SSC CGL Tier 1 Previous Year Question Paper (Solution)

S1. Ans.(b)

Sol.

DIG

$$4 + 9 + 7 = 20 + 5 = 25$$

CUT

$$3 + 21 + 20 = 44 + 5 = 49$$

Similarly,

KICK

$$11 + 9 + 3 + 11 = 34 + 5 = 39$$

S2. Ans.(d)

S3. ans.(d)

S4. Ans.(d)

S5. Ans.(c)

Sol.



adda 241

Similarly, for option (c)

$$(36, 55, 25)$$
 \downarrow
 6^2
 5^2

$$(3 + 4) \times 5 = 35$$

same as $(6 + 5) \times 5 = 55$

S6. Ans.(d)

Sol.

$$(3, 24, 4) \rightarrow 3 \times 4 \times 2 = 24$$

similarly, option (d)

$$(4,72,9) \rightarrow 4 \times 9 \times 2 = 72$$



S7. Ans.(d)

Sol.C
$$\stackrel{+3}{\rightarrow}$$
 F $\stackrel{+3}{\rightarrow}$ I $\stackrel{+3}{\rightarrow}$ L

$$G \xrightarrow{+1} H \xrightarrow{+1} I \xrightarrow{+1} J$$

$$M \stackrel{+2}{\rightarrow} Q \stackrel{+2}{\rightarrow} Q \stackrel{+2}{\rightarrow} S$$

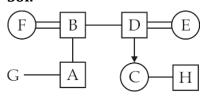
S8. Ans(c)

Sol.

Except 254, all are multiple of 7.

S9. Ans.(a)

Sol.



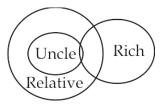
so, H is the nephew of F.

S10. Ans.(d)

Sol.

S11. Ans.(d)

Sol.



S12. Ans.(d)

Sol.

Opposite side

$$1 \rightarrow 5 \rightarrow 6$$

$$1 \rightarrow 3 \rightarrow 2$$

S13. Ans.(c)

Sol.

Lawyer → Justice

same as

Arbitrator→ settlement

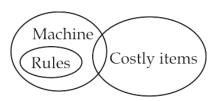
S14. Ans.(a)

sol.

Except for groundnut all are a type of seeds

S15. Ans.(c)

sol.



I. x

II. ✓



S16. Ans.(c)

Sol.





S17. Ans.(c)

sol.

$$_{1}b$$
 \underline{c} b a b \underline{b}_{1} $_{1}b$ c \underline{b} a b b_{1} $_{1}b$ \underline{c} b a \underline{b} b_{1}

S18. ans.(b)

sol.

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

$$7 \times 2 + 2 = 16$$

$$16 \times 2 + 3 = 35$$

$$35 \times 2 + 4 = 74$$

$$74 \times 2 + 5 = 153$$

S19. Ans.(d)

Sol.





S20. Ans.(a)

Sol.

Similarly,

$$\begin{array}{ccc}
27 & : & 63 \\
\downarrow & & \downarrow \\
9 \times & & 9 \times & 7
\end{array}$$



S21. Ans.(c)

Sol.

ATQ,

$$B + C = 2A$$
 ...(i)

$$A + C = 4B$$
 ...(ii)

solving (i) & (ii) we get

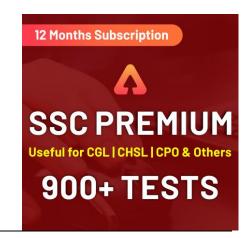
$$A:B:C=5:3:7$$

∴ Required amount =
$$\frac{1875}{15}$$
 × 2 = 250

S22. Ans.(b)

sol.

Thesaurus is a sub group of book same as python is subgroup of reptile



S23. Ans.(a)

Sol.

$$12 - 8 \div 12 \times 9 + 3 = 9$$

$$12 - \frac{8}{12} \times 9 + 3 = 9$$

$$12 - 6 + 3 = 9$$

S24. Ans.(d)

S25. Ans.(d)

S26. Ans.(a)

Sol. The Chham Dance of Himachal Pradesh is also known as the Devil Dance. Chham dance, performed by Buddhists to ward off evil spirits, is a dance form of Himachal Pradesh.

S27. Ans.(b)

Sol. The principal tributaries joining Krishna are the Ghataprabha River, Malaprabha River, Bhima River, Tungabhadra River and Musi River.

