

DCCB Preliminary Grand Test –DCCB-190115

ANSWER KEY

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

HINTS & SOLUTIONS

1. (1)
2. (1)
3. (1)
4. (2) **Timid (Adjective)** = shy and nervous; not brave; scared.
Look at the sentence :
He stopped in the doorway, too timid to go in.
5. (4)
6. (2)
7. (5) **Congruently (Adverb)** = suitably ; appropriately in agreement.
8. (4)
9. (2)
10. (4)
11. (5) relying, alternative
12. (3) opportunities, unemployable
13. (2) provoked, fear
14. (4) Action, expired
15. (1) economies, meet
16. (2) Here, subject (**profitability** of fleet operators) is singular. Hence, has improved due to a decline should be used.
17. (4) Here, subject (true history) is singular. Hence, true history interests us a lot should be used.

18. (3) Here, cooperation, restricting (Gerund) itself to should be used. It is not proper to use 'for' here.
19. (2) Here, it is **Preposition/Adverb** related error. Hence, absolutely (Adverb) no shortage of should be used.
20. (4) **Raise** = to increase the level or amount of something.
Rise = to reach a higher level ; move upwards.
Hence, rising vegetable prices kept ($\sqrt{2}$)..... should be used here. Past time is evident.

21. (1) (A)
22. (2) (B)
23. (1) (F)
24. (3) (C)
25. (2) (E)
26. (5)
27. (3)
28. (2)
29. (2)
30. (1)

