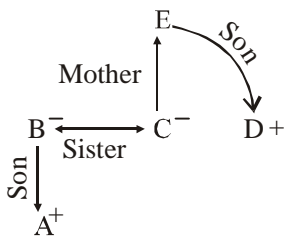# SSC CGL (Tier-I) Exam. Practice Set

Answers with Explanation

1. (c) Poet writes poem. Similarly, Dramatist writes play. অ্যাচিভার্স |

2. (d) Here Worker – Tool relationship has been shown. The tool of mechanic is spanner. Similarly, the tool of carpenter is saw.

3. (c) Dog is a canine animal. Similarly, horse is a hoofed animal.

4. (b) 'Life' is opposite in meaning to 'Death'. Similarly, 'Beginning' is opposite in meaning to 'End'.

5. (d) Here, the relation of opposite meaning has been shown. 'Love' is opposite in meaning to Hate. Similarly, Friend is opposite in meaning to Enemy.

6. (b) D is the father of C. অ্যাচিভার্স |

   C is mother of A and B.

   Therefore, B is granddaughter of D.

7. (a)

   Obviously, D is A's mother B (and her sister C's) brother. i.e, D is maternal uncle of A.

8. (b) B is sister of F.

   Therefore, B is sister-in-law of M.

9. (a)

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

   $36 \times 12 + 4 \div 6 + 2 - 3 = ?$

   $\Rightarrow ? = 36 - 12 \div 4 + 6 \div 2 \times 3$

   $\Rightarrow ? = 36 - 3 + 9$

   $\Rightarrow ? = 45 - 3 = \boxed{42}$

10. (c)

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

    অ্যাচিভার্স

    $16 \div 64 - 8 \times 4 + 2 = ?$

    $\Rightarrow ? = 16 + 64 \div 8 - 4 \times 2$

    $\Rightarrow ? = 16 + 8 - 8 = 16$

11. (b)

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

    অ্যাচিভার্স

    Option (a)

    $18 \div 3 \times 2 + 8 - 6 = 10$

    $\Rightarrow 18 - 3 + 2 \times 8 \div 6 = 10$

    $\Rightarrow 18 - 3 + 2 \times \dfrac{8}{6} = 10$

    $\Rightarrow 18 - 3 + \dfrac{8}{3} \neq 10$

    Option (b)

    $18 - 3 + 2 \times 8 \div 6 = 14$

    $\Rightarrow 18 \div 3 \times 2 + 8 - 6 = 14$

    $\Rightarrow 6 \times 2 + 8 - 6 = 14$ অ্যাচিভার্স

    $\Rightarrow 12 + 8 - 6 = 14$

    Option (c)

    $18 - 3 \div 2 \times 8 + 6 = 17$

    $\Rightarrow 18 \div 3 - 2 + 8 \times 6 = 17$

    $\Rightarrow 6 - 2 + 48 \neq 17$

    Option (d)

    $18 \times 3 + 2 \div 8 - 6 = 15$

    $\Rightarrow 18 + 3 \times 2 - 8 \div 6 = 15$

    $\Rightarrow 18 + 6 - \dfrac{8}{6} \neq 15$

12. (c) 256 is a multiple of 16. Similarly, 104 is a multiple of 13.

