

SSC CGL Tier I – 2022 - HINTS & SOLUTIONS

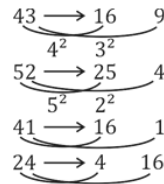
ANSWER KEY

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

HINTS & SOLUTIONS

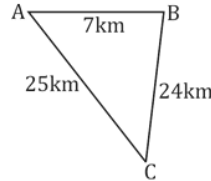
- 1.(4) $D+M+J = 4 + 13 + 10 = 27$
 $F+P+E = 6 + 16 + 5 = 27$
 $R+C+F = 18 + 3 + 6 = 27$
 $A+S+J = 1 + 19 + 10 = 30$
- 2.(3) $2 \times 10 = 20$
 $2 \times 5 \times 7 = 70$
 $20 \times 1 \times 5 = 100$
- 3.(3) Ohm is the SI unit of Resistance similarly Tesla is the SI unit of Magnetic field
- 4.(3)
- 5.(2) $5 - 2 + 7 \times 3 = 8 \times 3 + 3 - 3$
 $3 + 21 = 24$
 $24 = 24$
- 6.(3)
- 7.(4)
- 8.(2) A had given more auditions but result are not known while B had given more performance that means B is preferred over A.
 So B is sufficient to conclusion.

9.(2)



10.(3)

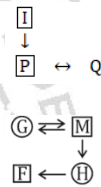
11.(1)



12.(3)

$(5 \rightarrow 5^2 - 5 \rightarrow 5^2 + 5)$
 $(5, 20, 30)$
 Same as $(7, 42, 56)$

13.(4)



14.(1)

15.(4)

16.(1)

$2 \rightarrow 1 \rightarrow 5$
 $2 \rightarrow 4 \rightarrow 3$
 5 is opposite to 3.

17.(4)

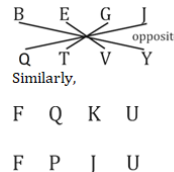
18.(3)

19.(1)

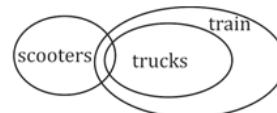
$3 \times 3 \times -1 = 8$
 $8 \times 3 + 1 = 25$
 $25 \times 3 - 1 = 74$
 $74 \times 3 + 1 = 223$

20.(3)

21.(1)



22.(1)