31. (3) $4 \times 1 + 2 = 4 + 2 = 6$

$6 \times 2 + 3 = 12 + 3 = 15 \neq 18$

$15 \times 3 + 4 = 45 + 4 = 49$

$49 \times 4 + 5 = 196 + 5 = 201$

$201 \times 5 + 6 = 1005 + 6 = 1011$

32. (5) $48 \times \frac{3}{2} = 72; 72 \times \frac{3}{2} = 108$

$108 \times \frac{3}{2} = 162; 162 \times \frac{3}{2} = 243$

$243 \times \frac{3}{2} = 364.5 \neq 366$

33. (1) $2 \times 6 + 7 \times 6 = 12 + 42 = 54$

$54 \times 5 + 6 \times 5 = 270 + 30 = 300$

$300 \times 4 + 5 \times 4 = 1200 + 20 = 1220$

$1220 \times 3 + 4 \times 3 = 3660 + 12 = 3672 \neq 3674$

$3672 \times 2 + 3 \times 2 = 7344 + 6 = 7350$

34. (2) $2^3 = 8; 3^3 = 27$

$4^3 = 64; 5^3 = 125$

$6^3 = 216 \neq 218$

$7^3 = 343$

35. (4) $19 + 7^2 = 19 + 49 = 68$

$68 + 6^2 = 68 + 36 = 104 \neq 102$

$104 + 5^2 = 104 + 25 = 129$

$129 + 4^2 = 129 + 16 = 145$

$145 + 3^2 = 145 + 9 = 154$

36. (1) I. $x^2 - 14x + 48 = 0$

$\Rightarrow x^2 - 8x - 6x + 48 = 0$

$\Rightarrow x(x - 8) - 6(x - 8) = 0$

$\Rightarrow (x - 6)(x - 8) = 0$

$\therefore x = 6 \text{ or } 8$

II. $y^2 - 5y + 6 = 0$

$$\Rightarrow y^2 - 3y - 2y + 6 = 0$$

$$\Rightarrow y(y - 3) - 2(y - 3) = 0$$

$$\Rightarrow (y - 2)(y - 3) = 0$$

$$\therefore y = 2 \text{ or } 3$$

Clearly, $x > y$

37. (4) I. $x^2 + 9x + 20 = 0$

$$\Rightarrow x^2 + 5x + 4x + 20 = 0$$

$$\Rightarrow x(x + 5) + 4(x + 5) = 0$$

$$\Rightarrow (x + 4)(x + 5) = 0$$

$$\therefore x = -4 \text{ or } -5$$

II. $y^2 + 7y + 12 = 0$

$$\Rightarrow y^2 + 4y + 3y + 12 = 0$$

$$\Rightarrow y(y + 4) + 3(y + 4) = 0$$

$$\Rightarrow (y + 3)(y + 4) = 0$$

$$\therefore y = -3 \text{ or } -4$$

Clearly, $x \leq y$

38. (4) I. $x^2 = 529$

$$\therefore x = \sqrt{529} = \pm 23$$

II. $y = \sqrt{529} = \pm 23$

Clearly, $x \leq y$

39. (2) I. $x^2 + 13x + 42 = 0$

$$\Rightarrow x^2 + 7x + 6x + 42 = 0$$

$$\Rightarrow x(x + 7) + 6(x + 7) = 0$$

$$\Rightarrow (x + 6)(x + 7) = 0$$

$$\therefore x = -6 \text{ or } -7$$

II. $y^2 + 16y + 63 = 0$

$$\Rightarrow y^2 + 9y + 7y + 63 = 0$$

$$\Rightarrow y(y + 9) + 7(y + 9) = 0$$

$$\Rightarrow (y + 9)(y + 7) = 0$$

$$\therefore y = -9 \text{ or } -7$$

Clearly, $x \geq y$

40. (3) I. $2x + 3y = 14$

II. $4x + 2y = 16$

By equation I $\times 2$ - equation II, we have

$$4x + 6y - 12x - 6y = 28 - 48$$

$$\Rightarrow -8x = -20$$

$$\Rightarrow x = \frac{20}{8} = \frac{5}{2}$$

From equation I,

$$2 \times \frac{5}{2} + 3y = 14$$

$$\Rightarrow 3y = 14 - 5 = 9$$

$$\Rightarrow y = \frac{9}{3} = 3$$

Clearly, $x < y$

41. (3) Required percentage

$$= \frac{500}{2500} \times 100 = 20\%$$

42. (2) Required percentage

$$= \frac{1375}{2500} \times 100 = 55\%$$

43. (1) Required percentage

$$= \frac{925}{1375} \times 100 = 67\%$$

44. (4) Required ratio

$$= 300 : 625$$

$$= 12 : 25$$

45. (5) Required difference = $670 - 325 = 345$

46. (5) Required percentage

$$= \frac{4900}{5640} \times 100 = 87\%$$

47. (2) Number of children in the localities H and I

$$= \frac{5200 \times 13}{100} + \frac{6020 \times 10}{100}$$

$$= 676 + 602 = 1278$$

48. (4) Number of women :

Locality G $\Rightarrow \frac{4850 \times 44}{100} = 2134$

Locality H $\Rightarrow \frac{5200 \times 39}{100} = 2028$

Locality J $\Rightarrow \frac{4900 \times 41}{100} = 2009$

49. (3) Number of men and children in locality I

$$= \frac{6020 \times 65}{100} + \frac{6020 \times 10}{100}$$

$$= \frac{6020 \times 75}{100} = 4515$$

50. (1) Required ratio

$$= \frac{5640 \times 55}{100} : \frac{5200 \times 48}{100}$$

$$= 517 : 416$$

51. (1) Required percentage = $\frac{285}{540} \times 100 = 53\%$

52. (3) Required average quantity of food grains produced by fanner T

$$= \left(\frac{190 + 285 + 315 + 240 + 265}{5} \right) \text{kg}$$

$$= \left(\frac{1295}{5} \right) \text{kg} = 259 \text{kg}$$

53. (5) It is obvious from the table.

Farmer S

$$\Rightarrow 150 + 460 + 480 + 350 + 200 = 1640 \text{ kg}$$

54. (2) Required ratio

$$= (280 + 190 + 130) : (115 + 140)$$

$$= 600 : 255 = 40 : 17$$

55. (4) Required difference

$$= (350 - 140) \text{ kg}$$

$$= 210 \text{ kg}$$

56. (4) Total cost price = $11250 + 150 + 800 = \text{Rs. } 12200$

Selling price = $12200 \times \frac{115}{100} = \text{Rs. } 14030$

56. (1) Total number of books = $8 + 7 + 6 = 21$

Let E be the event that the picked book is neither in Hindi nor in Urdu or the event that the book picked is in English $n(E) = 7$

$$P(E) = \frac{7}{21}$$

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57. (3) In 12 days Vijay makes 200 Chairs.
 In 1 day Vijay makes $\frac{200}{12}$ chairs.
 In 20 days Bhanu makes 200 Chairs
 In 1 day Bhanu makes $\frac{200}{20}$ chairs
 In one day both make $\left(\frac{200}{12} + \frac{200}{20}\right)$ chairs
 $= \left(\frac{1000 + 600}{60}\right)$ chairs $= \frac{80}{3}$ chairs
 Both make 200 chairs in $\frac{3}{80} \times 200 = 7.5$ days $= 7\frac{1}{2}$ days

58. (5) Reqd.time $= \frac{(360 + 270)}{(64 + 56) \times \frac{5}{18}} = \frac{630 \times 18}{120 \times 5} = 18.9$ second

