

SSC CGL - 210007 GRAND TEST
HINTS AND SOLUTIONS

ANSWER KEY

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

- (3) Threat lead to fear and provocation lead to anger.
- (3) $1024 \Rightarrow \sqrt{1024} = 32 \Rightarrow 32 - 1 = 31$
 $1225 \Rightarrow \sqrt{1225} = 35 \Rightarrow 35 - 1 = 34$
- (4) A cup is used to have coffee and a bowl is used to have soup.
- (2) $16 \Rightarrow = 4 \Rightarrow 4 + 2 \Rightarrow (4 + 2) 2 = 36$
 $64 \Rightarrow \sqrt{64} = 8 \Rightarrow 8 + 2 \Rightarrow (8 + 2)^2 = 100$
- (3) As, M $\begin{matrix} & +3 & & & +3 & \\ & \swarrow & \searrow & & \swarrow & \searrow \\ & A & D & J & X & A \\ & \swarrow & \searrow & & \swarrow & \searrow \\ & M & & & & & \\ & \swarrow & \searrow & & \swarrow & \searrow \\ & & & & & & \\ & -3 & & & -3 & & \\ & \swarrow & \searrow & & \swarrow & \searrow \\ & R & & & R & U \\ & \swarrow & \searrow & & \swarrow & \searrow \\ & & & & & & \\ & +3 & & & +3 & \\ & \swarrow & \searrow & & \swarrow & \searrow \\ & U & X & O & R & U \\ & \swarrow & \searrow & & \swarrow & \searrow \\ & & & & & & \\ & -3 & & & -3 & \end{matrix}$

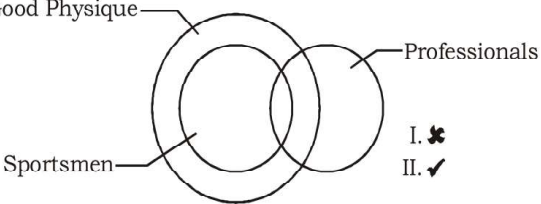
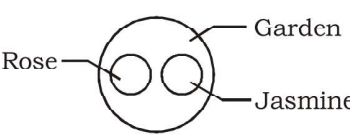
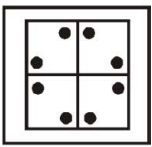

- (1)
- (4) $2 \Rightarrow 2 + 1 \Rightarrow (2 + 1)^2 = 9 \Rightarrow 2 - 9$
 $3 \Rightarrow 3 + 1 \Rightarrow (3 + 1)^2 = 16 \Rightarrow 3 - 16$
 $4 \Rightarrow 4 + 1 \Rightarrow (4 + 1)^2 = 25 \Rightarrow 4 - 25$
 $5 \Rightarrow 5 + 1 \Rightarrow (5 + 1)^2 \Rightarrow 36 \neq 49 \Rightarrow 5 - 49$
- (3) All letters are vowel.
- (3) Except 80, rest are multiple of 12.
- (3) As, MILITARY
1 2 3 2 4 5 6 7
then, LIMIT
3 2 1 2 4
- (1) $1 \rightarrow 6 \rightarrow 2 \rightarrow 4 \rightarrow 5 \rightarrow 3$
- (3) As he failed once in class 1, it means in 2 years after admission, he will pass class 1, after 3 years class 2, after 4 years class 3. Similarly, after 11 years class 10. So, required no. of years to pass class 10
 $= 2 + 3 + 4 + 5 + \dots + 11$
 $= \frac{11 \times 12}{2} - 1 = 66 - 1 = 65$ yrs
So, at the age of $65 + 4 = 69$ years, he will pass his matriculation.
- (4)

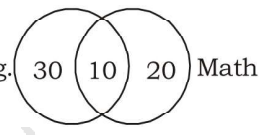
So, C is 2 kms away from B.
- (2)

So, he is 5 kms south from his home.
- (4) Plough \rightarrow Sow \rightarrow Irrigate \rightarrow Harvest \rightarrow Sell.
(3) (2) (1) (5) (4)
- (3)

next vowel next vowel next vowel next vowel
B A F E J I P O V U
next consonant next consonant next consonant next consonant next consonant
- (4)

$\times 5 \times 5 \times 5 \times 5 \times 5 \times 5$
- (4) As, DOWNBEAT
1 2 3 4 5 6 7 8
and TABEWNDO
8 7 5 6 3 4 1 2
also, PROSPECT
1 2 3 4 5 6 7 8
and TCPEOSPR
8 7 5 6 3 4 1 2