S28. Ans.(c)

Sol. Malimath committee was established to propose reform in the criminal Justice System and constitutional provisions related to it.

S29. Ans.(b)

Sol. Somnath Temple was destroyed and plundered by the Afghan ruler, Mahmud of Ghazni. The temple was dedicated to Lord Shiva, was rebuilt by the Paramara king Bhoja of Malwa and the Solanki king Bhimdev I of Anhilwara between 1026 and 1042 AD.

S30. Ans.(a)

Sol. France was the first country to implement the GST in 1954. Since then, Germany, Italy, the UK, South Korea, Japan, Canada, Australia and India have been among the over a dozen nations which have implemented the GST

S31. Ans.(d)

Sol. The Iron ore deposits are found in Badampahar mines of Odisha. In Badampahar high grade hematite ores are found. The Kudremukh iron ore deposits are known to be one of the largest in the world.

S32. Ans.(d)

Sol. Sundari is a well-known species of trees in mangrove forests after which Sunderbans have been named.

S33. Ans.(c)

Sol. Tata Iron and Steel Company was founded by Jamsetji Tata and established by Dorabji Tata on 26 August 1907, and began producing steel in 1912 as a branch of Jamsetji's Tata Group. By 1939, it operated the largest steel plant in the British Empire.

S34. Ans.(d)

Sol. Sundari Nanda, a 1988 AGMU cadre Indian Police Service officer in the rank of ADGP, has been posted as the first woman Director General of Police (DGP) of Union Territory of Puducherry. Kiran Bedi, the first woman IPS officer of the country, is the Lt Governor of the Union Territory.

S35. Ans.(c)

Sol. The elements classified as metalloids are boron, silicon, germanium, arsenic, antimony, tellurium, and polonium.

S36. Ans.(b)

Sol. Methyl propane is an isomer of n-butane.

S37. Ans.(a)

Sol. Bengaluru, Chennai, and New Delhi ranked among the world's ten cheapest cities in a ranking released by EIU.

\$38. Ans.(a)

Sol. The Wadiyar dynasty (also spelt Wadiyar by the British) was an Indian royal dynasty that ruled the Kingdom of Mysore from 1399 to 1947, until the independence of India from British rule and the subsequent unification of Indian dominion and princely states into the Republic of India.

S39. Ans.(b)

Sol. Justice V. Ramaswami has the dubious distinction of being the first judge against whom impeachment proceedings were initiated. In 1993, the motion was brought up in Lok Sabha, but it failed to secure the required two-thirds majority

S40. Ans.(d)

Sol. In march 2019, Pramod Sawant was sworn in as the new chief minister of Goa, following the demise of Manohar Parrikar.

S41. Ans.(b)

Sol. J.J. Thomson helped revolutionize the knowledge of atomic structure by his discovery of the electron (1897).

\$42. Ans.(c)

Sol. Rani Durgavati died fighting with mughal armies while defending garha katanga in 1564. After the death of Rani Durgavati's husband, she became the successor of the Gondwana kingdom and for about 15 years, she ruled in Gondwana

S43. Ans.(b)

Sol. Dry ice is a form of solid carbon dioxide that is used to keep things cold and to create smoke in stage shows.

S44. Ans.(b)

Sol. The Olympic Council of Asia (OCA) has decided to reintroduce Cricket in the 2022 Asian Games to be held at Hangzhou.

S45. Ans.(d)

Sol. The property of element due to which it forms covalent bonds with other atoms of same element to form chain of atoms is called catenation. For example, carbon atoms can combine to each other to form long chains, branched chains and closed rings. Carbon shows the property of catenation to maximum extent.

S46. Ans.(d)

Sol. Thoda is a martial art form from Himachal Pradesh. The sport demands excellent expertise in archery. The main weapons needed for Thoda are bows and arrows.

S47. Ans.(a)

Sol. Kavinder Singh Bisht (56kg) struck gold while Shiva Thapa (60kg) and three others claimed silver medals to end a fine Indian campaign at the 38th GeeBee Boxing Tournament in Helsinki, Finland

S48. Ans.(d)

Sol. The 33rd edition of the India-Indonesia Coordinated Patrol (Ind-Indo Corpat) began on March 19, 2019. The patrol will be held at Port Blair, Andaman & Nicobar Islands from March 19 till April 4, 2019

S49. Ans.(a)

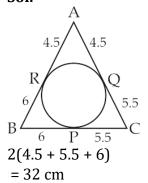
Sol. Mark zuckerberg is the founder of Facebook

\$50. Ans.(c)

Sol. Indian National Association was the first declared Nationalist Organization founded in British India by Surendranath Banerjee and Anand Mohan Bose in 1876. It was originally established as Bharat Sabha and held its first annual conference in Calcutta. It merged in INC in 1885.

