SSC GD Constable Practice Set

Answers with Explanation

1. (b) **Prediction (Noun)** means a statement that says what you think will happen (in future).
   Regret (Noun) means a feeling of sadness or disappointment for committing some wrong or sin/not doing something which has to be done.

2. (c) **Adversary** means a person that somebody is opposed to and competing with in an argument or a battle; opponent.
   Enemy means a person who hates somebody or who acts or speaks against somebody/ something.
   Adversity means a difficult or unpleasant situation.
   Difficulty means a problem, a thing or situation that causes problems.

3. (c) Worm is the prey of Bird. Similarly, Mouse is the prey of Cat.

4. (d) Cytology is that branch of Biology which deals with cells and their functions. Similarly, Ornithology is the scientific study of birds.

5. (c) Both bird and aeroplane fly in the air. Similarly, fish and boat swim/move in the water.

6. (a) Husband of B's wife means B. A is the brother B. Therefore, A is the brother of C.

7. (d) A is sister of B. C is mother of A and B. D is father of C. So, A is granddaughter of D.

8. (a) The mother of A is sister of B. Therefore, A may be niece of B.

9. (b)

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

   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)
   $18 - 3 + 2 \times 8 \div 6 = 14$
   $\Rightarrow 18 \div 3 \times 2 + 8 - 6 = 14$
   $\Rightarrow 6 \times 2 + 8 - 6 = 14$
   $\Rightarrow 12 + 8 - 6 = 14$

   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)
   $18 \times 3 + 2 \div 8 - 6 = 15$
   $\Rightarrow 18 + 3 \times 2 - 8 \div 6 = 15$
   $\Rightarrow 18 + 6 - \dfrac{8}{6} \neq 15$

10. (a)

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

   $6 + 64 - 8 \div 45 \times 8 = ?$
   $\Rightarrow ? = 6 \times 64 \div 8 + 45 - 8$
   $\Rightarrow ? = 6 \times 8 + 45 - 8$
   $\Rightarrow ? = 48 + 45 - 8$
   $\Rightarrow ? = 93 - 8 = 85$

11. (a)

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

   $175 - 25 \div 5 + 2 \times 3 + 10 = ?$
   $\Rightarrow ? = 175 \div 25 + 5 \times 2 - 3 \times 10$
   $\Rightarrow ? = 7 + 10 - 30$
   $\Rightarrow ? = 17 - 30 = -13$

12. (d) $6 + 12 = 18$
    Therefore, $? = 4 + 12 = 16$

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

14. (a) $(11)^2 + 1 = 122$
    $(13)^2 + 1 = 170$
    $(17)^2 + 1 = 290$
    $(19)^2 + 1 = \boxed{362}$

15. (c) There is no 'C' letter in the given word. Therefore, the word DIRECTION cannot be formed.
    D $\boxed{\text{I S S E R T}}$ A T I O N
    $\Rightarrow$ SISTER
    D I S $\boxed{\text{S}}$ E R $\boxed{\text{T A T I O N}}$
    $\Rightarrow$ STATION

D I S S E $\boxed{R}$ T $\boxed{ATION}$

⇒ RATION

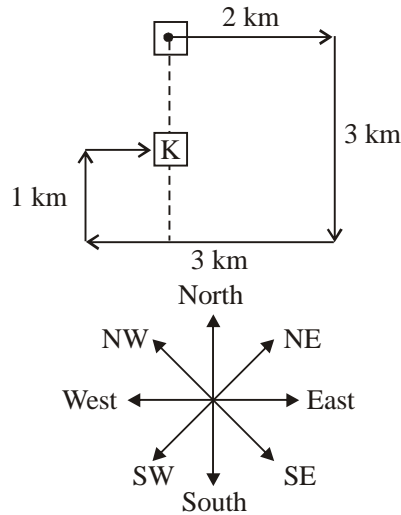16. (d) There is no 'O' letter in the given word. Therefore, the word NOTS cannot be formed.

