—: SSC HS Level (Tier - 1) Exam. Practice Set :—

Answers with Explanation

1. (b) Sepal is leaf like part which supports the petals of a flower. Similarly, tyres of a bicycle are the outer most parts on which bicycle rests.

2. (c) Actors take part in play. Similarly, musicians perform concert. Concert is a musical entertainment given in public by one or more musicians. Play is a work written to be performed by actors. অ্যাচিভার্স

3. (d) Maharashtra is a state of India. Similarly, Texas is a constituent of USA.

4. (b) $(7)^2 - 1 = 48$
$7 + 4 = 11$
$(11)^2 + 1 = 122$
Therefore, $(13)^2 - 1 = 168$
$13 + 4 = 17$
$(17)^2 + 1 = \boxed{290}$ অ্যাচিভার্স

5. (b) $(19 \times 2) - 1 = 37$
Similarly,
$(26 \times 2) - 1 = 51$

6. (b) Husband of Suresh's mother means father of Suresh.
Mother of Suresh's father means grandmother of Suresh.
The son of grandmother means either father or uncle.
Therefore, Suresh is the son of that man.
[Note : Nephew is not mentioned in the options]

7. (a) Wife of Vinod's father means the mother of Vinod. অ্যাচিভার্স
Only brother of Vinod's mother means maternal uncle of Vinod.
Therefore, Vinod is cousin of Vishal.

8. (c)

E	X	P	A	N	S	I	O	N
↓	↓	↓	↓	↓	↓	↓	↓	↓
2	4	8	5	3	7	6	9	3

Therefore,

P	E	N	S	I	O	N
↓	↓	↓	↓	↓	↓	↓
8	2	3	7	6	9	3

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9. (d)

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

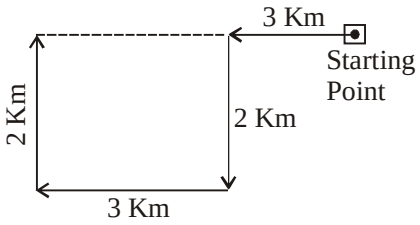
$25 \times 5 \div 30 + 8 - 2 = ?$
$? = 25 \div 5 + 30 - 8 \times 2$
$\Rightarrow ? = 5 + 30 - 16 = 19$

10. (b)

$A \rightarrow \times$	$D \rightarrow +$
$G \rightarrow -$	

Given expression অ্যাচিভার্স
7 A 4 D 4 A 3 G 2
After conversion
$? = 7 \times 4 + 4 \times 3 - 2$
or, $? = 28 + 12 - 2$
or, $? = 40 - 2 = 38$

11. (b)



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Ramesh is towards West from the starting point.

12. (b)

A	P	P	R	E	C	I	A	T	I	O	N
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
1	7	7	8	3	2	4	1	9	4	6	5

Therefore,

R	E	C	E	P	T	I	O	N
↓	↓	↓	↓	↓	↓	↓	↓	↓
8	3	2	3	7	9	4	6	5

13. (b) Number of Days in

January	$\Rightarrow$	$31 - 25 = 6$
February	$\Rightarrow$	28 (2006 is not a leap year)
March	$\Rightarrow$	31
April	$\Rightarrow$	30
May	$\Rightarrow$	31
June	$\Rightarrow$	30
July	$\Rightarrow$	31
August	$\Rightarrow$	31
September	$\Rightarrow$	23
Total	$\Rightarrow$	241 days

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

15 (a)

1	4		3					2	5	6	7
E	N	V	I	R	O	N		M	E	N	T

16. (d) There is no 'R' letter in the given word. Therefore, the word INTEGER cannot be formed. There is no 'V' letter in the given

word. Therefore, the word INTERVAL cannot be formed. There is no 'D' letter in the given word. Therefore, the word LEGEND cannot be formed.

