SSC CGL - 180618 GRAND TEST
HINTS AND SOLUTIONS
ANSWER KEY

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

1. (3) $A \xrightarrow{+3} D \xrightarrow{+4} H \xrightarrow{+5} M$

$Z \xrightarrow{-5} U \xrightarrow{-4} Q \xrightarrow{-3} N$

Similarly,

$G \xrightarrow{+2} I \xrightarrow{+2} K \xrightarrow{+2} M$

$T \xrightarrow{-2} R \xrightarrow{-2} P \xrightarrow{-2} N$

2. (1) $(6)^2 = 36; (6)^3 = 216$

Similarly, $(9)^2 = 81; (9)^3 = 729$

3. (2) Stomach is a part of body. Similarly, library has different kinds of books.

4. (1) Teaching is different from the other three words.

5. (2) $8465 \Rightarrow 84 - 65 = 19$

$2643 \Rightarrow 43 - 26 = 17$

$4867 \Rightarrow 67 - 48 = 19$

$6243 \Rightarrow 62 - 43 = 19$

6. (3) $F \xrightarrow{+2} h \xrightarrow{+2} j \xrightarrow{+2} L$

$P \xrightarrow{+2} r \xrightarrow{+2} t \xrightarrow{+2} V$

$K \xrightarrow{+3} n \xrightarrow{+2} p \xrightarrow{+2} R$

$C \xrightarrow{+2} e \xrightarrow{+2} g \xrightarrow{+2} I$

7. (4) Arrangement of words as per dictionary :
    (i)   Forge
            ↓
    (ii)   Forget
            ↓
    (iv)   Forgive
            ↓
    (iii) Forgo
            ↓
    (v)   Format

8. (1) $K \xrightarrow{+4} O \xrightarrow{+4} S \xrightarrow{+4} \boxed{W}$

$J \xrightarrow{+4} N \xrightarrow{+4} R \xrightarrow{+4} V$

$L \xrightarrow{+4} P \xrightarrow{+4} T \xrightarrow{+4} X$
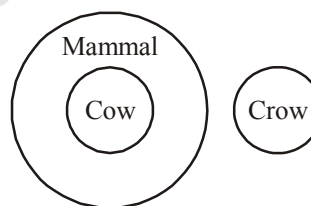
9. (2) $198 + (2)^2 = 202$
    $202 + (3)^2 = 211$
    $211 + (4)^2 = 227$
    $227 + (5)^2 = \boxed{252}$

10. (3) Crows come under the class Aves. Cow is a mammal.

11. (3)

Total number of people in the row = 11 + 9 – 1 = 19

12. (1) Suppose the present age of Arun is 4x years and that of Deepak is 3x years.
    6 years hence, Arun's age = 4x + 6 = 26
    $\Rightarrow 4x = 26 - 6$

    $x = \dfrac{20}{4} = 5$

    $\therefore$ Present age of Deepak = 3x = 15 years

13. (2)

D	E	L	H	I
↓	↓	↓	↓	↓
7	3	5	4	1

C	A	L	C	U	T	T	A
↓	↓	↓	↓	↓	↓	↓	↓
8	2	5	8	9	6	6	2

Therefore,

C	A	L	I	C	U	T
↓	↓	↓	↓	↓	↓	↓
8	2	5	1	8	9	6

14. (2) The number '3' is common to all the three circles.

15. (4) $235 \Rightarrow (2)^2 + (3)^2 + (5)^2 = 38$

$452 \Rightarrow (4)^2 + (5)^2 + (2)^2 = 45$

$345 \Rightarrow (3)^2 + (4)^2 + (5)^2 = \boxed{50}$

16. (4)

$\times \Rightarrow +$	$\div \Rightarrow -$
$+ \Rightarrow \div$	$- \Rightarrow \times$

$14 \times 4 \div 70 + 10 - 2 = ?$
$\Rightarrow ? = 14 + 4 - 70 \div 10 \times 2$
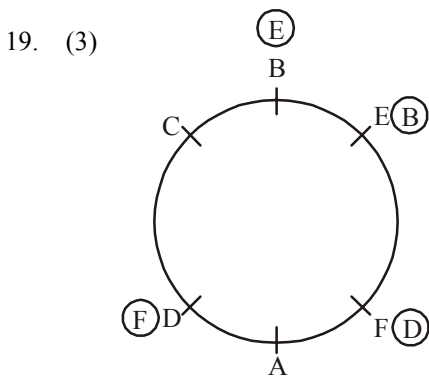$\Rightarrow ? = 14 + 4 - 7 \times 2$
$\Rightarrow ? = 18 - 14 = \boxed{4}$

