# SSC MOCK TEST - 272 (SOLUTION)

1. (B) $5 \rightarrow 5^3 = 125 \rightarrow 1 + 2 + 5 = 8$
   $9 \rightarrow 9^3 = 729 \rightarrow 7 + 2 + 9 = 18$
2. (C) Crowd is the group of man, while class is the group of students.
3. (C) As,

   $D \xrightarrow{4^2} 16 \longrightarrow P$

   $E \xrightarrow{5^2} 25 \longrightarrow Y$

   Similarly,

   $C \xrightarrow{3^2} 9 \longrightarrow I$

   $B \xrightarrow{2^2} 4 \longrightarrow D$
4. (D) (A) 152 – 95 = 57
   (B) 133 – 76 = 57
   (C) 114 – 57 = 57
   (D) 144 – 38 = **106**
5. (D) Except option (D), three vowels are used in all.
6. (A) Freeway, Interstate Road and Expressway are all high-speed highways whereas a Street is for low speed traffic.
7. (C) 2. Anniversary → 1. Annoy → 3. Annually → 5. Another → 4. Anxious
8. (A)

   Ramesh$^{(+)}$ ⟺ Gaurvi$^{(-)}$

   Ramesh$^{(+)}$ — Murli$^{(+)}$

   Murli$^{(+)}$ — Hema$^{(-)}$

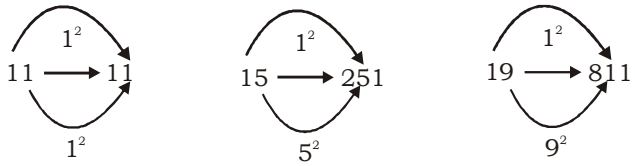
   Hema$^{(-)}$ — Prema$^{(-)}$

   Hence, Ramesh is the father of Hema.
9. (B) 223 (+16) 239 (+4) 243 (+4) 247 (+16) 263 (+4) 267 (+4) **271**

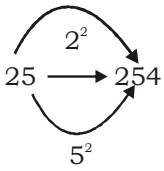
   $4^2$ $2^2$ $2^2$ $4^2$ $2^2$ $2^2$
10. (C)

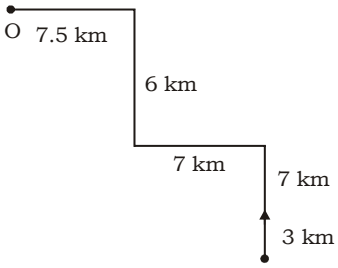
    | | | | |
    |---|---|---|---|
    | C | I | L | **R** |
    | F | L | O | **U** |
    | I | O | R | **X** |
11. (D)

| Front face | X | P | M |
|---|---|---|---|
| Opposite face | C | K | O |

12. (B) 


Similarly,




13. (C) 

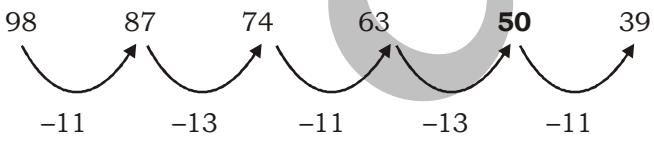

Hence, his face is in north direction.

14. (A) **Given** : S O I L D I S K
$ 4 % 6 5 % $ #
Then, S O L I D
**$ 4 6 % 5**

15. (B)

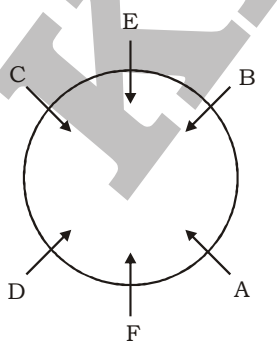
16. (A) There are 11 triangles in the given question figure.

17. (B) a **c d** f/ f **h** i **k**/ kmn**p**

18. (C) 


93 is the wrong term.

19. (A) 14 N 10 L 42 P 2 M 8
= 14 × 10 + 42 ÷ 2 – 8
= 140 + 21 – 8
= 161 – 8 = 153

20. (C) 


B and F are neighbours of A.

21. (A) 22. (C)

23. (D) After reading the question, we have :

B + 8 = C – (i)

A – 8 = C – 3 – (ii)

A + 6 = 2D – (iii)

B + D = 50 – (iv)

Putting C = A – 5 from (ii) into (i), we have :

B + 8 = A – 5 or A – B = 13 – (v)

Putting D = 50 – B from (iv) into (iii), we have :

A + 6 = 100 – 2B or A + 2B = 94 –(vi)

Solving (v) and (vi), we get

B = 27 and A = 40

24. (B) 25. (C)

26. (B) Selman Abraham Waksman was awarded noble prize in 1952 in physiology or medicine in recognition for the discovery of 'Streptomycin'. It is the first active antibiotic against tuberculosis.

