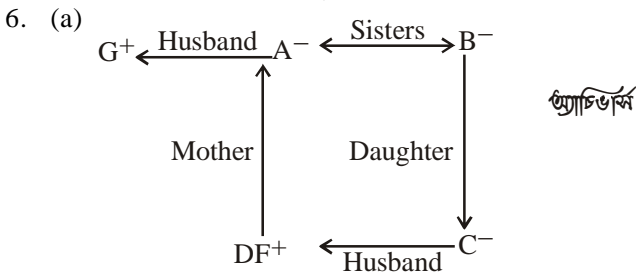


SSC CGL (Tier-1) Exam. Practice Set

Answers with Explanation

1. (d) Grain is stored in warehouse. Similarly, water is stored by constructing dam. *শ্রুতিভঙ্গ*
2. (a) Coin is manufactured in mint. Similarly, bricks are made in kiln.
3. (c) Several pages together constitute a book. Similarly, wall is constructed with the help of bricks.
4. (b) A well arranged order of words makes a meaningful sentence. Similarly, several paragraphs together constitute an essay.
5. (d) Paw of Cat is analogous to Hoof of Horse.



Clearly C is daughter of D's mother A's sister (B) i.e., C is D's cousin.

7. (a) E is mother of C and D. C is father of A and B. Therefore, B is the granddaughter of E.
8. (d)

7	6	2	5	3	9
↓	↓	↓	↓	↓	↓
A	L	T	U	J	K

9. (d)

A ⇒ =	B ⇒ <	C ⇒ >
D ⇒ ≠	E ⇒ ≠	F ⇒ <

Premises

$3X B \neq 2Y$ and $2YDZ$

Or, $3X < 2Y$ and $2Y \neq Z$

It is clear that $2Y$ is either equal to or less than Z .

Thus, $3X < Z$

Option (1)

$3X AZ = 3X = Z$: Not true

Option (2)

$3X DZ = 3X \neq Z$

The equation implies that $3X$ is either equal to or less than Z . Therefore, the given equation is not true.

Option (3)

$3X FZ = 3X \neq Z$

It is also not true.

Option (4)

$3X BZ = 3X < Z$

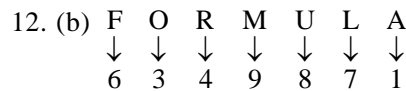
Clearly $3X$ is less than Z .

10. (b) **Premises**

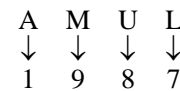
$7X < 3Y$ and $6Y \neq 2Z$ or, $6Y \leq 2Z$

Therefore, $7X < 2Z \Rightarrow 7X B 2Z$

11. (c) If a person stands on his head with his face towards north, his left hand will point towards east.



Therefore,



13. (c) 3rd ⇒ Tuesday

Other Tuesday ⇒ 10th; 17th; 24th

∴ 25th ⇒ Wednesday

14. (c) The numbers 1, 2, 4 and 6 are on adjacent faces of the number 5. Therefore, the number 3 lies opposite to 5

15. (c) There is no 'C' letter in the given word. Therefore, the word GARPIC cannot be formed.

A U T O B I O G R A P H Y

⇒ TROOP

A U T O B I O G R A P H Y

⇒ BRIGHT

A U T O B I O G R A P H Y

⇒ TROPHY

16. (d) There is only one 'T' in the given word. Therefore, the word DISTART cannot be formed.

G E M D I S T I O N A R Y

⇒ GAME

G E M D I S T I O N A R Y

⇒ STAR

G E M D I S T I O N A R Y

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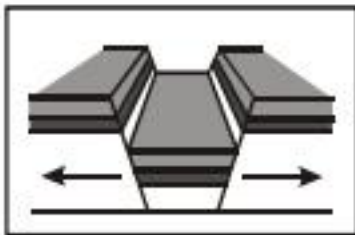
⇒ MEGASITY

