

SSC CGL (Tier I) 2022 - HINTS & SOLUTIONS

ANSWER KEY

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

HINTS & SOLUTIONS

1.(2)

B I G
 2+ 9+ 7 = 18 + 5 = 23
 H U G
 8+ 21+ 7 = 36 + 5 = 41
 C A K E
 3+ 1+ 11+ 5 = 20 + 5 = 25

2.(3)

9, 40, 25
 ↓ ↓ ↓
 3² 5²
 ↓
 (3 + 5) × 5 = 40
 Now,
 36, 65, 49
 ↓ ↓ ↓
 6² 7²
 ↓
 (6 + 7) × 5 = 65

3.(4)

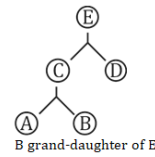
Given set
 (4 × 5) × 2 = 40
 Option (d)
 (5 × 9) × 2 = 90

4.(4)

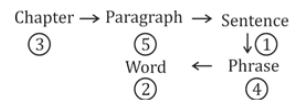
D G J M
 4 7 10 13 → +3 gap
 X W V U
 24 23 22 21 → -1 gap
 L N P R
 12 14 16 18 → +2 gap
 Q T V Y
 17 20 22 25 → non-uniform gap

5.(3) Fill are divisible by 7 except for option (c)

6.(1)



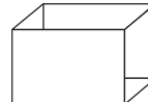
7.(3)



8.(3)



9.(1)



1,2,3,4 will be on sides and 5, 6 on top and bottom respectively.

10.(3)

$$\frac{13+19}{8} = \frac{32}{8} = 4 \rightarrow \text{lower number}$$

$$\frac{71+9}{8} = 10$$

Therefore,

$$\frac{128+32}{9} = \frac{160}{8} = 20$$

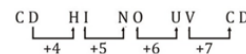
11.(3)

Dog is a canine animal.
 Similarly, horse is a hoofed animal.

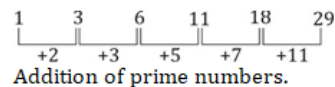
12.(1)

Governor General of India	Year
Warren Hasting →	1773-1785
Charles Cornwallis →	1786-1793
Lord Dalhousie →	1848-1856
Lord Canning →	1856-1862
Lord Curzon →	1899-1905

13.(3)



14.(3)



Addition of prime numbers.

15.(4)

$$99 \times 15 = 1485$$

$$31 \times 17 = 527$$

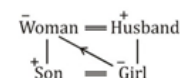
$$91 \times 18 = 1638$$

16.(3)



He is facing towards the west.

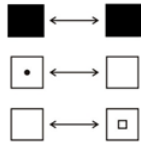
17.(1)



Woman is the mother-in-law of the girl

18.(1)

opposite faces are



- 19.(1) 6
 20.(1)
 21.(3)
 22.(1)
 23.(4) 'ENCOURAGE'; there is no double 'E' in the given word.
 24.(1) Total cars in the row = $14 + 23 - 1 = 36$
 25.(1) 44, 04, 58, 86
 26.(4) The first Tamil Sangam was held to the south of Madurai under the patronage of Makeerthy, the Pandyan king. Agastya was the president of first sangam.
 27.(1) Delhi first became the capital of a kingdom under the TomaraRajputs.
 28.(3) The city of Mahabalipuram was largely developed by the Pallava king Narasimhavarman I in the 7th century AD.
 29.(1) 'A Nation in the Making' is written by SN Banerjee.
 30.(3) Cabinet Mission was composed of three Cabinet Ministers of England. The mission arrived on March 24, 1946. It is headed by Lord Pathick Lawrence.
 31.(4) Ebony and Mahogany trees are associated with Tropical evergreen forests. Tropical evergreen forests are usually found in areas receiving more than 200 cm of rainfall and having a temperature of 15°C to 30°C .
 32.(2) Gaza strip lies along the coast of mediterranean sea. The Gaza Strip is a self-governing entity on the eastern coast of the Mediterranean Sea that borders Egypt on the southwest and Israel on the east and north.
 33.(3) Venus is the second planet from the Sun, orbiting it every 224.7 Earth days. It has the longest rotation period (243 days) of any planet in the Solar System and rotates in the opposite direction to most other planets. It has no natural satellites. Venus is by far the hottest planet in the Solar System, with a mean surface temperature of 735 K (462°C ; 863°F), even though Mercury is closer to the Sun.
 34.(3) The New Moore island was located in the coastal, shallow Bay of Bengal immediately south of the international border river, the Hariabhangha, flowing between Satkhira district of Bangladesh and the South 24 Parganas district of West Bengal,
 35.(2) JVP is full name of committee members. They are Jawaharlal Nehru, Vallabhbai Patel, PattabhiSitaramayya. It was setup in 1949. This committee also rejected the linguistic factor of reorganization of the states. This committee recommended the reorganization of States on the basis of security, unity and economic prosperity of the nation.
 36.(2) National Rural Employment Guarantee Act 2005, is an Indian labour law and social security measure that aims to guarantee the 'right to work'.
 37.(3) Special drawing rights are supplementary foreign-exchange reserve assets defined and maintained by the International Monetary Fund (IMF). IMF headquarters are in Washington D.C.
 38.(4) The Insurance Regulatory and Development Authority of India is an autonomous, statutory agency tasked with regulating and promoting the insurance and re-insurance industries in India.