17. (b) Suppose the present age of son = x years
The present age of father = y years
$x + y = 70$ ...(i)
According to question,
$2(x + 10) = y + 10$
$\Rightarrow 2x + 20 = y + 10$
$\Rightarrow 2x - y = -10$ ....(ii)
From equations (i) and (ii)
$3x = 70 - 10 = 60$
$x = 20$
$\therefore y = 70 - 20 = 50$

18. (d) Suppose the present age of younger daughter is x years.
$\therefore$ Present age of the elder daughter
$= x + 5$ years
Present age of the father
$= 3(x + 5)$ years.
According to the question,
5 years before,
$8(x - 5) = (3x + 15) - 5$
or, $8x - 40 = 3x + 10$
or, $8x - 3x = 10 + 40$
$\therefore x = \frac{50}{5} = 10$ years
Present age of father $= 3(x + 5)$
$= 3 \times 10 + 15 = 45$ years

19. (b) Age of Govind = 48 years
Age of Govind's son at present
$= \frac{48}{2} = 24$ years
7 years ago the age of Govind's son was
$= 24 - 7 = 17$ years

20. (b) $8 \times 3 = 24$
$24 \div 2 = 12$
$12 \times 3 = \boxed{36}$
$36 \div 2 = 18$
$18 \times 3 = 54$

21. (a) $68 + 4 = 72$
$72 - 7 = 65$
$65 + 4 = 69$
$69 - 7 = 62$
$62 + 4 = 66$
$66 - 7 = \boxed{59}$

22. (c)

≡	>	×	^ v	□
↓	↓	↓	↓	↓
7	9	3	8	2

23. (c) Both the Premises are Universal Affirmative (A-type).
All cupboards are watches.

All watches are costly.
A + A $\Rightarrow$ A-type of Conclusion
"All cupboards are costly."
This is Conclusion I.
Conclusion II is converse of it.

24. (d) **First Column**
$5 \times 4 \times 3 = 60$
Second Column
$6 \times 5 \times 4 = 120$
Third Column
$7 \times ? \times 5 = 140$
or, $? = \frac{140}{35} = 4$

25. (a) 408 (169) 395
$408 - \sqrt{169} = 408 - 13 = 395$
Therefore,
$129 - \sqrt{x} = 122$
or, $\sqrt{x} = 129 - 122 = 7$
$\therefore x = (7)^2 = 49$

26. (a) Sri Gupta (240–280) was a pre-imperial Gupta king in northern India and start of the Gupta dynasty. The first evidence of Sri Gupta comes from the writings of I-tsing around 690 CE who describes that the Poona copper inscription of Prabhavati Gupta, a daughter of Chandra Gupta, describes "Maharaja Sri-Gupta" as the founder of the Gupta dynasty.

27. (b) Garba is an Indian form of dance that originated in the Gujarat region. The name is derived from the Sanskrit term Garbha ("womb") and Deep ("a small earthenware lamp"). Many traditional garbas are performed around a central lit lamp or picture/statues of different avatars of Goddess Shakti. The circular and spiral figures of Garba have similarities to other spiritual dances, such as those of Sufi culture.

28. (b) The Indian constitution which envisages parliamentary form of government is federal in structure with unitary features. Thus, it is quasi-federal.

29. (c) Metamorphic rocks are rocks that have "morphed" into another kind of rock. These rocks were once igneous or sedimentary rocks. How do sedimentary and igneous rocks change?

The rocks are under tons and tons of pressure, which fosters heat build-up, and this causes them to change. If you exam metamorphic rock samples closely, you'll discover how flattened some of the grains in the rock are.

