

SSC CHSL GRAND TEST : 171204 - HINTS AND SOLUTIONS

ANSWER KEY

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

1. (4) Here, in 532; $5 = 3 + 2$
 in 734; $7 = 3 + 4$
 in 853; $8 = 5 + 3$
 in 751; $7 \neq 5 + 1$
 Hence, 751 is different from others.

2. (4)

H	G	F	E	D	C	B	A
└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘
	-1	-1	-1		-1	-1	-1
P	O	N	M	I	J	K	L
└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘	└─┬─┬─┬─┘
	-1	-1	-1		+1	+1	+1

3. (1)

N	P	R	R	Q	P
└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘
	+2	+2		-1	-1

H	G	F	D	C	B
└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘
	-1	-1		-1	-1

4. (2)

q	q	s	t	u	u
└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘
	+0	+2	+2	+1	+0

a	a	c	d	f	f
└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘
	+0	+2	+1	+2	+0

m	m	o	p	q	q
└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘
	+0	+2	+2	+1	+0

g	g	i	j	k	k
└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘
	+0	+2	+2	+1	+0

5. (1) As, $196 \Rightarrow (14)^2$
 $256 \Rightarrow (16)^2$
 Similarly, $? \Rightarrow (x)^2$
 $400 \Rightarrow (20)^2$
 $\therefore x + 2 = 20 \quad x = 18 \text{ and } (18)^2 = 324$

6. (3) As,

4	1	4	6	3	6
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		+2		+2	+2

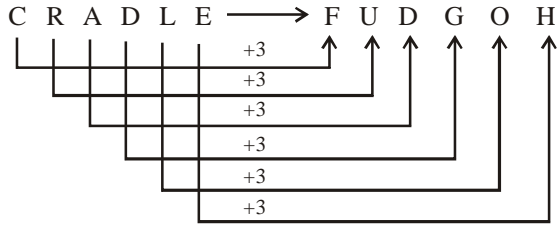
Similarly,

3	2	5	5	4	7
└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘	└─┬─┬─┘
		+2		+2	+2

7. (2) As, S N A K E \longrightarrow V Q D N H

S	N	A	K	E	V	Q	D	N	H										
└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘	└─┬─┬─┬─┬─┬─┘										
				+3					+3					+3					+3

Similarly,



8. (4) As, Vacation is similar to Holiday, in the same way Vocation is similar to Career.

9. (3) As, $\sqrt{AFI} \rightarrow 169 = 13$
 $\downarrow \downarrow \downarrow$
 1 6 9

Similarly, $\sqrt{DDA} \rightarrow \sqrt{441} = 21$
 $\downarrow \downarrow \downarrow$
 4 4 1

10. (1) From the option (a) will complete the pattern of the question figure.

11. (1) As, $6 \times 6 = 36$
 and $7 \times 6 = 42$

Similarly, $9 \times 6 = 54$

12. (4) As, $\sqrt{16} + \sqrt{25} + \sqrt{36} + \sqrt{49} = 4 + 5 + 6 + 7 = 22$
 and $\sqrt{4} + \sqrt{9} + \sqrt{1} + \sqrt{81} = 2 + 3 + 1 + 9 = 15$

$\sqrt{9} + \sqrt{64} + \sqrt{1} + \sqrt{?} = 16$
 Similarly, $\Rightarrow 3 + 8 + 1 + \sqrt{?} = 16$

$$12 + \sqrt{?} = 16$$

$$\sqrt{?} = 4$$

$$? = 16$$

13. (2) The letter 'm' is not available in the word calculate. So, Team cannot be formed from the given letters of the given word.

14. (4) There is no letter 't' in the word correspondence. So, word Respondent cannot be formed.

