

SSC CHSL SOLUTION PAPER - 02

Ques 1. ANS (C) Solution: Places where animals lives. Lion lives in Den.

Ques 2. ANS (D) Solution:

$$\begin{array}{ccc} 34 & : & 65 \\ \text{---} & & \text{---} \\ & +31 & +31 \end{array} :: \begin{array}{ccc} 19 & : & 50 \\ \text{---} & & \text{---} \\ & +31 & \end{array}$$

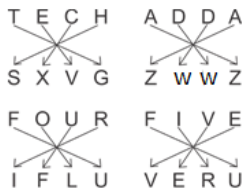
Ques 3. ANS (C) Solution: +5, -5 series

Ques 4. ANS (A) Solution: -5 series follows.

Ques 5. ANS (B) Solution: Position of letter in English alphabet.

Ques 6. ANS (B) Solution:

Opposite letters



Ques 7. ANS (A) Solution: Except, (A), all other are caused by bacteria. And Ebola is caused by virus.

Ques 8. ANS (A) Solution: Except (A), all others follows (First number) $\times 3 + 3$ rule follow.

Ques 9. ANS (D) Solution:

$$\begin{array}{ccccccc} 23 & , & 59 & , & 108 & , & 172 & , & 253 \\ \text{---} & & \text{---} & & \text{---} & & \text{---} & & \\ & 36 & & 49 & & 64 & & 81 & \end{array}$$

Ques 10. ANS (B) Solution: +4, -5 series

Ques 11. ANS (C) Solution:

$$(41)^2, (43)^2, (47)^2, (53)^2, (59)^2$$

Square series of prime numbers.

Ques 12. ANS (B) Solution:

$$(7 + 4) \times (7 - 4) = 33$$

$$(5 + 9) \times (9 - 4) = 56$$

$$(2 + 3) \times (3 - 2) = 5$$

Ques 13. ANS (C) Solution:

Ques 14. ANS (A) Solution:

$$= 53 + 7 - 10 \times 2 \div 3$$

$$= 60 - \frac{20}{3}$$

$$= 53.33$$

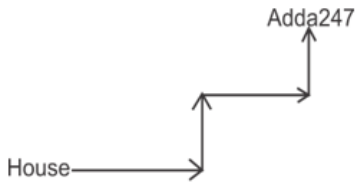
Ques 15. ANS (B) Solution:

Ques 16. ANS (A) Solution:

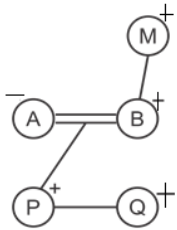
S P Q
S N M

Ques 17. ANS (C) Solution: There are 30 triangle in the given figure

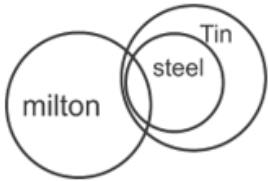
Ques 18. ANS (B) Solution:



Ques 19. ANS (B) Solution:



Ques 20. ANS (B) Solution:



Ques 21. ANS (B) Solution:

Ques 22. ANS (D) Solution:

Ques 23. ANS (D) Solution:

Ques 24. ANS (C) Solution:

Ques 25. ANS (A) Solution: Solution: Number of triangles are increasing

Ques 26. ANS (B) Solution: Solution: Vikramashila was established by King Dharmapala (783 to 820 AD) in response to a supposed decline in the quality of scholarship at Nalanda.

Ques 27. ANS (C) Solution: Solution: Aurangzeb, the Mughal Emperor died in 1707. On March 3, 1707, the 88-year-old Aurangzeb died in central India.

Ques 28. ANS (B) Solution: Solution: Agra Fort is a historical fort in the city of Agra in India. It was the main residence of the emperors of the Mughal Dynasty till 1638, it was built by Akbar.

Ques 29. ANS (D) Solution: Solution: Lord Wellesley remained Governor General of Fort Williams from 1798 to 1805. He described himself as Bengal Tiger.

Ques 30. ANS (A) Solution: Solution: The River Yangtze is the longest river in China. In fact, it is the longest river in Asia and the third longest in the world with a length of 3,917 miles. Furthermore, the river is the longest in the world to flow in a single country and the sixth largest river by discharge volume.

Ques 31. ANS (B) Solution: Solution: 22nd December is the shortest day in the northern hemisphere.

Ques 32. ANS (D) Solution: Solution: Nagarhole National Park, also known as Rajiv Gandhi National Park, is a wildlife reserve in the South Indian state of Karnataka. Part of the Nilgiri Biosphere Reserve, the park is backed by the Brahmagiri Mountains and filled with sandalwood and teak trees.