17. (c) Age of C
 $= (3 \times 20) - (2 \times 19)$
 $= 60 - 38 = 22$ years
18. (b) Suppose the present age of son = x years
 The present age of father
 $= y$ years প্র্যাচিভর্স
 $x + y = 70$... (i)
 According to question, $2(x + 10) = y + 10$
 $\Rightarrow 2x + 20 = y + 10$
 $\Rightarrow 2x - y = -10$... (ii)
 From equations (i) and (ii)
 $3x = 70 - 10 = 60$
 $x = 20$
 $\therefore y = 70 - 20 = 50$
19. (a) Total age of husband, wife and their child 3 years ago was $27 \times 3 = 81$ years
 Total age of wife and child five years ago was $20 \times 2 = 40$ years
 \therefore Total age of wife and child 3 years ago
 $= 40 + (2 \times 2)$
 $= 40 + 4 = 44$ years প্র্যাচিভর্স
 \therefore Age of husband three years ago
 $= 81 - 44 = 37$ years
 Therefore, the present age of husband = $37 + 3 = 40$ years.
20. (c) $7\frac{1}{7} = \frac{50}{7}$; $8\frac{2}{6} = \frac{50}{6}$; $9\frac{5}{5} = \frac{50}{5}$; $12\frac{2}{4} = \frac{50}{4}$;
 $16\frac{2}{3} = \frac{50}{3}$
 The denominator is decreasing by 1, but the numerator remains constant. Therefore,
 $?\frac{2}{2} = \frac{50}{2}$ প্র্যাচিভর্স
21. (a) There are two alternating series.
- | | | | |
|-------------------|----|----|----|
| 24 | 20 | 16 | 12 |
| └───┬───┬───┬───┘ | | | |
| -4 | -4 | -4 | |
| └───┬───┬───┬───┘ | | | |
| 35 | 31 | 27 | 23 |
| └───┬───┬───┬───┘ | | | |
| -4 | -4 | -4 | |
22. (c) V G I X R M
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$
 7 0 9 8 3 2
23. (a) Only conclusion I follows. As all english movies are violent, the people who like watching english movies like violence. But it is not necessary that

- all people who like violence watch english movies.
24. (c) First column $3 \times 2 \times 1 = 6$
 Second column $4 \times 3 \times 2 = 24$
 Third column প্র্যাচিভর্স
 $2 \times 1 \times ? = 0$
 $2 \times 1 \times 0 = 0$
25. (c) The product of three numbers in each column is equal to the lowermost number.
 $3 \times 4 \times 4 = 48$
 $4 \times 5 \times 3 = 60$
 $5 \times 3 \times ? = 105$
 or, $?\frac{105}{15} = 7$ প্র্যাচিভর্স
26. (b) After the Kannauj Assembly was concluded, Hiuen-Tsang was making preparations to go to his home, but Harsha invited him to attend another Assembly at Prayag which he used to hold after ever five years on the confluence of Ganga and Yamuna. Five such assemblies had already taken place and this was the sixth Assembly in which Hiuen-Tsang was invited. This ceremony was attended by the kings of eighteen kingdoms and about 5,00,000 people including Sramanas. Heretics, Nigranthas, the poor, the orphans etc, attended this assembly. The Prayag Assembly is a glorious example of the generosity of Harshavardhana as he gave all his personal wealth and belongings in charity during the assembly.
27. (d) The style of painting which flourished in Basohli, Jammu, Garhwal, Chamba, Kangra, Guler and Mandi in the hilly areas in the northwest has been termed the Pahari school. The art of miniature painting in the Punjab hills known as Pahari painting was influenced to some extent by the Mughal painting of Aurangzeb's period. Scholars have categorized Pahari paintings on the basis of geography and family style. These paintings developed and flourished during the period of 17th to 19th century under the patronage of Rajput kings. Indian Pahari paintings have been made mostly in miniature forms. Developed in the 18th century, this style is an eternal legacy of the Rajasthani style. প্র্যাচিভর্স
28. (d) The Constitution of India borrowed the following features from Australia : concurrent list; language of the preamble; and provisions regarding trade, commerce and intercourse.
29. (a) A hanging valley is a tributary valley with the floor at a higher relief than the main channel into which it flows. They are most commonly associated with Ushaped valleys when a tributary glacier flows into a glacier of larger volume. The

main glacier erodes a deep U-shaped valley with nearly vertical sides while the tributary glacier, with a smaller volume of ice, makes a shallower U-shaped valley. Since the surfaces of the glaciers were originally at the same elevation, the shallower valley appears to be 'hanging' above the main valley.