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- 23.(1) No. of odd days in 400 years = 0
 In 2000, no. of odd days. = 0
 In a 9 year.
 2 year are leap year.
 7 year are ordinary year.
 $(7 + 2 \times 2)$
 $(7 + 4) = 11$ odd days. – (i)
 In 10th year
 = $(31 + 19)$ days.
 = 50 days.
 $(7w + 1)$ days. (ii)
 = $(11 + 1)$ odd days. (by (i) and (ii))
 = $(1w + 5)$ days.
 = Friday.
- 24.(4) a d c c c c d a a d c c
 Reverse
- 25.(2) $11 + 2 = 13$
 $13 + 3 = 16$
 $16 + 5 = 21$
 $21 + 7 = 28$
 $28 + 11 = 39$
 Add consecutive prime number.
- 26.(3) Suktimati was the capital city of the Chedi Kingdom in India. It lay on the banks of the river Shuktimati flowing through Chedi. It was built by a Chedi king known as Uparichara Vasu.
- 27.(2) Thomas is traditionally believed to have sailed to India in 52AD to spread the Christian faith, and is believed to have landed at the port of Muziris in the region of Gondophernes.
- 28.(4) Shahjahan built The Khas Mahal also known as 'Amangarh-i-Mualla (the holy resting place) at Agra Fort, Sheesh Mahal is also one of the fabulous structures inside the Agra Fort.
- 29.(4) The All India Forward Bloc (AIFB) or Forward Bloc is a left-wing nationalist political party in India. It emerged as a faction within the Indian National Congress in 1939, led by Subhash Chandra Bose.
- 30.(1)
- 31.(2) Jhum or Jhoom cultivation is a local name for slash and burn agriculture practised by the tribal groups in the northeastern states of India like Arunachal Pradesh, Meghalaya, Mizoram and Nagaland and also in the districts of Bangladesh like Khagrachari and Sylhet.
- 32.(3) The yellow stone National Park is located in USA. Yellow Stone National Park is a national park located primarily in the U.S. state of Wyoming, although it also extends into Montana and Idaho.
- 33.(3) Doddabetta is the highest mountain in the Nilgiri Mountains at 2,637 metres. There is a reserved forest area around the peak. It is 9 km from Ooty, on the Ooty-Kotagiri Road in the Nilgiris District of Tamil Nadu, India.
- 34.(2) ARC is the committee appointed by the Government of India for giving recommendations for reviewing the public administration system of India. The first ARC was established on 5 January 1966. The Second Administrative Reforms Commission (ARC) was constituted on 31.08.2005, as a Commission of Inquiry, under the Chairmanship of Shri Veerappa Moily for preparing a detailed blueprint for revamping the public administrative system.
- 35.(3) The first stanza of the song Bharata Bhagya Bidhata was adopted by the Constituent Assembly of India as the National Anthem on 24 January 1950.
- 36.(1) The money market became a component of the financial markets for assets involved in short-term borrowing, lending, buying and selling with original maturities of one year or less. Thus, it is a market for Short term fund.
- 37.(1) Coimbatore is referred to as the "Manchester of South India" due to its cotton production and textile industries.
- 38.(1) The major instruments of fiscal policy are - Budget, Taxation, Public Expenditure, Public Works, Public Debt (public borrowing).
- 39.(1) Max Planck was a German theoretical physicist, considered to be the initial founder of quantum theory, and one of the most important physicists of the 20th Century.
- 40.(4) If salt is added to the water then the boiling point of water will increase. This happens as the boiling point is the temperature at which the vapor pressure of solvent becomes equal to the external atmospheric pressure. Similarly it also decreases the freezing point, which in turn will interfere with the frozen solution's crystal structure. That means the temperature will have to be colder to overcome it and freeze the mixture anyway.
- 41.(1) The Actinide series contains elements with atomic numbers 89 to 103 and is the sixth group in the periodic table.
- 42.(3) The group 1 of the periodic table contains six elements namely Lithium (Li), Sodium (Na), Potassium (K), Rubidium (Rb), Cesium (Cs) and Francium (Fr). These metals are called alkali metals because they form alkalies.
- 43.(1) Epithelial tissues are thin tissues that cover all the exposed surfaces of the body which form protective layer of body.
- 44.(2) A ligament is a fibrous connective tissue which attaches bone to bone, and usually serves to hold structures together and keep them stable.
- 45.(1) At Vigyan Bhawan in New Delhi, President Ram Nath Kovind inaugurated the 6th edition of "India Water Week (IWW-2019)", which is organised by Ministry of Jal Shakti with the theme of "Water cooperation-coping with 21st-century challenge". Japan and European Union have been associated as partner countries for this mega event.
- 46.(4) The 16-year-old Swedish climate activist, Greta Thunberg has been honoured as one of four

winner of the 2019 Rights Livelihood awards for inspiring and amplifying political demands for urgent climate action reflecting scientific facts.

- 47.(1) Bulgarian economist KristalinaGeorgieva has been named as the new Managing Director (MD) of the International Monetary Fund (IMF).
- 48.(2) YoheiSasakawa is awarded with Gandhi peace prize for the year 2018 for his contribution in Leprosy Eradication in India and across the world.
- 49.(3) Brazilian city Rio de Janeiro will be World Capital of Architecture for 2020, becoming the first metropolis to receive the designation from heritage body UNESCO.