15. (2) From the option (b),

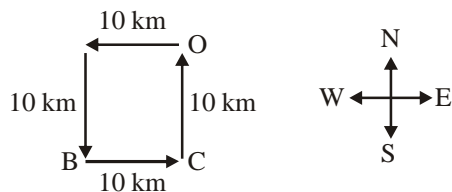
a b b a/a b b a/a b b a
 \Rightarrow b b b

16. (1) From the option (a)

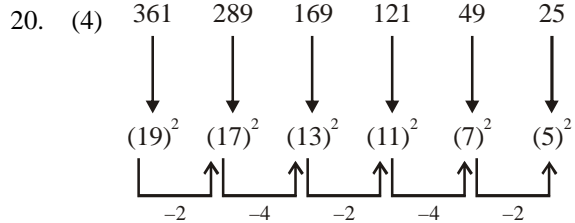
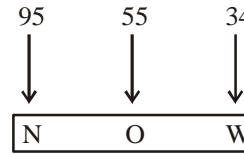
o o p q / o p o q / o o p q / o p o q / o o p q \Rightarrow o p p o

17. (3)

18. (3) The path of Sita's movement will be as given below



19. (3) From the option (c)



21. (1) $1 + 1 = 2$
 $2 + 1 = 3$
 $3 + 2 = 5$

$$5 + 3 = \boxed{8}$$

$$8 + 5 = 13$$

$$13 + 8 = 21$$

22. (1) As, Stress \rightarrow Rstress

Similarly, Pulse \rightarrow Oulse

23. (1) The meaningful order of the given words is

4. Electron \rightarrow , Atom \rightarrow , Molecule \rightarrow 2. Matter
 \Rightarrow 4, 1, 3, 2

24. (3) \therefore A R M S

$\downarrow \downarrow \downarrow \downarrow$
 1 2 3 4

\therefore M A R S

$\downarrow \downarrow \downarrow \downarrow$
 3 1 2 4

25. (1) According to the statements, neither Conclusion I nor II follows.

51. (2) Sports : Art and Craft = 120 : 90 = 4 : 3

52. (3) Maximum expenditure = Maximum angle = 120° = sports

53. (1) 25% = one-fourth = $\frac{1}{4}$ of 360° = 360° \times $\frac{1}{4}$ = 90° = Art and Craft

54. (1) Heads of same amount expenditure = Heads of same angle = 60° and 60° = Science and Library

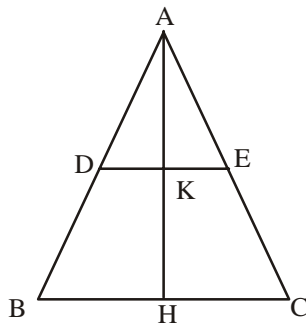
55. (2) Total expense on Library = $\frac{100 \times 60}{360} = 16.6\%$

56. (4) Cost price of cycle = Rs 6810 [\therefore Vat = 13.5%]

$$\therefore 113.5\% = 6810$$

$$\therefore 100\% = \frac{6810 \times 100}{113.5} = \text{Rs } 6000$$

57. (3)



$\therefore \triangle AKD$ and $\triangle AHB$ are similar triangle

$$\frac{AD}{AB} = \frac{AK}{AH}$$

$$\therefore \frac{AD}{2AD} = \frac{AK}{AK + KH}$$

$$\Rightarrow \frac{1}{2} = \frac{AK}{AK + KH}$$

$$\Rightarrow AK + KH = 2AK$$

$$\Rightarrow KH = AK$$

$$\therefore AK : KH = 1 : 1$$

58. (2) The remaining amount = $16000 - 4000 = 12000$

$$15 \text{ Month} = 1\frac{1}{4} \text{ yr}$$

$$r = 12\%$$

$$SI = \frac{PTR}{100} = \frac{12000 \times 5 \times 12}{4 \times 100} = 30 \times 5 \times 12 = \text{Rs.}1800$$

The total amount which he pays for TV is,
 $= 4000 + 12000 + 1800 = \text{Rs.}17800$