Ques 33. ANS (C) Solution: Solution: Gujarat has the longest coastline of 1214.7 km among all the states.

Ques 34. ANS (D) Solution: Solution: Melghat was declared as a tiger reserve and was among the first nine tiger reserves notified in 1973-74 under the Project Tiger. It is located at in northern part of Amravati District of Maharashtra State in India.

Ques 35. ANS (B) Solution: Solution: Article 93: The Speaker and Deputy Speaker of the House of the People. Article 93 of constitution states that, a Speaker and Deputy Speaker to Lower House of Parliament must be elected in 1st sitting of Lok Sabha.

Ques 36. ANS (B) Solution: Solution: The Constitution of India was drafted by the Constituent Assembly, and it was implemented under the Cabinet Mission Plan on 16 May 1946.

Ques 37. ANS (B) Solution: Solution: Indirect Tax causes heavy burden on the poorer sections of society.

Ques 38. ANS (D) Solution: Solution: The microwaves are high-frequency signals in the 300 MHz to 300 Ghz range. The signals can carry thousands of channels at the same time, making it a very versatile communication system. Radio waves are used to transmit television and radio programs.

Ques 39. ANS (B) Solution: Solution: The mineral pyrite, or iron pyrite, is an iron sulphide with the molecular formula FeS_2 . Pyrite is used in commercial production of sulphur dioxide, for use in the paper industry and in the manufacture of sulphuric acid.

Ques 40. ANS (A) Solution: Solution: Enzymes are biological molecules (proteins) that act as catalysts and help complex reactions occur everywhere in life. They speed up reactions by providing an alternative reaction pathway of lower activation energy.

Ques 41. ANS (D) Solution: Solution: Trypsin is one of the three principal digestive proteinases. Trypsin acts with the other proteinases to break down dietary protein molecules to their component peptides and amino acids.

Ques 42. ANS (C) Solution: Solution: Indian journalist Ravish Kumar received the prestigious 2019 Ramon Magsaysay Award.

Ques 43. ANS (B) Solution: Solution: Arunachal Pradesh flagged off the state's first Riot Control Vehicle (RCV) popularly known as VAJRA at Police Headquarter, Itanagar.

Ques 44. ANS (C) Solution: Solution: The reorganization of Jammu & Kashmir and Ladakh into separate union territories took effect from 31st October 2019.

Ques 45. ANS (B) Solution: Solution: The Bryan Brothers are identical twin brothers Robert Charles "Bob" Bryan and Michael Carl "Mike" Bryan, American professional doubles tennis players, and are the most successful duo of all time.

Ques 46. ANS (C) Solution: Solution: Greta Thunberg (16-year-old) of Sweden has been nominated for the 2019 Nobel Peace Prize. Greta works to protect the environment. Greta is the founder of the School Strike for Climate Movement. The movement began last year when Greta protested alone outside the Swedish Parliament. Cameroonian peace activist Divina Maloum, aged 15, also received the International Children's Peace Prize.

Ques 47. ANS (C) Solution: Solution: Mumbai has been ranked as the 45th safest city on the Safe Cities Index (SCI), while Delhi stood at the 52nd position, a report by Economist Intelligence Unit.

Ques 48. ANS (A) Solution: Solution: Global companies such as BHP, Peabody Energy and Glencore can now own coal mines and carry out related operations in India, with the cabinet approving 100% foreign direct investment under the automatic route in mining, processing and sale.

Ques 49. ANS (A) Solution: Solution: World Maritime Day 2019 was observed on 26 September. The World Maritime Day theme for the year is "Empowering Women in the Maritime Community".

Ques 50. ANS (A) Solution: Solution: The Typhoon Phanfone, known locally as Typhoon Ursula. It is a part of the Pacific Typhoon Season. Several people were killed and thousands were evacuated in Philippines in response to the tropical storm.

Ques 51. ANS (C) Solution:

$$\tan\theta \cdot \tan 2\theta = 1$$

$$\Rightarrow \theta + 2\theta = 90^\circ \Rightarrow \theta = 30^\circ$$

$$2\tan\theta + 4\tan 2\theta$$

$$= 2 \times \tan 30^\circ + 4 \times \tan 60^\circ$$

$$= \frac{2}{\sqrt{3}} + 4\sqrt{3} = \frac{2 + 12}{\sqrt{3}} = \frac{14}{\sqrt{3}} = \frac{14\sqrt{3}}{3}$$