$\boxed{SENT}$ I M E N T ⇒ S E N T

S E N T I $\boxed{MENT}$ ⇒ M E N T

S E N $\boxed{TIME}$ N T ⇒ T I M E

17. (b)

North

NW   NE

West ◄———► East

SW   SE

South

18. (a)
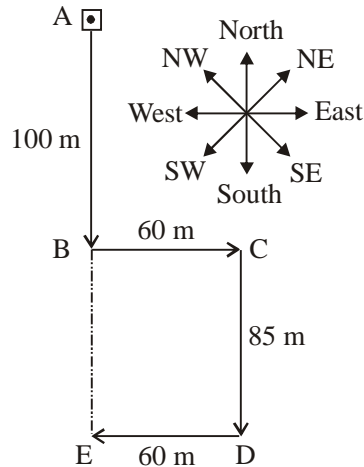
Required distance
= AE = AB + BE
= (100 + 85) = 185 metres
Entry gate of her house is facing South.

19. (c) Other Saturdays in March = 8, 15, 22, 29
Therefore, 1st April = Saturday + 3 = Tuesday

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

$(1)^3 - 1 = 0$

$(2)^3 - 2 = 6$

$(3)^3 - 3 = 24$

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

$(5)^3 - 5 = 120$

$(6)^3 - 6 = 210$

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

$0 + \dfrac{3}{2} = \dfrac{3}{2}$ $\dfrac{3}{2} + \dfrac{3}{2} = 3$

$3 + \dfrac{3}{2} = \dfrac{9}{2}$ $\dfrac{9}{2} + \dfrac{3}{2} = \boxed{6}$

$6 + \dfrac{3}{2} = \dfrac{15}{2}$

22. (c) C L O C K   T I M E

↓ ↓ ↓ ↓ ↓   ↓ ↓ ↓ ↓

3 4 2 3 5   8 6 7 9

Therefore,

M O L E K

↓ ↓ ↓ ↓ ↓

7 2 4 9 5

23. (b) E = 5 i.e. Position Number in the English alphabet.

H   E   N

↓   ↓   ↓

8 + 5 + 14 = 27

Therefore,

P   E   N

↓   ↓   ↓

16 + 5 + 14 = 35

24. (a) (i) All peacocks are lions → Universal Affirmative (A-type).

(ii) Some tigers are peacocks → Particular Affirmative (I-type).

(iii) No tiger is a lion → Universal Negative (E-type).

(iv) Some tigers are not lions → Particular Negative (O-type).

Some tigers are peacocks.

All peacocks are lions.

I + A ⇒ I-type of Conclusion.

"Some tigers are lions".

This is Conclusion III.

25. (b) All the possible representations of each letter:
Matrix-I
B $\Rightarrow$ 00, 14, 21, 32, 43
D $\Rightarrow$ 01, 10, 23, 34, 42
E $\Rightarrow$ 02, 11, 20, 33, 44
O $\Rightarrow$ 04, 13, 22, 31, 40
T $\Rightarrow$ 03, 12, 24, 30, 41
Matrix-II
I $\Rightarrow$ 57, 69, 75, 88, 96
L $\Rightarrow$ 58, 66, 79, 85, 97
M $\Rightarrow$ 55, 67, 76, 89, 98
R $\Rightarrow$ 59, 68, 77, 86, 95
U $\Rightarrow$ 56, 65, 78, 87, 99

Option	R	U	D	E
(a)	56	65	10	33
(b)	59	99	34	11
(c)	77	56	02	01
(d)	95	87	42	12

26. (a) Mahabalipuram, derived from 'Mamallapuram' is the prior and colloquial name of a town in Kancheepuram district in the Indian state of Tamil Nadu, now officially called Mamallapuram. Mahabalipuram was a 7th century port city of the South Indian dynasty of the Pallavas near the city of Chennai in Tamil Nadu. The name Mamallapuram is believed to have been given after the Pallava king Narasimhavarman I, who took on the epithet Maha-malla (great wrestler), as the favourite sport of the Pallavas was wrestling. It has various historic monuments built largely between the 7th and the 9th centuries, and has been classified as a UNESCO World Heritage Site.