30. (b) Naresh Lalwani has been appointed General Manager of Central Railway. He is a senior officer from the 1985 batch of the Indian Railway Engineering Service. He was Senior Deputy General Manager and Chief Vigilance Officer of Western Railway before becoming General Manager of Central Railway. He succeeded Ashok Kumar Misra, General Manager of Western Railway, who was also in charge of Central Railway. অ্যাচিভার্স

31. (d) IDBI Bank Limited is an Indian financial service company headquartered Mumbai, India. RBI categorised IDBI as an "other public sector bank". It was established in 1964 by an Act of Parliament to provide credit and other facilities for the development of the fledgling Indian industry. The Industrial Development Bank of India (IDBI) was established on 1 July, 1964 under an Act of Parliament as a wholly owned subsidiary of the Reserve Bank of India. In 16 February, 1976, the ownership of IDBI was transferred to the Government of India and it was made the principal financial institution for coordinating the activities of institutions engaged in financing, promoting and developing industry in the country. অ্যাচিভার্স

32. (a) Tripitaka is a traditional term used by various Buddhist sects to describe their various canons of scriptures. As the name suggests, a Tripitaka traditionally contains three "baskets" of teachings: a Sutra Pitaka, a Vinaya Pitaka and an Abhidharma Pitaka. Tripitaka is the three main categories of texts that make up the Buddhist canon. অ্যাচিভার্স

33. (b) Equality of opportunity is a political ideal that is opposed to caste hierarchy but not to hierarchy per se. The background assumption is that a society contains a hierarchy of more and less desirable, superior and inferior positions. অ্যাচিভার্স

34. (b) In geology, a nappe or thrust sheet is a large sheet like body of rock that has been moved more than 2 km or 5 km from its original position by faulting or folding. They form when a mass of rock is forced (or "thrust") over another rock mass, typically on a low angle fault plane. The resulting structure may include large-scale recumbent folds, shearing along the fault plane. অ্যাচিভার্স

35. (b) The Third Buddhist council was convened in about 250 BCE at Asokarama in Pataliputra, supposedly under the patronage of Emperor Asoka. It was presided over by the Elder Moggaliputta Tissa and one thousand monks participated in the Council. The council is recognized and known to both the Theravada and Mahayana schools, though its importance is central only to the Theravada school.

36. (a) On the eve of Republic Day, the Centre announced the Padma Awards. 06 Padma Vibhushans, 09 Padma Bhushan, and 91 Padma Shris were among the 106 Padma awards. 19 of the honorees are female. Former Samajwadi Party chairman Mulayam Singh Yadav will be awarded the Padma Vibhushan in the category of public affairs posthumously. The President bestows these honors during ceremonial festivities held in Rashtrapati Bhawan in March and April of each year. অ্যাচিভার্স

37. (c) In this case, if we increase the pressure on the ice the ice-water system wants to try to lower it again. It can do that by making itself fit into a smaller volume. But since water fills a smaller volume when it's liquid, rather than solid, it will go to a lower melting point — allowing more solid to become liquid and hence when we increase pressure, the melting point of ice decreases because of the inversal relationship between the pressure and melting point of ice. অ্যাচিভার্স

38. (d) Right to constitutional remedies empowers the citizens to move a court of law in case of any denial of the fundamental rights. This procedure of asking the courts to preserve or safeguard the citizens' fundamental rights can be done in various ways. The courts can issue various kinds of writs. These writs are habeas corpus, mandamus, prohibition, quo warranto and certiorari. The Indian judiciary, in a number of cases has effectively resorted to the writ of habeas corpus to secure release of a person from illegal detention, thereby protecting their fundamental right of life and liberty. অ্যাচিভার্স

39. (d) Gulbadan Begum was a Perso-Turkic Princess, the daughter of Emperor Zahir ud-Din Mohammad Babur of India, who is most known as the author of Humayun Nama, the account

of the life of her brother, Humayun. Akbar commissioned Gulbadan Begum to chronicle the story of her brother Humayun. She took the challenge and produced a document titled Ahwal Humayun Padshah Jamah Kardom Gulbadan Begum bint Babur Padshah amma Akbar Padshah. It came to be known as Humayun-nama. অ্যাচিভার্স

40. (b) The Godavari (Vridha Ganga or Dakshina Ganga) is the largest river system of the peninsular India and rises near Nasik in Maharashtra. Godavari is considered the Dhakshin (Southern) Ganga and Draksharama Dhakshin Kasi. অ্যাচিভার্স