Ques 52. ANS (A) Solution:

$$a^2 + b^2 + c^2 - ab - bc - ca = 0$$

$$\Rightarrow 2a^2 + 2b^2 + 2c^2 - 2ab - 2bc - 2ca = 0$$

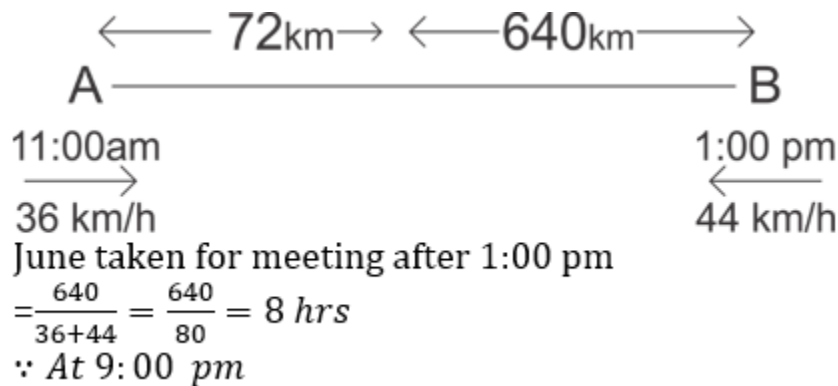
$$\Rightarrow a^2 + b^2 - 2ab + a^2 + c^2 - 2ac + b^2 + c^2 - 2bc = 0$$

$$\Rightarrow (a - b)^2 + (b - c)^2 + (a - c)^2 = 0$$

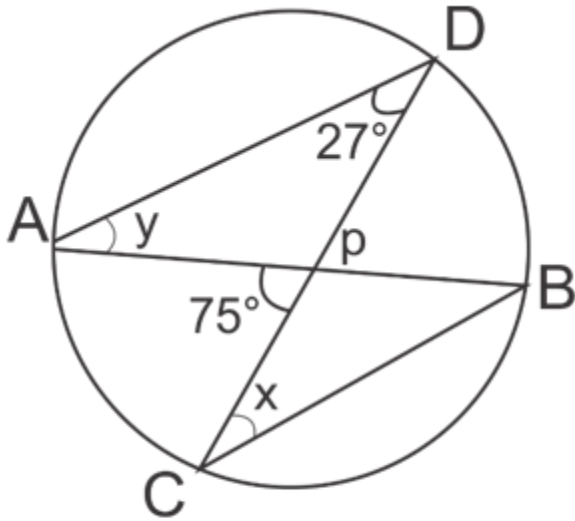
$$\therefore a = b = c$$

$$\therefore \frac{2a + 3c}{5b} = \frac{2a + 3a}{5a} = 1$$

Ques 53. ANS (D) Solution:



Ques 54. ANS (C) Solution:



$\Rightarrow 75^\circ$ is exterior to $\triangle APD$

$$\therefore 75^\circ = y + 27^\circ$$

$$\Rightarrow y = 48^\circ$$

Now, chord AB subtends both angle x and y

$$x = y = 48^\circ$$

Ques 55. ANS (A) Solution:

$$14.28\% = \frac{1}{7} \text{ \& } 11.11\% = \frac{1}{9}$$

Let the principal be Rs 63 unit

$$\boxed{I} \quad 9$$

$$\boxed{II} \quad 7 \quad 1$$

Now, 8 unit \rightarrow Rs 56

\therefore 63 units \rightarrow Rs 441

Ques 56. ANS (C) Solution:

We know, if $x + \frac{1}{x^2} = n$

$$\text{Then, } x^3 + \frac{1}{x^3} = \frac{x^6+1}{x^3} = n^3 - 3n$$

Similarly, let $x = \cos\theta$

$$\begin{aligned} \therefore \frac{\cos^6\theta + 1}{\cos^3\theta} &= 64 - 3 \times 4 \\ &= 52 \end{aligned}$$

Ques 57. ANS (C) Solution:

$$\text{ATQ } 25\text{BCP} = 25\text{BSP} - 5\text{BSP}$$

$$\Rightarrow 25\text{ BCP} = 20\text{ BSP} = \text{Rs } 4000$$

$$\Rightarrow 1\text{BSP} = \text{Rs } 200$$

Ques 58. ANS (B) Solution:

	I	II
Rent	3	1
No. of passengers	1	50
<hr/>		
Total	3	50

Now, \rightarrow Rs 1855

\rightarrow Rs 35

Fare received from = 50×35

Second class passenger = Rs 1750

Ques 59. ANS (A) Solution:

CP = Rs 15,000

P = 25% = Rs 3750

SP = Rs 18750 = $20 \times$ crates

\Rightarrow crates = Rs 937.5

Ques 60. ANS (D) Solution:

$$\text{required ratio} = \frac{50+80}{90+70} = \frac{130}{160} = \frac{13}{16}$$

