, place of residence or any of them. 📄
34. (d) In a hailstorm, small ice particles that form above the freezing level (which occurs in all thunderstorms) collect either rain water or cloud water on them, forming a water shell that freezes. The tilted updraft and downdraft structure of the storm is important in order for hailstones to grow because they can be 'recycled' several times, until they either become too large for the updraft to carry them, or they get caught in a downdraft, and they finally reach the ground. 📄
35. (b) The best productions of Gandhara Sculpture appeared during Kushana period. Gandhara sculpture shows Greek influence, therefore, it is known as Indo-Greek art.
36. (b) National Climate Vulnerability Index, developed by the Department of Science and Technology, is used by the Indian government to estimate the impact of heatwaves. A new study has revealed that more than 90 percent of the population is at risk of heatwaves and India has been underestimating the impact of heatwaves on its development. 📄
37. (b) The primary reason why the colour red is used for danger signals is that red light is scattered the least by air molecules. The effect of scattering is inversely related to the fourth power of the wavelength of a colour. Therefore blue which has the least wavelength of all the visible radiations is scattered the most and red which has the highest wavelength of all the colours we can see is scattered the least. So red light is able to travel the longest distance through fog, rain, and the alike. Also, red is a colour we inherently perceive as one that is associated with danger. 📄
38. (b) Political Equality means granting equal citizenship to all members of the state, and also, to ensure conditions that allow the citizens

to participate in the affairs of the state. Political equality brings along with it certain rights such as right to vote, right to contest elections, right to criticize the government etc. Political equality is based on the idea of Universal Adult Franchise.

39. (c) During the Mughal rule, the Mir Bakshi Headed military department, nobility, information and intelligence agencies. In provincial administration, the Bakshi was the head of military department. Diwan used to be responsible for all income and expenditure and had control over Khalisa and Jagir land.
40. (b) The Narmada basin, hemmed between Vindhya and Satpura ranges, extends over an area of 98,796 km² and lies between east longitudes 72 degrees 32' to 81 degrees 45' and north latitudes 21 degrees 20' to 23 degrees 45' lying on the northern extremity of the Deccan Plateau. The basin covers large areas in the states of Madhya Pradesh (86%), Gujarat (14%) and a comparatively smaller area (2%) in Maharashtra.
41. (a) A balloon is an inflatable flexible bag filled with a gas, such as helium, hydrogen, nitrous oxide, oxygen, or air. Modern balloons can be made from materials such as rubber, latex, polychloroprene, or a nylon fabric, while some early balloons were made of dried animal bladders, such as the pig bladder. Some balloons are used for decorative purposes, while others are used for practical purposes such as meteorology, medical treatment, military defense, or transportation. A balloon's properties, including its low density and low cost, have led to a wide range of applications. Because of the non combustible property of the helium gas it is widely used in weather balloons rather than hydrogen gas which is highly combustible.
42. (b) A negative income elasticity of demand is associated with inferior goods; an increase in income will lead to a fall in the demand and may lead to changes to more luxurious substitutes. A positive income elasticity of demand is associated with normal goods; an increase in income will lead to a rise in demand.
43. (c) The Agriculture Production Department of Jammu and Kashmir will launch the Kisan Sampark Abhiyan programme, which seeks to ensure the overall welfare of farmers across

the Union Territory. The scheme will cover 3565 panchayats in J&K. To ensure that the programme is successful, nearly 2400 resource persons have been identified and trained for all districts.

44. (a) Galvanization is the process of applying a protective zinc coating to steel or iron, in order to prevent rusting. The term is derived from the name of Italian scientist Luigi Galvani. Although galvanization can be done with electrochemical and electrodeposition processes, the most common method in current use is hot-dip galvanization, in which steel parts are submerged in a bath of molten zinc.
45. (c) It was by a royal proclamation that the Chamber of Princes was instituted on 8 February 1921. The inauguration ceremony was performed by His Royal Highness the Duke of Connaught in the Diwan-i-am of Red Fort on behalf of His Majesty the King Emperor.
46. (a) Bharatanatyam: Tamil Nadu; Kathakali: Kerala; Kuchipudi: Andhra Pradesh; and Odissi: Odisha.
47. (b) The heart has an increasing rhythmic activity. It pumps blood by its contraction and relaxation. The contraction of the heart is called systole and the relaxation is called diastole. The contraction and relaxation together constitute the heart beat. The heart beats at the rate of 72 beats per minute. There are 3 main events in the cardiac cycle. Auricular Systole (Atrial Systole) phase involves the contraction of the 2 auricles, pushing the blood into the respective ventricles. The atrial systole takes 0.1 second. Ventricular Systole takes about 0.3 seconds. Ventricular systole is followed by ventricular diastole. The auricles are already in diastole, so all the chambers of the heart are in diastole. A complete cardiac diastole takes only 0.4 seconds. An entire cardiac cycle is completed in 0.8 seconds.
48. (b) Virginia Norwood, the aerospace pioneer, has passed away recently at the age of 96. She invented a scanner that has enabled scientists to map and study the earth for more than 50 years. Ms. Norwood, a physicist, was the person primarily responsible for designing the scanner that made the Landsat satellite program possible.
49. (d) Ukai Dam, constructed across the Tapti River, is the largest reservoir in Gujarat. It is also known as Vallabh Sagar. Constructed in 1971,