27. (a) Ajivika ("living" in Sanskrit) was a system of ancient Indian philosophy and an ascetic movement of the Mahajanapada period in the Indian subcontinent. Ajivika was primarily a heterodox Hindu (Nastika) or atheistic system. The Ajivikas may simply have been a more loosely-organized group of wandering ascetics (shramanas or sannyasins). One of their prominent leaders was Makkhali Gosal. Ajivikas are is thought to be contemporaneous to other early Hindu nastika philosophical schools of thought, such as Charvaka, Jainism and Buddhism, and may have preceded the latter two systems.

28. (b) Greater India was the historical extent of the culture of India beyond the Indian subcontinent. This particularly concerns the spread of Hinduism in Southeast Asia, introduced by the Indianized kingdoms of the 5th to 15th centuries, but may also refer to the spread of Buddhism from India to Central Asia and China by the Silk Road during the early centuries of the Common Era. To the west, Greater India overlaps with Greater Persia in the Hindu Kush and Pamir mountains. The term is tied to the geographic uncertainties surrounding the "Indies" during the Age of Exploration.

29. (b) The umbra (Latin for "shadow") is the innermost and darkest part of a shadow, where the light source is completely blocked by the occluding body. An observer in the umbra experiences a total eclipse.

30. (c) The National Payments Corporation of India (NPCI) has partnered with private sector lender YES Bank to launch first-of-its-kind 'RuPay On-the-Go' contactless payments solutions.

31. (b) The best way for a bank to avoid loss is to accept only sound collateral. In lending agreements, collateral is a borrower's pledge of specific property to a lender, to secure repayment of a loan. The collateral serves as protection for a lender against a borrower's default - that is, any borrower failing to pay the principal and interest under the terms of a loan obligation. If a borrower does default on a loan (due to insolvency or other event), that borrower forfeits (gives up) the property pledged as collateral - and the lender then becomes the owner of the collateral. In a typical mortgage loan transaction, for instance, the real estate being acquired with the help of the loan serves as collateral. Should the buyer fail to pay the loan under the mortgage loan agreement, the ownership of the real estate is transferred to the bank. The bank uses a legal process called foreclosure to obtain real estate from a borrower who defaults on a mortgage loan. Collateral, especially within banking, traditionally refers to secured lending (also known as asset-based lending).

32. (c) Roman trade with India started around the beginning of the Common Era following the reign of Augustus and his conquest of Egypt. Following the Roman-Persian Wars Khosrow

I of the Persian Sassanian Dynasty captured the areas under the Roman Byzantine Empire. The Arabs, led by 'Amr ibn al-'As, crossed into Egypt in late 639 or early 640 C.E. That advance marked the beginning of the Islamic conquest of Egypt and the fall of ports such as Alexandria, used to secure trade with India by the Greco Roman world since the Ptolemaic dynasty. The decline in trade saw Southern India turn to Southeast Asia for international trade, where it influenced the native culture to a greater degree than the impressions made on Rome. The Hunas invaded the Roman Empire under Attila the Hun in 454 C.E. অ্যাচিভার্স

33. (c) The Drafting Committee consisted of 7 members: Dr B R Ambedkar (Chairman), N Gopalaswami Ayengar, Alladi Krishnaswamy Ayyar, Dr K M Munshi, S.M. Saadullah, N Madhava Rau (replaced B L Mitter) and T.T. Krishnamachari (replaced D P Khaitan). Dr. Rajendra Prasad headed the Rules of Procedure Committee and Steering Committee. অ্যাচিভার্স

34. (b) Igneous rock (derived from the Latin word ignis meaning fire) is one of the three main rock types, the others being sedimentary and metamorphic rock. Igneous rock is formed through the cooling and solidification of magma or lava. Igneous rock may form with or without crystallization, either below the surface as intrusive (plutonic) rocks or on the surface as extrusive (volcanic) rocks. This magma can be derived from partial melts of pre-existing rocks in either a planet's mantle or crust. Typically, the melting is caused by one or more of three processes: an increase in temperature, a decrease in pressure, or a change in composition. Granite is the best-known igneous rock. Many people recognize granite because it is the most common igneous rock found at Earth's surface and because granite is used to make many objects that we encounter in daily life.