    $16 \times 16 = 256$ অ্যাচিভার্স

    $13 \times 8 = 104$

13. (a) $19 \times 30 - 2 = 568$

    Similarly,

    $25 \times 30 - 2 = 748$

14. (c) $(5)^3 - 1 \Rightarrow 125 - 1 = 124$

    Similarly,

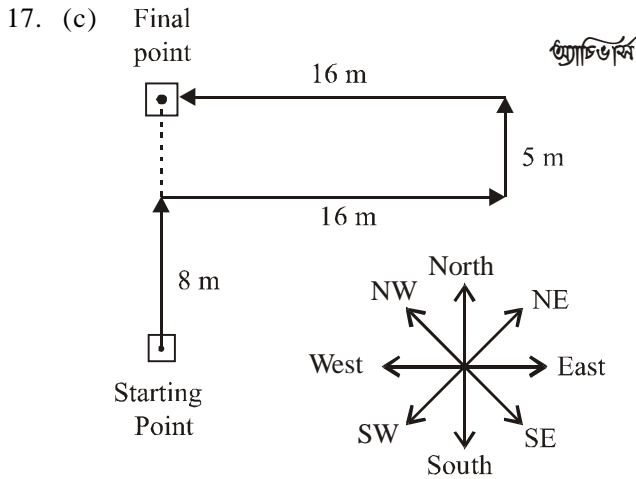 $(7)^3 - 1 \Rightarrow 343 - 1 = 342$

15. (d) The letter 'T' is not present in the keyword and hence the words SWEET and REPEAT cannot be formed from the letters of the word NEWSPAPER. Similarly, the letters 'O' and 'U' are not present in the keyword and hence the word SOUR cannot be formed.

16. (a)

অ্যাচিভার্স

17. (c)

18. (a) 4th =Saturday

Other Saturdays ⇒ 11, 28, 25

Therefore, 27th ⇒ Monday.

19. (b) The actual time would be 8:40

20. (a) The given number series is based on the following pattern :

$6 \times 1 + 1 = 7$

$7 \times 2 + 1 = 15$
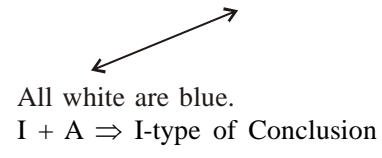
$15 \times 3 + 1 = 46$

$46 \times 4 + 1 = 185$

$185 \times 5 + 1 = \boxed{926}$

21. (a) The given number series is based on the following pattern :

$(1)^3 - 1 = 0$

$(2)^3 - 2 = 6$

$(3)^3 - 3 = 24$

$(4)^3 - 4 = \boxed{60}$

$(5)^3 - 5 = 120$

$(6)^3 - 6 = 210$

22. (a)

L	O	S	E	G	A	I	N
↓	↓	↓	↓	↓	↓	↓	↓
1	3	5	7	2	4	6	8

Therefore,

8	4	6	1	5
↓	↓	↓	↓	↓
N	A	I	L	S

23. (b) First Premise is Particular Affirmative (I-type)

Second Premise is Universal Affirmative (A-type).

Some shoes are white.

All white are blue.

I + A ⇒ I-type of Conclusion

"Some shoes are blue."

This is Conclusion II.

24. (b) Take the sum of all the four numbers located at the four corners to get the central number.

Ist arrangement :

$3 + 6 + 4 + 7 = 20$

2nd arrangement :

$5 + 8 + 6 + 4 = 23$

3rd arrangement :

$11 + 7 + 9 + 9 = \boxed{36}$

25. (c) The product of all the four numbers located at the periphery is equal to the central number.

First Arrangement :

$1 \times 4 \times 3 \times 2 = 24$

Second Arrangement :

$2 \times 5 \times 4 \times 3 = 120$

Third Arrangement

$1 \times 6 \times 2 \times 4 = \boxed{48}$

26. (a) The Junagadh rock inscription, found in Junagadh, was carved under the orders of King Rudradaman, who had obtained the title of Mahakshatrapa. He was the grandson of the famous Mahakshatrapa Chastana and was a Saka ruler from the Western Kshatrapa dynasty. The inscription is a chronicle about the rebuilding of a dam named Urjayat around the lake Sudarshana. The dam lay in the region of Saurashtra and the closest town appears to have been a place called Girinagar. It was fed by the rivers Suvarnasikata and Palasini, along with other smaller streams. The dam was originally built by Vaishya Pushyagupta who was the governor of the region under Chandragupta Maurya. Conduits from the dam were later built under orders of his grandson; Emperor Asoka.