30. (a) Prime Minister Narendra Modi addressed the 'Mangarh Dham ki Gaurav Gatha' programme at Mangarh Dham in Rajasthan. He paid homage to the sacrifices of unsung tribal heroes and martyrs of the freedom struggle. Mangarh is considered as a shared heritage of the people of Rajasthan, Maharashtra, Madhya Pradesh and Gujarat. On 15th November, the country is going to celebrate Janjatiya Gaurav Diwas on the birth anniversary of Birsa Munda.
31. (d) Antyodaya Anna Yojana (AAY) is a centrally sponsored scheme launched on December 2000 for one crore of the poorest families. It is on the lookout for the 'poorest of the poor' by providing them 35 kilos of rice and wheat at Rs. 2 per kg.
32. (c) In view of the large number of figurines found in the Indus valley, some scholars believe that the Harappan people worshipped a Mother goddess symbolizing fertility, a common practice among rural Hindus even today.
33. (a) The Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE), which was passed by the Indian parliament on 4 August 2009, describes the modalities of the importance of free and compulsory education for children between 6 and 14 in India under Article 21A of the Indian Constitution. India became one of 135 countries to make education a fundamental right of every child when the act came into force on 1 April, 2010.
34. (b) A rift valley is a linear-shaped lowland between several highlands or mountain ranges created by the action of a geologic rift or fault. It is formed by the subsidence of a segment of the Earth's crust between dip-slip, or normal, faults.



ଆଚିଓର୍ଷ

35. (d) Tobacco was not known by the people of the vedic period. During this period, economic

activity was dominated by agriculture. The crops cultivated during this period were Wheat, Rice, Barley, Beans, Sesame.

ଆଚିଓର୍ଷ

36. (a) 'Operation Vigilant Storm' is a Defence exercise conducted between USA and Republic of Korea (South Korea). The four-day training exercise involves hundreds of aircraft and designed to enhance combat readiness and interoperability. The exercise has sparked opposition from North Korea's Foreign Ministry.
37. (b) The work done on any object goes into changing the kinetic energy of that object. Since the work done by the car engine is equal to the change in kinetic energy of the car we can say that kinetic energy is being used in performing work. The kinetic energy of an object is the energy which it possesses due to its motion. It is defined as the work needed to accelerate a body of a given mass from rest to its stated velocity. Having gained this energy during its acceleration, the body maintains this kinetic energy unless its speed changes. The same amount of work is done by the body in decelerating from its current speed to a state of rest.
38. (c) The Fundamental Duties of citizens were added to the Constitution by the 42nd Amendment in 1976, upon the recommendations of the Swaran Singh Committee that was constituted by the government earlier that year.
39. (d) ଆଚିଓର୍ଷ
40. (a) The Gandhi Sagar Dam is one of the four dams built on India's Chambal River. The dam is located in the Mandasaur district of the state of Madhya Pradesh. The Jaikawadi project is one of the largest irrigation projects in the Indian state of Maharashtra. It is a multipurpose project. Nagarjuna Sagar Dam is the world's largest masonry dam at the time of its construction, which is built across Krishna River at Nagarjuna Sagar in Guntur district & Nalgonda district of Andhra Pradesh. The Tehri Dam is a multi-purpose rock and earth-fill embankment dam on the Bhagirathi River near Tehri in Uttarakhand, India. It is the primary dam of the THDC India Ltd. and the Tehri hydroelectric complex.
41. (d) A preservative is a naturally occurring or synthetically produced substance that is added to products such as foods, pharmaceuticals, paints, biological samples, wood, etc. to prevent decomposition by microbial growth or by undesirable chemical changes. Preservative food

additives can be used alone or in conjunction with other methods of food preservation. Preservatives may be antimicrobial preservatives, which inhibit the growth of bacteria or fungi, including mold or they can be antioxidants such as oxygen absorbers, which inhibit the oxidation of food constituents. Common antimicrobial preservatives include sorbic acid and its salts, benzoic acid and its salts, calcium propionate, sodium nitrite (and sodium nitrate which converts to sodium nitrite “in situ”), sulfites (sulfur dioxide, sodium bisulfite, potassium hydrogen sulfite, etc.) and disodium EDTA.