35. (d) The people of the Indus Civilization achieved great accuracy in measuring length, mass, and time. They were among the first to develop a system of uniform weights and measures. Their smallest division, which is marked on an ivory scale found in Lothal, was approximately 1.704 mm, the smallest division ever recorded on a scale of the Bronze Age. অ্যাচিভার্স

36. (c) The United States has won the 2021 Ryder Cup, defeating Team Europe, with 19-9 victory. This is the largest margin of victory in the history of the Ryder Cup. অ্যাচিভার্স

37. (b) Surface tension is a contractive tendency of the surface of a liquid that allows it to resist an external force. This property is caused by cohesion of similar molecules, and is responsible for many of the behaviors of liquids. It is revealed, for example, in the floating of some objects on the surface of water, even though they are denser than water, and in the ability of some insects (e.g. water striders) to run on the water surface.

38. (d) The preamble to the Constitution of India is a brief introductory statement that sets out the guiding purpose and principles of the document.. It says: "WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens: JUSTICE, social, economic and political; LIBERTY, of thought, expression, belief, faith and worship; EQUALITY of status and of opportunity; and to promote among them all FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation; IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, DO HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION." অ্যাচিভার্স

39. (c) Banabhatta was a Sanskrit prose writer and poet of India. He was the Asthana Kavi in the court of King Harshavardhana, who reigned in the years century. 606–647 CE in north India.

40. (c) Lake Manasarovar is a freshwater lake in the Tibet Autonomous Region of China 940 kilometres from Lhasa. To the west of Lake Manasarovar is Lake Rakshastal; toward the north is Mount Kailash.

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. (c) Food production or agriculture is a primary activity of economy making direct use of

natural resources. This includes agriculture, forestry and fishing, mining, and extraction of oil and gas. This is contrasted with the secondary sector, producing manufactured and other processed goods, and the tertiary sector, producing services. Infrastructure is basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function. The term typically refers to the technical structures that support a society, such as roads, bridges, water supply, sewers, electrical grids, telecommunications, and so forth.   অ্যাচিভার্স

43. (b) Judima is a local fermented drink made with rice, brewed by the Dimasa community in Assam. It derives its name from words *ju* which means wine and Dima means 'belonging to the Dimasa'. It is the first traditional brew in all of northeast to bag GI tag.   অ্যাচিভার্স

44. (d) Heart is the only organ in the body which never rest throughout the entire life. The heart is a hollow muscle that pumps blood throughout the blood vessels by repeated, rhythmic contractions. It is found in all animals with a circulatory system (including all vertebrates). The vertebrate heart is principally composed of cardiac muscle and connective tissue. The average human heart, beating at 72 beats per minute, will beat approximately 2.5 billion times during an average 66 year lifespan.

45. (a) In India, two great leaders, M.N. Roy and Jayaprakash Narayan, have at different times advocated partyless democracy. Jayprakash Narayan never held a formal position in the government, but remained a leading political personality operating outside party politics. Late in his life, he regained prominence as an active critic of the increasingly authoritarian policies of Prime Minister Indira Gandhi, Mohandas Gandhi's daughter. His reform movement called for "partyless democracy," decentralization of power, village autonomy and a more representative legislature. Narayan was popular for his Four Theories-Marxism, Democratic Socialism, Partyless Democracy based on Sarvodaya and Total Revolution.   অ্যাচিভার্স