27. (d) Raja Ravi Varma was an Indian painter from the princely state of Travancore who achieved recognition for his depiction of scenes from the epics of the Mahabharata and Ramayana. His paintings are considered to be among the best examples of the fusion of Indian traditions with the techniques of European academic art. During his lifetime Varma is most remembered for his paintings of sari-clad women portrayed as shapely and graceful.

28. (a) The Indian Constitution has borrowed some features from the U.S Constitution. Those features are: fundamental rights, independence of judiciary, judicial review, impeachment of

the president, removal of Supreme Court and High Court judges and post of Vice-President.

29. (c) Venus is often referred to as our sister planet because of similarities in size, mass, density and volume. It is believed that both planets share a common origin forming at the same time out of a condensing nebulosity around 4.5 billion years ago. অ্যাচিভার্স

30. (b) Indian Army inaugurated the First Green Solar Energy harnessing plant of 56 KVA in North Sikkim, at an altitude of 16000 ft. The project, which uses Vanadium based battery technology, was completed in collaboration with IIT Mumbai. India has fixed a target of producing 175 GW of renewable energy by 2022.

31. (b) Seller's market is a market which has more buyers than sellers. High prices result from this excess of demand over supply. The opposite of the seller's market is the buyer's market, where supply greatly exceeds demand.

32. (c) Chandragupta II The Great was one of the most powerful emperors of the Gupta empire in northern India. His rule spanned c. 380–413/415 CE, during which the Gupta Empire achieved its zenith, art, architecture, and sculpture flourished, and the cultural development of ancient India reached its climax. Fa Hsien was the first of three great Chinese pilgrims who visited India from the fifth to the seventh centuries CE, in search of knowledge, manuscripts and relics. Faxian arrived during the reign of Chandragupta II and gave a general description of North India at that time. Among the other things, he reported about the absence of capital punishment, the lack of a polltax and land tax. Most citizens did not consume onions, garlic, meat, and wine. অ্যাচিভার্স

33. (d) The Constituent Assembly of India was elected to write the Constitution of India. The Constituent Assembly was set up while India was still under British rule, following negotiations between Indian leaders and members of the 1946 Cabinet Mission to India from the United Kingdom. অ্যাচিভার্স

34. (a) Dolomite a sedimentary rock resembling limestone but consisting principally of the mineral dolomite. It is an important source of magnesium and its compounds, and is used as a building material and refractory. Dolomite is used as an ornamental stone, a concrete aggregate, a source of magnesium oxide and in the Pidgeon process for the production of magnesium. It is an important petroleum reservoir rock, and serves as the host rock for large stratabound Mississippi Valley-Type (MVT) ore deposits of base metals such as lead, zinc, and copper. Where calcite limestone is uncommon or too costly, dolomite is sometimes used in its place as a flux for the smelting of iron and steel. Large quantities of processed dolomite are used in the production of float glass. অ্যাচিভার্স

35. (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. অ্যাচিভার্স

36. (c) The Global Forest Goals Report 2021 was prepared by the Department of Economic and Social Affairs of the United Nations. The report provides an overview of progress towards achieving the six Global Forest Goals and their 26 associated targets as mentioned in the United Nations Strategic Plan for Forests 2030. The first Global Forest Goal provides for increasing forest area by three per cent by 2030. অ্যাচিভার্স

37. (c) An LC circuit, also called a resonant circuit, tank circuit, or tuned circuit, consists of an inductor, represented by the letter L, and a capacitor, represented by the letter C. When connected together, they can act as an electrical resonator, an electrical analogue of a tuning fork, storing energy oscillating at the circuit's resonant frequency. When connected together, they can act as an electrical resonator; an electrical analogue of a tuning fork, storing energy oscillating at the circuit's resonant frequency. An LC circuit is an idealized model since it assumes there is no dissipation of energy due to resistance. অ্যাচিভার্স

38. (b) The right to property, also known as the right to protection of property, is a human right and is understood to establish an entitlement to private property. The Constitution originally provided for the right to property under