41. (d) Denatured alcohol or methylated spirits is ethanol that has additives to make it undrinkable (poisonous), to discourage recreational consumption. In some cases it is also dyed. Denatured alcohol is used as a solvent and as fuel for spirit burners and camping stoves. Because of the diversity of industrial uses for denatured alcohol, hundreds of additives and denaturing methods have been used. The main additive has traditionally been 10% methanol, giving rise to the term "methylated spirit." Other typical additives include isopropyl alcohol, acetone, methyl ethyl ketone, methyl isobutyl ketone, and denatonium. Completely denatured alcohol must be made in accordance with the following formulation: with every 90 parts by volume of alcohol mix 9.5 parts by volume of wood naphtha or a substitute and 0.5 parts by volume of crude pyridine, and to the resulting mixture add mineral naphtha (petroleum oil) in the proportion of 3.75 litres to every 1000 litres of the mixture and synthetic organic dyestuff (methyl violet) in the proportion of 1.5 grams to every 1000 litres of the mixture.

42. (a) The supply curve for labor depends on variables such as population, wage rates, etc. in developing countries, the vast population base explains the relatively lower wage rates and easy accessibility to labour supply. This is just the opposite in the case of developed countries.

43. (a) In the 2022 ICC Awards, Babar Azam won both the Sir Garfield Sobers Trophy and the Men's ODI Cricketer of the Year, beating out tough fields in both categories. A year after being named 'ODI Cricketer of the Year' in 2021, the flamboyant hitter continued to dominate international cricket, being the first player to score 2000 runs in all forms in 2022. Babar easily surpassed that mark, accumulating 2,598 runs at an impressive average of 54.12.

44. (d) chloropicrin is a colourless liquid that is insoluble in water, with which it is stable. With a vapor pressure of 24 mm Hg, its volatility is between that of phosgene and mustard gas in persistency, although closer to phosgene because it is related to the compound. Tests have shown that chloropicrin causes humans to shut their eyes involuntarily. Chloropicrin can be absorbed systemically through inhalation, ingestion, and the skin. It is severely irritating to the lungs, eyes, and skin. Because of these properties, chloropicrin can only be delivered in shell form as a chemical weapon. Chloropicrin, today, is used as a fumigant to control pests found in the soil. Although less common, it can be used as a poison for vertebrates, such as rabbits. Chloropicrin is commonly used in combination with other fumigants, such as methyl bromide and sulfuryl fluoride, for increased potency and as a warning agent. অ্যাচিভার্স

45. (b) Abdul Gaffar Khan is known as Frontier Gandhi. Dadabhai Naoroji is referred to as the Grand Old Man of India.
Madan Mohan Malaviya is called Mahamana.
Vallabhbhai Patel is known as Strong Man of India. অ্যাচিভার্স

46. (a) Bharatanatyam: Tamil Nadu; Kathakali: Kerala; Kuchipudi: Andhra Pradesh; and Odissi: Odisha.

47. (d) Compound eyes are found among the arthropods and are composed of many simple facets which, depending on the details of anatomy, may give either a single pixelated image or multiple images, per eye. Each sensor has its own lens and photosensitive cell(s). Some eyes have up to 28,000 such sensors, which are arranged hexagonally, and which can give a full 360° field of vision. Compound eyes are very sensitive to motion. With each eye viewing a different thing, a fused image from all the eyes is produced in the brain, providing very different, high-resolution images.

48. (c) Novak Djokovic defeated Stefanos Tsitsipas in the final of the Australian Open 2023 men's singles match. Djokovic wins the Australian Open for the tenth time and the 22nd grand slam. With his 22nd Grand Slam championship, he equals Rafael Nadal. Aryna Sabalenka won

the women's singles tennis championship at the 2023 Australian Open by defeating Elena Rybakina in the final, 4-6, 6-3, 6-4. The 2023 Australian Open was a Grand Slam tennis event held in Melbourne Park from January 16 to 29, 2023.