the dam is meant for irrigation, power generation and flood control. Having a catchment area of about 62,255 km² and a water spread of about 52,000 hectare, its capacity is almost same as that of the Bhakra Nangal Dam. The site is located 94 km from Surat.

50. (c) Article 87(1) of the Constitution provides:—
“At the commencement of the first session after each general election to the House of the People and at the commencement of the first session of each year the President shall address both Houses of Parliament assembled together and inform Parliament of the causes of its summons.”

51. (d) If the quotient in the first case be x.

Then, number = 5x + 3

On Squaring, the number = (5x + 3)²
= 25x² + 30x + 9

On dividing by 5, remainder $\frac{30x+9}{5}$
= 9 - 5 = 4

52. (d) Here, the first divisor (221) is a multiple of second divisor (13) Hence, required remainder = remainder obtained on dividing 64 by 13 = 12

53. (b) Let the number be x.

According to the question

$$\frac{x}{9} - \frac{x}{10} = 4$$

$$\Rightarrow \frac{10x - 9x}{90} = 4$$

$$\Rightarrow x = 90 \times 4 = 360$$

54. (b) Here, 12 - 5 = 7, 16 - 9 = 7

∴ Required number

$$= (\text{L.C.M. of 12 and 16}) - 7$$

$$= 48 - 7 = 41$$

55. (c) The smallest number divisible by 12 or 10 or 8 = LCM of 12, 10 and 8 = 120

$$\Rightarrow \text{Required number} = 120 + 6 = 126$$

56. (b) I. $\frac{3}{4} \times \frac{6}{5} = \frac{9}{10}$

II. $3 \div \left[\frac{4}{5} \times \frac{1}{6} \right] = 3 \div \frac{2}{15} = \frac{45}{2}$

III. $\left[3 \div \frac{4}{5} \right] \div 6 = \frac{15}{4} \div 6 = \frac{5}{8}$

IV. $3 \div 4 \times \frac{5}{6} = 3 \div \frac{10}{3} = \frac{9}{10}$

Obviously, (I) and (IV) are equal

57. (c) $\frac{3}{\frac{2}{1} \div \frac{4}{7} \left(\frac{4+3}{10} \right) \text{ of } \frac{3+2}{\frac{6}{3-2}}}$

$$= 3 \div \frac{4}{7} \left(\frac{7}{10} \right) \text{ of } \left(\frac{5}{6} \times 6 \right)$$

$$= 3 \div \left(\frac{4}{7} \times \frac{7}{10} \times 5 \right) = 3 \div 2 = \frac{3}{2}$$

58. (d) Expression

$$= 3 \div \left[(8-5) \div \left\{ (4-2) + \left(2 + \frac{8}{13} \right) \right\} \right]$$

$$= 3 \div \left[3 \div \left\{ 2 + \frac{26+8}{13} \right\} \right]$$

$$= 3 \div \left[3 \div \left\{ 2 + \frac{34}{13} \right\} \right]$$

$$= 3 \div \left[3 \div \left\{ \frac{26+34}{13} \right\} \right]$$

$$= 3 \div \left[3 \div \frac{60}{13} \right]$$

$$= 3 \div \left[\frac{3 \times 13}{60} \right]$$

$$= 3 \div \frac{13}{20} = 3 \times \frac{20}{13} = \frac{60}{13}$$

59. (d) When each number is multiplied by 8, the new average gets multiplied by 8. i.e.,

$$21 \times 8 = 168$$

60. (b) Let three consecutive even numbers be x, x + 2 and x + 4.