Ques 61. ANS (C) Solution:

$$\text{required percentage} = \frac{(380-220)}{380} \times 100 = 42.1\%$$

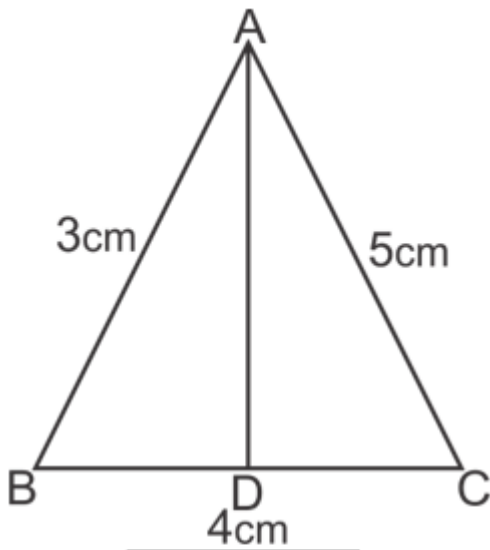
Ques 62. ANS (D) Solution:

$$\begin{aligned} \text{Required percentage} &= \frac{70-68}{68} \times 100 \\ &= 2 \frac{16}{17} \% \end{aligned}$$

Ques 63. ANS (A) Solution:

$$\text{in January percentage} = \frac{60-50}{50} \times 100 = 20\%$$

Ques 64. ANS (B) Solution:



$$\begin{aligned}
 AD &= \sqrt{\frac{2c^2 + 2b^2 - a^2}{4}} \\
 &= \sqrt{\frac{2 \times 3^2 + 2 \times 5^2 - 4^2}{4}} \\
 &= \sqrt{\frac{18 + 50 - 16}{4}} = \sqrt{13} \text{ cm}
 \end{aligned}$$

Ques 68. ANS (B) Solution:

$$\text{Efficiency Ratio} = \text{Amit} : \text{Piyush} = 5 : 4$$

Total number of day taken by

$$\text{Amit \& Piyush to complete the work} = \frac{4 \times 90}{9} = 40 \text{ days}$$

$$\text{time taken by Ram to Complete the work} = (40 - 12) = 28 \text{ days}$$

$$\text{time taken by Ram to complete the remining work} = 28 \times \left(1 - \frac{10}{40}\right) = 21 \text{ days}$$

Ques 69. ANS (C) Solution:

$$\begin{aligned}
 \frac{\text{Hieght}}{\text{deameter}} &= \frac{3}{2} \\
 \Rightarrow \frac{\text{height}}{\text{radius}} &= \frac{3x}{x}
 \end{aligned}$$

$$\text{Volume of cone} = \frac{1}{3} \pi r^2 h$$

$$8624 = \frac{1}{3} \times \frac{22}{7} \times x \times x \times 3x$$

$$\Rightarrow x^3 = 2744$$

$$x = 14 \text{ cm}$$

$$\begin{aligned}
 \therefore \text{height of the cone} &= 14 \times 3 \\
 &= 42 \text{ cm}
 \end{aligned}$$

Ques 70. ANS (A) Solution:

$$36\left(\frac{1}{3} + \frac{1}{9} + \frac{1}{27} + \dots + \infty\right)$$

$$= 36^{1 - 1/3} = 36^{2/3} = 36^{1/2}$$

$$= 6$$

Ques 71. ANS (D) Solution:

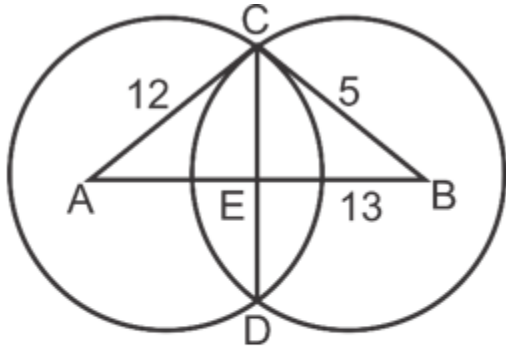
$$\tan 7^\circ = \cot 83^\circ = \frac{m}{n}$$

$$\tan 83^\circ = \cot 7^\circ = \frac{n}{m}$$

$$\therefore \frac{\sec^2 83^\circ}{1 + \cot^2 83^\circ} = \frac{1 + \tan^2 83^\circ}{1 + \cot^2 83^\circ}$$

$$= \frac{1 + \tan^2 83^\circ}{\tan^2 83^\circ} = \tan^2 83^\circ = \frac{n^2}{m^2}$$