17. (4) First Column $12 \times 3 + 4 = 40$
Second Column $15 \times 4 + 6 = 66$
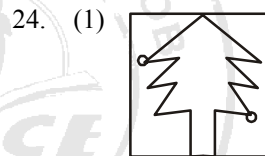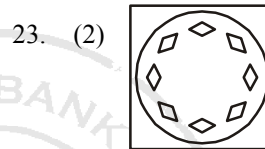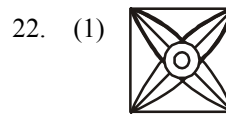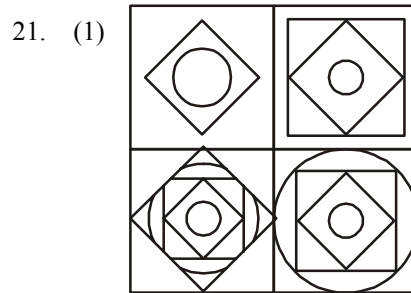Third Column $16 \times 5 + 4 = \boxed{84}$

18. (2)
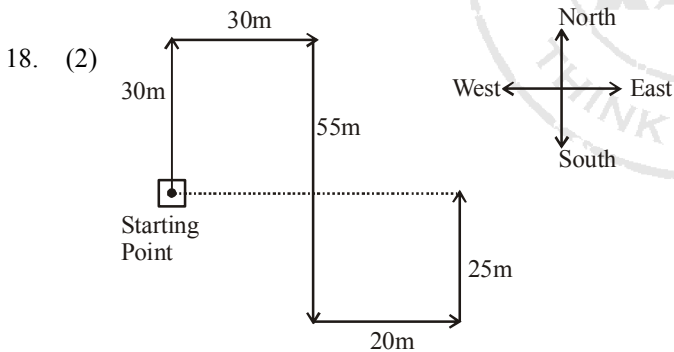
Required distance = 30m + 20 m = 50 m

19. (3)

Now, A is to the left of D.

20. (4) Any written piece is recognized as song when it is sung by a singer. Therefore, only Conclusion I follows.

21. (1)

22. (1)

23. (2)

24. (1)

25. (2) C ⇒ 02, 11, 20, 31, 43
D ⇒ 00, 14, 23, 34, 42
G ⇒ 56, 65, 77, 87, 97
E ⇒ 04, 13, 24, 33, 40

Option	C	A	G	E
(1)	95	82	31	14
(2)	20	00	65	40
(3)	14	20	41	86
(4)	00	21	41	95

51. (1) (A+B)'s 1 day's work = $\dfrac{1}{12} + \dfrac{1}{15} = \dfrac{5+4}{60} = \dfrac{3}{20}$

Work done by A in 6 days = $6 \times \dfrac{1}{12} = \dfrac{1}{2}$

Remaining work = $1 - \dfrac{1}{2} = \dfrac{1}{2}$

Time taken by (A + B) in doing half of work

$= \dfrac{20}{3} \times \dfrac{1}{2} = \dfrac{10}{3} = 3\dfrac{1}{3}$ days

52. (4) Volume of the sphere $= \frac{4}{3}\pi r^3 = \frac{4}{3}\pi$ cu.cm

Volume of wire $= \pi r^2 h = 100\ \pi r^2$ cu. Cm

$\therefore 100\ \pi r^2 = \frac{4}{3}\pi$

$\Rightarrow r^2 = \frac{4}{300} = \frac{1}{75}$

$\therefore r = \sqrt{\frac{1}{75}} = 0.11\,cm$

53. (2) LCM of indices of surds = 12

$\therefore \sqrt[3]{4} = \sqrt[12]{4^4} = \sqrt[12]{256}$

$\sqrt{3} = \sqrt[12]{3^6} = \sqrt[12]{729}$

$\sqrt[6]{25} = \sqrt[12]{625}$

$\sqrt[12]{289}$

$\therefore$ Largest number $= \sqrt{3}$ and smallest number $= \sqrt[3]{4}$

54. (1) Third number $= \frac{a}{5}$

First number of next sequence $= \frac{a}{5} + 3$

$\therefore \frac{a}{5} + 3 + \frac{a}{5} + 4 + \frac{a}{5} + 5 + \frac{a}{5} + 6 + \frac{a}{5} + 7 = b$