According to the question,

$$(x + x + 2 + x + 4) - \frac{x + x + 2 + x + 4}{3} = 28$$

$$\Rightarrow (3x + 6) - \frac{3x + 6}{3} = 28$$

$$\Rightarrow (3x + 6) - (x + 2) = 28$$

$$\Rightarrow 3x + 6 - x - 2 = 28$$

$$\Rightarrow 2x + 4 = 28$$

$$\Rightarrow 2x = 28 - 4 = 24$$

$$\Rightarrow x = \frac{24}{2} = 12$$

61. (a) A : B : C

$$= \frac{1}{3} : \frac{1}{4} : \frac{1}{5} : \frac{1}{6}$$

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$$= \frac{1}{3} \times 60 : \frac{1}{4} \times 60 : \frac{1}{5} \times 60 : \frac{1}{6} \times 60$$

[LCM of 3, 4, 5 & 6 = 60]

$$= 20 : 15 : 12 : 10$$

∴ Minimum number of pens

$$= 20 + 15 + 12 + 10 = 57$$

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62. (c) Boys : Girls = 5 : 6
Sum of the terms of ratio = 5 + 6 = 11
∴ Number of girls = $\frac{6}{11} \times 55 = 30$

63. (b) According to the question,

$$\frac{60A}{100} = \frac{30B}{100}$$

$$\Rightarrow \frac{3A}{5} = \frac{3B}{10} = \frac{3}{10} \times \frac{40}{100} C$$

$$\Rightarrow \frac{3A}{5} = \frac{3C}{25} = \frac{3}{25} \times A \times \frac{x}{100}$$

$$\Rightarrow \frac{3}{5} = \frac{3x}{2500}$$

$$\Rightarrow 5x = 2500$$

$$\Rightarrow x = \frac{2500}{5} = 500$$

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64. (d) If the third number is 100, then the numbers are $100 + \frac{25}{2} = \frac{225}{2}$ and 125 respectively.
∴ First number as a percentage of the second = $\frac{225}{2 \times 125} \times 100 = 90$

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65. (c) Expression

$$= \frac{(s-a)^2 + (s-b)^2 + (s-c)^2 + s^2}{a^2 + b^2 + c^2}$$

$$= \frac{s^2 - 2sa + a^2 + s^2 + b^2 - 2sb + s^2 - 2sc + c^2 + s^2}{a^2 + b^2 + c^2}$$

$$= \frac{4s^2 + a^2 + b^2 + c^2 - 2s(a+b+c)}{a^2 + b^2 + c^2}$$

$$= \frac{4s^2 + a^2 + b^2 + c^2 - 4s^2}{a^2 + b^2 + c^2} = 1$$

66. (c) $\frac{b-c}{a} + \frac{a+c}{b} + \frac{a+b}{c} = 1$

$$\Rightarrow \frac{b-c}{a} + \frac{a-b}{c} + \frac{a+c}{b} - 1 = 0$$

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$$\Rightarrow \frac{b-c}{a} + \frac{a-b}{c} + \frac{a+c-b}{b} = 0$$

$$\Rightarrow \frac{c-b}{1} + \frac{b-a}{c} = \frac{a+c-b}{b}$$

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$$\Rightarrow \frac{c^2 - bc + ab - a^2}{ac} = \frac{a+c-b}{b}$$

$$\Rightarrow \frac{(c^2 - a^2) - (bc - ab)}{ac} = \frac{a+c-b}{b}$$

$$\Rightarrow \frac{(c-a)(c+a) - b(c-a)}{ac} = \frac{a+c-b}{b}$$

$$\Rightarrow \frac{(c-a)(c+a-b)}{ac} = \frac{a+c-b}{b}$$

$$\Rightarrow \frac{c-a}{ac} = \frac{1}{b}$$

$$\Rightarrow \frac{c}{ac} - \frac{a}{ac} = \frac{1}{b}$$

$$\Rightarrow \frac{1}{a} - \frac{1}{c} = \frac{1}{b}$$

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67. (a) $3(\sec^2\theta + \tan^2\theta) = 5$

$$\Rightarrow \sec^2\theta + \tan^2\theta = \frac{5}{3}$$

$$\Rightarrow \sec^2\theta + \sec^2\theta - 1 = \frac{5}{3}$$

$$\Rightarrow 2 \sec^2\theta = \frac{5}{3} + 1 = \frac{8}{3}$$

$$\Rightarrow \sec^2\theta = \frac{4}{3} \Rightarrow \sec\theta = \frac{2}{\sqrt{3}}$$

$$\Rightarrow \cos\theta = \frac{\sqrt{3}}{2} = \cos 30^\circ$$

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$$\Rightarrow \theta = 30^\circ$$