Ques 72. ANS (C) Solution:



$$\angle ACB = 90^\circ$$

$$\therefore EC = \frac{5 \times 12}{13}$$

$$CD = \frac{60}{13} \times 2 = \frac{120}{13} \text{ cm}$$

Ques 73. ANS (B) Solution:

$$\frac{1}{42} + \frac{1}{56} + \frac{1}{72} + \frac{1}{90} + \frac{1}{110} + \frac{1}{132}$$

$$\frac{1}{6 \times 7} + \frac{1}{7 \times 8} + \frac{1}{8 \times 9} + \frac{1}{9 \times 10} + \frac{1}{10 \times 11} + \frac{1}{11 \times 12}$$

$$= \left(\frac{1}{6} - \frac{1}{7}\right) + \left(\frac{1}{7} - \frac{1}{8}\right) + \left(\frac{1}{8} - \frac{1}{9}\right) + \left(\frac{1}{9} - \frac{1}{10}\right) + \left(\frac{1}{10} - \frac{1}{11}\right) + \left(\frac{1}{11} - \frac{1}{12}\right)$$

$$= \frac{1}{6} - \frac{1}{12} = \frac{1}{12}$$

Ques 74. ANS (B) Solution:

मान लीजिए कि वस्तु का लागत मूल्य x रुपये है।

फिर, विक्रय मूल्य = 0.9x रुपये

A.T.Q.:

$$\Rightarrow 0.9x + 125 = x \text{ का } 115\%$$

$$\Rightarrow 0.9x + 125 = (23/20)x$$

$$\Rightarrow 18x + 2500 = 23x$$

$$\Rightarrow 5x = 2500$$

$$\Rightarrow x = 500 \text{ रुपये} = \text{वस्तु का क्रय मूल्य}$$

Ques 75. ANS (C) Solution:

$$\begin{array}{l} a^2 - b^2 = 75 \\ \swarrow \quad \searrow \\ (a-b) \quad (a+b) = \begin{array}{l} 5 \times 15 \\ 3 \times 25 \\ 1 \times 75 \end{array} \left. \begin{array}{l} \text{only 3} \\ \text{such pairs} \\ \text{possible} \end{array} \right\} \end{array}$$

Ques 76. ANS (A) Solution: Solution: Here, "The employers, whom I worked with" is the right usage. "Whom" is used in-stead of "who" as the Object of a Verb or Preposition in subordinate clause.

Ques 77. ANS (A) Solution: Solution: Here habitual action is evident. Hence, Present Tense i.e. "have a" is the right usage.

Ques 78. ANS (D) Solution:

Ques 79. ANS (A) Solution: Solution: Come across is the right usage. Come across (Something): to meet or find by chance

Ques 80. ANS (D) Solution:

Ques 81. ANS (A) Solution:

Ques 82. ANS (A) Solution:

Ques 83. ANS (B) Solution:

Ques 84. ANS (C) Solution:

Ques 85. ANS (D) Solution:

Ques 86. ANS (A) Solution: Solution: Lull- calm or send to sleep, typically with soothing sounds or movements. Propitiate- win or regain the favour of (a god, spirit, or person) by doing something that pleases them.

Ques 87. ANS (B) Solution: Solution: You bet: sure or certainly.

Ques 88. ANS (C) Solution: Solution: To put the cat among the pigeons: it is used to describe a disturbance caused by an undesirable person.

Ques 89. ANS (B) Solution: Solution: Impede: delay or prevent Faze: disturb or disconcert (someone).

Ques 90. ANS (A) Solution: Solution: Sweeping: wide in range or effect.

Ques 91. ANS (C) Solution: Solution: Stymie: prevent or hinder the progress of. Impede: delay or prevent Explicate: analyse and develop (an idea or principle) in detail.

Ques 92. ANS (A) Solution: Solution: Suffix: a morpheme added at the end of a word. Addition: to add something.

Ques 93. ANS (B) Solution: Solution: Flog: means beat (someone) with a whip or stick as a punishment and compliment means a polite expression of praise or admiration.

Ques 94. ANS (B) Solution: Solution: Extravagance: lack of restraint in spending money or using resources. Thrift: using money and other resources carefully and not wastefully.

Ques 95. ANS (C) Solution: Solution: Consensus: a general agreement.

Ques 96. ANS (A) Solution: Solution: Composure: the state or feeling of being calm and in control of oneself.

Ques 97. ANS (A) Solution:

Ques 98. ANS (C) Solution:

Ques 99. ANS (D) Solution:

Ques 100. ANS (A) Solution: