

## DCCB Preliminary Grand Test –DCCB-190218

### ANSWER KEY

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

### HINTS & SOLUTIONS

1. (5)  
2. (3)  
3. (5)  
4. (5)  
5. (1)  
6. (1)  
7. (1) **Conform to (Verb)** = to agree with or match something; comply ; to obey.  
**Look at the sentence:**  
It did not conform to the usual stereotype of an industrial city.
8. (3) **Dismantle (Verb)** = to take apart; to end an organisation or system gradually in an organised way.  
**Look at the sentence:**  
The government was in the process of dismantling the state owned industries.
9. (2) **Capricious (Adjective)** = unpredictable, changeable; changing suddenly and quickly.
10. (4) **Dearth (Noun)** = a lack of something; the fact of there not being enough of something; scarcity.  
**Abundance (Noun)** = in large quantities; more than enough.

#### Look at the sentences:

- There was a dearth of reliable information on the subject.  
Fruit and vegetables grow in abundance on the island.
11. (4) hinder  
12. (1) evolved  
13. (5) turn  
14. (3) worry  
15. (2) require  
16. (5) No error  
17. (3) Here, Adjective (gerund) i.e. and law abiding sectors ... should be sued.  
18. (4) Here, Subject (its stated aim) is singular. Hence, curbing inflation has not been achieved should be used.  
19. (3) Here general Proposition is evident. Hence present simple should be used here.  
20. (4) Here, for/in India's premier educational Institutes should be used.  
21. (2) B  
22. (3) C  
23. (4) D  
24. (1) A  
25. (5) E  
26. (5) **Pertain** = to be connected with something  
**Edge off** = to make something less strong; less bad.  
27. (4) **Deploy (Verb)** = to move soldiers into a position; to use something effectively.  
28. (4) **Take note of** = to pay attention to something and be sure to remember it  
29. (2) **Spark concern** = to start or develop concern.  
30. (1) **Initiate** = to start  
31. (4) I.  $3x^2 + 14x + 15 = 0$   
 $\Rightarrow 3x^2 + 9x + 5x + 15 = 0$   
 $\Rightarrow 3x(x + 3) + 5(x + 3) = 0$   
 $\Rightarrow (x + 3)(3x + 5) = 0$   
 $\Rightarrow x = -3$  or,  $-\frac{5}{3}$   
II.  $6y^2 + 17y + 12 = 0$   
 $\Rightarrow 6y^2 + 9y + 8y + 12 = 0$   
 $\Rightarrow 3y(2y + 3) + 4(2y + 3) = 0$   
 $\Rightarrow (2y + 3)(3y + 4) = 0$   
 $\Rightarrow y = -\frac{3}{2}$  or  $-\frac{4}{3}$   
Clearly,  $x < y$   
32. (1) I.  $3x^2 - 17x + 24 = 0$   
 $\Rightarrow 3x^2 - 9x - 8x + 24 = 0$   
 $\Rightarrow 3x(x - 3) - 8(x - 3) = 0$   
 $\Rightarrow (3x - 8)(x - 3) = 0$   
 $\Rightarrow x = \frac{8}{3}$  or, 3  
II.  $4y^2 - 15y + 14 = 0$   
 $\Rightarrow 4y^2 - 8y - 7y + 14 = 0$   
 $\Rightarrow 4y(y - 2) - 7(y - 2) = 0$   
 $\Rightarrow (4y - 7)(y - 2) = 0$

$$\Rightarrow y = \frac{7}{4} \text{ or, } 2$$

Clearly,  $x > y$

33. (5) I.  $2x^2 + 11x + 14 = 0$   
 $\Rightarrow 2x^2 + 4x + 7x + 14 = 0$   
 $\Rightarrow 2x(x+2) + 7(x+2) = 0$   
 $\Rightarrow (x+2)(2x+7) = 0$   
 $\Rightarrow x = -2 \text{ or } -\frac{7}{2}$