- 39.(3) A thermopile is an electronic device that converts thermal energy into electrical energy.
 40.(2) The temperature when both the Celsius and Fahrenheit scales are the same is -40 degrees.
 41.(3) Tartaric acid is a white, crystalline organic acid that occurs naturally in many fruits, most notably in grapes, but also in bananas, tamarinds, and citrus.
 42.(3) A neutralization reaction is when an acid and a base react to form water and a salt and involves the combination of H^+ ions and OH^- ions to generate water. The neutralization of a strong acid and strong base has a pH equal to 7.
 43.(3) The green ear disease of Bajra is a common disease and has been reported from several countries including India, Iran, Israel, China, Fiji, Japan and the countries wherever Bajra crop is grown.
 44.(3) Cartilage is an important structural component of the body. It is a firm tissue but is softer and much more flexible than bone. Cartilage is a connective tissue found in many areas of the body including: Joints between bones e.g. the elbows, knees and ankles.
 45.(3) The lacrimal gland, which supplies tears to the cornea of the eye.
 46.(1) Prime Minister Narendra Modi hosted the first-ever India-Caricom summit in New York with a focus on fighting climate change and increasing India's participation with the grouping.
 47.(1) To promote innovation, 2nd edition of Singapore - India Hackathon will be organised at IIT Madras in Chennai from Sep 28 to 29, 2019.
 48.(1) Union Sports Minister Kiren Rijju has flagged off the nation-wide 'Fit India Plog run' at Indira Gandhi stadium in New Delhi to mark 150th Gandhi Jayanti. Plogging is a concept brings together fitness and cleanliness as participants pick up plastic and other waste from the road while jogging.
 49.(2) Kerala has topped the NITI Aayog's report titled 'The Success of Our Schools-School Education Quality Index' (SEQI) in list of 20 states, followed by Rajasthan and Karnataka.
 50.(3) The theme of the International Day of the Girl Child 2019 is "GirlForce: Unscripted and Unstoppable".
 51.(4)

For an equilateral triangle

Median = Altitude

$$h = 12\sqrt{3}$$

$$\frac{\sqrt{3}}{2}a = 12\sqrt{3}$$

$$a = 24\text{ cm}$$

$$\text{Area of equilateral triangle} = \frac{\sqrt{3}}{4}a^2 = \frac{\sqrt{3}}{4} \times 24 \times 24 = 144\sqrt{3}\text{ cm}^2$$

52.(2)

In $\triangle AFG$, D & E are mid-points of AF & AG

$$\frac{AD}{AF} = \frac{AE}{AG} = \frac{1}{2}$$

also,

$$\triangle ADE \sim \triangle AFG$$

$$\frac{AD}{AF} = \frac{DE}{FG} = \frac{1}{2}$$

$$\Rightarrow FG = 2DE$$

$$\Rightarrow FG = 2 \times 3.2 = 6.4\text{ cm}$$

Similarly, F and G are mid points of AB & AC respectively.

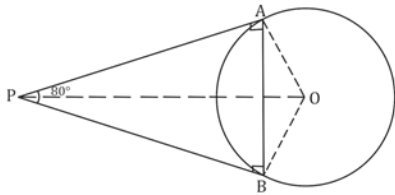
$$\Rightarrow \triangle AFG \sim \triangle ABC$$

$$\frac{AF}{AB} = \frac{EG}{BC} = \frac{1}{2}$$

$$\Rightarrow BC = 2FG = 2 \times 6.4\text{ cm}$$

$$BC = 12.8\text{ cm}$$

53.(1)



We know,
 $\angle APB + \angle AOB = 180^\circ$
 $\Rightarrow \angle AOB = 180^\circ - 80^\circ = 100^\circ$
 In $\triangle OAB$
 $\angle OAB = \angle OBA$ ($\because OA = OB = \text{radius of circle}$)
 $\Rightarrow \angle OAB = \frac{180 - \angle AOB}{2} = \frac{180 - 100}{2} = 40$

54.(4)

Profit on selling 12 bicycles = Rs (12×516)
 Loss on selling 3 bicycles = Rs (3×129)
 total profit on selling 15 bicycles
 $= 12 \times 516 - 3 \times 129 = 6192 - 387$
 $= \text{Rs } 5805$
 Profit % on all bicycles = 30%
 30% of (cost of 15 bicycles) = Rs 5805
 $\Rightarrow \text{cost price of each bicycle} = \frac{5805}{30 \times 15} \times 100 = \text{Rs } 1290$

