SSC CGL - 170727 GRAND TEST
HINTS AND SOLUTIONS
### ANSWER KEY

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

1. (2) A pod is a group of dolphins, and a herd is a group of cows.

2. (3) Each term in the series is the product of the digits of the preceding term.
So, missing term = $1 \times 8 = 8$.

3. (3) As,
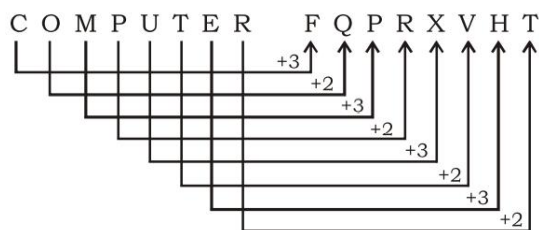
Similarly,
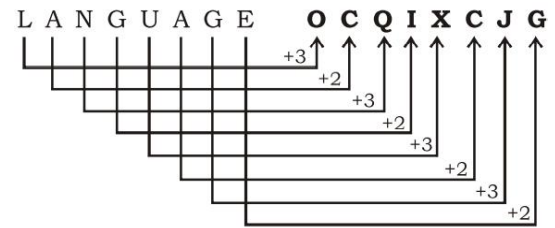
4. (1) The doze is to sleep lightly, and to tiptoe is to walk lightly.

5. (2) $10 - 1 = 9$ and $9 \times 11 = 99$
$9 - 1 = 8$ and $8 \times 11 = 88$

6. (2) Except option (B), rest are the books written by Munshi Premchand whereas Maila Aanchal is written by Phaniswar Nath 'Renu'.

7. (1) Except (41-72) The difference between rest of the intervals is a multiple of 9.

8. (3) All except Scallop live in shells.

9. (1) The upper element is converted to an element similar to the lower elements and each one of the lower elements converted to an element similar to the upper element.

10. (1)
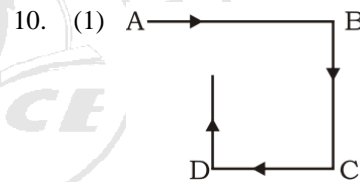

Hence finally Sujata is facing towards North.

11. (4) Number of cuts made to cut a roll into 10 pieces = 9.
Therefore required number of rolls

$$= \frac{45 \times 24}{9} = 120.$$

12. (3) Each term in the series is obtained by adding 1 to the square of the preceding term.
So, missing term = $(101)^2 + 1 = 10202$.
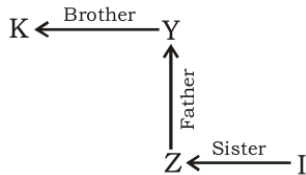
13. (4)
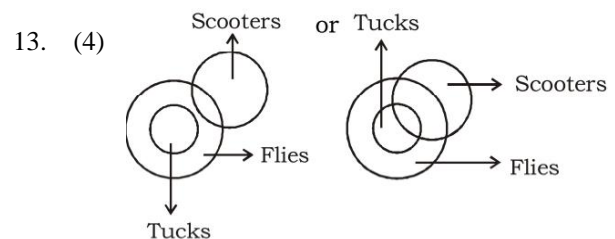
1. 5   2. 5

14. (4) The girl is the wife of the grandson of Amit's mother i.e. the girl is the wife of son of Amit. Hence, Amit is father-in-law of that girl.

15. (3)
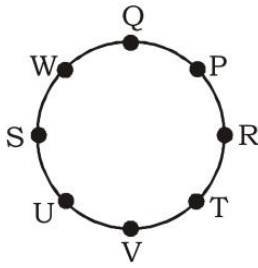
16. (2)

So, the relation (K + Y × Z – I) shows that 'I' is the niece of 'K'.

17. (3) $\dfrac{20+9+14+7}{2} = 30$

and $\dfrac{11+16+10+13}{2} = 25$

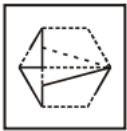Therefore, $\dfrac{18+?+12+20}{2} = 32$

⇒ ? = 64 – 50 = 14

18. (4) $(1)^2 + (5)^2 + (4)^2 + (3)^2 = 51 \times 10 = 510$
and $(3)^2 + (4)^2 + (6)^2 + (2)^2 = 65 \times 10 = 650$
Similarly, $(3)^2 + (1)^2 + (2)^2 + (8)^2 = 78 \times 10 = 780$

19. (4)

20. (3) 1, 3, 5 are figures having partially or completely curved boundaries.
2, 6, 8 are all triangles.
4, 7, 9 are all quadrilaterals.

21. (1)

22. (1)

23. (3)

24. (1) Clearly, the smallest such number is 3.

'D' represents the 'ducks'.