50.(4)

51.(3)

Here, 2 equation and 3 variable

let, put = C = 0

a - b = 9, ab = -19

$(a - b)^3 = 9^3$

$a^3 - b^3 - 3ab(a - b) = 729$

$a^3 - b^3 + 3 \times 19 \times 9 = 729$

$a^3 - b^3 = 729 - 57 \times 9$

$= 729 - 513$

$= 216$

52.(1)

II I + III

5x 13x

total 18x → 1080

x → 60

5x → 60 × 5

= Rs 300

53.(4)

radius of circumcircle of equilateral triangle $R = \frac{a}{\sqrt{3}}$

radius of incircle = $r = \frac{a}{2\sqrt{3}}$

difference of area of circumcircle and incircle

$\pi \left(\frac{a}{\sqrt{3}}\right)^2 - \pi \left(\frac{a}{2\sqrt{3}}\right)^2 = 396$

$\pi a^2 \left(\frac{1}{3} - \frac{1}{12}\right) = 396$

$\pi a^2 \cdot \frac{3}{12} = 396$

$a^2 = \frac{396 \times 4}{\pi} = \frac{396 \times 4 \times 7}{22}$

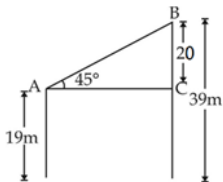
$a^2 = 18 \times 4 \times 7$

area of triangle = $\frac{\sqrt{3}}{4} a^2$

$= \sqrt{3} \times 18 \times 7$

$= 126\sqrt{3}$

54.(1)

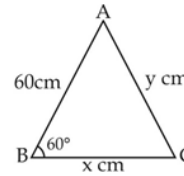


$$\sin 45^\circ = \frac{BC}{AB} = \frac{20}{AB}$$

$$\frac{1}{\sqrt{2}} = \frac{20}{AB}$$

$$AB = 20\sqrt{2}m$$

55.(2)



given,

AB = 60 cm

Let, BC = x cm

AC = y cm

x + y = 70 cm

apply cosine rule

$$\cos 60 = \frac{AB^2 + BC^2 - AC^2}{2 \cdot AB \cdot BC}$$

$$\frac{1}{2} = \frac{3600 + x^2 - y^2}{2 \times 60 \times x}$$

$$60x = 3600 + x^2 - (70 - x)^2$$

$$60x = 3600 + x^2 - 4900 - x^2 + 140x$$

$$1300 = 80x$$

$$BC = x = \frac{130}{8} = 16.2$$

$$AC = 70 - 16.2$$

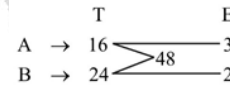
$$AC = 53.8$$

56.(1)

$$\frac{1460}{1460} \times 100 = 10\%$$

$$\frac{146}{1460} \times 100 = 10\%$$

57.(1)



A work for 10 hrs

10 × 3 = 30 work

remaining = 48 - 30 = 18

this work done by B = $\frac{18}{2}$

= 9 hrs

58.(1)

$$r = \frac{10}{100} m$$

$$r = \frac{1}{10} m \quad h = 14 m$$

curved surface area = $2\pi rh$

$$= 2 \times \frac{22}{7} \times \frac{1}{10} \times 14$$

$$= \frac{44}{5} m^2$$

cost of polishing $1m^2 = 50$

$$= \frac{44}{5} m^2 = 50 \times \frac{44}{5}$$

$$= Rs 440$$

59.(3)

$$\text{Let } x = \sqrt[2]{2^{\frac{1}{2}} \sqrt[4]{4^{\frac{1}{2}} \sqrt[2]{2^{\frac{1}{2}} \sqrt[4]{4^{\frac{1}{2}} \dots}}}}$$

$$x = \sqrt[2]{2^{\frac{1}{2}} \sqrt[4]{4x}}$$

$$x^2 = 2(4x)^{\frac{1}{3}}$$

$$x^2 = 2 \cdot 2^{\frac{2}{3}} \cdot x^{\frac{1}{3}}$$

$$x^{2 - \frac{1}{3}} = 2^{\frac{5}{3}}$$

$$x^{\frac{5}{3}} = 2^{\frac{5}{3}}$$

$$x = 2$$

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60.(4)

$$\begin{array}{ccc} & M & W & & M & W \\ I & \rightarrow & 7 & : & 3 & = & 10_{\times 7} & \rightarrow & 49 & 21 \\ II & \rightarrow & 5 & : & 2 & = & 7_{\times 10} & \rightarrow & 50 & 20 \\ & & & & & & & & & \text{Mixture} & \rightarrow & 99 & : & 41 \end{array}$$

61.(3) One negative number can make zero to sum of all remaining number.