প্র্যাচিভর্স

42. (c) Derived demand is a term in economics, where demand for one good or service occurs as a result of the demand for another intermediate/final good or service. This may occur as the former is a part of production of the second. For example, demand for coal leads to derived demand for mining, as coal must be mined for coal to be consumed. As the demand for coal increases, so does its price.

প্র্যাচিভর্স

43. (d) ‘Permacrisis’, a term that describes ‘an extended period of instability and insecurity’, has been named Word of the Year 2022 by Collins dictionary. The word relates to the challenges posed by climate change, the war in Europe, a cost-of-living crisis and political chaos. It was first used in academic contexts in the 1970s. In 2020, Collins picked “lockdown” as its word of the year and last year, it opted for “NFT- Non-fungible token”.

প্র্যাচিভর্স

44. (a) Oxidation is a process in which something (an atom or molecule or substance) loses an electron to something else. Photo-oxidation is therefore the process of oxidation which is caused by shining light on it. Often, light can be used to cause reactions to happen, such as oxidation. The term “photo” comes from “photon” which is light. The effect is facilitated by radiant energy such as UV or artificial light. This process is the most significant factor in weathering of polymers. Photo-oxidation is a chemical change that reduces the polymer’s molecular weight. As a consequence of this change the material becomes more brittle, with a reduction in its tensile, impact and elongation strength. Discolouration and loss of surface smoothness accompany photo-oxidation. High temperature and localized stress concentrations are factors that significantly increase the effect of photo-oxidation.

প্র্যাচিভর্স

45. (a) It was during the Surat session in 1907 that the Indian National Congress split into two. The two groups were moderates and extremists. Extremists were led by Bal, Pal, Lal while the moderates by G.K. Gokhale.

প্র্যাচিভর্স

46. (d) The sarod is a stringed musical instrument, used mainly in Indian classical music. The conventional sarod is an 20-25-stringed lute-like instrument — four to five main strings used for playing the melody, one or two drone strings, two chikari strings and nine to eleven sympathetic strings. Sarod strings are made either of steel or phosphor bronze. The Sarod has four melody strings tuned to Sa, Pa, Sa, Ma and it is played with a triangular plectrum.

প্র্যাচিভর্স

47. (c) Glycogen is a multibranched polysaccharide that serves as a form of energy storage in animals and fungi. In humans, glycogen is made and stored primarily in the cells of the liver and the muscles, and functions as the secondary long-term energy storage (with the primary energy stores being fats held in adipose tissue). Glycogen is the analogue of starch, a glucose polymer in plants, and is sometimes referred to as animal starch, having a similar structure to amylopectin but more extensively branched and compact than starch. Polysaccharide represents the main storage form of glucose in the body.

48. (c) The SatCom Industry Association (SIAIndia) has organised a three-day India Space Congress, ISC 2022, in New Delhi. The theme of ISC 2022 is ‘Leveraging Space to Power Next-Gen Communication & Businesses’.

Speakers from 30 countries participated in the event, which is supported by the Indian Space Research Organisation (ISRO), Ministry of Defence, Niti Aayog, In-Space, New Space India Ltd (NSIL) and the Department of Telecommunication.

প্র্যাচিভর্স

49. (d) The southernmost point of India is Indira Point.

50. (b) The Prime Minister is appointed by the President to assist the latter in the administration of the affairs of the executive. The Constitution envisages a scheme of affairs in which the President of India is the head of the executive in terms of Article 53 with office of the Prime Minister as heading the Council of Ministers to assist and advise the President in the discharge of the executive power.

প্র্যাচিভর্স

51. (d) On dividing the given number by 119, let κ be the quotient and 19 as remainder.