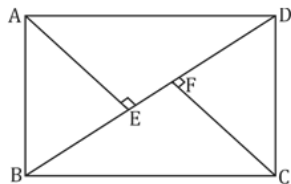
55.(1)

Price of one mobile cover = Rs 284
 Selling price of 1 mobile cover after discount of 12%
 $= 284 \times \frac{88}{100} = \text{Rs } 249.70$
 Now, selling price of 6 mobile covers
 $= 249.70 \times 6$
 $= \text{Rs } 1498.2$

56.(2)

ATQ,
 $A = 3B$ and $B = 2C$
 $\Rightarrow A : B : C = 6 : 2 : 1$
 \therefore Time taken by A and C to complete the work
 $= \frac{20 \times 2}{6+1} = \frac{40}{7} = 5\frac{5}{7}$ days

57.(4)



$BD = 50$ cm
 $AE + CF = 17.3$ cm
 Area of quadrilateral = Ar $(\triangle ABD) + \text{Ar}(\triangle CBD)$
 $= \frac{1}{2} \times AE \times BD + \frac{1}{2} \times CF \times BD$
 $= \frac{1}{2} \times BD \times (AE + CF)$
 $= \frac{1}{2} \times 50 \times 17.3 = 432.5 \text{ cm}^2$

58.(2)

$a^3 - b^3 = (a-b)(a^2 + b^2 + ab)$
 $\Rightarrow 8 \times (a^2 + b^2 + ab) = 496$
 $\Rightarrow a^2 + b^2 + ab = 62$
 $\Rightarrow (a+b)^2 - ab = 62$

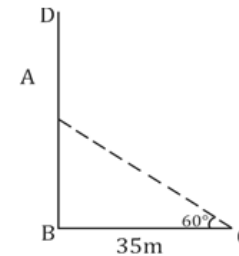
59.(4)

Speed of boat in still water = 8 km/h

let speed of the stream = x km/h

\therefore ATQ,
 $\frac{8+x}{8-x} = \frac{4}{1}$
 $\Rightarrow 8 + x = 32 - 4x$
 $\Rightarrow 5x = 24$
 $\Rightarrow x = 4.8 \text{ km/h}$

60.(4)



In $\triangle ABC$
 $\cos 60^\circ = \frac{BC}{AC}$
 $\Rightarrow AC = 70$ cm
 and $\tan 60^\circ = \frac{AB}{BC}$
 $\Rightarrow AB = 35\sqrt{3} = 35 \times 1.73$
 $= 60.55$ cm
 Total height of the tree = $AB + AC$
 $= 60.55 + 70$
 $= 130.55$ cm

61.(3)

total value of all coins = Rs 110
 ratio of 50 paise, 25 paise & Rs 1 coins = 5 : 8 : 1
 $\frac{5x}{2} + \frac{8x}{4} + x = 110$
 $5.5x = 110 \Rightarrow x = 20$
 No. of 25 paise coins = $8 \times 20 = 160$

62.(1)

Rate of interest = $6 + 6 + \frac{6 \times 6}{100}$
 $= 12.36\%$
 let the sum of money be Rs x
 \therefore atq,
 $x \times \frac{12.36}{100} = \text{Rs } 1854$
 $\Rightarrow x = \text{Rs } 15,000$

63.(1)

We have,
 $(2x - 5)^3 + (x - 6)^3 + (x - 13)^3 = 2(2x - 5)(x - 6)(x - 13)$
 \rightarrow compare it with identity
 $a^3 + b^3 + c^3 = 3abc$
 we know that it is possible only when,
 $a + b + c = 0$
 $\Rightarrow (2x - 5) + (x - 6) + (x - 13) = 0$
 $\Rightarrow 4x = 24 \Rightarrow x = 6$

64.(2)

$7 - \left\{ 16 - \left(-\frac{-10 \times 8}{-4} \right) \right\} = 7 - \{16 - 20\} = 7 + 4 = 11$

65.(4)

External dimensions of base are 100 cm \times 85 cm \times 60 cm
 thickness = 2.5 cm
 Internal dimensions of base w/o wood
 $= (100 - 5), (85 - 5), (60 - 5)$
 $= 95 \text{ cm}, 80 \text{ cm}, 55 \text{ cm}$
 Required volume of wood = $(100 \times 85 \times 60) - (95 \times 80 \times 55)$
 $= 510,000 - 418,000$
 $= 92,000 \text{ cm}^3$

66.(2)

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

67.(2)

$$\frac{\cos 2A}{\tan 2A} = \frac{\cos^2 2A}{\sin 2A} = \frac{1 - \sin^2 2A}{\sin 2A}$$

$$= \operatorname{cosec} 2A - \sin 2A$$

68.(1)

unit place of $3^{555} = 7$

unit place of $8^{555} = 2$

unit place of $8^{333} = 8$

unit place of $5^{333} = 5$

∴ Required unit place = $7 \times 2 + 8 \times 5 = 14 + 40 = 54$

69.(4)

$$\text{Mumbai} = \frac{90-50}{50} \times 100 = 80\%$$

$$\text{Kolkata} = \frac{110-75}{75} \times 100 = 50\%$$

Delhi and Chennai has decrease in sale of books

∴ Mumbai, branches highest increase in sale in 2016 as compared to 2015.