59. (2) Speed of boat downstream $= \frac{128}{8}$ kmph = 16 kmph
 speed of boat upstream $= \frac{128}{18}$ kmph $= \frac{64}{9}$ kmph
 Speed of boat in still water $= \frac{1}{2} \times \left(16 + \frac{64}{9}\right) = 11.55$ kmph

60. (4) Volume of Shell = volume of shell with external diameter - volume of shell with internal diameter
 $= \frac{4}{3}\pi R_1^3 - \frac{4}{3}\pi R_2^3 = \frac{4}{3}\pi(R_1^3 - R_2^3)$
 $= \frac{4}{3} \times \frac{22}{7} \times (15^3 - 10^3) \text{ cm}^3 = \frac{4}{3} \times \frac{22}{7} \times 2375 \times 10 \text{ gram}$
 $= \frac{88}{21} \times 2375 \times 10 \text{ gram} = 99523.81 \text{ gram}$

61. (5) $? = 4096 \times \frac{2}{7} \times \frac{3}{4} = 880$

62. (1) $? = 400 \div (2.5 \times 7) = 22$

63. (4) $? = \frac{366 \times 74}{100} + \frac{317 \times 12.6}{100}$
 $= \frac{370 \times 74}{100} + \frac{300 \times 13}{100}$
 $= 270 + 39 = 309$
 \therefore Required answer = 310

64. (3) $? = \sqrt{746} \times \sqrt{93} \times \sqrt{25}$
 $= 27 \times 9.5 \times 5 = 1282.5$
 \therefore Required answer = 1300

65. (2) $? = \frac{4563}{63} \times 2.5 = 180$

(66 – 70):

- (i) $P @ Q \Rightarrow P \leq Q ; P > Q$
- (ii) $P \% Q \Rightarrow P \geq ; P > Q$
- (iii) $P \odot Q \Rightarrow P > Q ; P \leq Q$
- (iv) $P \$ Q \Rightarrow P < Q ; P \geq Q$
- (v) $P \# Q \Rightarrow P > Q ; P < Q ; P = Q$

@ \Rightarrow	% \Rightarrow	⊙ \Rightarrow
\$ \Rightarrow	# \Rightarrow	

66. (4) $H @ K \Rightarrow H > K$
 $K \% M \Rightarrow K < M$
 $M \odot D \Rightarrow M \leq D$
 Therefore,
 $H > K < M \leq D$

Conclusions

- I. $H @ D \Rightarrow H > D$: Not true
- II. $K \% D \Rightarrow K < D$: True

67. (3) $R \% H \Rightarrow R < H$
 $H \odot T \Rightarrow H \leq T$
 $T @ K \Rightarrow T > K$
 Therefore,
 $R < H \leq T > K$

Conclusions

- I. $T \odot R \Rightarrow T \leq R$: Not True
- II. $K \% H \Rightarrow K < H$: Not True

68. (1) $R \odot D \Rightarrow R \leq D$
 $D \$ M \Rightarrow D \geq M$
 $M \# J \Rightarrow M = J$

Therefore,

$R \leq D \geq M = J$

Conclusions

- I. $J \# D \Rightarrow J = D$: Not True
- II. $J \% D \Rightarrow J < D$: Not True

J is either smaller than or equal to D. Therefore, either conclusion I or conclusion II is true.

69. (3) $W \# D \Rightarrow W = D$
 $D \odot B \Rightarrow D \leq B$
 $B \$ H \Rightarrow B \geq H$

Therefore,

$W = D \leq B \geq H$

Conclusions

- I. $H \# D \Rightarrow H = D$: Not True
- II. $B \% W \Rightarrow B < W$: Not True

70. (2) $F \$ N \Rightarrow F \geq N$
 $N @ D \Rightarrow N > D$
 $D \% B \Rightarrow D < B$

Therefore,

$F \geq N > D < B$

Conclusions

- I. $F @ D \Rightarrow F > D$: True
- II. $B @ N \Rightarrow B > N$: Not True

71. (2) D buys the second lowest number of cookies.

72. (3) C bought 20 cookies. Therefore, A bought $20 - 8 = 12$ cookies

E bought more than 12 but less than 20 cookies.

73. (4) $R \div D \rightarrow R$ is father of D.

$D \times M \rightarrow D$ is father of M.

M is child of R

$R + D \rightarrow R$ is mother of D.

$D \times M \rightarrow D$ is brother of M.

M is child of R

$M - J \rightarrow M$ is sister of J.