30. (D) An autocracy is a system of government in which supreme power is concentrated in the hands of one person.

31. (B) The earth completes one rotation around its axis in 23 hours 56 minutes 4 seconds. It rotates from west to east.

33. (D) A heavy metal is any relatively dense metal. Heavy metals got their name because in comparison to other metals they have higher atomic mass.

34. (D) The previous name of State Bank of India was Imperial Bank of India.

Three presidency bank, Bank of Bengal, Bank of Madras and Bank of Bombay were reorganised to form a single banking entity i.e. Imperial Bank of India in 1921. In 1955, Imperial Bank of India was nationalised as the State Bank of India.

35. (C) Grasslands can exist in habitats that are frequently disturbed by grazing or fire, as such disturbances prevent the encroachment of woody species. Infertility i.e. low nutrient levels in the soil also prevent woody encroachment as it inhibits growth of forest and shrub species. Scarcity of water also favours growth of grassland as it hinders the growth of trees.

37. (D) The Battle of Plassey was fought on 23 june 1757 between British East India company and the Nawab of Bengal and its allies. This battle took place at Palashi on the bank of Bhagirathi river. The battle established the company rule in Bengal.

39. (B) The pollutants found in the drinking water in some parts of India are arsenic, fluoride and uranium.

41. (B) The Gupt Empire was an ancient Indian empire, founded by Sri Gupta. Gupta period is called the Golden Age of India. Chandra Gupta I, Samundra Gupta and Chandra Gupta II were the most notable rulers of the Gupta dynasty.

42. (C) Molybdenum deficiency affects the activity of nitrate reductase and hence this enzyme cannot catalyze the reduction of nitrite.

43. (B) Bauxite is converted to Aluminium oxide ($Al_2O_3$) via the Bayer process.

$Al_2O_3 + 2NaOH \longrightarrow 2NaAlO_2 + H_2O$

$2H_2O + NaAlO_2 \longrightarrow Al(OH)_3 + NaOH$

45. (D) A dynamo is an electrical generator that produces direct current. It converts mechanical energy into electrical energy. It is the first generator capable of delivering power for industry.

46. (D) Dhrupad is a vocal genre in Hindustani classical music. It is said to be the oldest still in use in that musical tradition.

47. (A) The liquidity preference theory was first developed by John Maynard Keynes in his book "The General Theory of employment, Interest and Money" in 1936 to explain the determination of interest rate by the supply and demand for money.

48. (A) Fuse wire is characterised by its high resistance and low melting point.

49. (C) Shekhar Kapoor made a movie "Bandit Queen" in 1994 which was about Phoolan Devi's life upto her 1983 surrender, based on Mala Sen's 1993 book "India's Bandit Queen: The true story of Phoolan Devi".

50. (C) Cyanide poisoning causes cardiac arrest. Cyanide ions halts cellular respiration by inhibiting an enzyme in the mitochondria.

51. (C) $\frac{x^2+3x+1}{x^2+7x+1} = \frac{x\left(x+3+\frac{1}{x}\right)}{x\left(x+7+\frac{1}{x}\right)}$

$= \frac{x+\frac{1}{x}+3}{x+\frac{1}{x}+7} = \frac{1+3}{1+7} = \frac{1}{2}$

52. (B) $x = \sqrt{a\sqrt[3]{b\sqrt{a\sqrt[3]{b}.....\infty}}}$

$x = \sqrt{a\sqrt[3]{bx}}$

$x^2 = a\sqrt[3]{bx}$

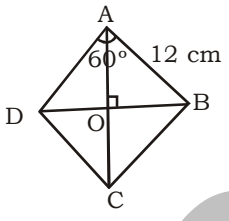
$\left(\frac{x^2}{a}\right)^3 = bx$

$\frac{x^6}{a^3} = bx$

$x^5 = a^3b$

$x = \sqrt[5]{a^3b}$

53. (A)