Articles 19 and 31. Article 19 guaranteed to all citizens the right to acquire, hold and dispose of property. Article 31 provided that "no person shall be deprived of his property save by authority of law." It also provided that compensation would be paid to a person whose property has been taken for public purposes. The provisions relating to the right to property were changed a number of times. The Forty-Forth Amendment of 1978 deleted the right to property from the list of fundamental rights   অ্যাচিভার্স

39. (a) The first significant intrusion of Islam into India was led by Mahmud of Ghazni. In 1017, Mahmud of Ghazni took Rey. Most scholars, including al-Biruni, were taken to Ghazna, the capital of the Ghaznavid dynasty. Biruni was made court astrologer and accompanied Mahmud on his invasions into India, living there for a few years. Biruni became acquainted with all things related to India. He may even have learned some Sanskrit. During this time he wrote the Kitab ta'rikh al-Hind, finishing it around 1030.   অ্যাচিভার্স

40. (a) Indian Standard Time (IST) is the time observed throughout India and Sri Lanka, with a time offset of UTC+05:30. It is 5 hours 30 minutes ahead of Greenwich Mean Time. India does not operate Daylight-Saving Time.

41. (a) Bio gas is a clean unpolluted and cheap source of energy in rural areas. It consists of 55-70% methane which is inflammable. Bio gas is produced from cattle dung in a bio gas plant commonly known as gobar gas plant through a process called digestion. It helps in reducing the deforestation as it arrests for cutting of trees for firewood. It also helps in maintaining ecological balance, in rural sanitation and it needs Lower capital cost and almost cost free maintenance.   অ্যাচিভার্স

42. (d) The concept of opportunity cost is based on scarcity and choice. The opportunity cost of a commodity is the next best alternative commodity sacrificed. In other words opportunity cost of a commodity is for going the opportunity to produce alternative goods and services. If one commodity is produced another commodity is sacrificed. So opportunity cost of producing a good is equal to the cost of not producing another commodity.   অ্যাচিভার্স

43. (c) Private sector lender Axis Bank on 29th April announced its board has approved the re-appointment of Amitabh Chaudhry as its Managing Director and CEO for three years with effect from January 1, 2022.   অ্যাচিভার্স

44. (b) The fibre least prone to catch fire is cotton. Fabrics with more of the fiber surface area exposed to air have more oxygen available to support burning and therefore burn more easily. Thus, thin, gauzy fabrics, lace, or brushed fabrics can be very flammable. Fabrics with a napped or brushed surface of fine fibers can catch fire easily because of the greater amount of fiber surface exposed to oxygen in the air.   অ্যাচিভার্স

45. (b) Isa Muhammad Effendi or Ustad Isa was a Persian architect from Iran he and his colleague Ismail Effendi entered the service of the Mughal Emperor Shah Jahan after the Ottoman Sultan Murad IV and the Mughals exchanged ambassadors. Isa Muhammad Effendi is often described as the chief architect of the Taj Mahal. Recent research suggests the Persian architect, Ustad Ahmad Lahauri was the most likely candidate as the chief architect of the Taj, an assertion based on a claim made in writings by Lahauri's son Lutfullah Muhandis.

46. (a) Sun Temple is a 13th-century AD temple situated at Konark in Odisha. It was built by king Narasimhadeva I of Eastern Ganga Dynasty in 1255 AD. The temple complex is in the shape of a gigantic chariot, having elaborately carved stone wheels, pillars and walls. The temple is a UNESCO World Heritage Site.   অ্যাচিভার্স

47. (a) In 1883, Koch worked with a French research team in Alexandria, Egypt, studying cholera. Koch identified the vibrio bacterium that caused cholera.

