SSC CGL - 180732 GRAND TEST
HINTS AND SOLUTIONS
ANSWER KEY

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

1. (1) Transacation of second is done through the first.

2. (1) The relation is $\sqrt{x} : (\sqrt{x} - 1)^3$

For x = 9, result $= (\sqrt{9} - 1)^3 = (2)^3 = 8$

For x = 16, result $= (\sqrt{16} - 1)^3 = (3)^3 = 27$.

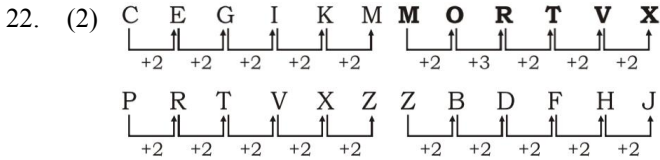3. (1) A car runs on petrol whereas Television works by Electricity.

4. (3)
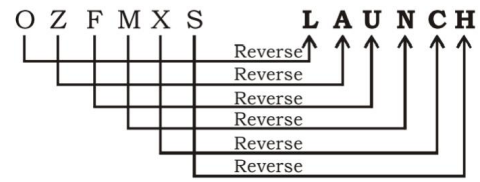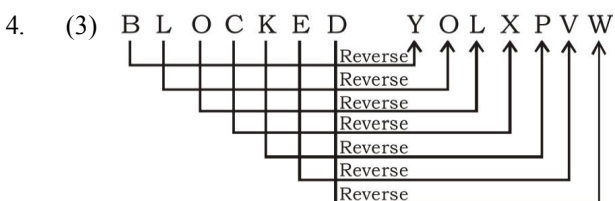
5. (1) All except dog come under the category of cattle.
6. (4) Only 83 is a prime number.
7. (1) All except Record are the brief notation used in a language.
8. (1) All except Sparrow are flesh eating birds.
9. (3)
10. (4) We can find only one 'T' in GOVERNMENT ROCKS!.
11. (4) (101 + 15) – (43 + 35) = 116 – 78 = 38
(48 + 184) – (56 + 34) = 232 – 90 = 142
12. (2) $16 \times 4 = 64 \Rightarrow 6 - 4 = 2$
$9 \times 8 = 72 \Rightarrow 7 - 2 = 5$
$27 \times 3 = 81 \Rightarrow 8 - 1 = 7$
13. (1) Consider A = 1, B = 2 ...., Z = 26
We have PRATAP = 16 - 18 - 1 - 20 - 1 - 16
= 1618120116
So, NAVIN = 14 - 1 - 22 - 9 - 14
= 14122914
14. (3) A nib is fitted in the pen to write with it.
But a nib is called needle. So, a needle will be fitted in the pen.
15. (2) The pattern is:
+1, +(1 + 2), +(1 + 2 + 3), +(1 + 2 + 3 + 4), +(1 + 2 + 3 + 4 + 5).
So, required number = 15 + 10 = 25
16. (1) In terms of height, we have the following sequence:
Q < P, R < P, T < S, S < Q.
Now the sequence becomes
(i) T < S < Q < R < P
(ii) T < S < R < Q < P
In both the sequences, we can observe that P is the tallest.
17. (3) After interchanging the signs, we have
$1 \times 9 - 3 \div 1 \div 3 + 1 = 1 \times 9 - 3 \div 3 + 1$
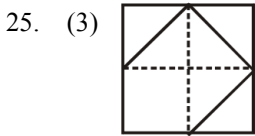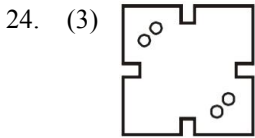$= 1 \times 9 - 1 + 1$
$= 9 - 1 + 1 = 9$
18. (3)
19. (1)

Required distance = 5 m.

20. (1) Let the age of father and son be x and y respectively.

x − y = y ⇒ x = 2y

Now, x = 36

⇒ 2y = 36

⇒ y = 18

So, age of son 5 years ago = 18 − 5 = 13 yrs

21. (2) c c ac c/ aa **b** aa/ **b** bc **b** b/cc

22. (2)

C E G I K M **M O R T V X**
+2 +2 +2 +2 +2 +2 +3 +2 +2 +2

P R T V X Z Z B D F H J
+2 +2 +2 +2 +2 +2 +2 +2 +2 +2

23. (4) Total no. of routes = 4 × 3 × 2 = 24

24. (3)

25. (3)