In $\Delta$ AOB,

$\angle$ OAB = 30°

$\sin \angle OAB = \frac{OB}{12}$

$12 \times \sin 30° = OB$

$OB = 12 \times \frac{1}{2} = 6$ cm

$\therefore$ BD = 2 × 6 = 12 cm

54. (D) Let the two angles of the triangle be 4x and 5x.
Let the third angle be y.
ATQ,
4x + 5x = y
9x = y ..... (i)
Also,
4x + 5x + y = 180°
9x + y = 180°

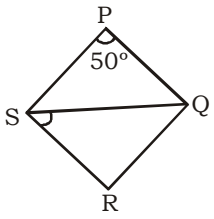
$9x + 9x = 180°$

$x = 10°$

The angles are $4 \times 10°, 5 \times 10°, 9 \times 10° = 40°, 50°, 90°$

$\therefore$ The smallest angle = $40°$

55. (A)




As PQ | | SR

$\angle SPQ + \angle PSR = 180°$

$50° + \angle PSR = 180°$

$\angle PSR = 180° - 50° = 130°$

$\therefore \quad \angle RSQ = \frac{130°}{2} = 65°$

56. (A) $\tan 1° \tan 2° \tan 3° \ldots\ldots\ldots \tan 88° \tan 89°$

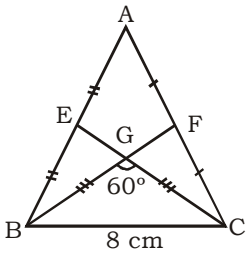
$= \tan(90° - 89°) \tan(90° - 88°) \tan(90° - 89°) \ldots\ldots \tan 45° \ldots\ldots \tan 88° \tan 89°$

$= \cot 89° \cot 88° \cot 87° \ldots. \tan 45° \ldots\ldots \tan 88° \tan 89°$

$= 1 \times 1 \times \tan 45° \qquad [\because \tan\theta \cot\theta = 1]$

$= 1$

57. (B)




In $\Delta BGC$,

$\angle BGC + \angle GBC + \angle BCG = 180°$

$60° + 2\angle GBC = 180° \qquad (\because BG = GC)$

$\angle GBC = \frac{180° - 60°}{2} = 60°$

$\therefore \quad \Delta BGC$ is equilateral

$\text{ar}(\Delta BGC) = \frac{\sqrt{3}}{4} \times 8^2 = 16\sqrt{3}\ \text{cm}^2$

Now,

$\text{ar}(\Delta ABC) = 3 \times \text{ar}(\Delta BGC)$

$= 3 \times 16\sqrt{3} = 48\sqrt{3}\ \text{cm}^2$

58. (A) $\frac{\text{Demand of Company B}}{\text{Production of Company F}} \times 100$

$= \frac{3150}{4500} \times 100 = 70\%$

59. (D) $\frac{\text{Production of company A}}{\text{Demand of Company C}} \times 100$

$= \frac{1450}{2600} \times 100 = 55\%$ (approx)

60. (B) Average Demand of all Companies $= \frac{2100+3150+2600+5000+2800+3300}{6}$

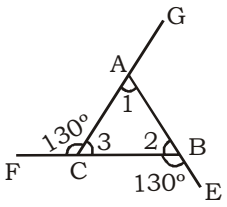
$= 3158$ (approx.)

Average Production of all Companies $= \frac{1450+3660+3100+4200+3700+4500}{6} = 3435$

$\therefore$ Difference between average production and average demand = 3435 –3158 = 277
= 275 (approx.)

61. (B) $\frac{\text{Companies having more demand than production}}{\text{Companies having more production than demand}} = \frac{2}{4} = \frac{1}{2}$

62. (A)




$\angle GAB = \angle 2 + \angle 3$ ... (i)
$\angle CBE = \angle 1 + \angle 3$ ..(ii)
$\angle ACF = \angle 1 + \angle 2$ ...(iii)
From equation (i), (ii) and (iii)
$\angle GAB + \angle CBE + \angle ACF = \angle 2 + \angle 3 + \angle 1 + \angle 3 + \angle 1 + \angle 2$
$\angle GAB + 130° + 130° = 2 (\angle 1 + \angle 2 + \angle 3)$
$\angle GAB = 2 \times 180° - 260°$
$= 360° - 260° = 100°$

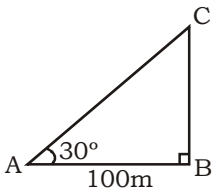
63. (D) $\frac{x}{y} = \frac{3}{4}$

$4x = 3y$ ..... (i)

$\frac{2x+3y}{3y-2x} = \frac{2x+4x}{4x-2x}$

$= \frac{6x}{2x} = \frac{3}{1}$

64. (C)