62.(2)

$$\begin{aligned} &= \sec(-15^\circ) \\ &= \sec 15 \\ &= \frac{1}{\cos(45-30)} = \frac{1}{\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{3}}{2} + \frac{1}{\sqrt{2}} \cdot \frac{1}{2}} \\ &= \frac{2\sqrt{2}}{\sqrt{3}+1} \times \frac{\sqrt{3}-1}{\sqrt{3}-1} = \sqrt{2}(\sqrt{3}-1) \\ &= \sqrt{6} - \sqrt{2} \end{aligned}$$

63.(2)

$$\begin{array}{ccc} & C & S \\ & 9 & 10 \\ \times 300 & \left(\begin{array}{c} 2700 \\ 3000 \end{array} \right) & \times 300 \end{array}$$

2700 is the cost price for Rohit.
Before this when he is buying article 2700 is the selling price.
and MP = 3000
discount $\rightarrow = \frac{300}{3000} \times 100$
= 10%

64.(1) Relative speed between Ashok and Manish is = 5 –

$$\begin{aligned} 1 &= 4 \text{ round per hour} \\ &= \frac{60}{4} = 15 \text{ min} \\ &= 10 : 45 + 15 \text{ min} \\ &= 11 \text{ am} \end{aligned}$$

65.(3) = 14k – 12k \Rightarrow 2000

66.(3) = (8 + 10 + 14 + 12 + 12 + 14) 1000 = 70000

67.(4)

$$\begin{aligned} &= 8 + 12 : 10 + 14 \\ &= 20 : 24 \\ &= 5 : 6 \end{aligned}$$

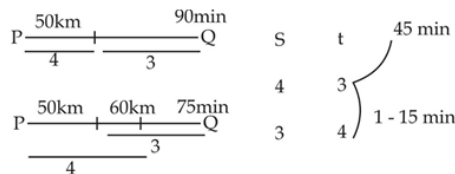
68.(2)

$$\begin{aligned} &= 12000 \times 6500 \\ &= 78,000,000 \end{aligned}$$

69.(1)

$$\begin{aligned} &10+12+14 : 8+14+12 \\ &36:34 \\ &18:17 \end{aligned}$$

70.(1)



$$\begin{aligned} &= 60 \text{ km} \rightarrow 45 \text{ min} \\ &= \frac{60}{45} \times 60 \rightarrow 60 \text{ min} \\ &\text{speed} = 80 \text{ km/h} \end{aligned}$$

if 60 km more run then save \rightarrow 15 min
60 \times 6 km \rightarrow 90 min
= 360km
360 km travel after 50 km
total distance \rightarrow 50 + 360 = 410 km

71.(2)

Relative speed \rightarrow 50 – 40 = 10 km/h

in 30 min, thief run \rightarrow 20 km

$$\Rightarrow \frac{20}{10} = 2\text{h}$$

So time \rightarrow 3 : 00 + 2 = 5 : 00 pm

72.(4)

Speed in current $y=5$

let speed in still water = x

$$\begin{aligned} \frac{10}{x+y} + \frac{10}{x-y} &= \frac{50}{60} \\ \frac{10}{x+5} + \frac{10}{x-5} &= \frac{5}{6} \end{aligned}$$

by option put $x = 25$ satisfied

73.(1)

$$\begin{aligned} &= 1000 \\ &= 2^3 \times 5^3 \\ &= (2^0 + 2^1 + 2^2 + 2^3) \times (5^0 + 5^1 + 5^2 + 5^3) \\ &= (1 + 2 + 4 + 8) \times (1 + 5 + 25 + 125) \\ &= 15 \times 156 \\ &= 2340 \end{aligned}$$