51. (1) The candidate at second place got

= (100 − (55 + 5)) = 40% votes

Difference between winner and second candidate at second place = (55 − 40) = 15%

ATQ,

15% → 9000

$100\% \rightarrow \dfrac{100}{15} \times 9000 = 60000$

52. (1) The given expression

$$= \dfrac{\dfrac{1}{3} \times 3 \times \dfrac{1}{3}}{\dfrac{1}{3} \div \left(\dfrac{1}{3} \times \dfrac{1}{3}\right)} - \dfrac{1}{9} = \dfrac{\dfrac{1}{3}}{\dfrac{1}{3} \div \dfrac{1}{9}} - \dfrac{1}{9} = \dfrac{\dfrac{1}{3}}{\dfrac{1}{3} \times 9} - \dfrac{1}{9}$$

$$= \dfrac{\dfrac{1}{3}}{3} - \dfrac{1}{9} = \dfrac{1}{9} - \dfrac{1}{9} = 0$$

53. (1) C.P of shopkeeper $= Rs.\dfrac{20}{25}$

S.P of shopkeeper $= Rs.\dfrac{25}{20}$

$$\therefore \text{ Profit \%} = \dfrac{\left(\dfrac{25}{20} - \dfrac{20}{25}\right)}{\dfrac{20}{25}} \times 100 = \dfrac{125 - 80}{100} \times 100 \times \dfrac{25}{20}$$

$$= \dfrac{45}{100} \times 100 \times \dfrac{25}{20} = 56\dfrac{1}{4}\%$$
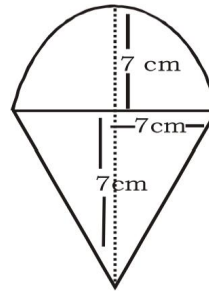
54. (3) Cost price of D

$$= 4000 \times \dfrac{90}{100} \times \dfrac{110}{100} \times \dfrac{120}{100} = Rs.4752$$

∴ Required difference = 4752 − 4000 = Rs. 752

55. (2) We have the formula as-

$$\dfrac{(2n-4) \times 90}{n} = \dfrac{(2 \times 8 - 4) \times 90}{8} = \dfrac{1080}{8} = 135°$$

56. (1)

Height of hemispherical part

= 7 cm = radius of hemispherical part

ATQ,

Radius of hemispherical part = height of the cone = 7 cm

∴ Volume of ice cream

= Volume of cone + hemispherical part

$$= \dfrac{1}{3}\pi r^2 h + \dfrac{2}{3}\pi r^3 = \dfrac{1}{3}\pi r^2(h + 2r)$$

$$= \dfrac{1}{3} \times \dfrac{22}{7} \times 7 \times 7(7 + 2 \times 7) = \dfrac{22 \times 7}{3} \times 21$$
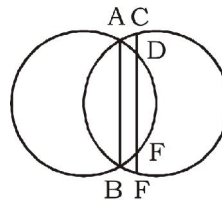
= 22 × 7 × 7 = 1078 cm³

57. (3) $\dfrac{(4x^3 - x)}{(2x+1)(6x-3)} = \dfrac{x(4x^2 - 1)}{(2x+1) \times 3(2x-1)}$

$$= \dfrac{x \times (2x-1)(2x+1)}{3 \times (2x+1)(2x-1)} = \dfrac{x}{3} = \dfrac{9999}{3} = 3333.$$

58. (3)

CD = EF = 4.5 Cm

59. (1) 2x + 3y = 29 and y = x + 3

Now, 2x + 3y = 29

⇒ 2x + 3(x + 3) = 29   [Put the value of y]

⇒ 2x + 3x + 9 = 29

⇒ 5x = 20 ⇒ x = 4.

60. (3) ATQ,

A : B : C
Days → x + 2 : x + 8 : x

Now from question condition,

$$\frac{1}{x+2}+\frac{1}{x+8}=\frac{1}{x}$$

after solving x = 4

Time taken by B to complete the work = (4 + 8) = 12 days
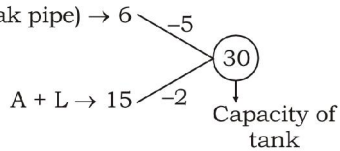
61. (1) Let C.P of article = 100 unit

∴ Total profit

$$=100\times\frac{4}{5}\times\frac{15}{100}-100\times\frac{1}{5}\times\frac{10}{100}=12-2=10 \text{ unit}$$

Now ATQ,

10 unit → Rs. 45

$$\therefore 100 \text{ unit} \rightarrow \frac{45}{10}\times100 = Rs.450$$

62. (1) L(leak pipe) → 6

A + L → 15

Efficiency of filling pipe = 3 units/hour

Required time to fill the tank = $\frac{30}{3}$ = 10 hours

ATQ,

Tap (A) fill at the rate 10 litres per hour then capacity of tank = 10 × 10 = 100 litres

63. (4) Sumit's present age = 2x years

Prakash's present age = 3x years

∴ 3x − 2x = 6

x = 6

∴ Required ratio

= (2 × 6 + 6) : (3 × 6 + 6) = 18 : 24 = 3 : 4

64. (3) Let the sum be P.