$\tan 30^\circ = \frac{BC}{AB} = \frac{BC}{100}$

$\frac{1}{\sqrt{3}} = \frac{BC}{100}$

$BC = \frac{100}{\sqrt{3}}$ m

65. (A) CP of 100 books = S.P of 60 books

$\therefore$ Gain % $= \frac{100-60}{60} \times 100 = 66\frac{2}{3}\%$

66. (A) $\tan^2\theta + \frac{1}{\tan^2\theta} = 2$

$\tan^4\theta + 1 = 2\tan^2\theta$

$\tan^4\theta + 1 - 2\tan^2\theta = 0$

$(\tan^2\theta - 1)^2 = 0$

$\tan^2\theta = 1$

$\tan\theta = 1$ [$\tan\theta = -1$ is ignored as $\theta$ is acute]

$\theta = 45^\circ$

67. (A) Let income be ₹ 100

Expenditure = ₹ 75

Savings = ₹ 25

New income after 20% increment = ₹ 120

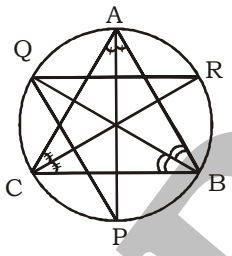
New expenditure after 10% increment = 75 + 7.5 = ₹ 82.5

New savings = 120 – 82.5 = ₹ 37.5

Increase in savings = 37.5 – 25 = ₹ 12.5

$\therefore$ % increase $= \frac{12.5}{25} \times 100 = 50\%$

68. (D)




$\angle RQP = \angle PQB + \angle RQB$ ..... (i)

$\angle PQB = \angle PAB$ [Angle subtended in the same arc equal]

$\angle PQB = \frac{1}{2}\angle BAC$ .... (ii)

Similarly,

$\angle RQB = \frac{1}{2}\angle BCA$ ...(iii)

From (i), (ii) and (iii)

$\angle RQP = \frac{1}{2}(\angle BAC + \angle BCA)$

$= \frac{1}{2}(180^\circ - \angle ABC) = 90^\circ - \frac{\angle B}{2}$

69. (B)

70. (B) Relative speed of Raj and Prem while walking in opposite direction = 3 + 2 = 5 km/hours
Distance between Raj and Prem = 5 × 2 = 10 km

71. (B) $\frac{7+11+15+x+14+21+25}{7} = 15$

$93 + x = 105$

$x = 12$

72. (A) Area A = $\pi r^2$ _____(i)

C = $2\pi r$ _____(ii)

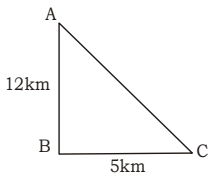
Eqiation (i) ÷ (ii),

$\frac{A}{C} = \frac{\pi r^2}{2\pi r}$

$\frac{A}{C} = \frac{r}{2}$

$2A = Cr$

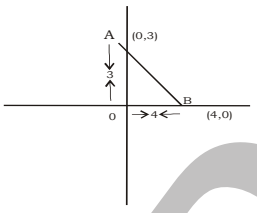
73. (D)




AC = $\sqrt{12^2+5^2}$ = $\sqrt{144+25}$

= $\sqrt{169}$ = 13 km

74. (B)




AB = $\sqrt{3^2+4^2}$ = $\sqrt{9+16}$

= $\sqrt{25}$ = 5 units

75. (C) $\frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}-2} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{3-\sqrt{8}}$

$\frac{1}{\sqrt{7}-\sqrt{6}} \times \frac{\sqrt{7}+\sqrt{6}}{\sqrt{7}+\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} \times \frac{\sqrt{6}+\sqrt{5}}{\sqrt{6}+\sqrt{5}} + \frac{1}{\sqrt{5}-2} \times \frac{\sqrt{5}+2}{\sqrt{5}+2} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{\sqrt{8}+\sqrt{7}}{\sqrt{8}+\sqrt{7}} + \frac{1}{3-\sqrt{8}} \times \frac{3+\sqrt{8}}{3+\sqrt{8}}$

$\frac{\sqrt{7}+\sqrt{6}}{(\sqrt{7})^2-(\sqrt{6})^2} - \frac{\sqrt{6}+\sqrt{5}}{(\sqrt{6})^2-(\sqrt{5})^2} + \frac{\sqrt{5}+2}{(\sqrt{5})^2-2^2} - \frac{\sqrt{8}+\sqrt{7}}{(\sqrt{8})^2-(\sqrt{7})^2} + \frac{3+\sqrt{8}}{3^2-(\sqrt{8})^2}$