49. (a) Ukai Dam, constructed across the Tapti River, is the largest reservoir in Gujarat. It is also known as Vallabh Sagar. The Rana Pratap Sagar Dam is a gravity masonry dam of 53.8 metres height built on the Chambal River at Rawatbhata in Rajasthan. The Ranjit Sagar Dam, also known as the Thein Dam, is part of a hydroelectric project constructed by the Government of Punjab on the Ravi River in the state of Punjab. Hirakud Dam is built across the Mahanadi River, about 15 km from Sambalpur in the state of Orissa in India. Built in 1957, the dam is one of the world's longest earthen dam.

50. (b) The speaker is elected in the very first meeting of the Lok Sabha after the general elections for a term of 5 years from amongst the members of the Lok Sabha.

51. (b) Expression
$= 2^{71}(1 + 2 + 4 + 8)$
$= 2^{71} \times 15 = 2^{71} \times 3 \times 5$
Which is exactly divisible by 10.

52. (a) $2^{96} + 1 = (2^{32})^3 + 1^3$
$= (2^{32} + 1)(2^{64} - 2^{32} + 1)$
Clearly, $2^{32} + 1$ is a factor of $2^{96} + 1$

53. (c) $0.121212\ldots$
$= 0.\overline{12} = \frac{12}{99} = \frac{4}{33}$

54. (b) Here, $12 - 5 = 7$,
$16 - 9 = 7$
$\therefore$ Required number
= (L.C.M. of 12 and 16) – 7
= 48 – 7 = 41

55. (c) As the height of each stack is same, the required number of books in each stack
= HCF of 84, 90 and 120
$84 = 2 \times 2 \times 3 \times 7$
$90 = 2 \times 3 \times 3 \times 5$
$120 = 2 \times 2 \times 2 \times 3 \times 5$
$\therefore$ HCF $= 2 \times 3 = 6$

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. (a) Expression
= 0.125 + 0.015625 + 0.001953125 + 0.00024414 + 0.000030517
= 0.1428 $\approx$ 0.143

58. (c) $\sqrt{11.981 + 7\sqrt{1.2996}}$
$= \sqrt{11.981 + 7 \times 1.14}$
$= \sqrt{11.981 + 7.98}$
$= \sqrt{19.961}$
= 4.467 $\approx$ 4.5

59. (b) Seventh observation
= 65 × 7 + 7 × 75 – 13 × 70
= 455 + 525 – 910
= 980 – 910 = 70

60. (a) Average of 25 consecutive odd numbers = 55
$\therefore$ Mid number i.e. 13th number = 55
$\therefore$ 25th number = 55 + 2 × 12 = 55 + 24 = 79

61. (d) $A = B \times \frac{2}{3}$
$\Rightarrow$ A : B = 2 : 3 = 8 : 12
$B = C \times \frac{4}{5}$
$\Rightarrow$ B : C = 4 : 5 = 12 : 15
$\therefore$ A : B : C = 8 : 12 : 15

62. (d) Ratio of division
$= \frac{1}{2} : \frac{2}{3} : \frac{4}{5}$
$= \frac{1}{2} \times 30 : \frac{2}{3} \times 30 : \frac{4}{5} \times 30$
[LCM of 2, 3 and 5 = 30]
= 15 : 20 : 24
$\therefore$ Sum of the terms of ratio
= 15 + 20 + 24 = 59
$\therefore$ Second part
$= \text{Rs.}\left(\frac{20}{59} \times 177\right) = \text{Rs. } 60$

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

$\Rightarrow \frac{3A}{5} = \frac{3C}{25} = \frac{3}{25} \times A \times \frac{x}{10}$