$$\therefore \cos 2\theta = \cos 60^\circ = \frac{1}{2}$$

68. (c) $\sin(\theta + 30^\circ) = \frac{3}{\sqrt{12}}$

$$= \frac{3}{2\sqrt{3}} = \frac{\sqrt{3}}{2}$$

$$\Rightarrow \sin(\theta + 30^\circ) = \sin 60^\circ$$

$$\Rightarrow \theta + 30^\circ = 60^\circ$$

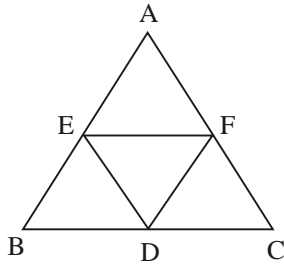
$$\Rightarrow \theta = 60 - 30 = 30^\circ$$

$$\therefore \cos^2\theta = \cos^2 30^\circ$$

$$= \left(\frac{\sqrt{3}}{2}\right)^2 = \frac{3}{4}$$

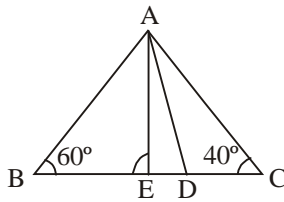
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69. (b)



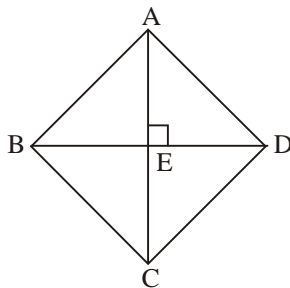
$$\begin{aligned} \Delta DEF &= \frac{1}{4} \Delta ABC \\ &= \frac{1}{4} \times 24 = 6 \text{ sq. units} \end{aligned}$$

70. (c)



$$\begin{aligned} \angle BAC &= 180^\circ - 60^\circ - 40^\circ = 80^\circ \\ \angle BAD &= \angle DAC = 40^\circ \\ \text{In } \Delta ABE, \\ \angle BAE &= 90^\circ - 60^\circ = 30^\circ \\ \angle EAD &= 40^\circ - 30^\circ = 10^\circ \end{aligned}$$

71. (c)



$$\begin{aligned} BD &= 40 \text{ cm} \\ BE &= 20 \text{ cm} \\ AE &= x \text{ cm} \\ AB &= \frac{100}{4} = 25 \text{ cm} \\ \therefore \text{ From } \Delta ABE, \\ AE &= \sqrt{25^2 - 20^2} \\ &= \sqrt{45 \times 5} = 15 \text{ cm} \\ \therefore AC &= 30 \text{ cm} \\ \text{Area of rhombus ABCD} \\ &= \frac{1}{2} d_1 d_2 = \frac{1}{2} \times 40 \times 30 \\ &= 600 \text{ sq. cm} \end{aligned}$$

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72. (a) Let Side of square = x units

Diagonal of square = $\sqrt{2}x$ units then Radius of smaller circle = $\frac{x}{2}$ units

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Radius of larger circle = $\frac{\sqrt{2}x}{2} = \frac{x}{\sqrt{2}}$ units

$$\begin{aligned} \therefore \text{ Required ratio of areas} &= \pi \frac{x^2}{4} : \frac{\pi x^2}{2} \\ &= 2 : 4 = 1 : 2 \end{aligned}$$

73. (a) $x + \frac{1}{x} = 5$

On cubing both sides,

$$\begin{aligned} \left(x + \frac{1}{x}\right)^3 &= 5^3 \\ \Rightarrow x^3 + \frac{1}{x^3} + 3x \cdot \frac{1}{x} \left(x + \frac{1}{x}\right) &= 125 \\ \Rightarrow x^3 + \frac{1}{x^3} + 3 \times 5 &= 125 \\ \Rightarrow x^3 + \frac{1}{x^3} &= 125 - 15 = 110 \end{aligned}$$

On squaring both sides,

অ্যাসিউর্স

$$\begin{aligned} x^6 + \frac{1}{x^6} + 2x^3 \cdot \frac{1}{x^3} &= 12100 \\ \Rightarrow x^6 + \frac{1}{x^6} &= 12100 - 2 = 12098 \end{aligned}$$

74. (d) $x + \frac{1}{x} = 2$

$$\begin{aligned} \Rightarrow x^2 + 1 &= 2x \\ \Rightarrow x^2 - 2x + 1 &= 0 \\ \Rightarrow (x - 1)^2 &= 0 \Rightarrow x = 1 \\ \therefore x^{2013} + \frac{1}{x^{2014}} &= 1 + 1 = 2 \end{aligned}$$

75. (b) $2x + \frac{2}{x} = 3$

On dividing by 2,

$$\begin{aligned} x + \frac{1}{x} &= \frac{3}{2} \\ \text{On cubing both sides,} \\ \left(x + \frac{1}{x}\right)^3 &= \left(\frac{3}{2}\right)^3 \\ \Rightarrow x^3 + \frac{1}{x^3} + 3 \left(x + \frac{1}{x}\right) &= \frac{27}{8} \end{aligned}$$