19. (2) We can't find three S of the word 'SENSES' in the given word 'MISAPPREHENSION'.
20. (4) $6 \times 2 = 12, 12 \times 2 = 24$
 $18 \times 2 = 36, 36 \times 2 = 72$
 $9 \times 2 = 18, 18 \times 2 = 36$
21. (1) As, $2 + 6 - 4 = 4$
 $9 + 7 - 3 = 13$
 $4 + 6 - 7 = 3$
 then, $9 + 8 - 7 = 10$
22. (4) Good Physique — Professionals
 Sportsmen — I. ✘
 II. ✔
- 
23. (3) Garden — Rose
 Jasmine
- 
24. (1)
- 
25. (4)
- 
26. (3)
27. (4) Apart from India, Tamil is an official language in Sri Lanka and Singapore. In Malaysia and Mauritius, it is a recognized minority language.
28. (4) The Coriolis effect influences the paths of moving objects on Earth and is caused by Earth's rotation. Because Earth's surface rotates at different velocities at different latitudes, objects in motion tend to veer to the right in the Northern Hemisphere and to the left in the Southern Hemisphere. The Coriolis effect is nonexistent at the equator but increases with latitude, reaching maximum at the poles.
34. (1) Muhammad Ghori is known to have adopted the seated goddess Lakshmi on the coins of Gahadavalas for circulation in the Gahadavala territories. He got the figure of Goddess Lakshmi stamped on his coins and had his name inscribed in Devnagari Characters.
35. (2)
36. (4) The International Seabed Authority (ISA) is an inter-governmental body to organize, regulate and control all mineral-related activities in the international seabed area beyond the limits of national jurisdiction, an area underlying most of the world's oceans. The headquarters of ISA is located at Kingston, Jamaica.

42. (4) The Reserve Bank of India has four zonal offices at Chennai, Delhi, Kolkata and Mumbai. It has 19 regional offices and 10 sub-offices.
43. (4)
45. (4) The first evidence of the Stone Age culture in India surfaced in Karnataka as early as in 1842 when Dr. Primrose discovered polished stone knives and arrow heads at Lingsugur in Raichur district of Karnataka.
46. (2) The chairman and members of a SPSC(State Public Service Commission) are appointed by the governor, but they can only be removed by the president (and not by the governor) on the report of Supreme Court.
47. (3) Constitution of India, Article 15: Prohibition of Discrimination on Grounds of Religion, Race, Caste, Sex or Place of Birth
48. (2) The Indian Ocean consists of one gyre, the Indian Ocean (Majid) Gyre, which exists mostly in the Southern Hemisphere. It is named after Ahmad Bin Majid, the 15th century Arab mariner.
51. (2)
- 
- Eng. 30 10 20 Math
- $[(30 + 20) - 10] \times 40\% = 160$
 $40\% = 160$
 $100\% = \frac{160}{40} \times 100 = 400$
 Total number of students = 400
52. (1) Let the price of table be t and chair be c .
 $4t + 5c = 1000$... (i)
 $4 \times \left(t \times \frac{110}{100} \right) + 5 \times \left(c \times \frac{120}{100} \right) - (4t + 5c) = 120$
 $\frac{44t}{10} - 4t + \frac{30c}{5} - 5c = 120$
 $\Rightarrow \frac{4t}{10} + c = 120$
 $4t + 10c = 1200$... (ii)
 $4t + 5c = 1000$... (i)

 $5c = 200$
 $\Rightarrow c = 40$
 $\therefore t = 200$
 Cost of 1 table = 200
53. (2) $\frac{\cos(90^\circ + A) \times \sec(720^\circ - A) \times \tan(180^\circ - A)}{\sec(A - 360^\circ) \times \sin(540^\circ + A) \times \cot(A - 90^\circ)}$
 $= \frac{(-\sin A) \times \sec A \times (-\tan A)}{\sec A (-\sin A) (-\tan A)} = 1$
54. (3) $l + b + h = a$
 and, $\sqrt{l^2 + b^2 + h^2} = \text{diagonal} = b$
 $(l + b + h)^2 = a^2$

$$\Rightarrow \frac{l^2 + b^2 + h^2 + 2(lb + bh + hl)}{b^2} = a^2$$

$$\Rightarrow 2(lb + bh + hl) = a^2 - b^2$$

\therefore surface area = $a^2 - b^2$

55. (2) Original price of rice per kg

$$= \frac{120}{93.75} \times 100 = ` 128$$

$$\therefore \text{Reduce price} = ` 128 - ` 120 = ` 8$$

56. (1) Ratio = $\frac{1}{3} : \frac{1}{4} : \frac{1}{12} = 4 : 3 : 1$

$$3 \xrightarrow{\times 22.50} 67.50$$

$$\text{then, } 4 + 3 + 1 \Rightarrow 8 \xrightarrow{\times 22.50} 180$$

So, cost of book = ` 180

57. (1) Let total population at the beginning of the first year be x.