70.(1)

total sale of books in 2015

$$= 50 + 40 + 75 + 100 = 265 \times 1000$$

total sale of books in 2016

$$= 90 + 25 + 110 + 85 = 310 \times 1000$$

$$\% \text{ age increment in sales} = \frac{310000 - 265000}{265000} \times 100$$

$$= 16.98\%$$

$$\approx 17\%$$

71.(4)

$$\text{Required Ratio} = \frac{50+90}{100+85} = \frac{140}{185} = \frac{28}{37}$$

72.(2)

$$\text{Chennai} = \frac{40-25}{40} \times 100 = 37\%$$

$$\text{Delhi} = \frac{100-85}{100} \times 100 = 15\%$$

∴ Chennai has the max decrease

73.(3)

$$\frac{p \times r \times 20}{100} = 4p \Rightarrow r = 20\%$$

$$\text{Then, } \frac{p \times 20 \times t}{100} = 8p \Rightarrow t = 40 \text{ years}$$

74.(3)

$$x = \frac{(\sqrt{3}+\sqrt{2})(\sqrt{3}+\sqrt{2})}{(\sqrt{3}-\sqrt{2})(\sqrt{3}+\sqrt{2})} = 5 + 2\sqrt{6}$$

$$\text{And } \frac{1}{x} = 5 - 2\sqrt{6} \quad \therefore x + \frac{1}{x} = 10$$

$$x^2 + \frac{1}{x^2} = 98$$

$$\text{Hence, } \frac{x^5 + x^4 + x^2 + x}{x^3} = x^2 + \frac{1}{x^2} + x + \frac{1}{x} = 98 + 10 = 108$$

75.(3)

$$x = 7 - 2\sqrt{12}$$

$$\sqrt{x} = \left\{ (\sqrt{3})^2 + (\sqrt{4})^2 - 2 \times \sqrt{3} \times \sqrt{4} \right\}^{\frac{1}{2}} = 2 - \sqrt{3}$$

$$\text{And } \frac{1}{x} = \frac{1}{2-\sqrt{3}} = 2 + \sqrt{3}$$

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

76.(2)

“The Supreme Court of India” is a singular subject and therefore, ‘have’ should be replaced with ‘has’.

77.(1)

Unless means the same as **if...not**. Unless is used instead of if...not in conditional sentences of all types. Use of “do not” after ‘unless’ makes the sentence superfluous, so consider removing it to make the sentence error free.

78.(4)

79.(2)

80.(3)

81.(3)

82.(1)

83.(4)

84.(2)

85.(1)

Correctly spelled word is “**Pecuniary**” which means relating to or consisting of money.

86.(4)

Correctly spelled word is “**Beleaguer**” which means lay siege to; besieged.

87.(3)

Bone of contention is an idiomatic expression which means a subject or issue over which there is continuing disagreement or fight.

88.(2)

Call a spade a spade is an idiom which means to speak frankly about something, even if it is unpleasant.

89.(3)

Since the given sentence is in Passive Voice, hence we need to take 3rd form of the verb. Therefore, ‘**funded**’ will replace ‘fund’.

90.(4)

No improvement

91.(1)

Anarchist: a person who believes in or tries to bring about anarchy.

Ascetic: characterized by severe self-discipline and abstinence from all forms of indulgence, typically for religious reasons.

Apostate: a person who renounces a religious or political belief or principle.

92.(4)

Misogynist: a person who dislikes, despises, or is strongly prejudiced against women.

Misanthrope: a person who dislikes humankind and avoids human society.

Philanthropist: a person who seeks to promote the welfare of others, especially by the generous donation of money to good causes.

93.(2)

Antipathy means a deep-seated feeling of aversion; hostility.

94.(3)

Covetous: having or showing a great desire to possess something belonging to someone else.

Insatiable: (of an appetite or desire) impossible to satisfy.

95.(1)

Bewitching: enchanting or delightful.

Repugnant: extremely distasteful; unacceptable.

96.(3)

Catastrophe: an event causing great and usually sudden damage or suffering; a disaster.

97.(1)

98.(2)

99.(2)

100.(4)