74.(3)

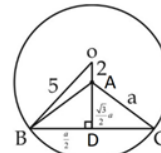
$$\frac{10}{6} + \frac{10^2}{6} + \dots + \frac{10^{10}}{6}$$

remainder

4 + 4 +4 (10 times)

$$\rightarrow \frac{40}{6} = 4 \text{ remainder}$$

75.(4)



ΔODB is a right angle triangle

$$OB^2 = OD^2 + BD^2$$

$$25 = \left(2 + \frac{\sqrt{3}}{2}a\right)^2 + \frac{a^2}{4}$$

$$25 = 4 + \frac{3}{4}a^2 + 2\sqrt{3}a + \frac{a^2}{4}$$

$$25 = 4 + a^2 + 2\sqrt{3}a$$

$$a^2 + 2\sqrt{3}a + 3 = 24$$

$$(a + \sqrt{3})^2 = 24$$

$$a = 2\sqrt{6} - \sqrt{3}$$

$$= \sqrt{3}(2\sqrt{2} - 1)$$

76.(2)

The correct sequence is 'RQP'.

77.(1)

"Appear" should be changed to "appeared".

78.(4)

Correct spelling is 'Eviscerate'.

Eviscerate: deprive (something) of its essential content.

79.(3)

Make no bones about: to be forthright and candid about; acknowledge freely.

80.(3)

Colporteur: a person who sells books, newspapers, and similar literature

Potter: a person who makes dishes, plates, and other objects from clay, usually by hand on a special wheel

Curator: a keeper or custodian of a museum or other collection.

81.(1)

Replace 'bent' with 'bend'.

The rule to be followed is 'make + bare infinitive' in active voice.

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- 82.(3) On a par with: equal in importance or quality to.
- 83.(1) Copious: large in quantity or number; abundant; plentiful.
Shortage: a state or situation in which something needed cannot be obtained in sufficient amounts.
Hence Copious and Shortage are antonyms to each other.
- 84.(3) Make a pitch (idiom): to make a presentation to influence others to support, purchase, or agree to something.
- 85.(4) Occasion: a particular event, or the time at which it takes place.
- 86.(2) Raise one's hackles (idiom): to arouse one's anger.
- 87.(4) Beyond: happening or continuing after (a specified time, stage, or event).
Beyond is the correct preposition to use in the given context.
- 88.(2) Reverberation: a continuing effect; a repercussion.
Claim: an assertion that something is true.
- 89.(2) Frenetic: fast and energetic in a rather wild and uncontrolled way.
Manic: showing wild excitement and energy.
Hence Frenetic and Manic are synonyms to each other.
- 90.(3) Oneiric: relating to dreams or dreaming.
Hence Oneiric and Dreamlike are synonyms to each other.
- 91.(2)
- 92.(2)
- 93.(3) The correct sequence is 'PQR'.
- 94.(3) 'Several' is a determiner which takes plural noun after it. Hence replace 'inaccuracy' with 'inaccuracies'.
- 95.(1) **Discrepancy** means an illogical or surprising lack of compatibility or similarity between two or more facts.
- 96.(3) **Wash one's dirty linen** means to discuss very private, personal matters, especially that which may be embarrassing, in public or with other people.
- 97.(2) **Barbarians** means a member of a people not belonging to one of the great civilizations.
Trailblazer means a person who makes a new track through wild country.
Aristocracy means the highest class in certain societies, typically comprising people of noble birth holding hereditary titles and offices.
- 98.(1) 'Would be brought carrying' is the correct usage.
- 99.(4) Foresight means the ability to predict what will happen or be needed in the future.
- 100.(1) **Smattering** means a small amount of something.
Horde means in very great numbers.
Hence Smattering and Horde are antonyms to each other.