48. (b) North Atlantic Treaty Organization (NATO) has launched joint military exercises "DEFENDER-Europe 21" in Albania with thousands of military forces from the United States and other countries in the first such large-scale drills since World War II in the Western Balkans.   অ্যাচিভার্স

49. (a) The Deccan is delineated by the Western Ghats on the west, the Nilgiri Hills on the south, the Eastern Ghats on the east, and the Aravalli and Chhota Nagpur hills on the north. The

Chhota Nagpur Plateau is a plateau in eastern India, to the northeast of the Deccan plateau which covers much of Jharkhand state as well as adjacent parts of Orissa, West Bengal, Bihar and Chhattisgarh.　অ্যাচিভার্স

50. (a) 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.

51. (a) A number is divisible by 99 if it is divisible by 9 and 11 both.　অ্যাচিভার্স

Sum of the digits of the number 57717
= 5 + 7 + 7 + 1 + 7 = 27 which is divisible by 9.

Difference between the sum of digits at odd and even places = (7 + 7 + 5) – (7 + 1)
= 19 – 8 = 11 which is a multiple of 11.
∴ Required number = 57717

52. (a) Let the total number of students in a class be x
∴ According to question,

Number of girls $= \dfrac{3}{5}x$

and number of boys $= x - \dfrac{3x}{5} = \dfrac{2}{5}x$

Number of girls who are absent

$= \dfrac{3}{5} \times \dfrac{2}{9}x = \dfrac{6x}{45}$　অ্যাচিভার্স

and number of boys who are absent

$= \dfrac{2}{5} \times \dfrac{1}{4} \times x = \dfrac{x}{10}$

∴ Total number of students who are present

$= x - \dfrac{6x}{45} - \dfrac{x}{10}$

$= \dfrac{(90 - 12 - 9)x}{90}$

$= \dfrac{69x}{90} = \dfrac{23x}{30}$

Therefore, the $\dfrac{23}{30}$ part of the students are present in the class.

53. (c) The decimal equivalent of

$\dfrac{3}{5} = 0.6, \dfrac{7}{9} = 0.777......$　অ্যাচিভার্স

$\dfrac{11}{13} = 0.846$

Obviously, $0.846 > 0.\dot{7} > 0.6$

∴ The required decreasing order $= \dfrac{11}{13}, \dfrac{7}{9}, \dfrac{3}{5}$

54. (d) Required number = (LCM of 15, 20, 36 and 48) + 3

$\begin{array}{r|l}
2 & 15,\ 20,\ 36,\ 48 \\
\hline
2 & 15,\ 10,\ 18,\ 24 \\
\hline
3 & 15,\ \ 5,\ \ 9,\ 12 \\
\hline
5 & \ 5,\ \ 5,\ \ 3,\ \ 4 \\
\hline
& \ 1,\ \ 1,\ \ 3,\ \ 4 \\
\end{array}$　অ্যাচিভার্স

∴ LCM = 2 × 2 × 3 × 5 × 3 × 4 = 720
∴ Required number = 720 + 3 = 723

55. (c) If the numbers be 2x and 3x, then LCM = 6x
∴ 6x = 48 ⇒ x = 8
∴ Required sum = 2x + 3x = 5x
= 5 × 8 = 40

56. (a) $= \dfrac{16}{3} \div \dfrac{11}{9} \times \dfrac{1}{4}\left(10 + \dfrac{3}{\dfrac{5-1}{5}}\right)$　অ্যাচিভার্স

$= \dfrac{16}{3} \times \dfrac{9}{11} \times \dfrac{1}{4}\left(10 + \dfrac{15}{4}\right)$

$= \dfrac{16}{3} \times \dfrac{9}{11} \times \dfrac{1}{4}\left(\dfrac{40 + 15}{4}\right)$

$= \dfrac{16}{3} \times \dfrac{9}{11} \times \dfrac{1}{4} \times \dfrac{55}{4} = 15$