46. (b) Nanasaheb Peshwa, also known as Balaji Baji Rao, was the son of Bajirao from his marriage with Kashibai and one of the Peshwa of the Maratha Empire. He contributed heavily to the development of the city of Pune, India. He was appointed as Peshwa by Chattrapati Shahu himself. Nanasaheb lost his cousin, Sadashivrao Bhau (the son of Chimaji Appa), and his eldest son, Vishwasrao, at the [Third Battle of Panipat].   অ্যাচিভার্স

47. (d) Dehydration is the condition where there is acute shortage of water in our body. This occurs when the amount of water leaving our body is greater than the amount consumed. There are three types of dehydration: hypotonic or hyponatremic (primarily a loss of electrolytes, sodium in particular), hypertonic or hypernatremic (primarily a loss of water), and isotonic or isonatremic (equal loss of water and electrolytes). In humans, the most commonly seen type of dehydration by far is isotonic (isonatraemic) dehydration which effectively equates with hypovolemia, but the distinction of isotonic from hypotonic or hypertonic dehydration may be important when treating people who become dehydrated.

48. (d) The Comptroller and Auditor General (CAG) of India, G C Murmu has been selected as the external auditor of the International Atomic Energy Agency (IAEA), for a period of six years. His tenure will be valid from 2022 to 2027.   অ্যাচিভার্স

49. (c) Zojila Pass connects Leh and Srinagar.

50. (d) Right to Information is a part of fundamental rights under Article 19 (1) of the Constitution which states that every citizen has freedom of speech and expression. The 86th Constitutional amendment making education a fundamental right was passed by Parliament in 2002. Right to speech comes under freedom of speech and expression which is a fundamental right. The constitution guarantees the right to life and personal liberty as a fundamental right under article 21. Right to property is still a constitutional right under article 300A of the constitution.

51. (b) Here, 52 is a multiple of 13. Hence, the required remainder is obtained on dividing 45 by 13. Required remainder = 6.   অ্যাচিভার্স

52. (c) $\times\times\times$) 64329 ($\times\times\times$
$\quad\quad\underline{\times\times\times}$......(i)
$\quad\quad 1752$
$\quad\quad\underline{\times\times\times\times}$.......(ii)
$\quad\quad\times 1149$
$\quad\quad\quad\underline{\times\times\times\times}$.......(iii)
$\quad\quad\quad\times 213$

Number at (i) = 643 – 175 = 468

Number at (ii) = 1752 – 114 = 1638

Number at (iii) = 1149 – 213 = 936

Clearly, 468, 1638 and 936 are multiples of 234 and 234 > 213.

∴ Divisor = 234

53. (c) $3^1 = 3$; $3^2 = 9$; $3^3 = 27$; $3^4 = 81$; $3^5 = 243$

i.e. unit's digit is repeated after index 4.

Remainder after dividing 21 by 4 = 1

∴ Unit's digit in the expansion of $(3)^{21} = 3$

∴ Remainder after dividing by 5 = 3

54. (a) HCF of two-prime numbers = 1

∴ Product of numbers = their LCM = 117

$117 = 13 \times 9$ where 13 & 9 are co-prime.

L.C.M (13,9) = 117.

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

56. (b) Expression $= 3 + \dfrac{3}{3 + \dfrac{1}{\dfrac{9+1}{3}}}$

$= 3 + \dfrac{3}{3 + \dfrac{3}{10}} = 3 + \dfrac{3}{\dfrac{30+3}{10}}$

$= 3 + \dfrac{30}{33} = 3 + \dfrac{10}{11} = \dfrac{33+10}{11} = \dfrac{43}{11}$

57. (d) Let the value of * be x.