$\Rightarrow a + 25 = b \Rightarrow 25 = b - a$

$\therefore \frac{b-a}{100} = \frac{25}{100} = \frac{1}{4}$

55. (1) If the marked price of a trouser be Rs. x then

$\frac{x \times 40}{100} = 320$

$\Rightarrow x = \frac{320 \times 100}{40} = Rs.800$

$\therefore$ S. P. of trouser $= \frac{800 \times 60}{100} = Rs.\ 480.$

56. (1) Ram' expenditure = Rs. 3 x
Savings = Rs. 2x

New income $= \frac{5x \times 110}{100} = Rs.\frac{11x}{2}$

Expenditure $= \frac{3x \times 112}{100} = Rs.\frac{336x}{100}$

Savings $= \frac{11x}{2} - \frac{336x}{100} = \frac{550x - 336x}{100} = Rs.214x$

Increase in savings $= \frac{214x}{100} - 2x = \frac{14x}{100}$

$\therefore$ Percentage increase $= \frac{14x}{200x} \times 100 = 7\%$

57. (2) (P + Q)'s present age $= 40 + 20 = 60$ years
(P + Q + R) 's present age = 90 years
R's present age $= 90 - 60 = 30$ years
R's age after 10 years $= 30 + 10 = 40$ years.

58. (3) Area of the base $= \frac{\sqrt{3}}{4} \times 4^2 = 4\sqrt{3}$ sq. cm.

Median of the base $= \sqrt{4^2 - 2^2} = 2\sqrt{3}$ sq. cm

Distance of centroid from the side $= \frac{2\sqrt{3}}{6}$ cm

$\therefore \sqrt{(2h)^2 - h^2} = \frac{2\sqrt{3}}{3} \Rightarrow \sqrt{3}h = \frac{2\sqrt{3}}{3} \Rightarrow h = \frac{2}{3}cm$

Volume $= \frac{1}{3} \times$ Area of base $\times$ height

$= \frac{4\sqrt{3} \times 2}{3 \times 3} = \frac{8\sqrt{3}}{9}$ cu. cm

59. (2) Semi-perimeter of triangle

$= \frac{50 + 78 + 112}{2} = \frac{240}{2} = 120cm$

Area of triangle

$= \sqrt{s(s-a)(s-b)(s-c)}$

$= \sqrt{120(120-50)(120-78)(120-112)}$

$= \sqrt{120 \times 70 \times 42 \times 8} = 1680$ sq. cm.

$\therefore$ The altitude will be smallest when base is largest.

$\therefore \frac{1}{2} \times 112 \times h = 1680 \Rightarrow h = \frac{1680 \times 2}{112} = 30$ cm

60. (4) If the principal be Rs. P, then S.I $= \frac{p}{9}$

If rate $= r\%$ then Rate $= \frac{S.I \times 100}{Principal \times Time}$

$\Rightarrow r = \frac{1 \times 100}{9 \times r} = 9r^2 = 100 \Rightarrow r^2 = \frac{100}{9}$

$R = \frac{100}{9} = 3\frac{1}{3}\%$

61. (3) $x^2 + y^2 + z^2 = xy + yz + zx$

$\Rightarrow 2x^2 + 2y^2 + 2z^2 - 2xy - 2yz - 2zx = 0$

$\Rightarrow (x-y)^2 + (y-z)^2 + (z-x)^2 = 0$

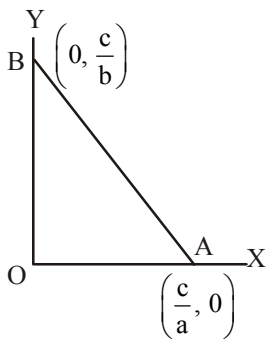$\Rightarrow x - y = 0 \Rightarrow x = y$

$y - z = 0 \Rightarrow y = z$

$z - x = 0 \Rightarrow z = x$

$\therefore \dfrac{4x + 2y - 3z}{2x} = \dfrac{4 + 2 - 3}{2} = \dfrac{3}{2}$

62. (3) $ax + by = c$ (given)

When $x = 0, y = \dfrac{c}{b}$

When $y = 0, x = \dfrac{c}{a}$

$\therefore OA = \dfrac{c}{a}; \quad OB = \dfrac{c}{b}$

$\therefore$ Area of $\triangle OAB = \dfrac{1}{2} \times \dfrac{c}{a} \times \dfrac{c}{b} = \dfrac{c^2}{2ab}$ sq. units

63. (3) Total C. P. = Rs. 100 (100 articles)

Total S. P $= 75 \times \dfrac{140}{100} + 25 \times \dfrac{60}{100} \times 1.4$

$= 105 + 21 = $ Rs. 126.

Gain percent = Rs. 26.

64. (2) Total C. P $= \dfrac{240 \times 48}{12} = $ Rs.960

S.P. for a gain of 25% $= \dfrac{960 \times 125}{100} = $ Rs.1200.

Amount received on half of bananas at Rs. 5 per banana $= 120 \times 5 = $ Rs. 600

Remaining bananas $= 120 \times \dfrac{5}{6} = 100$

S.P. of these 100 bananas = Rs. 600

$\therefore$ Rate = Rs. 6 per banana.

