SSC CHSL - CHT1 : 180339 GRAND TEST
HINTS AND SOLUTIONS
ANSWER KEY

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

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

2.   (3)   As,
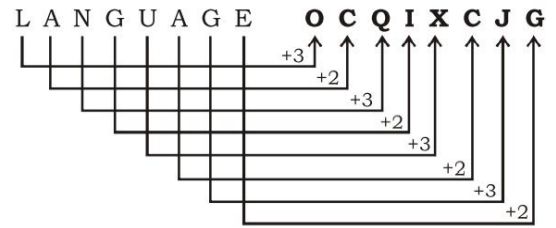
Similarly,

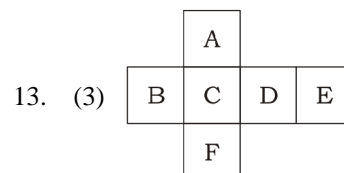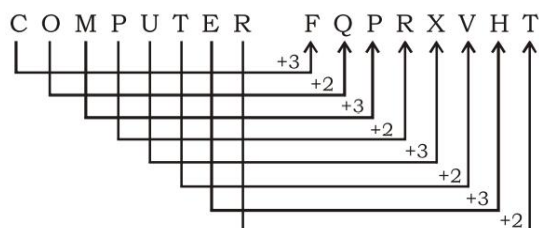3.   (4)   M and N are 13 th and 14th letters of the English alphabet respectively. So, M × N corresponds to 13 x 14. Similarly, F and R are 6th and 18th letters of the English alphabet respectively. So, F × R corresponds to 6×18.

4.   (4) $6524 - 6465 = 59$
$9638 - 59 = 9579$

5.   (1) $4 \Rightarrow 4^3 - 4^2 = 64 - 16 = 48$
$5 \Rightarrow 5^3 - 5^2 = 125 - 25 = 100$

6.   (3)   The sum of digits of each numbers except 161 is an odd number.

7.   (3)   Except elevation, the rest are synonymous.

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

9.   (4) $2 \times 2 + 2 = 6$
$6 \times 2 + 4 = 16$
$16 \times 2 + 6 = 38$
$38 \times 2 + 8 = 84$
$84 \times 2 + 10 = 178$
$178 \times 2 + 12 = 368$

10.   (3)   In the first row, $8 \times 2 + 17 = 33$, in the second column, $12 \times 2 + 5 = 29$.
Missing number = $10 \times 2 + 13 = 33$.

11.   (1) $(15 - 12) + (10 - 9) = 4$
$(28 - 12) + (16 - 20) = 12$
Similarly, $(23 - 11) + (15 - 16) = 11$

12.   (3)   Given time = 9 : 48
Total minutes in 9 hrs 48 min. = $60 \times 9 + 48 = 588$ min.
Now we have,

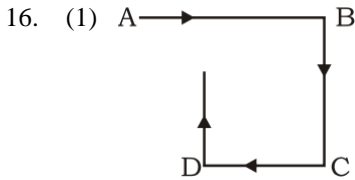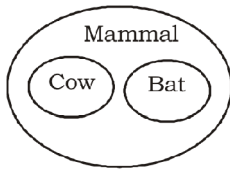$$\frac{\text{Total min. in given time}}{2} - (\text{Given minutes} \times 6)$$

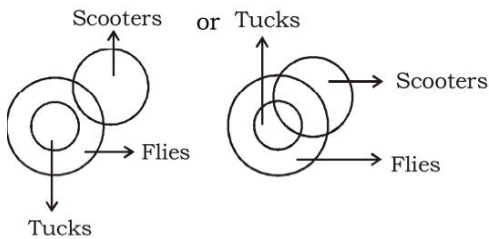$$= \frac{588}{2} - 48 \times 6 = 294 - 288 = 6°.$$

13.   (3)

So, C/E, A/F and B/D are opposite to each other.

14.   (2)   Only the child of my father means 'Abhisek' himself. This means the girl is the daughter of Abhisek. Hence, Abhisek's wife is the mother of the girl.