As the interest is compounded half-yearly.

∴ R = 2%, T = 2 half years

$$\therefore A = P\left(1+\frac{R}{100}\right)^T$$
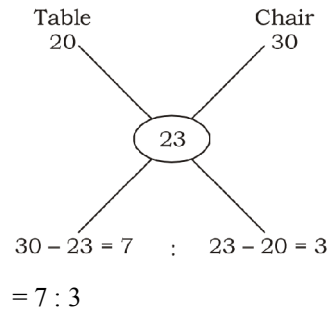
$$\Rightarrow 7803 = P\left(1+\frac{2}{100}\right)^2 \Rightarrow 7803 = P\left(1+\frac{1}{50}\right)^2$$

$$\Rightarrow 7803 = P\times\frac{51}{50}\times\frac{51}{50}$$

$$\Rightarrow P = \frac{7803\times50\times50}{51\times51} = Rs.7500.$$

65. (3) M + T + W + TH = 4 × 37 = 148°C   ...(i)

TH + F + S + S = 4 × 41 = 164°C   ...(ii)

M + T + ... + S + S = 7 × 39 = 273°C   ...(iii)

∴ The temperature of the fourth day

= 148 + 164 − 273 = 39°C

66. (3) By the method of Alligation,

Table   Chair
20   30

23

30 − 23 = 7   :   23 − 20 = 3

= 7 : 3

∴ Cost price of table

$$=\frac{2000}{7+3}\times7 = \frac{2000}{10}\times7 = Rs.1400$$

67. (3) Total runs = 20 × 7.2 = 144

Total runs in 15 overs = 15 × 6 = 90

Runs to be scored in the next 5 overs = 144 − 90 = 54

∴ Now, required run-rate to win the match

$$=\frac{54}{5} = 10.8.$$

68. (3) Let the required side of triangle be x cm.

$$\frac{x^2}{7^2}=\frac{256}{196}\Rightarrow x^2 = \frac{256\times49}{196}\Rightarrow x = 8 \text{ cm}$$

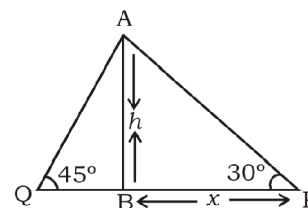69. (4) H = 60 cm, radius = 32 cm

Area of the curved surface = πrl

$$L=\sqrt{R^2+H^2}=\sqrt{(32)^2+(60)^2}$$

$$=\sqrt{1024+3600}=\sqrt{4624}=68 \text{ cm}$$

Area of curved surface $=\pi rl = \frac{22}{7}\times32\times68$

Total cost of painting $=35\times\frac{22}{7}\times32\times68\times\frac{1}{10000}$

= Rs. 23.94 approximate

70. (1)

Let the height of the tree be h and BP be x m.

$$\tan 45° = \frac{h}{QB}\Rightarrow 1 = \frac{h}{QB}$$

100 − x = h   ...(i)

$$\tan 30° = \frac{h}{x}\Rightarrow\frac{1}{\sqrt{3}}=\frac{h}{x}$$

$$x = \sqrt{3}h \qquad\qquad\qquad...(ii)$$

From (i) and (ii), we get

$$100 - \sqrt{3}h = h \Rightarrow h(\sqrt{3}+1) = 100$$

$$\Rightarrow h = \frac{100}{\sqrt{3}+1} \times \frac{\sqrt{3}-1}{\sqrt{3}-1} = \frac{100(\sqrt{3}-1)}{2}$$

$$\therefore h = 50(\sqrt{3}-1) \text{ m}$$

71. (1) Required expenditure

$$= 25000 \times \frac{(20+30)}{100} = Rs.12500.$$

72. (3) Required total expenditure

$$= \frac{15000}{(10+20)} \times 100 = Rs.50000.$$

73. (4) From option (4),

$$\frac{360°}{100} \times (30-15) = \frac{360°}{100} \times 15 = 54°.$$

74. (2) Required percentage

$$= \frac{(15-10)}{15} \times 100 = \frac{5}{15} \times 100 = 33.33\%.$$

75. (3) From option (3),

$$\frac{360°}{100} \times (20+5) = \frac{360°}{100} \times 25 = 90°.$$

76. (2) Add 'the' before poor, as 'the poor' represents class of poor people.

77. (2) Remove 'had', when two actions take place subsequently, the first action which happened earlier will be in past perfect tense and the 2 nd action will be simple past tense.

88. (3) Since, this is a case of an unfulfilled wish, it will take 'had' as a main verb.

89. (3) An affirmative sentence starting with 'let's'/'let us' always takes 'shan't' as its question tag and pronoun 'we'.

90. (1) 'claims' are always 'tall', not 'bigger or high'.