$\sqrt{7}+\sqrt{6}-\sqrt{6}-\sqrt{5}+\sqrt{5}+2-\sqrt{8}-\sqrt{7}+3+\sqrt{8} = 5$

# MEANINGS IN ALPHABETICAL ORDER

| | | |
|---|---|---|
| Aneurysm | An abnormal blood-filled bulge of a blood vessel | धमनी विस्फार |
| Plebiscite | A vote by the people of a country or a region on an issue that is very important | जनमत |
| Renunciation | The act of rejecting physical pleasures, especially for religious reasons. | संन्यास |
| Referendum | An occasion when all the people of a country can vote on an important issue | जनमत |
| Flora | All the plants that live in a particular area, time, period, or environment | वनस्पति |
| Adaptation | The process of changing to fit some purpose or situation | अनुकूलता |
| Expedition | A journey especially by a group of people for a specific purpose | अभियान |
| Stature | Natural height in an upright position | ऊंचाई |
| Dwarfing | An animal or plant much below normal size | बौना |
| Miniature | Something small of its kind | लघु रूप |
| Comely | Pleasing in appearance | मनोरम |
| Expedient | Providing an easy and quick way to solve a problem or do something | प्रणाली |
| Exuding | To flow out slowly | बहना |
| Encompassing | To include a large number or range of things | व्यापक/आस-पास का |
| Twigs | A small shoot or branch usually without its leaves | टहनी |
| Altruism | Devotion to the welfare of others | परोपकारिता |
| Pipped | To beat somebody in a race, competition, etc. at the last moment | अंतिम समय में पछाड़ देना |
| Shallow | The front edge of something | छिछला, सतही |
| Receded | To move gradually away from somebody or from a previous position | पीछे हटना |
| Abated | To become less strong | धीमा होना, मंद करना |

# SSC MOCK TEST - 272 (ANSWER KEY)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. | (B) | 26. | (B) | 51. | (C) | 76. | (C) |
| 2. | (C) | 27. | (B) | 52. | (B) | 77. | (C) |
| 3. | (C) | 28. | (D) | 53. | (A) | 78. | (C) |
| 4. | (D) | 29. | (A) | 54. | (D) | 79. | (D) |
| 5. | (D) | 30. | (D) | 55. | (A) | 80. | (D) |
| 6. | (A) | 31. | (B) | 56. | (A) | 81. | (A) |
| 7. | (C) | 32. | (B) | 57. | (B) | 82. | (C) |
| 8. | (A) | 33. | (D) | 58. | (A) | 83. | (D) |
| 9. | (B) | 34. | (D) | 59. | (D) | 84. | (B) |
| 10. | (C) | 35. | (C) | 60. | (B) | 85. | (A) |
| 11. | (D) | 36. | (B) | 61. | (B) | 86. | (C) |
| 12. | (B) | 37. | (D) | 62. | (A) | 87. | (C) |
| 13. | (C) | 38. | (A) | 63. | (D) | 88. | (C) |
| 14. | (A) | 39. | (B) | 64. | (C) | 89. | (D) |
| 15. | (B) | 40. | (B) | 65. | (A) | 90. | (D) |
| 16. | (A) | 41. | (B) | 66. | (A) | 91. | (A) |
| 17. | (B) | 42. | (C) | 67. | (A) | 92. | (C) |
| 18. | (C) | 43. | (B) | 68. | (D) | 93. | (B) |
| 19. | (A) | 44. | (A) | 69. | (B) | 94. | (A) |
| 20. | (C) | 45. | (D) | 70. | (B) | 95. | (A) |
| 21. | (A) | 46. | (D) | 71. | (B) | 96. | (C) |
| 22. | (C) | 47. | (A) | 72. | (A) | 97. | (C) |
| 23. | (D) | 48. | (A) | 73. | (D) | 98. | (A) |
| 24. | (B) | 49. | (C) | 74. | (B) | 99. | (B) |
| 25. | (C) | 50. | (C) | 75. | (C) | 100. | (D) |

76. (C) The correct spelling of the word 'Annonymous' is 'Anonymous', 'Carcas' is 'Carcass' and 'Disipate' is 'Dissipate'.

77. (C) The correct spelling of the word 'Advicable' is 'Advisable', 'Coherant' is 'Coherent' and 'Tommorow' is 'Tomorrow'.