57. (a) Expression

$= \dfrac{4}{15}$ of $\dfrac{5}{8} \times 6 + 15 - 10$

= 1 + 15 – 10 = 16 – 10 = 6

58. (b) $\sqrt{\dfrac{0.49}{0.25}} + \sqrt{\dfrac{0.81}{0.36}}$　অ্যাচিভার্স

$= \dfrac{0.7}{0.5} + \dfrac{0.9}{0.6} = \dfrac{42 + 45}{30} = \dfrac{87}{30}$

$= \dfrac{29}{10} = 2\dfrac{9}{10}$

59. (c) $1 + 2 + 3 + ... + n = \dfrac{n(n+1)}{2}$

Average of these numbers $= \dfrac{n+1}{2}$

∴ Required average $= \dfrac{100 + 1}{2} = 50.5$

60. (b) Five consecutive integers are :
x, x + 1, x + 2, x + 3 and x + 4　অ্যাচিভার্স
∴ Their average

$$= \frac{x + x + 1 + x + 2 + x + 3 + x + 4}{5}$$

$$= \frac{5x + 10}{5} = x + 2$$

New average

$$= \frac{(5x + 10) + x + 5 + x + 6}{7}$$

$$= \frac{7x + 21}{7} = x + 3$$

Difference = $x + 3 - x - 2 = 1$

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. (b) A : B = 5 : 4 = 45 : 36

B : C = 9 : 10 = 36 : 40

$\therefore$ A : B : C = 45 : 36 : 40

Sum of the terms of ratio

= 45 + 36 + 40 = 121

$\therefore$ C's share = ₹ $\left(\frac{40}{121} \times 2420 \right)$ = ₹ 800

63. (c) Gain per cent

$$= \frac{15 - 12}{12} \times 100 = 25\%$$

64. (d) C.P. of article = ₹ 100 (let).

$\therefore$ S.P. = ₹ 125

New S.P. = ₹ 250

$\therefore$ Profit percent = $\frac{250 - 100}{100} \times 100 = 150\%$

65. (b) $a = \frac{\sqrt{5} + 1}{\sqrt{5} - 1} = \frac{\sqrt{5} + 1}{\sqrt{5} - 1} \times \frac{\sqrt{5} + 1}{\sqrt{5} + 1}$

$$= \frac{\left(\sqrt{5} + 1 \right)^2}{5 - 1} = \frac{5 + 1 + 2\sqrt{5}}{4}$$

$$= \frac{3 + \sqrt{5}}{2}$$

$$\therefore b = \frac{\sqrt{5} - 1}{2} = \frac{3 - \sqrt{5}}{2}$$

$\therefore$ a + b

$$= \frac{3 + \sqrt{5}}{2} + \frac{3 - \sqrt{5}}{2} = 3$$

and ab = $\frac{\sqrt{5} + 1}{\sqrt{5} - 1} \times \frac{\sqrt{5} - 1}{\sqrt{5} + 1} = 1$

$\therefore$ Expression

$$= \frac{a^2 + ab + b^2}{a^2 - ab + b^2} = \frac{(a + b)^2 - ab}{(a + b)^2 - 3ab}$$

$$= \frac{9 - 1}{9 - 3} = \frac{8}{6} = \frac{4}{3}$$

66. (a) Check through option

When $x = (a + b + c)^2$,

$$\frac{x - a^2}{b + c} + \frac{x - b^2}{c + a} + \frac{x - c^2}{a + b}$$

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

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

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

$$\frac{(a + 2b + c)(c + a)}{c + a} + \frac{(a + b + 2c)(a + b)}{a + b}$$

= 2a + b + c + a + 2b + c + a + b + 2c

= 4a + 4b + 4c = 4 (a + b + c) = RHS.