Then, number = $119k + 19 = 17 \times 7k + 17 \times 1 + 2 = 17(7k + 1) + 2$

Hence, the given number when divided by 17, gives $(7k + 1)$ as quotient and 2 as remainder.

52. (c) Required divisor = $3 + 4 - 2 = 5$

53. (d) $0.\overline{47} = \frac{47}{99}$ অ্যাচিভার্স

54. (b) Required number of students = LCM of 6, 8, 10 = 120

55. (c) Required maximum capacity of container = HCF of 75 l and 45 l

Now, $75 = 5 \times 5 \times 3$

$45 = 5 \times 3 \times 3$

\therefore HCF = 15 litres

56. (c) Using Rule 1

$$\frac{\frac{13 - \frac{5}{6} \times \frac{4}{5}}{4} - \left(\frac{3}{2} \times \frac{5}{3}\right)}{\frac{13}{3} \div \frac{1}{5} - \left(\frac{3}{10} + \frac{106}{5}\right)} = \frac{\frac{13 - \frac{2}{3}}{4} - \frac{5}{2}}{\frac{13 \times 5}{3} - \left(\frac{3 + 212}{10}\right)} = \frac{5}{2}$$

$$= \frac{\frac{39 - 8}{12} - \frac{5}{2}}{\frac{65}{3} - \frac{215}{10}} = \frac{\frac{31}{12} - \frac{5}{2}}{\frac{650 - 645}{30}} = \frac{5}{2}$$

$$= \frac{31}{12} \times \frac{30}{5} - \frac{5}{2} = \frac{31}{2} - \frac{5}{2} = \frac{31 - 5}{2} = \frac{26}{2} = 13$$

57. (d) The given expression

$$\frac{\frac{11}{4} \div \frac{7}{8} \left(\frac{4+3}{12}\right) + \frac{5}{7} \div \frac{3}{4} \text{ of } \frac{3}{7}}{\frac{11}{6}}$$

$$= \left(\frac{11}{4} \times \frac{6}{11}\right) \div \frac{7}{8} \times \frac{7}{12} + \frac{5}{7} \div \left(\frac{3}{4} \times \frac{3}{7}\right)$$

$$= \frac{3}{2} \div \frac{7}{8} \times \frac{7}{12} + \frac{5}{7} \div \frac{9}{28}$$

$$= \frac{3}{2} \times \frac{8}{7} \times \frac{7}{12} + \frac{5}{7} \times \frac{28}{9}$$

$$= 1 + \frac{20}{9} = \frac{9+20}{9} = \frac{29}{9} = 3\frac{2}{9}$$

58. (b) $\left(1 - \frac{1}{n+1}\right) + \left(1 - \frac{2}{n+1}\right) + \left(1 - \frac{3}{n+1}\right)$

$$+ \dots + \left(1 - \frac{1}{n+1}\right)$$

$$= n - \left(\frac{1}{n+1} + \frac{2}{n+1} + \frac{3}{n+1} + \dots + \frac{n}{n+1}\right)$$

$$= n - \frac{1+2+3+\dots+n}{n+1}$$

$$= n - \frac{n(n+1)}{2(n+1)} = n - \frac{n}{2} = \frac{n}{2} = \frac{1}{2}n$$

59. (b) Sum of new numbers

= $na + (2 + 4 + 8 + 16 \dots \text{to } n \text{ terms})$

Now, $S = 2 + 4 + 8 + 16 + \dots \text{to } n \text{ terms}$

Here, a = first term = 2

r = common ratio = $\frac{4}{2} = 2$

It is a geometric series.

$$\therefore S = \frac{a(r^n - 1)}{r - 1} = \frac{2(2^n - 1)}{2 - 1} = 2(2^n - 1)$$

$$\therefore \text{Required average} = \frac{na + 2(2^n - 1)}{n}$$

$$= a + 2 \frac{(2^n - 1)}{n}$$

60. (d) Middle i.e. eighth number

= $8 \times 6.5 + 8 \times 8.5 - 15 \times 7$

= $52 + 68 - 105 = 120 - 105 = 15$

61. (c) $a \times 5.5 = b \times 0.65$

$$\Rightarrow \frac{a}{b} = \frac{0.65}{5.5} = \frac{65}{550} = \frac{13}{110}$$

62. (d) Successful students

$$\Rightarrow \frac{9}{11} \times 132 = 108$$

Unsuccessful students

$$\Rightarrow \frac{2}{11} \times 132 = 24$$

When 4 more students succeed, Required ratio

= $(108 + 4) : (24 - 4)$

= $112 : 20 = 28 : 5$

63. (a) Required sum

$$= \frac{24.2 \times 16}{100} + \frac{2.42 \times 10}{100} = 3.872 + 0.242 = 4.114$$