S51. Ans.(c)

Sol.



S52. Ans.(b)

Sal

Required central angle =
$$\frac{42}{(20+42+40+35+43)} \times 360$$

S53. Ans.(c)

Sol.

let the original speed be x km/h

$$\frac{384}{x} + 2 = \frac{384}{x - 16}$$

$$\Rightarrow \frac{x + 192}{x} = \frac{192}{x - 16}$$

$$\Rightarrow$$
 $(x - 16)(x + 192) = 192x$

$$\Rightarrow x^2 - 16x - 192 \times 16 = 0$$

$$\Rightarrow x = 64, -48$$

$$=\frac{75}{100}\times64=48 \text{ km/h}$$

S54. Ans.(a)

sol.

Let present age of A and B be x & y years respectively.

$$\frac{x-4}{y-4} = \frac{4}{5} \quad \& \ \frac{x+8}{y+8} = \frac{11}{13}$$

$$\Rightarrow 5x - 4y = 4$$

&

$$13x - 11y = -16$$

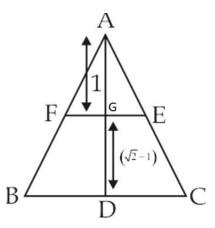
Solving (i) & (ii) we get

$$x = 36 \text{ yrs } \& y = 44 \text{ yrs}$$

$$\therefore (x + y) = 80 \text{ yrs}$$



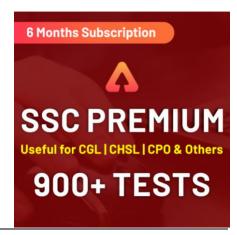
S55. Ans.(b) Sol.



Let area of $\triangle AFE = 1$

then area of □BCEF = 1

$$\frac{\text{Area of } \Delta AFE}{\text{Area of } \Delta ABC} = \frac{1}{2} = \frac{AG^2}{AD^2}$$



$$\frac{AG}{AD} = \frac{1}{\sqrt{2}}$$

$$\frac{GD}{AG} = \frac{\sqrt{2}-1}{1}$$

S56. Ans.(b)

Sol.

$$4-2\sin^2\theta-5\cos\theta=0$$

$$\Rightarrow$$
 4 -2 (1- cos² θ) - 5 cos θ = 0

$$\Rightarrow$$
 4 - 2 + 2 cos² θ - 5 cos θ = 0

$$\Rightarrow 2\cos^2\theta - 5\cos\theta + 2 = 0$$

$$\Rightarrow 2\cos^2\theta - \cos\theta - 4\cos\theta + 2 = 0$$

$$\Rightarrow \cos\theta (2\cos\theta - 1) - 2(2\cos\theta - 1) = 0$$

$$\Rightarrow$$
 (cos θ – 2) (2cos θ – 1) = 0

$$\Rightarrow \cos\theta = \frac{1}{2} \text{ or 2 (not possible)}$$

$$\theta = 60^{\circ}$$

now, sinθ + tanθ

$$= \sin 60^{\circ} + \tan 60^{\circ}$$

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

\$57. Ans.(a)

Sol.

$$48 + 36 : 56 + 35$$

84:91

12:13

S58. Ans.(c)

sol.

$$120 - \frac{120x}{100} = 40 + \frac{40x}{100}$$

$$80 = \frac{4x}{10} + \frac{12x}{10}$$

$$800 = 16x$$

$$x = 50$$

ATQ,

50% of 210

= 105

70% of 180

= 126

$$=\frac{126-105}{126}\times100=\frac{21}{126}\times100=\frac{50}{3}=16\frac{2}{3}\%$$

S59. Ans.(d)

Sol.

$$\frac{(\sqrt{5}x)^3 - (3\sqrt{3})^3}{\sqrt{5}x - 3\sqrt{3}y} = (Ax^2 + By^2 + Cxy)$$



adda 241

 $5x^2 + 27y^2 + 3\sqrt{15}xy = Ax^2 + By^2 + Cxy$

A = 5

B = 27

 $C = 3\sqrt{15}$

 $Ax^2 + By^2 + Cxy = 6 \times 5 + 27 - \sqrt{15} \times 3\sqrt{15}$

= 57 - 45

= 12

S60. Ans.(b)

Sol.