25. (3)

51. (1)

Chemistry : Mathematics	Mathematics : Physics
3 : 5	3 : 5

After combining the ratio,
Chemistry : Mathematics : Physics
  9x :   15x   :   25x
According to the question,
9x + 15x + 25x = 147
⇒ 49x = 147
⇒ x = 3
Marks in chemistry = 9 × 3 = 27

52. (4) Total CP = ` 32

Total SP = $\dfrac{12}{12} \times 18 + \dfrac{4}{12} \times 6 = 18 + 2 =$ ` 20

Loss % $= \left(\dfrac{32-20}{32} \right) \times 100 = 37.5\%$

53. (3) Work done = $\dfrac{11}{30}$

Remaining work = $\dfrac{19}{30}$

$\dfrac{19}{30}$ work in 28 days

Whole work in

$= \dfrac{30 \times 28}{19}$ days $= \dfrac{840}{19}$ days $= 44\dfrac{4}{19}$ days

54. (3) Suppose printed price = ` 100
∴ S.P. = ` (100 – 2.5) = ` 97.5

∴ Marked price $= \dfrac{100 \times 39}{97.5} =$ ` 40

55. (1) Let the initial cost price of Book and pen is B and P respectively.
According to the question,
13% B + 17% P = profit
17% B + 13% P = (profit + 80)
–   –   –
On subtraction,
– 4% B + 4% P = – 80
⇒ 4% B – 4% P = 80
⇒ 4% (B – P) = 80

$\dfrac{4}{100}(B - P) = 80$

B – P = 2000   ...(i)
B + P = 25000 [given]   ...(ii)
From (i) and (ii)

$B = \dfrac{25000 + 2000}{2} =$ ` 13500

$P = \dfrac{25000 - 2000}{2} =$ ` 11500

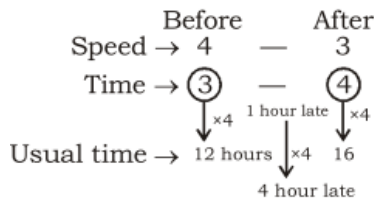(ii) Difference in cost price = ` 2000

56. (1) Difference in time after accident
= (4 + 1 − 3.5)hr = 1.5 km
Distance = 150 km
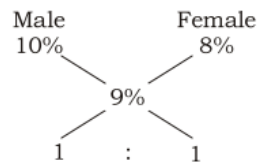
$$\text{Speed} = \frac{150}{1.5} = 100 \text{ km/h}$$

Speed after accident 75% = $\frac{3}{4}$

ATQ,

```
                  Before      After
     Speed →    4    —    3
     Time  →    ③    —    ④
                  ×4 ↓  1 hour late  ↓ ×4
     Usual time → 12 hours ↓×4   16
                          ↓
                    4 hour late
```

Required distance = 12 × 100 = 1200 km

57. (1) By Alligation method,

```
     Male        Female
     10%          8%
            9%
        1    :    1
```

Ratio of male to female = 1 : 1

Number of males = $\frac{1}{2} \times 8000 = 4000$

58. (2) LCM of 24, 36 and 54 seconds
= 216 seconds = 3 minutes 36 seconds
∴ Required time = 10 : 15 : 00 + 3 minutes 36 seconds
= 10 : 18 : 36 AM

59. (3) $p \times q = p + q + \dfrac{p}{q}$

∴ $8 \times 2 = 8 + 2 + \dfrac{8}{2} = 10 + 4 = 14$

60. (3) Total amount in the bag $= \left(\dfrac{1}{4} \times 600 + \dfrac{1}{2} \times 1200\right)$

$= (150 + 600) = ` 750$

The amount taken out

$= \dfrac{1}{4} \times \left(\dfrac{12}{100} \times 600\right) + \dfrac{1}{2} \times \left(\dfrac{24 \times 1200}{100}\right)$

$= \left(\dfrac{1}{4} \times 72 + \dfrac{1}{2} \times 288\right) = 18 + 144 = `162$

Required percentage $= \dfrac{162}{750} \times 100 = 21.6\%$

61. (3) A + B do = 8 unit work
∴ Hence c did only = 3 unit work

∴ Required share = $\dfrac{3}{11} \times 660 = `180$

62. (3) Arithmetic mean (AM) = $\dfrac{a+b}{2}$

Geometric mean (GM) = $\sqrt{ab}$

As AM > GM

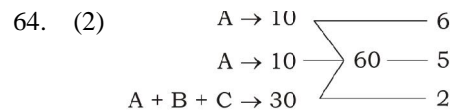$\dfrac{a+b}{2} > \sqrt{ab}$

63. (3) Let x = no. of benches
So, ATQ,
6(x + 1) = 7x − 5
or 7x − 6x = 6 + 5
⇒ x = 11
So, No. of students = 6(x + 1) = 72