64. (c) Number of boys in the school

$$= \frac{1500 \times 56}{100} = 840$$

Number of girls = $(1500 - 840) = 660$

Monthly fee of each boy = Rs. 540

Monthly fee of each girl

$$= \text{Rs.} \left(\frac{540 \times 75}{100}\right) = \text{Rs.} 405$$

\therefore Total monthly fee of boys and girls

= Rs. $(840 \times 540 + 666 \times 405)$

= Rs. $(453600 + 267300) = \text{Rs.} 720900$

65. (d) $x = \sqrt{3} + \sqrt{2}$

$$\frac{1}{x} = \frac{1}{\sqrt{3} + \sqrt{2}}$$

$$= \frac{1}{\sqrt{3} + \sqrt{2}} \times \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} - \sqrt{2}} = \sqrt{3} - \sqrt{2}$$

$$\therefore x + \frac{1}{x} = 2\sqrt{3}$$

প্র্যাচিডর্স

$$\therefore \left(x^2 + \frac{1}{x^2}\right) = \left(x + \frac{1}{x}\right)^2 - 2$$

$$= (2\sqrt{3})^2 - 2 = 12 - 2 = 10$$

66. (c) $x + \frac{9}{x} = 6$

$$\Rightarrow x^2 - 6x + 9 = 0$$

$$\Rightarrow (x - 3)^2 = 0 \Rightarrow = 3$$

$$\therefore \left(x^2 + \frac{9}{x^2}\right) = \left(9 + \frac{9}{9}\right) = 10$$

67. (a) $x = a \sec \theta$

$$\Rightarrow \frac{x}{a} = \sec \theta$$

Again, $y = b \tan \theta$

$$\Rightarrow \frac{y}{b} = \tan \theta$$

$$\therefore \frac{x^2}{a^2} - \frac{y^2}{b^2}$$

$$= \sec^2 \theta - \tan^2 \theta = 1$$

68. (d) $\sin 17^\circ = \frac{x}{y}$

$$\sin 73^\circ = \sin(90^\circ - 17^\circ)$$

$$= \cos 17^\circ$$

$$\therefore \cos 17^\circ = \sqrt{1 - \sin^2 17^\circ}$$

$$= \sqrt{1 - \frac{x^2}{y^2}} = \sqrt{\frac{y^2 - x^2}{y^2}} = \sqrt{\frac{y^2 - x^2}{y^2}}$$