$$9975 = x \times \frac{105}{100} \times \frac{95}{100} \Rightarrow x = 10000.$$

58. (3) Principal 50000 75000

$\underbrace{\hspace{100px}}_{2 \text{ years}}$ $\underbrace{\hspace{100px}}_{2 \text{ years}}$

$$\text{Ratio} = 50,000 : 75,000 = 2 : 3$$

\therefore P : IInd year amount must also be in the ratio of 2 : 3.

$$\frac{P}{50000} = \frac{2}{3} \Rightarrow P = \frac{100000}{3} = ` 33333.33$$

59. (3) $x + \frac{1}{x} = \sqrt{3}$

$$\Rightarrow x^6 = -1$$

$$\begin{aligned} & x^{84} + x^{78} + x^{72} + x^{66} + x^{48} - x^{42} + 1 \\ &= (x^6)^{14} + (x^6)^{13} + (x^6)^{12} + (x^6)^{11} + (x^6)^8 - (x^6)^7 + 1 \\ &= (-1)^{14} + (-1)^{13} + (-1)^{12} + (-1)^{11} + (-1)^8 - (-1)^7 + 1 \\ &= 1 - 1 + 1 - 1 + 1 + 1 + 1 \\ &= 5 - 2 = 3 \end{aligned}$$

60. (3) Side = 10, Area = 100

$$\therefore \text{New side} = \sqrt{324} = 18$$

$$\% \text{ increase} = \frac{8}{10} \times 100 = 80\%$$

61. (1)

Article	Price	
CP 22	←	→ 1 = 25 (25×1)
SP 25	←	→ 3 = 66 (22×3)

$$\text{Profit \%} = \frac{66 - 25}{25} \times 100 = \frac{41}{25} \times 100 = 164\%$$

62. (4) $\frac{7 \times 12}{1} = \frac{8 \times M_2}{2} \Rightarrow M_2 = 21$

$$\text{Number of additional men} = 21 - 7 = 14$$

63. (2) Let the number of solid spheres be n

$$n \times \frac{4}{3} \pi \times (6)^3 = \pi r^2 h$$

$$\Rightarrow n \times \frac{4}{3} \pi \times 216 = \pi \times (4)^2 \times 90$$

$$\Rightarrow n \times 4 \times 72 = 16 \times 90$$

$$\Rightarrow n = 5$$

64. (1) A = 30°

$$3 \sec A - 2 \cos B = \sqrt{3}$$

$$\Rightarrow 3 \times \sec 30^\circ - 2 \cos B = \sqrt{3}$$

$$\Rightarrow 3 \times \frac{2}{\sqrt{3}} - 2 \cos B = \sqrt{3}$$

$$\Rightarrow 2 \cos B = 2\sqrt{3} - \sqrt{3}$$

$$\Rightarrow 2 \cos B = \sqrt{3}$$

$$\Rightarrow \cos B = \frac{\sqrt{3}}{2}$$

$$\Rightarrow B = 30^\circ$$

$$\cos(A - B) = \cos(30 - 30) = \cos 0^\circ = 1$$

65. (1) a + b = 4, b + c = 3, c + a = 7

$$\therefore a + b + c = \frac{1}{2} (4 + 3 + 7) = 7$$

$$(a + b + c)^3 = a^3 + b^3 + c^3 + 3(a + b)(b + c)(c + a)$$

$$\Rightarrow (7)^3 = a^3 + b^3 + c^3 + 3 \times 4 \times 3 \times 7$$

$$\Rightarrow a^3 + b^3 + c^3 = 343 - 252$$

$$\Rightarrow a^3 + b^3 + c^3 = 91$$

66. (2) $\sin^2 \alpha + \sin^2 \beta = 2$

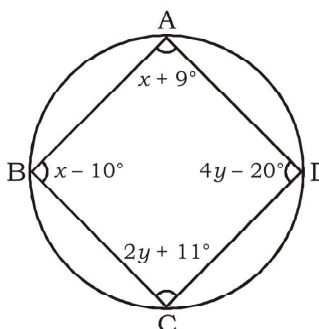
$$\Rightarrow \sin^2 \alpha = \sin^2 \beta = 1$$

$$\sin \alpha = \sin \beta = 1$$

$$\alpha = \beta = 90^\circ$$

$$\sin\left(\frac{90^\circ + 90^\circ}{2}\right) = \sin 90^\circ = 1$$

67. (1)