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

$\Rightarrow 5x = 2500$

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

64. (c) Required per cent

$= \frac{40}{80} \times 100 = 50\%$

65. (b) $n = 7 + 4\sqrt{3} = 7 + 2 \times 2 \times \sqrt{3}$

$= 4 + 3 + 2 \times 2 \times \sqrt{3}$

$= \left(2 + \sqrt{3}\right)^2$ অ্যাচিভার্স

$\therefore \sqrt{n} = 2 + \sqrt{3}$

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

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

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

66. (b) $a(2+\sqrt{3}) = b(2-\sqrt{3}) = 1$ অ্যাচিভার্স

$\Rightarrow a = \frac{1}{2+\sqrt{3}} = \frac{2-\sqrt{3}}{(2+\sqrt{3})(2-\sqrt{3})}$

$= \frac{2-\sqrt{3}}{4-3} = 2 - \sqrt{3}$ and $b = \frac{1}{2-\sqrt{3}}$

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

$\therefore a^2 + 1 = (2-\sqrt{3})^2 + 1$ অ্যাচিভার্স

$= 4 + 3 - 4\sqrt{3} + 1 = 8 - 4\sqrt{3}$

$b^2 + 1 = (2+\sqrt{3})^2 + 1$

$= 4 + 3 + 4\sqrt{3} + 1 = 8 + 4\sqrt{3}$

$\therefore \frac{1}{a^2+1} + \frac{1}{b^2+1}$

$= \frac{1}{8-4\sqrt{3}} + \frac{1}{8+4\sqrt{3}}$

$= \frac{8+4\sqrt{3}+8-4\sqrt{3}}{(8-4\sqrt{3})(8+4\sqrt{3})}$ অ্যাচিভার্স

$= \frac{16}{64 - 16 \times 3} = \frac{16}{64-48} = \frac{16}{16} = 1$

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

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

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

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

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

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

$\Rightarrow \theta = 30^\circ$

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

68. (a) $\frac{\tan A - \sec A - 1}{\tan A + \sec A + 1}$

$= \frac{\tan A - \sec A - (\sec^2 A - \tan^2 A)}{\tan A + \sec A + 1}$

$= \frac{(\tan A - \sec A) - (\sec A - \tan A)(\sec A + \tan A)}{\tan A + \sec A + 1}$

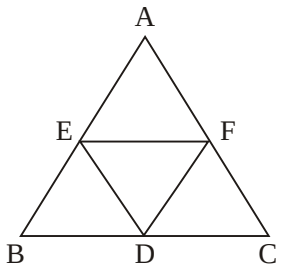
$= \frac{(\tan A - SecA) + (\tan A - \sec A)(\sec A + \tan A)}{\tan A + \sec A + 1}$

$= \frac{(\tan A - \sec A)(1 + \sec A + \tan A)}{\tan A + \sec A + 1}$

$= \tan A - \sec A = \frac{\sin A}{\cos A} - \frac{1}{\cos A}$ অ্যাচিভার্স

$= \frac{\sin A - 1}{\cos A}$

69. (b)



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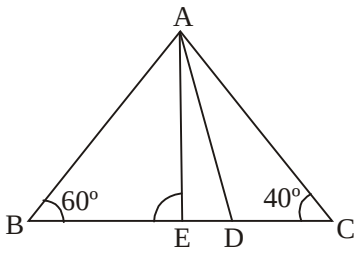
$\Delta DEF = \frac{1}{4}\Delta ABC$

$= \frac{1}{4} \times 24 = 6$ sq. units

70. (c)



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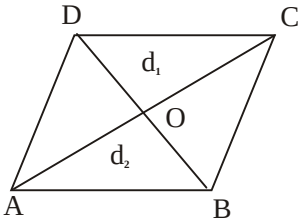
$\angle BAC = 180° - 60° - 40° = 80°$
$\angle BAD = \angle DAC = 40°$
In ΔABE,
$\angle BAE = 90° - 60° = 30°$
$\angle EAD = 40° - 30° = 10°$

71. (d)