$$\therefore \sec 17^\circ = \frac{y}{\sqrt{y^2 - x^2}}$$

প্র্যাচিডর্স

$$\therefore \sec 17^\circ - \sin 73^\circ$$

$$\therefore \sec 17^\circ - \cos 17^\circ$$

$$= \frac{y}{\sqrt{y^2 - x^2}} - \frac{\sqrt{y^2 - x^2}}{y}$$

$$= \frac{y^2 - (y^2 - x^2)}{y\sqrt{y^2 - x^2}}$$

$$= \frac{y^2 - y^2 + x^2}{y\sqrt{y^2 - x^2}}$$

$$= \frac{x^2}{y\sqrt{y^2 - x^2}}$$

69. (b) $AB + BC = 12$

$$BC + CA = 14$$

$$CA + AB = 18$$

$$\therefore 2(AB + BC + CA)$$

$$= 12 + 14 + 18 = 44$$

$$\Rightarrow AB + BC + CA = 22$$

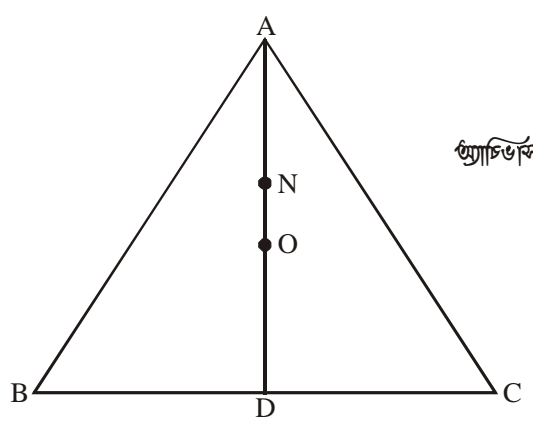
$$\therefore 2\pi r = 22$$

$$\Rightarrow 2 \times \frac{22}{7} \times r = 22$$

$$\Rightarrow r = \frac{7}{2} \text{ cm}$$

প্র্যাচিডর্স

70. (a)



প্র্যাচিডর্স

$$AD = 27 \text{ cm}$$

Centroid = O

$$\therefore OD = \frac{1}{3} AD$$

$$= \frac{1}{3} \times 27 = 9 \text{ cm}$$

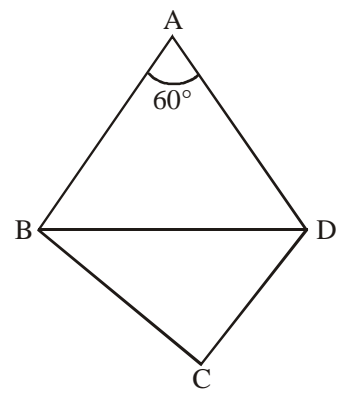
$$ND = 12 \text{ cm}$$

$$\therefore ON = DN - OD$$

$$= 12 - 9 = 3 \text{ cm}$$

প্র্যাচিডর্স

71. (b)



$$\text{Side} = \frac{40}{4} = 10 \text{ cm}$$

$$AB = AD = 10 \text{ cm}$$

$$\angle ABD = \angle ADB = 60^\circ$$

∴ Area of the rhombus

$$= 2 \times \frac{\sqrt{3}}{4} \times (AB)^2$$

$$= 2 \times \frac{\sqrt{3}}{4} \times 10 \times 10$$

$$= 50\sqrt{3} \text{ cm}^2$$

শ্রুতিভঙ্গ

72. (a) Required ratio

$$= \pi(4r)^2 : \pi(2r)^2 : \pi(r)^2$$

$$= 16 : 4 : 1$$

73. (d) $x = \sqrt[3]{2 + \sqrt{3}}$

$$\Rightarrow x^3 = 2 + \sqrt{3}$$

$$\frac{1}{x^3} = \frac{1}{2 + \sqrt{3}}$$

$$= \frac{1}{2 + \sqrt{3}} \times \frac{2 - \sqrt{3}}{2 - \sqrt{3}}$$

$$= \frac{2 - \sqrt{3}}{4 - 3} = 2 - \sqrt{3}$$

$$\therefore x^3 + \frac{1}{x^3} = 2 + \sqrt{3} + 2 - \sqrt{3} = 4$$

শ্রুতিভঙ্গ

74. (a) Expression = $\frac{4 + 3\sqrt{3}}{7 + 4\sqrt{3}}$

Rationalising the denominator,

$$= \frac{(4 + 3\sqrt{3})(7 - 4\sqrt{3})}{(7 + 4\sqrt{3})(7 - 4\sqrt{3})}$$

$$= \frac{28 - 16\sqrt{3} + 21\sqrt{3} - 12 \times 3}{49 - 48}$$

$$= 28 + 5\sqrt{3} - 36 = 5\sqrt{3} - 8$$

শ্রুতিভঙ্গ

75. (d) $x^2 + y^2 + 1 = 2x$

$$\Rightarrow x^2 + y^2 + 1 - 2x = 0$$

$$\Rightarrow x^2 - 2x + 1 + y^2 = 0$$

$$\Rightarrow (x - 1)^2 + y^2 = 0$$

$$\Rightarrow x - 1 = 0$$

$$\Rightarrow x = 1 \text{ and } y = 0$$

$$\therefore x^3 + y^5 = 1 + 0 = 1$$

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76. (b) The **Reporting Verb** of sentence is in **Past Tense**. Hence, **Reported Speech** will also be in **Past Tense**. Hence, **that she would be moving** is the right usage.