Cyclic quadrilateral

$$\therefore x + 9^\circ + 2y + 11^\circ = 180^\circ$$

$$\Rightarrow x + 2y = 160^\circ \quad \dots(i)$$

$$x - 10^\circ + 4y - 20^\circ = 180^\circ$$

$$x + 4y = 210^\circ \quad \dots(ii)$$

Subtracting equation (i) from (ii)

$$2y = 50^\circ \Rightarrow y = 25^\circ$$

$$\begin{aligned} \therefore x + 50^\circ &= 160^\circ \text{ (In equation (i))} \\ \Rightarrow x &= 110^\circ \\ \therefore x + y &= 110^\circ + 25^\circ = 135^\circ \end{aligned}$$

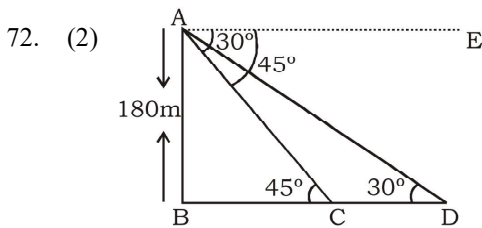
68. (2) $\frac{192}{12} \times \frac{150}{30} = \frac{194.40}{120} \times 100$

Required ratio = 12 : 30 = 2 : 5

69. (2) Ashu : Lucky : Priti
 $= 12 \times 2000 : 4 \times 2500 : 8 \times 1500$
 Share of Ashu : Lucky : Priti
 $= 12 : 5 : 6 \Rightarrow 23 \xrightarrow{\times 100} 2300$
 Priti's share = $6 \times 100 = 600$

70. (2) Annual payment
 $= \frac{100P}{100T + \frac{RT(T-1)}{2}} = \frac{100 \times 848}{100 \times 8 + \frac{8 \times 8(7)}{2}}$
 $= \frac{84800}{800 + 32 \times 7} = \frac{84800}{1024} = 82.8125$

71. (2) Let number of boys = B and Girls = G
 $B = G - 2$
 $\therefore B + G = 52$
 $[\therefore B = G - 2]$
 $\therefore G - 2 + G = 52$
 $G = 27, B = 25$
 Total weight = $52 \times 52 = 2704$ kg
 Total weight of boys = $25 \times 60 = 1500$ kg
 Total weight of girls = $2704 - 1500 = 1204$ kg
 \therefore Average weight of girls = $\frac{1204}{27} = 44.59$ kg



Let AB be the tower.
 $\angle EAD = \angle ADB$ [Alternate angle]
 $\angle EAC = \angle ACB$ [Alternate angle]

$$\tan 45^\circ = \frac{AB}{BC}$$

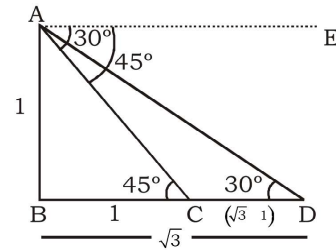
$$\Rightarrow 1 = \frac{180}{BC} \Rightarrow BC = 180 \text{ m}$$

$$\Rightarrow \tan 30^\circ = \frac{AB}{BD} \Rightarrow \frac{1}{\sqrt{3}} = \frac{180}{180 + CD}$$

$$\Rightarrow 180 + CD = 180\sqrt{3}$$

$$\therefore CD = 180(\sqrt{3} - 1) \text{ m}$$

Shortcut method :-



Let AB be height of tower.
 $AB = 180 \text{ m}$ (given)
 $\therefore CD = 180(\sqrt{3} - 1) \text{ m}$
 $[\therefore \text{Distance } CD = \text{height} (\cot \theta_2 - \cot \theta_1)]$

73. (2) Required % = $\frac{(70 - 64)}{70} \times 100 = \frac{60}{7} = 8\frac{4}{7}\%$

74. (3) Average production
 $= \frac{(70 + 64 + 45 + 60 + 60 + 73)}{6} = \frac{372}{6} = 62$

Maximum production = 73
 Required ratio = 73 : 62

75. (2)

76. (3) Replace 'is' by 'has been', as an action (writing novels) which already started has been denoted by a point of time (since having been a graduate), and still going on, comes under present perfect continuous tense.

77. (3) Replace 'was' by 'had'. If two actions happened in past one after another, the first action comes under past perfect tense and the second in simple past tense.

78. (1) interchange 'enough kind' to 'kind enough'. Enough follows an adjective.

80. (4) Correction - 'they were addressed' must be read as 'they addressed'.

88. (2) 'Must have' expresses an opinion, in fact, a conclusion based on an earlier (past) situation.

90. (3) 'Many a' takes a singular noun followed by a singular verb.