15. (2)

16. (1)

Hence finally Sujata is facing towards North.

17. (4)

1. 5   2. 5

18. (2) $R < S < A < K < M.$

19. (3) Clearly, each letter is represented by the numeral denoting its position from the end of the English alphabet i.e.
$Z = 1, Y = 2, …., M= 14,…. B= 25, A = 26.$
Then, SUN= S+ U + N = 8 + 6 + 13 = 27.
SO, CAT = C+ A + T = 24 + 26 + 7 = 57

20. (3) Since B and D are twins, so B = D.
Now, A = B + 3 and A = C – 3.
Thus, $B + 3 = C – 3 \Rightarrow D + 3 = C – 3 \Rightarrow C – D = 6.$

21. (3)

22. (1)

23. (3)

24. (3)

25. (3)

51. (3) $\sqrt[3]{(13.608)^2 - (13.392)^2}$

$= \sqrt[3]{(27.000)(0.216)} = 3 \times 0.6 = 1.8$

52. (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

53. (3) The minimum number of Bananas
= L.C.M of (6, 8, 10, 12, 15, 16) + 4 = 24 + 4 $\Rightarrow$ 244

54. (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
$\Rightarrow$ 4% B – 4% P = 80
$\Rightarrow$ 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

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

56. (2) ` 4960 is the amount of 3 years at rate of 3% annually,

then $x + \dfrac{x \times 8 \times 3}{100} = 4960$ or $\dfrac{124x}{100} = 4960$

$\therefore x = \dfrac{4960 \times 100}{124} = 4000$

$\therefore$ Initial value of cow = 3000 + 4000 = ` 7000

57. (4) $\angle DCK = \angle FDG = 55º$ (corresponding)
$\therefore \angle ACE = \angle DCK = 55º$ (vertically opposite)
So, $\angle AEC = 180º – (40º + 55º) = 85º$
$\therefore \angle HAB = \angle AEC = 85º$ (corresponding)
Hence, x = 85º

58. (1) Let the bank makes a transaction of Rs. x crores.
According to ques,
(20 – 16.5)% of x = 10.5 crore

$\therefore x = \dfrac{10.5 \times 100}{3.5} = 300$ crore

59. (1)

60. (3) A + B do = 8 unit work

∴ Hence c did only = 3 unit work

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

61. (4) $\sqrt{xy} = \sqrt{9 \times 16} = 12$ m

62. (4) Divided by x,

$$\dfrac{\dfrac{x^4}{x} + \dfrac{1}{x^2 \times x}}{\dfrac{x^2}{x} - \dfrac{3x}{x} + \dfrac{1}{x}} = \dfrac{x^3 + \dfrac{1}{x^3}}{x - 3 + \dfrac{1}{x}} = \dfrac{110}{2} = 55$$

63. (1) 25 men and 15 women complete a piece of work in 12 days.

∴ Work of 8 days $= \dfrac{1}{12} \times 8 = \dfrac{2}{3}$

Remaining work $= 1 - \dfrac{2}{3} = \dfrac{1}{3}$

Now, $\dfrac{1}{3}$ piece of work completed by 25 men in 6 days.

∴ 1 work can be completed by 25 men in 18 days.
Now,
Total work done by women

$= \dfrac{1}{12} - \dfrac{1}{18} = \dfrac{3-2}{36} = \dfrac{1}{36} = 36$ days

64. (4) Let the initial no. of total passengers = x
Initial ratio of male of female passengers = 3 : 1 (given)
Initial no. of total passengers (x) must be completely divisible by....
(Since 3 + 1 = 4)   ...(i)
Also, change in the number of initial passenger
= (–16 + 6) = –10
And finally no. of male to female passengers = 2 : 1
⇒ Final no. of total passengers (i.e. x – 10).
Must be completely divisible by 3.
(Since 2 + 1 = 3)   ...(i)
And among the options given, only option (4) = 64 fulfills both the criteria.
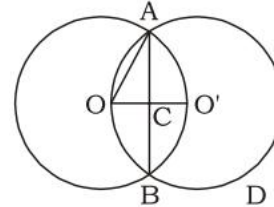∴ Option will be (4).