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77. (c) Here, **of one century and a half** is the right usage.

78. (a) Here, **He advised (Verb)** me is the right usage.

Advice (Noun) : an opinion or suggestion.

Advise (Verb) : to give suggestion.

79. (b) **Consistent (Adj.)** : always in the same way, or having the same opinions, standards, etc.

Here, **consistent** is the right usage

80. (c) **Convey (Verb)** agrees with **to (Prep.)**

Here, **to** is the right usage

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81. (a) **Is divided (Singular Verb) divided (Adj.)** : split by disagreements or different opinions

Here, **government** is **Singular Subject**

Here, **is divided** is the right usage.

82. (c) Here, **complete (Verb)** is the right usage.

83. (d) The sentence is in **Present Perfect Tense**.

Here, **completed (Verb)** is the right usage.

84. (d) **Inexpressible ineffable (Adj.)** : too good or beautiful to describe in words; unutterable; indescribable. **Unintelligible (Adj.)** : not clearly understood/expressed **illegible (Adj.)** : not able to read (handwriting) **inexplicable (Adj.)** : incapable of being explained/accounted for **inexpressible (Adj.)** : to strong to be put into words.

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85. (b) **Spying espionage (N.)** : the activity of secretly getting important political or military information; spying. **Hypnotism (N.)** : the practice of putting a person into an unconscious state **perception (N.)** : becoming aware of something via the senses **detente (N.)** : the easing of tensions/strained relations (between nations)

86. (b) **Indifference apathy (N.)** : lack of interest, enthusiasm or concern; indifference; impassivity.

87. (c) **Gift of the gab** : the ability to speak easily | My brother really has the **gift of gab**. He can convince anyone of anything. The best option is **talent for speaking**.

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88. (c) **Cope with** : to deal successfully with something difficult; manage. I don't think I can **cope with** any more trouble. The best option is **handle**

89. (a) **Cool as a cucumber** : very calm and controlled, especially in a difficult situation. The politician kept **cool as a cucumber** throughout the interview with the aggressive journalist.

The best option is **not nervous or emotional**.

90. (c) **A close shave** : a narrow escape. The car passed so close to us; it was really a **close shave**. The best option is **narrow escape from danger**.
91. (c) **Relevant (Adjective)** = closely connected with the subject.
Extraneous (Adjective) = not directly connected with the particular situation you are in; irrelevant. শ্রীচর্চিকা
Look at the sentences :
 We do not want any extraneous information on the page. These comments are not directly relevant to this inquiry.
92. (c) **Powerless (Adjective)** = helpless; without power to control. শ্রীচর্চিকা
Invincible (Adjective) = too strong to be defeated or changed; unconquerable impregnable.
Look at the sentences :
 The team seemed invincible. When the enemy attacked, we were completely powerless against them.
93. (d) **Animated (Adjective)** = full of life or excitement; lively.
Quiescent (Adjective) = quiet; not active; not developing; dormant.

Look at the sentence :

The political situation was now relatively quiescent. There was an extremely animated discussion on the subject. শ্রীচর্চিকা

94. (b) **Credulous credulous (Adj.)** : too ready to believe things and therefore easy to trick **credible (Adj.)** : that can be believed/trusted **sensitive (Adj.)** : aware of and able to understand other people and their feelings **sensible (Adj.)** : able to make good judgements.
95. (a) **Samaritan samaritan (N.)** : a person who gives help and sympathy to the people who need it **altruist (N.)** : someone who makes charitable donations intended to increase human wellbeing **philanthropist (N.)** : a person who helps the poor and the needy, especially with money **beneficiary (N.)** : a person who gains as a result of something.
96. (c) comfortable (Adj.)
97. (c) sanitary (Adj.)
98. (b) heart's (N.) শ্রীচর্চিকা
99. (b) amenities (N.)
100. (b) modern (Adj.)