64. (2)

```
     A → 10 ──────── 6
     A → 10 ⟩ 60 ── 5
A + B + C → 30 ──────── 2
```

∴ Efficiency of tap C = (6 + 5 − 2) = 9 unit/hr

∴ Required time = $\dfrac{60}{9}$ hours

65. (2) 1.5x = 0.04y

$\Rightarrow \dfrac{x}{y} = \dfrac{0.04}{1.5} = \dfrac{4}{150} = \dfrac{2}{75}$

$\Rightarrow \dfrac{y}{x} = \dfrac{75}{2}$

Now, $\dfrac{y^2 - x^2}{y^2 + 2xy + x^2}$

$= \dfrac{(y-x)(y+x)}{(y+x)^2}$

$= \dfrac{y-x}{y+x} = \dfrac{\dfrac{y}{x} - 1}{\dfrac{y}{x} + 1}$

$= \dfrac{\dfrac{75}{2} - 1}{\dfrac{75}{2} + 1} = \dfrac{73}{77}$

66. (2) By mid-point theorem

$\dfrac{EF}{AD} = \dfrac{FG}{DC} = \dfrac{GH}{CB} = \dfrac{HE}{BA} = \dfrac{1}{2}$

∴ $\dfrac{EF + FG + GH + HE}{AD + DC + CB + BA} = \dfrac{1}{2}$

∴ $\dfrac{\dfrac{1}{2}(AD + DC + CB + BA)}{(AD + DC + CB + BA)} = \dfrac{1}{2} = 1 : 2$

67. (2) $x = 6 + \dfrac{1}{x} \Rightarrow x - \dfrac{1}{x} = 6$

On squaring both sides,

$\Rightarrow x^2 + \dfrac{1}{x^2} - 2 = 36$

$\Rightarrow x^2 + \dfrac{1}{x^2} = 36 + 2 = 38$

On squaring again,

$x^4 + \dfrac{1}{x^4} + 2 = 1444$

$\Rightarrow x^4 + \dfrac{1}{x^4} = 1444 - 2 = 1442$
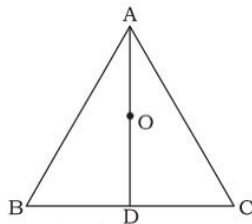
68. (4) $\angle PQY = 180° - \angle PYQ - \angle YPQ$
$= 180° - 40° - (180° - 120°) = 80°$
$\therefore \angle RQZ = 180° - \angle PQY$
$= 180° - 80° = 100°$
$\therefore \angle RZQ = 180° - 25° - 100° = 55°$
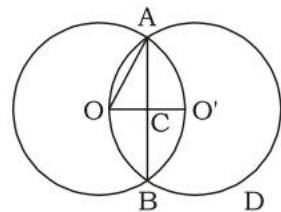$\therefore \angle BZX = 180° - \angle RZQ = 180° - 55° = 125°$

69. (4)

$DB = DC = 3$ cm

$AD = \sqrt{AB^2 - BD^2} = \sqrt{6^2 - 3^2}$
$= \sqrt{36 - 9} = \sqrt{27} = 3\sqrt{3}$ cm

$\therefore OD = \text{In-radius} = \dfrac{1}{3} \times 3\sqrt{3} = \sqrt{3}$ cm

$\therefore$ Area of circle $= \pi r^2$
$= \pi \times \sqrt{3} \times \sqrt{3} = 3\pi$ cm^2

70. (2)

$OC = 2$ cm
$OA = 4$ cm
$\therefore AC = \sqrt{4^2 - 2^2} = \sqrt{16 - 4} = \sqrt{12} = 2\sqrt{3}$
$\therefore AB = 4\sqrt{3}$ cm

71. (4) Total accidents
$= 230 + 150 + 120 + 160 + 40 + 200 + 100 = 1000$

Percentage of accidents involving two-wheelers to two wheelers

$= \dfrac{230}{100} \times 100 = 23\%$

Percentage of accidents involving two-wheelers to other objects

$= \dfrac{770 \times 100}{1000} = 77\%$

$\therefore$ Required difference $= 77 - 23 = 54\%$ less

72. (3) Two-wheelers + Cars + Buses + Stationary Vehicles
$= 230 + 150 + 120 + 100$
$= 600 \approx 60\%$

73. (4) Since $1000 \equiv 360°$
Sector angle for stationary vehicles.

$= \dfrac{360}{1000} \times 100 = 36°$

74. (1) Required percentage

$= \dfrac{40 + 200}{1000} \times 100 = \dfrac{24000}{1000} = 24$

75. (2) Required difference $= \dfrac{160 - 120}{1000} \times 100 = 4\%$

76. (2) Change 'aims to do' into 'aims at doing'. 'Aim' takes 'at' after it and all the prepositions take 'v_1 + ing' after them.

77. (1) If past time (i.e. last weekend) is given in a sentence, the sentence must be in simple past tense and never in present perfect tense. Change 'have visited' into 'visited'.

78. (3) 'Get along with someone' means 'to have smooth relations with someone'.

79. (3) Among those options, 'Restoration' is the appropriate one, which means 'the act of restoring something to its former good condition.'

80. (2) This is a famous saying.

81. (1)

82. (3) 'As ...... as' a is co-relative conjunction. We need 'as' after 'tall'.

83. (1) Establish (V_1) will be preceded by 'to'. 'In' is followed by 'V_1 + ing'.

84. (2)

85. (2)

86. (2)   87. (3)

88. (1)   89. (2)

90. (1)   91. (1)

92. (1)

93. (4)

94. (2)   95. (3)

96. (4)

97. (2)   98. (3)

99. (1)   100. (1)