∴ $\dfrac{50}{x} = \dfrac{x}{12\frac{1}{2}} \Rightarrow \dfrac{50}{x} = \dfrac{2x}{25}$

$\Rightarrow 2x^2 = 50 \times 25$

$\Rightarrow x^2 = 25 \times 25$

∴ x = 25

58. (d) ? $= 9 + 3 \div 4 - 8 \times 2$

After respective substitutions,

? $= 9 \div 3 \times 4 + 8 - 2$

$= \dfrac{9}{3} \times 4 + 8 - 2 = 20 - 2 = 18$

59. (b) Seventh observation

$= 65 \times 7 + 7 \times 75 - 13 \times 70$

$= 455 + 525 - 910$

$= 980 - 910 = 70$

60. (c) Average of five numbers

$= \dfrac{2 \times 8 + 3 \times 3}{2+3} = \dfrac{16+9}{5} = \dfrac{25}{5} = 5$

61. (d) A : B = 2 : 3

B : C = 4 : 5

∴ A : B : C = $2 \times 4 : 3 \times 4 : 3 \times 5$

= 8 : 12 : 15

62. (c) $\dfrac{x}{y} = \dfrac{4}{5}$ ∴ $\dfrac{3x+y}{5x+3y} = \dfrac{3\left(\dfrac{x}{y}\right)+1}{5\left(\dfrac{x}{y}\right)+3}$

$= \dfrac{3 \times \dfrac{4}{5} + 1}{5 \times \dfrac{4}{5} + 3} = \dfrac{\dfrac{12+5}{5}}{7} = \dfrac{17}{35} = 17:35$

63. (a) Let the C.P. of article be Rs. x.

According to the question,

78 – x = 2 (69– x)

⇒ 78 – x = 138 – 2x

⇒ 2x – x = 138 – 78

⇒ x = Rs. 60

64. (a) Let the CP of 1 orange = ₹1

∴ SP of 10 oranges = ₹13

∴ Gain percent $= \dfrac{13-10}{10} \times 100 = 30\%$

65. (d) $\dfrac{a}{1-a} + \dfrac{b}{1-b} + \dfrac{c}{1-c} = 1$

$\Rightarrow \left(\dfrac{a}{1-a}+1\right) + \left(\dfrac{b}{1-b}+1\right) + \left(\dfrac{c}{1-c}+1\right)$

$= 3 + 1 = 4$

$\Rightarrow \dfrac{a+1-a}{1-a} + \dfrac{b+1-b}{1-b} + \dfrac{c+1-c}{1-c} = 4$

$\Rightarrow \dfrac{1}{1-a} + \dfrac{1}{1-b} + \dfrac{1}{1-c} = 4$

66. (a) $x = \dfrac{\sqrt{3}+1}{\sqrt{3}-1} = \dfrac{\sqrt{3}+1}{\sqrt{3}-1} \times \dfrac{\left(\sqrt{3}+1\right)}{\left(\sqrt{3}+1\right)}$

$= \dfrac{\left(\sqrt{3}+1\right)^2}{3-1} = \dfrac{3+1+2\sqrt{3}}{2}$

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

Similarly, $y = \dfrac{\sqrt{3}-1}{\sqrt{3}+1} = 2-\sqrt{3}$

∴ $x^2 + y^2 = \left(2+\sqrt{3}\right)^2 + \left(2-\sqrt{3}\right)^2$

$= 4+3+4\sqrt{3}+4+3-4\sqrt{3} = 14$

67. (b) $\dfrac{x}{2x^2 + 5x + 2} = \dfrac{1}{6}$

$\Rightarrow 2x^2 + 5x + 2 = 6x$

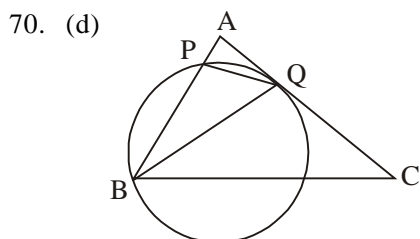$\Rightarrow 2x^2 + 2 = 6x - 5x = x$

$\Rightarrow x^2 + 1 = \dfrac{x}{2}$

On dividing by x,

$\Rightarrow x + \dfrac{1}{x} = \dfrac{1}{2}$

68. (d) $3\cos 80°.\,\text{cosec}\,10° + 2\cos 59°.\,\text{cosec}\,31°$

$= 3\cos(90°-10°).\,\text{cosec}\,10° + 2\cos(90°-31°)$
$.\,\text{cosec}\,31°$

$= 3\sin 10°.\,\text{cosec}\,10° + 2\sin 31°.\,\text{cosec}\,31°$

$= 3 + 2 = 5$

$[\because \cos(90°-\theta) = \sin\theta\,;\,\sin\theta.\,\text{cosec}\,\theta = 1]$