59. (3) $a^2 + b^2 + c^2 = ab + bc + ca$

$$\Rightarrow 2a^2 + 2b^2 + 2c^2 = 2ab + 2bc + 2ca$$

$$\Rightarrow a^2 - 2ab + b^2 + b^2 - 2bc + c^2 + c^2 - 2ca + a^2 = 0$$

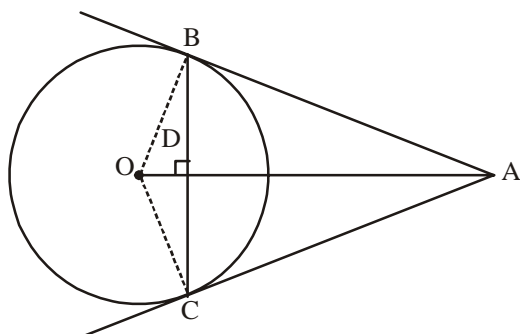
$$\Rightarrow (a-b)^2 + (b-c)^2 + (c-a)^2 = 0$$

$$a = b = c$$

then,

$$\frac{a+c}{b} = \frac{b+b}{b} = \frac{2b}{b} = 2$$

60. (4)



$\therefore AB = AC$
 and $OB = OC$

$\therefore BD = DC$

then, $\angle BDO = \angle CDO$

$\therefore \angle BDO + \angle CDO = 180^\circ$

$$\angle BDO = \frac{180^\circ}{2} = 90^\circ$$

61. (1) Curved surface area of hemisphere = $2\pi r^2$ and

Curved surface area of cone = $\pi r l$

According to the question,

$$r = h$$

$$l^2 = h^2 + r^2$$

$$l^2 = r^2 + r^2 \quad [\because h = r]$$

$$l^2 = 2r^2$$

$$\therefore \pi r l = \pi \times r \times r \times \sqrt{2} = \pi r^2 \sqrt{2}$$

$$\therefore \text{So, the required ratio} = \frac{2\pi r^2}{\pi r^2 \sqrt{2}} = \frac{2}{\sqrt{2}} = \sqrt{2} : 1$$

62. (1) Let the CP of article be x.

According to the question,

$$x \times 90\% = 270$$

$$x = \frac{270 \times 100}{90} = \text{Rs.}300$$

63. (2) One day work of A and B = $\frac{1}{15}$

One day work of B and C = $\frac{1}{10}$

One day work of A and C = $\frac{1}{12}$

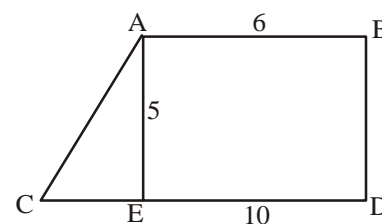
$$2(A + B + C) = \frac{1}{15} + \frac{1}{10} + \frac{1}{12} = \frac{4+6+5}{60}$$

$$= \frac{15}{60} = \frac{1}{4}$$

One day work of A + B + C = $\frac{1}{8}$

So, the required time in 8 days.

64. (1)



Volume of prism = Area of base X Height

$$= \frac{1}{2}(AB + CD) \times AE = \frac{1}{2}(6 + 10) \times 5$$

$$= \frac{1}{2} \times 16 \times 5 = 40 \text{ cm}^2$$

$$\therefore \text{Volume} = 40 \times \text{Height} = 40 \times 8 = 320 \text{ cm}^3$$

65. (4) Perfect square between 120 and 300 are given below

$$(11)^2, (12)^2, (13)^2, (14)^2, (15)^2, (16)^2, (17)^2$$

$$= 121 + 144 + 169 + 196 + 225 + 256 + 289 = 1400$$

66. (3) Given, D = 63, t = 2 yr, P = ?, r = 5%

$$\text{By } D = P \left(\frac{r}{100} \right)^2$$

$$\Rightarrow 63 = P \left(\frac{5}{100} \right)^2 \Rightarrow 63 = P \times \frac{1}{400}$$

$$\Rightarrow P = 63 \times 400 = 25200$$

67. (4) Let the leak will take x h to empty the tank,

$$\frac{1}{x} = \frac{1}{24} - \frac{1}{36} = \frac{3-2}{72}$$

$$\Rightarrow \frac{1}{x} = \frac{1}{72}$$

So, x = 72

But tank is half filled, so the required time = $\frac{72}{2} = 36$ h

68. (1) Let the two numbers are 3x and 4x

$$\therefore 12x = 120$$

$$x = 10 \text{ or HCF} = 10$$

$$\therefore \text{Numbers} = 3 \times 10 = 30 \text{ and } 4 \times 10 = 40$$

$$\text{Sum of both numbers} = 30 + 40 = 70$$

69. (1) Let the required number = x

$$\text{According to the question, } \frac{x \times 50}{100} + 50 = x$$

$$\Rightarrow x - \frac{x}{2} = 50 \Rightarrow \frac{x}{2} = 50 \Rightarrow x = 100$$

70. (3) Let the primary population was x.