$J \times R \rightarrow J$ is brother of R

M is sister of R

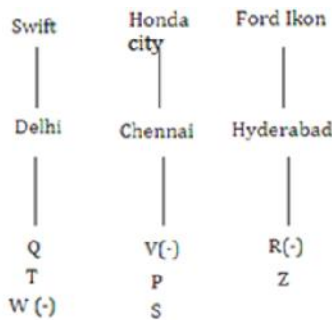
$R + M \times R$ is mother of M.

$M - T \rightarrow M$ is sister of T.

Therefore, M is daughter of R

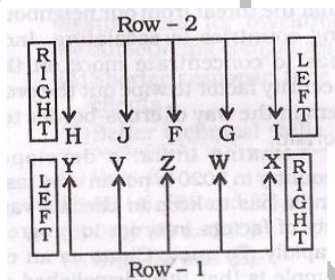
74. (3) $K - J \rightarrow$ K is sister of J.
 $J + W \rightarrow$ J is mother of W.
 K is maternal aunt of W.
 $K \times J \rightarrow$ K is brother of J.
 $J \div W \rightarrow$ J is father of W.
 K is uncle of W.
 $K \times J \rightarrow$ K is brother of J.
 $J + W \rightarrow$ J is mother of W.
 Therefore, K is the maternal uncle of W.

75. (1) Except June, all others have 31 days each.
 (76 – 80)



(-) sign denotes female members

76. (2) 77. (2) 78. (2) 79. (3) 80. (4)
 (81 – 85):

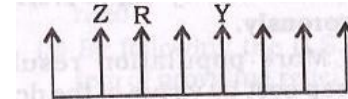


81. (1) Y faces H.
 82. (4) F sits exactly in the middle of the row - 2. G sits to the immediate left of F.
 83. (3) Except W, all others sit at ends of the lines.
 84. (3) I faces X. J sits third to the right of I.
 85. (2) Z faces F. Z is an immediate neighbour of V.
 X is sitting at the extreme right end.
 W sits second to the right of V.
 V faces J.
 86. (1) Argument (C) is not strong. India should rely on its own findings and conclusions. It is true that the level of water table should be maintained for future use. But it is equally true that for food production proper irrigation is required. Therefore, only Arguments (A) and (B) are strong.
 87. (3) Only Argument (B) is strong. The use of term 'only' in the Argument (A) makes it invalid. Argument (C) is based on an example. We know that citing example is bad argumentation.
 88. (4) Only Argument (A) is strong. In order to provide accommodation to vast population high rise buildings

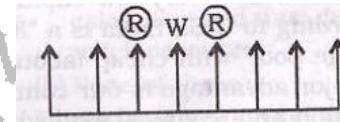
should be constructed wherever there are favourable conditions.

89. (1) None of the Assumptions (A), (B) and (C) is implicit in the statement. If policy authority has cordoned off the entire locality, it implies that police will ably control the vehicular movement in the locality.
 Any advice is given assuming that people will follow it.
 90. (3) Only Assumption (B) is implicit in the statement. The apex body controlling universities has taken the decision assuming that Technical colleges will honour it.
 Argument (C) does not explain how this decision will lead to chaos.

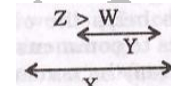
91. (4) From statement I



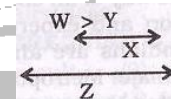
R is third from the left end
 From statement II



92. (2) From statement I

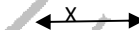


From statement II



From both the statements

$$Z > W > Y$$



Thus, Z has the most number of cookies.

93. (1) From statement I

$$\boxed{\text{my}} \text{ dear } \boxed{\text{family}} \rightarrow \boxed{6} \boxed{2} \boxed{4}$$

$$\boxed{\text{my}} \text{ small } \boxed{\text{family}} \rightarrow \boxed{2} \boxed{5} \boxed{6}$$

The number '4' stands for 'dear'.

From statement II

$$\text{my } \boxed{\text{dear family}} \rightarrow \boxed{6} \boxed{2} \boxed{4}$$

$$\boxed{\text{dear family}} \text{ friend } \rightarrow \boxed{6} \boxed{4} \boxed{7}$$

The code for 'dear' is '6' or '4'.

94. (3) From statement I

Q is the mother of T.

M is the child of Q.

M and P are married couple.

Therefore, P is daughter-in-law or son-in-law of Q.

From statement II

Q is brother of M.

The gender of P is not known.

P is brother-in-law or sister-in-law of Q.

95. (3) From statement I

2x students attended the cultural fair.

From statement II

x + 25 female students attended the cultural fair.

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(96 – 100):

96. (3)

97. (2)

98. (5)

99. (4)

100. (4)