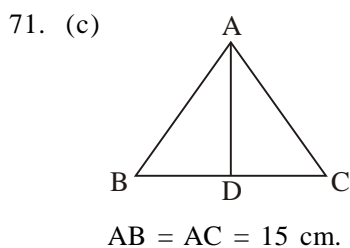**69.** (b) $\tan\theta = \dfrac{3}{4}$

$\therefore \cot\theta = \dfrac{4}{3}$

$\because \text{cosec}^2\theta - \cot^2\theta = 1$

$\Rightarrow \text{cosec}\,\theta = \sqrt{1 + \cot^2\theta}$

$= \sqrt{1 + \left(\dfrac{4}{3}\right)^2} = \sqrt{1 + \dfrac{16}{9}} = \sqrt{\dfrac{25}{9}} = \dfrac{5}{3}$

70. (d)

Let AB = AC = 2x

$\Rightarrow$ AQ = QC = x

$\because$ AB is a secant.

$\Rightarrow$ AP × AB = AQ²

$\Rightarrow$ AP × 2x = x²

$\Rightarrow$ AP $= \dfrac{x}{2}$ $\therefore \dfrac{AP}{AB} = \dfrac{x}{2 \times 2x} = \dfrac{1}{4}$ or 1 : 4

71. (c)

AB = AC = 15 cm.

AD $\perp$ BC; AD = 12 cm.

$\therefore$ BD = DC

In, ΔABD
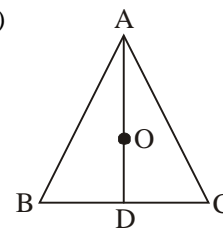
BD $= \sqrt{AB^2 - AD^2}$

$= \sqrt{15^2 - 12^2} = \sqrt{(15+12)(15-12)}$

$= \sqrt{27 \times 3} = 9$ cm.

$\therefore$ BC = 2 × BD = 2 × 9 = 18 cm.

72. (d)

DB = DC = 3cm.

AD $= \sqrt{AB^2 - BD^2} = \sqrt{6^2 - 3^2}$

$= \sqrt{36 - 9} = \sqrt{27} = 3\sqrt{3}$ cm.

$\therefore$ OD = In-radius

$= \dfrac{1}{3} \times 3\sqrt{3} = \sqrt{3}$ cm.

$\therefore$ Area of the in-circle = πr^2

$= \pi \times \sqrt{3} \times \sqrt{3} = 3\pi$ sq.cm.

73. (d) For an increase of 50% in the circumference of circle, the radius of circle should be increased by 50%.

Then, required percentage increase in the area of the circle

$= 50 + 50 + \dfrac{50 \times 50}{100}$

$= 100 + 25 = 125\%$

74. (a) $x + \dfrac{1}{x} = 5$

On cubing both sides,

$\left(x + \dfrac{1}{x}\right)^3 = 5^3$

$\Rightarrow x^3 + \dfrac{1}{x^3} + 3x.\dfrac{1}{x}\left(x + \dfrac{1}{x}\right) = 125$

$\Rightarrow x^3 + \dfrac{1}{x^3} + 3 \times 5 = 125$

$\Rightarrow x^3 + \dfrac{1}{x^3} = 125 - 15 = 110$

On squaring both sides,

$$x^6 + \frac{1}{x^6} + 2.x^3.\frac{1}{x^3} = 12100$$ অ্যাচিভার্স

$$\Rightarrow x^6 + \frac{1}{x^6} = 12100 - 2 = 12098$$

75. (b) $3x + \frac{3}{x} = 1$

$$\Rightarrow x + \frac{1}{x} = \frac{1}{3}$$

On cubing both sides,

$$x^3 + \frac{1}{x^3} + 3\left(x + \frac{1}{x}\right) = \frac{1}{27}$$

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

$$\Rightarrow x^3 + \frac{1}{x^3} + 1 = \frac{1}{27}$$ অ্যাচিভার্স

76. (c) **strike :** a period of time when a group of employees stops working.
Look at the examples given below :
Air traffic controllers are threatening **to come out on**/**go on strike**.
Half the workforce are now **(out) on strike**.
It should be **on strike**, and not **on a strike**.