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

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

$$\Rightarrow \frac{x - a + b}{a + b} = \frac{x - a + b}{a - b}$$

$$\Rightarrow (x - a + b) \left(\frac{1}{a + b} - \frac{1}{a - b} \right) = 0$$

$$\Rightarrow x - a + b = 0$$

$$\Rightarrow x = a - b$$

68. (a) $\sin 21º = \frac{x}{y}$

$$\cos 21º = \sqrt{1 - \sin^2 21º}$$

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

$$\therefore \sec 21º = \frac{y}{\sqrt{y^2 - x^2}}$$

$\therefore$ sec 21° – sin 69°

= sec 21° – sin (90° – 21°)

= sec 21° – cos 21°

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

$$= \frac{y^2 - (y^2 - x^2)}{y\sqrt{y^2 - x^2}} = \frac{x^2}{y\sqrt{y^2 - x^2}}$$ অ্যাচিভার্স
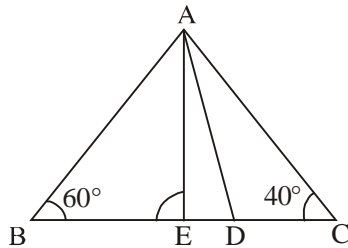
69. (d) Expression

$$= \sqrt{\frac{1 + \sin\theta}{1 - \sin\theta}} + \sqrt{\frac{1 - \sin\theta}{1 + \sin\theta}}$$

$$= \sqrt{\frac{(1 + \sin\theta)(1 + \sin\theta)}{(1 - \sin\theta)(1 + \sin\theta)}} + \sqrt{\frac{(1 - \sin\theta)(1 - \sin\theta)}{(1 + \sin\theta)(1 - \sin\theta)}}$$

$$= \sqrt{\frac{(1 + \sin\theta)^2}{1 - \sin^2\theta}} + \sqrt{\frac{(1 - \sin\theta)^2}{1 - \sin^2\theta}}$$

$$= \sqrt{\frac{(1 + \sin\theta)^2}{\cos^2\theta}} + \sqrt{\frac{(1 - \sin\theta)^2}{\cos^2\theta}}$$ অ্যাচিভার্স

$$= \frac{1 + \sin\theta}{\cos\theta} + \frac{1 - \sin\theta}{\cos\theta}$$

$$= \frac{1 + \sin\theta + 1 - \sin\theta}{\cos\theta} = \frac{2}{\cos\theta} = 2\sec\theta$$

70. (c)

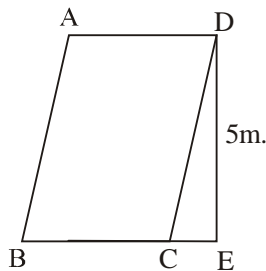∠ BAC = 180° − 60° − 40° = 80°
∠ BAD = ∠ DAC = 40°
In Δ ABE,
∠ BAE = 90° − 60° = 30°
∠ EAD = 40° − 30° = 10°

71. (b) অ্যাচিভার্স

Perimeter of rhombus = 4 × side
∴ 4 × side = 40

$$\Rightarrow \text{Side} = \frac{40}{4} = 10\,\text{m}.$$ অ্যাচিভার্স

As, rhombus is a parallelogram of equal sides, its area = base × height = 10 × 5 = 50 m².

72. (b) Let the radius of circle be r units and the side of square be x units, then
x² = πr² অ্যাচিভার্স

$$\Rightarrow \frac{x^2}{r^2} = \frac{\pi}{1} \Rightarrow \frac{x}{r} = \frac{\sqrt\pi}{1} \text{ or } \sqrt\pi : 1$$

73. (d) Part of tank filled in first two hours

$$= \frac{1}{4} + \frac{1}{6} = \frac{3+2}{12} = \frac{5}{12}$$

Part of tank filled in first 4 hours $= \frac{10}{12} = \frac{5}{6}$

Remaining part $= 1 - \frac{5}{6} = \frac{1}{6}$ অ্যাচিভার্স

This remaining part willl be filled by pipe A.