Side of rhombus $= \frac{20}{4} = 5$ cm

OB = 4 cm

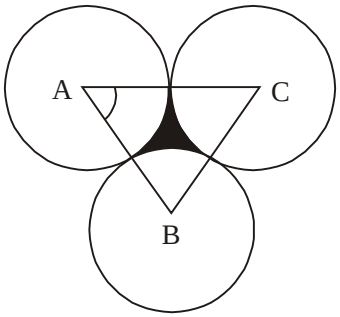
$OA = \sqrt{5^2 - 4^2} = \sqrt{9} = 3$ cm

AC = 6 cm

Area of rhombus

$= \frac{1}{2}d_1d_2 = \frac{1}{2} \times 8 \times 6 = 24$ sq.cm

72. (d)



Let AB = BC = CA = 2a cm.
$\angle BAC = \angle ACB = \angle ABC = 60°$

Area of $\Delta ABC = \frac{\sqrt{3}}{4} \times (\text{side})^2$

$= \frac{\sqrt{3}}{4} \times 4a^2$

$= \sqrt{3}a^2$ sq.cm.

Area of three sectors

$= 3 \times \frac{60}{360} \times \pi \times a^2$

$= \frac{\pi a^2}{2}$ sq.cm.

Area of the shaded region

$= \sqrt{3}a^2 - \frac{\pi}{2}a^2$

$= \left(\frac{2\sqrt{3} - \pi}{2}\right)a^2$ sq.cm.

73. (c) Putting x = 2 in the equation
$2x + y = 6$,
$2 \times 2 + y = 6$
$\Rightarrow y = 6 - 4 = 2$
$\therefore$ Required point = (2, 2)

74. (a) Co-ordinates of origin = (0, 0).
These co-ordinates satisfy the equation $2x - 3y = 0$

75. (d) C : D = 5 : 6
$\Rightarrow$ D : C = 6 : 5, C : B = 4 : 3 and B : A = 2 : 1
$\therefore$ D : C : B : A
$= 6 \times 4 \times 2 : 5 \times 4 \times 2 : 5 \times 3 \times 2 : 5 \times 3 \times 1$
$= 48 : 40 : 30 : 15$

76. (d) **No error**

77. (b) **is** will replace **are** because –
The Arabian Nights is the name of a book and a **Singular Verb** is used with name of nation/organisation/ book/film as in –
The United Nations is head-quartered in New York.
Hence, **is indeed** is the right usage.

78. (c) **most** will replace **more** because –
the (Def. Art.) is used with **Superlative Degrees**, which compare more than two things/persons/ situations.
Hence, **the most good-looking one** is the right usage.

79. (a) **laugh at (Phr.V.) :** to make somebody/ something seem stupid/not serious by making jokes about him/it
Here, **at** is the right usage.

80. (d) **cope with something :** to deal successfully with something difficult; manage.
Here, **with** is the right usage.

81. (b) **dispose of somebody/something :** to get rid of somebody/something that you do not want.
Here, **of** is the right usage.

82. (d) The event is of **Past** time.
Here, **Past Simple-reached**
Here, **reached** is the right usage.

83. (b) Here, **has** is the right usage.

84. (c) **spiteful (Adjective) :** behaving in an unkind way in order to hurt or upset somebody; malicious
vindictive (Adjective) : trying to harm or upset somebody or showing that you want to, because you think he has harmed you; spiteful

imaginative (Adjective) : having or showing new and exciting ideas; inventive অ্যাচিভার্স
accusative (Adjective) : containing or expressing accusation
aggressive (Adjective) : angry, and behaving in a threatening way

85. (a) **cordial (Adjective) :** pleasant and friendly
genial (Adjective) : friendly and cheerful; affable; cordial অ্যাচিভার্স
unselfish (Adjective) : giving more time or importance to other people's needs, wishes etc. than to your own
careful (Adjective) : giving attention or thought to what you are doing so that you may avoid hurting yourself, damaging something or doing something wrong
specific (Adjective) : detailed and exact; particular অ্যাচিভার্স

86. (a) **accumulate (Verb) :** to gradually get more and more of something over a period of time; amass
accrue (Verb) : to increase over a period of time
accommodate (Verb) : oblige; to provide somebody with a room or place to sleep, live or sit অ্যাচিভার্স
grow (Verb) : to increase in size, number or strength or quality
suffice (Verb) : to be enough for somebody or something.