According to the question,

$$\frac{95x}{100} \times \frac{80}{100} = 4655$$

$$\therefore x = \frac{4655 \times 10000}{95 \times 80} = 6125$$

71. (2) $\sin\left(\frac{B+C}{2}\right)$

Since sum of angle of triangle AB = $180^\circ = \pi$

$$A + B + C = \pi$$

$$B + C = \pi - A$$

$$\frac{B+C}{2} = \left(90 - \frac{A}{2}\right)$$

$$\sin\left(\frac{B+C}{2}\right) = \sin\left(90 - \frac{A}{2}\right) = \cos \frac{A}{2}$$

72. (2) $p^2 - q^3 = (p-q)\{(p-q)^2 - xpq\}$, then x = ?

$$\text{Since, } p^3 - q^3 = (p-q)(p^2 + q^2 + pq)$$

$$\therefore (p-q)^2 - xpq = p^2 + q^2 + pq$$

$$p^2 + q^2 - 2pq - xpq = p^2 + q^2 + pq$$

$$-pq(2+x) = pq \Rightarrow -2-x = 1 \Rightarrow x = -2-1 = -3$$

73. (4) A : C = 2 : 1

$$C : A = 1 : 2$$

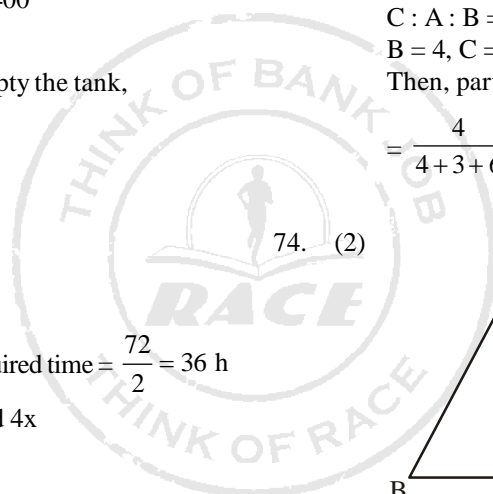
$$A : B = 3 : 2$$

$$C : A : B = 3 : 6 : 4$$

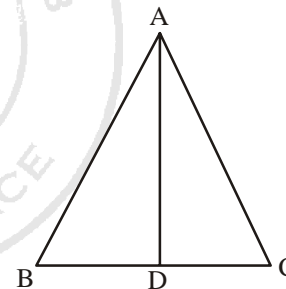
$$B = 4, C = 3, A = 6$$

Then, part of B

$$= \frac{4}{4+3+6} \times 157300 = \frac{4}{13} \times 157300 = \text{Rs.}48400$$



74. (2)



$$\text{Since } BC = BD + DC = 2BD \quad [BD = DC]$$

$$BD = \frac{BC}{2} = \frac{AB}{2}$$

$$AB^2 = AD^2 + BD^2$$

$$AB^2 = AD^2 + \left(\frac{AB}{2}\right)^2 = AD^2 + \left(\frac{AB}{2}\right)^2$$

$$= AD^2 + \frac{AB^2}{4}$$

$$3AB^2 = 4AD^2, AB^2 + BC^2 + AC^2 = 4AD^2$$

$$(AB = BC = CA)$$

75. (4) Discount = $2400 \times 4 \times 5100 + 4 \times 5$
 $= 2400 \times 4 \times 5120 = 2400 \times 4 \times 5100 + 4 \times 5$
 $= 2400 \times 4 \times 5120 = \text{Rs.}400$

$$\text{Simple Interest} = 2400 \times 5 \times 4100$$

$$= 2400 \times 5 \times 4100 = \text{Rs.}480$$

$$\text{Required difference} = \text{Rs.}480 - \text{Rs.}400 = \text{Rs.}80$$