985x3678y is divisible by 72 (9 × 8)

if this number is divisible by 8 then last three digit is also divisible by 8

 $=\frac{78y}{8}$ is divisible

so, y must be 4 if 985x36784 is divisible by 9 then sum is also divisible

 $=\frac{50+x}{9}$ is divisible

x must be 4

find, 4x - 3y

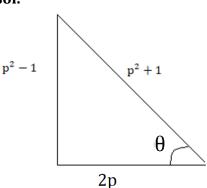
 $4 \times 4 - 3 \times 4$

= 16 - 12

= 4



sol.



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

S62. Ans.(b)

10

Sol.

A : B : C

Efficiency 2

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$$= 270$$

 $\frac{4}{9} \times 270 = 120 \text{ W}$

Required number of days = $\frac{120}{5+3}$ = 15 days

S63. Ans.(b)

Sol.

Sum of 12 numbers = $42 \times 12 = 504$ sum of last 5 numbers = $5 \times 40 = 200$ sum of last 4 numbers = $4 \times 44 = 176$

Let 5th number be x

then, 6th number will be (x - 6)

and, 7th number will be (x - 1)

$$\therefore 176 + 200 + x + (x - 6) + (x - 1) = 504$$

 \Rightarrow x = 45

 \therefore 5th number = 45

 6^{th} number = 39

7th number = 44

∴ Average of 5th & 7th number

$$=\frac{45+44}{2}=44.5$$

S64. Ans.(a)

Sol.

$$(x + y + z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$$

$$(19)^2 = 133 + 2(xy + yz + y^2)$$

$$361 = 133 + 2 [y(x + y + z)]$$
 $114 = [y(19)]$
 $y = 6$
 $xz = 36$

$$114 = [y(19)]$$

y=6

$$xz = 36$$

$$x + z = 13$$

let,
$$z = 9$$
. $x = 4$

$$z - x = 5$$

S65. Ans.(c)

$$\frac{2 + \sec^2\theta - 1 + \csc^2\theta - 1}{\sec\theta, \csc\theta}$$

$$sec^2\theta + cosec^2\theta$$

$$= \frac{\sec\theta}{\csc\theta} + \frac{\csc\theta}{\sin\theta}$$

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

$$\sin^2\theta + \cos^2\theta$$

$$=\frac{1}{\sin\theta,\cos\theta}$$

$$= \sec\theta.\csc\theta$$

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S66. Ans.(a)

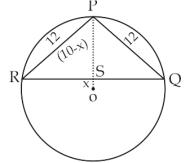
Sol.

let OS = x, PO = 10 cm (radius)

$$PS = 10 - x$$

$$R = \frac{abc}{4\Lambda}$$

$$= 10 = \frac{12 \times 12 \times QR}{4 \times \frac{1}{2} \times QR \times PS}$$



$$5 \times PS = 36$$

$$5 \times (10 - x) = 36$$

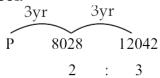
$$50 - 5x = 36$$

$$5x = 14$$

$$x = 2.8$$

S67. Ans.(a)

Sol.



$$3 \to 8028$$

$$2 \rightarrow \frac{8028}{3} \times 2 = \frac{16056}{3}$$

S68. Ans.(d)

Sol

$$2 \times \frac{3}{2 \times 3} \times 2 \div \left(4 + 4 \times \frac{4}{4 \times 4} - \frac{4}{4} \times 4\right)$$

$$= 2 \div (5 - 4)$$

$$= 2 \div 1$$

$$=\frac{2}{1}=2$$

S69. Ans.(c)

Sol.



Equivalent discount = $x + x - \frac{x^2}{100} = 2x - \frac{x^2}{100}$

∴ ATQ,

$$720 \times \left(2x - \frac{x^2}{100}\right) = 259.2$$

$$\Rightarrow x \simeq 20$$

S70. Ans.(b)

Sol.

 $(Volume)_{Original cube} = 8 \times volume of small cubes$

$$13824 = 8 \times a^3 \Rightarrow a = 12 \text{ cm}$$

$$\therefore \text{ Required ratio} = \frac{24 \times 24}{3 \times 12 \times 12} = \frac{4}{3}$$

S71. Ans.(a)

sol

Required percent =
$$\frac{(42+40+38)-(35+56)}{(35+56)} \times 100$$

= $\frac{29}{91} \times 100 = 31.9$

S72. Ans.(d)

sol.