77. (c) Here, **passive race** i.e. **nutrient disorder to be prevented** is the right usage.

78. (d) Here, **is a fool**/**is a foolish person** is the right usage.
fool is a **Noun**
foolish is an **Adj.**. So, it needs a **Noun** to be used with it.

79. (b) **from (Prep.)** is used for expressing that something comes from something else
Here, **from** is the right usage. অ্যাচিভার্স

80. (d) **factual (Adj.) :** based on or containing facts
factitious (Adj.) : not genuine but made to appear to be true
fictional (Adj.) : not real or true; existing only in stories
Here, **factual** is the right usage.

81. (d) **of the essence (Idiom) :** necessary and very important
Here, **of** is the right usage.

82. (a) **Simple Past Tense** (short action) is used with **Past Continuous Tense** (long action)
In the following sentence we have two actions :
1. long action → washing my face (**Past Continuous Tense**) অ্যাচিভার্স
2. short action → **crept** (**Past Tense**)
Here, **crept** is the right usage.

83. (d) As the **Subject** (**our city**) is **Singular**, **Singular Verb-was** is the right usage. অ্যাচিভার্স

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. (a) **a close shave/call** : a situation in which you only just manage to avoid an accident.
● The speeding car passed only a few inches from us - **a real close shave.**
The best option is **a narrow escape from danger.** অ্যাচিভার্স

88. (c) **have other fish to fry** : to have more important or more interesting things to do.
● He declined to come along to the movie, saying he had **other fish to fry.**
The best option is **some important work to attend to**

89. (d) **not hold water** : If an argument, an excuse, a theory etc., does not hold water, you cannot believe it.
Hold water : to stand up to critical examination
● Your explanation doesn't **hold water.**
The best option is **sound logical fact**

90. (d) **maiden speech** : the first speech made by an MP in the parliaments of some countries.
● She was terrified of making her **maiden speech.**
The best option is **first speech** অ্যাচিভার্স

91. (a) **distract (V.)** : to take somebody's attention away from what they are trying to do; divert.
captivate (V.) : to keep somebody's attention by being interesting, attractive etc.

92. (d) unpleasant
congenial (Adj.) : pleasant to spend time with; suitable for something; pleasant because it suits your character.
accord (N.) : a formal agreement
snug (Adj.) : cosy

93. (d) **acquire (V.)** : to gain something; to obtain something.
abjure (V.) : to promise publicly that you will give up or reject a belief; renounce. অ্যাচিভার্স
renounce (V.) : to state officially that you are no longer going to keep a title, position, etc.

relinquish (V.) : to stop having something, especially when this happens unwillingly

abnegate (V.) : renounce; reject.

94. (d) **misogynist** অ্যাচিভার্স

misogynist (N.) : a person who hates women

misogamist (N.) : a person who hates marriage

ambivert (N.) : a person who is both an introvert and an extrovert

misanthrope (N.) : a person who hates and avoids other people

95. (b) **truant** অ্যাচিভার্স

truant (N.) : a child who stays away from school without permission

sycophant (N.) : a person who praises important or powerful people too much and in a way that is not sincere, especially in order to get something from them অ্যাচিভার্স

martinet (N.) : a very strict person who demands that other people obey orders or rules completely

defeatist (N.) : a person expecting not to succeed, and showing it in a particular situation

96. (a) **modern (Adjective)**
97. (b) **time (Noun.)**
98. (c) **in (Prep.)** অ্যাচিভার্স
99. (a) **slow (Adjective)**
100. (b) **part (Noun)**

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