Time taken by pipe A $= \frac{1}{6} \times 4 = \frac{2}{3}$ hour

∴ Total time $= 4 + \frac{2}{3} = 4\frac{2}{3}$ hours

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

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

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

Again, $b + \frac{1}{c} = 1$

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

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

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

$$= \frac{1}{1-b} - \frac{b}{1-b} = \frac{1-b}{1-b} = 1$$

75. (b) $x^2 + \frac{1}{x^2} = 66$

$$\Rightarrow \left(x - \frac{1}{x}\right)^2 + 2 = 66$$ অ্যাচিভার্স

$$\Rightarrow \left(x - \frac{1}{x}\right)^2 = 66 - 2 = 64$$

$$\Rightarrow x - \frac{1}{x} = \pm 8$$

অ্যাচিভার্স

$$\therefore \text{Expression} = \frac{x^2 - 1 + 2x}{x}$$

$$= \frac{x^2}{x} - \frac{1}{x} + 2 = x - \frac{1}{x} + 2$$

Putting the value of $x - \dfrac{1}{x}$

$= 8 + 2$ or $- 8 + 2 = 10$ or $- 6$

76. (c) **Each of the students** is a **Singular Subject**. Hence, **Singular Verb** i.e. **has to bring his own materials** is the right usage   অ্যাচিভার্স

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

78. (a) The sentence shows **Past Time**. Hence, **Past Simple** i.e. **The poor man saved the money** is the right usage.

79. (a) **wreck (Verb) :** to damage; to destroy Here, **wrecked** is the right usage.

80. (b) **discrepancy (Noun) :** difference between two or more things that should be the same Here, **discrepancy** is the right usage.

81. (a) **get down (Phr. V.) :** to begin to do something; to give serious attention to something Here, **get down** is the right usage.

82. (b) **Inf. without to** will be used.   অ্যাচিভার্স Here, **swim** is the right usage.

83. (b) **Inf. without to** will be used. Here, **perform** is the right usage.

84. (a) **occasional** **sporadic (Adj.) :** happening only occasionally or at intervals that are not regular.

85. (b) **authority**   অ্যাচিভার্স **regime (N.) :** a system of government; authority

86. (b) **convey** **connote (V.) :** to suggest a feeling, an idea etc as well as the main meaning.

87. (c) **Read between the lines :** to look for or discover a meaning in something that is not openly stated.
   - **Reading between the lines**, I think she needs money.
   The best option is **know what the writer thinks**

88. (b) **show white flag :** a sign that you accept defeat and wish to stop fighting

- The soldiers laid down their guns and walked towards the enemy camp, **carrying a white flag.**   অ্যাচিভার্স
   The best option is **surrendered**

89. (a) **Bring the house down :** to make everyone laugh or cheer
   - The clown sang a duet with the talking horse, which **brought the house down.**
   The best option is **made the audience applaud enthusiastically.**   অ্যাচিভার্স

90. (a) **alpha and omega :** the first and the last ; the most important part
   - He was forced to learn the **alpha and omega** of corporate law in order to talk even to the lawyers.
   The best option is **beginning and end.**

91. (b) **steady (Adjective) :** not shaking or likely to fall down.
   tremulous (Adjective) : shaking slightly because you are nervous; trembling.

92. (c) Genuine   অ্যাচিভার্স
   fake (Adjective) : not genuine, counterfeit.

93. (b) **joyous (Adjective) :** a feeling of great happiness; very happy; delighted.
   disconsolate (Adjective) : very unhappy and disappointed; dejected.

94. (c) **octagon**
   octagon (N.) : a flat shape with eight straight sides and eight angles
   polygon (N.) : a flat shape with at least three straight sides and three angles, and usually five or more
   hexagon (N.) : a flat shape with six straight sides and six angles
   pentagon (N.) : a flat shape with five straight sides and five angles   অ্যাচিভার্স

95. (c) **extravagant**
   extravagant (Adj.) : spending a lot more money than is necessary
   extempore (Adj.) : spoken without any previous preparation
   thrifty (Adj.) : careful about spending money and not wasting things

96. (b) **struggling (Verb)**

97. (d) **some (Det.)**

98. (a) **behind (Prep.)**

99. (c) **seemed (Verb)**   অ্যাচিভার্স

100. (a) **joyously (Adv.)**

———★★★———