65. (4) Take α = 0º
∴ $u_1 = 1^n = 0° = 1°$
∴ $u_6 = 1^6 = 6$ and $u_4 = 1^4 = 4$
∴ $2u_6 - 3u_4 + 1 = 2 \times 1 - 3 \times 1 + 1 = 0$

66. (1) Put the value of x, y and z as 1, 8 and 27 respectively
ATQ,
$(1 + 8 - 27)^3 + 27 \times 1 \times 8 \times 27$
$= (-18)^3 = 3^3 \times 2^3 \times 3^3 = (-18)^3 + (18)^3 = 0$

67. (4) $\angle PQY = 180° - \angle PYQ - \angle YPQ$
$= 180° - 40° - (180° - 120°) = 80°$

∴ $\angle RQZ = 180° - \angle PQY$
$= 180° - 80° = 100°$
∴ $\angle RZQ = 180° - 25° - 100° = 55°$
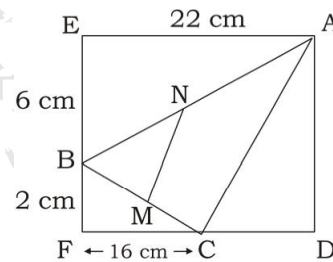∴ $\angle BZX = 180° - \angle RZQ = 180° - 55° = 125°$

68. (2)

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

69. (2)

$AC^2 = CD^2 + AD^2 = 6^2 + 8^2 = 100$
AC = 10 cm

MN $= \dfrac{1}{2} AC = \dfrac{1}{2} \times 10 = 5$ cm

(By mid point theorem)

70. (1) $2 \sin \alpha + 15 \cos^2 \alpha = 7$
$\Rightarrow 2\sin\alpha + 15(1 - \sin^2\alpha) = 7$
$\Rightarrow 2\sin\alpha + 15 - 15\sin^2\alpha = 7$
$\Rightarrow 15\sin^2\alpha - 2\sin\alpha - 8 = 0$
$\Rightarrow 15\sin^2\alpha - 12\sin\alpha + 10\sin\alpha - 8 = 0$
$\Rightarrow 3\sin\alpha(5\sin\alpha - 4) + 2(5\sin\alpha - 4) = 0$
$\Rightarrow (3\sin\alpha + 2)(5\sin\alpha - 4) = 0$
$\Rightarrow \sin\alpha = \dfrac{4}{5}$ and $\operatorname{cosec}\alpha = \dfrac{5}{4}$

∴ $\cot\alpha = \sqrt{\operatorname{cosec}^2\alpha - 1} = \sqrt{\dfrac{25}{16} - 1} = \sqrt{\dfrac{9}{16}} = \dfrac{3}{4}$

71. (2) Population of literates = 50% of 296000 = 148000
No. of male literates = 70% of 166000 = 116200
No. of female literates = 148000 – 116200 = 31800

72. (3) Let x = no. of benches
So, ATQ,
$6(x + 1) = 7x - 5$
or $7x - 6x = 6 + 5$
$\Rightarrow x = 11$
So, No. of students $= 6(x + 1) = 72$

73. (2) By mid-point theorem

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

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

$$\therefore \frac{\frac{1}{2}(AD + DC + CB + BA)}{(AD + DC + CB + BA)} = \frac{1}{2} = 1:2$$

74. (1) % of boys in U school = 85%

$$\therefore \text{No. of boys} = \frac{85}{100} \times 1000 = 850$$

% of boys in R school = 75%

$$\text{No. of boys} = \frac{75}{100} \times 2000 = 1500$$

Total no. of boys in school R and U
$= 1500 + 850 = 2350$

$$\text{Total \% of boys} = \frac{2350}{3000} \times 100 = 78.33$$

75. (4) Required % $= \dfrac{2000}{2500} \times 100\% = 80\%$