Average production of type D = $\frac{205}{5}$ = 41

So, in 2014 and 2015 production of car are less



Sol.

Let CP be 100x

At 15% loss, SP = 85 x

ATQ,

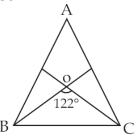
$$85x + 30.6 = 109x$$

$$\Rightarrow$$
 x = 1.275

$$\therefore$$
 S.P. for 10% gain = 140.25

S74. Ans.(a)

sol.





$$\angle BOC = 90 + \angle \frac{A}{2}$$

$$122 - 90 = \frac{\angle A}{2}$$

$$\angle A = 64$$

S75. Ans.(d) **Sol.**

$$x^{4} + \frac{1}{x^{4}} = 194$$

$$x^{4} + \frac{1}{x^{4}} + 2 = 196$$

$$\left(x^{2} + \frac{1}{x^{2}}\right)^{2} = 196$$

$$x^{2} + \frac{1}{x^{2}} = 14$$

$$x^{2} + \frac{1}{x^{2}} + 2 = 16$$

$$x + \frac{1}{x} = 4$$

$$x^{2} + 1 = 4x$$

$$\Rightarrow x^{2} - 4x + 1 = 0$$

$$x^{2} - 4x + 4 = 3$$

$$(x - 2)^{2} = 3$$

S76. Ans(b)

\$77. Ans(d)

S78. Ans(c)

S79. Ans(d)

\$80. Ans(a)

S81. Ans(b)

Sol. Coerce means to persuade (an unwilling person) to do something by using force or threats.

S82. Ans(a)





Sol. We need to use conjunction "**because**" to connect an effect with its cause. Hence, replace "in case that" with "because" to make the sentence error free.

S83. Ans(c)

S84. Ans(d)

Sol. **Expansion**: the action of becoming larger or more extensive. **Compression**: the action of becoming smaller or being compressed.

\$85. Ans(d)

Sol. **Scarce**: (especially of food, money, or some other resource) insufficient for the demand.

Plentiful: existing in or yielding great quantities; abundant.

\$86. Ans(a)

Sol. Correct spelling is "**calendar**" which is a chart or series of pages showing the days, weeks, and months of a particular year, or giving particular seasonal information.

S87. Ans(b)

S88. Ans(b)

Sol. Dwarf: denoting something, especially an animal or plant, that is much smaller than the usual size for its type or species.

Wizard: (in legends and fairy tales) a man who has magical powers.

Witch: a woman thought to have magic powers, especially evil ones, popularly depicted as wearing a black cloak and pointed hat and flying on a broomstick.

S89. Ans(a)

Sol. Replace "demand" with "have been demanding" as the sentence has to be in present perfect continuous tense. The **present perfect continuous** (also called **present perfect progressive**) is a verb **tense** which is used to show that an action started in the past and has continued up to the **present** moment. The **present perfect continuous** usually emphasizes duration, or the amount of time that an action has been taking place.

\$90. Ans(a)

Sol. The given sentence has to be in first conditional sentence and therefore, replace the underlined segment with "will fine you". The structure of first conditional sentence is as follows:

If + Present Indefinite (V1), future indefinite (will/shall + V1)

S91. Ans(b)

S92. Ans(c)

S93. Ans(a)

Sol. **To play ducks and drakes** is an idiomatic expression which means to behave recklessly; to idly squander one's wealth.

S94. Ans(c)

Sol. Replace "although" with "as". The conjunction 'as' has several different meanings. One of the uses of 'as' is to connect a result with a cause.

E.g. - I went to bed at 9 pm as I had a plane to catch at 6 am. (reason and result meaning 'because')

S95. Ans(a)

S96. Ans(a)

Sol. Correct word is "**exploit**" which means to make use of (a situation) in a way considered unfair or underhand.

S97. Ans(b)

Sol. Chronic: (of an illness) persisting for a long time or constantly recurring.

S98. Ans(d)

Sol. **At daggers drawn**: (of two people) be bitterly hostile towards each other.

\$99. Ans(a)

Sol. **Truant**: a pupil who stays away from school without leave or explanation.

Vagrant: a person without a settled home or regular work who wanders from place to place and lives by begging.

Itinerant: travelling from place to place.

Migrant: a person who moves from one place to another, especially in order to find work or better living conditions.

\$100. Ans(a)





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