87. (b) **made my flesh creep :** made me feel afraid or full of disgust.
- The story of the killings **made my flesh creep**. The best option is **horrified me.** অ্যাচিভার্স

88. (c) **cannot hold a candle :** is not so good as
- This hotel **can't hold a candle** to the palace. The best option is **cannot be compared to.**

89. (b) **to fight tooth and nail :** to fight in a determined way for what you want
- They vowed to fight the new legislation **tooth and nail**. অ্যাচিভার্স
The best option is **to oppose resolutely.**

90. (b) **at one's wit's end :** to get puzzled
- I've tried every possible source but without success, and now I'm **at my wit's end**. The best option is **to be puzzled.**

91. (b) **unwise (Adjective) :** showing a lack of good judgement ; foolish
prudent (Adjective) : sensible and careful when you make judgements and decisions; avoiding unnecessary risks অ্যাচিভার্স
silly (Adjective) : showing a lack of thought, understanding or judgement; foolish অ্যাচিভার্স
idiotic (Adjective) : very stupid; ridiculous
poor (Adjective) : having very little money; not having enough money for basic needs

92. (b) **lengthy (Adjective) :** very long and often too long, in time or size
concise (Adjective): giving only the information that is necessary and important, using a few words অ্যাচিভার্স
extended (Adjective) : long or longer than usual or expected
protracted (Adjective) : lasting longer than expected for longer than usual; prolonged
elongated (Adjective) : long and thin, often in a way that is not normal অ্যাচিভার্স

93. (a) **cunning (Adjective) :** crafty; wily; clever and skilful
candid (Adjective) : saying what you think openly and honestly; not hiding your thoughts; frank and honest
diplomatic (Adjective) : connected with managing relations between countries; having or showing skill in dealing with people in difficult situations; tactful অ্যাচিভার্স
doubtful (Adjective) : dubious; not sure; uncertain and feeling doubt
impertinent (Adjective) : impolite; rude and not showing respect.

94. (a) **misanthrope**
misanthrope (N.) : a person who hates and avoids other people অ্যাচিভার্স
misogynist (N.) : a man who hates women
philanthropist (N.) : a rich person who helps the poor and those in need
misogamist (N.) : a person who hates marriage.

95. (a) **hutch**
hutch (N.) : a house for keeping rabbits/other small animals
lair (N.) : a place where a wild animal sleeps/ hides; den অ্যাচিভার্স
den (N.) : the hidden home of some types of wild animals - bear, lion, etc.
cage (N.) : a house in which animals/birds are kept.

96. (d) Diseases are not removed, they are cured or healed. Also Charakasamhita mentions various methods to treat disease not to produced or reduced them. So the most suitable word to fill the blank is treat. অ্যাচিভার্স

97. (c) Indigenous means originating or occurring naturally in a particular place. Plaintive means sounding sad. In the given line, the author talks about the knowledge of medicinal plants which are found only in India. So the suitable word is 'Indigenous'. অ্যাচিভার্স

98. (d) Plant wealth cannot be copied. Also China and U.S are not cultivating plant wealth in India. Harness means to exploit. These countries are not exploiting the plant wealth in India. Correct filler here is explore meaning travel through something to learn more about it.

99. (d) The suitable word is 'Backyards' because here the author talks about medicinal plants which grow themselves without any care or attention. Such plants often grow in backyards (a back garden). Those grown in terrace or verandahs are mostly flowering plants which are given care and attention. অ্যাচিভার্স

100. (d) We can study, water and cultivate these plants if we are able to recognise them. So the correct filler is recognise.

———★★★———