65. (2) Percentage decrease

$= \dfrac{r}{100 + r} \times 100\% = \dfrac{25}{125} \times 100 = 20\%$

66. (1) $x = r\cos\theta.\cos\phi$

$y = r\cos\theta.\sin\phi$

$z = r\sin\theta$

$\therefore x^2 + y^2 + z^2 = r^2\cos^2\theta.\cos^2\phi + r^2\cos^2\theta.\sin^2\phi + r^2\sin^2\theta$

$= r^2\cos^2\theta(\cos^2\phi + \sin^2\theta) + r^2\sin^2\theta$

$= r^2\cos^2\theta + r^2\sin^2\theta$

$= r^2(\cos^2\theta + \sin^2\theta) = r^2$

67. (2) $\sec^2 12° - \cot^2 78°$

$= \sec^2 12° - \cot^2(90° - 12°)$
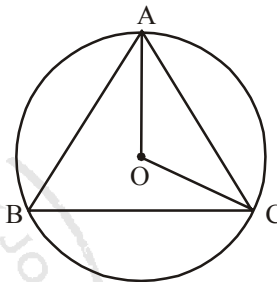
$= \sec^2 12° - \tan^2 12° = 1$

68. (3) Percentage decrease

$= \left(-2x + \dfrac{x^2}{100}\right)\% = (-50 + 6.25)\% = -43.75\%$

69. (1)

$\angle ABC = 180° - 85° - 75° = 20°$

$\angle AOC = 40°$
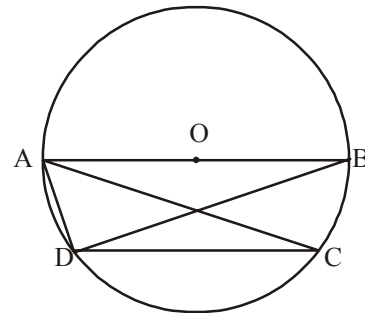
$OA = OC$

$\therefore \angle OAC = \angle OCA$

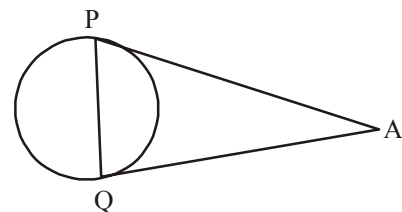$\therefore \angle OAC + \angle OCA = 180° - 40° = 140°$

$\therefore \angle OAC = 70°$

70. (2)

$\therefore \angle BAC = \angle BDC = 20°$ (on same are BC)

$\angle ADB = 90°$ (Angle of semi − circle)

71. (1)

$AP = AQ$

$\therefore \angle APQ = \angle AQP$

$\therefore \angle APQ + \angle AQP = 180° - 68° = 112°$

$\therefore \angle APQ = \dfrac{112}{2} = 56°$

72. (2) Required difference = 1065 – 1030 = 35

73. (2) Total number of students playing football = 900

$\therefore \dfrac{x \times 900}{100} = 175 \Rightarrow x = \dfrac{175}{9} = 19\dfrac{4}{9}$

74. (4) Total number of players

School E $\Rightarrow$ 905

School C $\Rightarrow$ 880

75. (2) $\dfrac{130 \times x}{100} = 65 \Rightarrow x = \dfrac{65 \times 100}{130} = 50$

76. (2) Here, look like …. Should be used. Like is an Adjective which is used as Preposition.

77. (3) Here, foot tall …. Should be used.

78. (1) Here, with no proof of your guilt / without any proof of your guilt …. Should be used

81. (1) The word **Nexus (Noun)** means : a complicated series of connections between different things; connection

Look at the sentence :

There is a strong nexus between a criminal and corrupt police.

82. (2) The word **Mammoth (Adjective)** means : extremely large; huge.

Look at the sentence :

Europe is facing a financial crisis of mammoth proportions.

83. (4) The word **Hyperbole (Noun)** means : a way of speaking or writing that makes something sound better, more exciting than it really is ; exaggeration.

84. (1) The word **Impeccable (Adjective)** means without mistakes or faults ; perfect.

Look at the sentences :

Her written English is impeccable.

He was dressed in an impeccable white shirt.

Hence, its antonym should be **faulty,**

85. (1) The word **Amalgamate (Verb)** means : merge; to put two or more things together so tht they form one; assimilate

Look at the sentence :

The company has now amalgamated with another local firm.

Its antonym should be **separate** which means : to divide into different parts or groups : to move apart.

86. (3) Idiom **have an axe to grind** means : to have private reasons for being involved in something or for arguing for a particular cause.

87. (1) Idiom **draw a blank** means : to get no response or result

88. (2) Idiom **put your foot down** means : to be very strict in opposing what somebody wishes to do ; to drive faster.