অ্যাসিউর্স

$$\Rightarrow x^3 + \frac{1}{x^3} + \frac{3 \times 3}{2} = \frac{27}{8}$$

$$\Rightarrow x^3 + \frac{1}{x^3} = \frac{27}{8} - \frac{9}{2}$$

$$= \frac{27 - 36}{8}$$

$$\Rightarrow x^3 + \frac{1}{x^3} = \frac{-9}{8}$$

$$\therefore x^3 + \frac{1}{x^3} + 2$$

$$= 2 - \frac{9}{8} = \frac{16 - 9}{8} = \frac{7}{8}$$

প্র্যাচিওর্স

76. (a) Here, **Adjective i.e., to a comfortable and settled** is the right usage.
settle (V.) : to make a place your permanent house.
Settled (Adj.) : comfortable and happy with your home, job, way of life, etc.
77. (a) **Possessive of one is one's.** প্র্যাচিওর্স
Hence, **one's teeth checked** is the right usage.
78. (d) Here, **H (honest)** has a Vowel sound. Hence, **An honest person** is the right usage.
79. (b) **pip** : to beat somebody in a race, competition. Here, **for** is the right usage.
80. (a) **philanthropy** : the practice of helping the poor and those in need.
altruism (N.) : the fact of caring about the needs and happiness of other people more than your own
Here, **genuine, philanthropy** is the right usage.
81. (d) **sail** : to travel on water
Here, **driven** is the right usage. But, **propelled** is the right word used for driving a ship.
82. (b) **affect (Verb)** : to produce a change
afflict (Verb) : to affect in an unpleasant way
Here, **affected** is the right usage.
83. (d) **abate** : to become less strong; to make something less strong.
ebbed (V.) : to become gradually weaker/ less; decrease
receded (V.) : to become gradually weaker/ smaller
Here, **abated** is the right usage. প্র্যাচিওর্স
84. (a) income
revenue (Noun) : the money that a government receives from taxes; receipts; money received from business.
85. (c) authentic
genuine (Adjective) : real; exactly what it

- appears to be.
86. (b) Partner
consort (Noun) : the husband or wife of a ruler.
87. (d) **birds of the same feather** : people of the same sort
● Chayanika and Aadya are **birds of the same feather**. They get along very well.
The best option is **persons of same character**.
88. (a) **to call a spade a spade** : to say exactly what you think without trying to hide your opinion
● Vinay is a person who **calls a spade a spade** and is fearless.
The best option is **to be frank**. প্র্যাচিওর্স
89. (d) **a white elephant** : costly and useless possession
● The new office block has become an expensive **white elephant**.
The best option is **costly and troublesome possession, useless to its owner**.
90. (b) **high-handed** : overbearing; using authority in an unreasonable way, without considering the opinions of other people
● He is an arrogant and **high-handed** man.
The best option is **overbearing**. প্র্যাচিওর্স
91. (c) **ordinary (Adjective)** : not unusual.
bizarre (Adjective) : very strange or unusual; weird.
92. (d) **exculpation (Noun)** : stating officially that somebody is not guilty.
accusation (Noun) : to say someone guilty of doing something wrong.
93. (b) **descend (Verb)** : to come or go down from a higher to a lower level.
ascend (Verb) : to rise; to go up; to climb up
94. (d) **urn**
95. (b) **avaricious**
avaricious (Adj.) : having an extreme desire for wealth
fervent (Adj.) : having/showing very strong and sincere feelings about something.
96. (b) **intellect (N.)** : our mind
healing (N.) : the process of becoming/making somebody/something healthy again
benevolence (N.) : the quality of being kind, helpful and generous
nominate (V.) : to choose somebody to do a particular job; propose
প্র্যাচিওর্স
97. (d) **maintain (V.)**
legislate (V.) : to make a law affecting something

- reclaim (V.)** : to get something back/to ask to have it back after it has been lost, taken away, etc.
98. (c) **ensures (V.)** শ্রদ্ধাচিহ্ন
ensures (V.) : to make sure that something happens/is definite
ensuing (Adj.) : following
entangles (V.) : to involve somebody in a difficult/complicated situation
- ensnares (V.)** : trap
99. (d) **alert (N.)** শ্রদ্ধাচিহ্ন
akin (Adj.) : similar to
100. (a) **digest (V.)**
assent (N.) : official agreement to/approval of something
apprise (V.) : to tell/inform somebody of something শ্রদ্ধাচিহ্ন