II.  $2y^2 + 17y + 33 = 0$   
 $\Rightarrow 2y^2 + 6y + 11y + 33 = 0$   
 $\Rightarrow 2y(y+3) + 11(y+3) = 0$   
 $\Rightarrow (2y+11)(y+3) = 0$   
 $\Rightarrow y = -\frac{11}{2} \text{ or, } -3$

Clearly relationship cannot be established

34. (2) I.  $3x^2 + 13x + 12 = 0$   
 $\Rightarrow 3x^2 + 9x + 4x + 12 = 0$   
 $\Rightarrow 3x(x+3) + 4(x+3) = 0$   
 $\Rightarrow (3x+4)(x+3) = 0$   
 $\Rightarrow x = -\frac{4}{3} \text{ or, } -3$

II.  $2y^2 + 15y + 27 = 0$   
 $\Rightarrow 2y^2 + 6y + 9y + 27 = 0$   
 $\Rightarrow 2y(y+3) + 9(y+3) = 0$   
 $\Rightarrow (y+3)(2y+9) = 0$   
 $\Rightarrow y = -3 \text{ or, } -\frac{9}{2}$

Clearly,  $x \geq y$

35. (2) I.  $x^2 - 22x + 121 = 0$   
 $\Rightarrow (x-11)^2 = 0$   
 $\Rightarrow x-11 = 0$   
 $\Rightarrow x = 11$

II.  $y^2 = 121$   
 $\Rightarrow y = \sqrt{121} = \pm 11$

Clearly,  $x \geq y$

36. (2) The pattern is :  
 $\frac{1050-30}{2} = 510$   
 $\frac{510-26}{2} = 242$   
 $\frac{242-22}{2} = 110 \neq 106$   
 $\frac{110-18}{2} = 46$   
 $\frac{46-14}{2} = 16$

37. (1) The pattern is ;  
 $550 - 2^2 = 550 - 4 = 546$   
 $546 - 3^2 = 546 - 9 = 537$   
 $537 - 4^2 = 537 - 16 = 521$   
 $521 - 5^2 = 521 - 25 = 496 \neq 494$   
 $496 - 6^2 = 496 - 36 = 460$

38. (3) The pattern is ;  
 $8 + 1 \times 13 = 21$   
 $21 + 2 \times 13 = 21 + 26 = 47$   
 $47 + 3 \times 13 = 47 + 39 = 86$   
 $86 + 4 \times 13 = 86 + 52 = 138 \neq 140$

39. (2) The pattern is ;  
 $4 \times 8 - 8 = 32 - 8 = 24$   
 $24 \times 7 - 7 = 168 - 7 = 161$   
 $161 \times 6 - 6 = 966 - 6 = 960 \neq 965$

40. (3) The pattern is :  
 $1 \times 2 = 2$   
 $2 \times 3 = 6 \neq 8$   
 $6 \times 4 = 24$   
 $24 \times 5 = 120$   
 $120 \times 6 = 720$

41. (4) Required percentage increase =  $\frac{9-8}{8} \times 100 = 12.5$

42. (1) Number of students enrolled in district-B over all the years = 33 thousand  
 Required difference = (33 - 21) thousand = 12000 thousand

43. (2) Required average =  $\frac{34000}{6} = 5666$

44. (3) Total number of students:  
 Year 2005  $\Rightarrow$  14 thousand  
 Year 2006  $\Rightarrow$  17 thousand  
 Year 2007  $\Rightarrow$  22 thousand  
 Year 2008  $\Rightarrow$  21 thousand  
 Year 2009  $\Rightarrow$  16 thousand  
 Year 2010  $\Rightarrow$  18 thousand

45. (1) Required percentage =  $\frac{12}{8} \times 100 = 150$

46. (4) Total number of people travelling by rail = (350 + 300 + 300 + 275 + 300 + 275) millions = 1800 million

47. (3) Required difference = 350 - 275 = 75 millions

48. (5) Total number of people travelling by buses, rail and airlines in 2001 = 375 + 300 + 175 = 850 millions  
 Number of people travelling by buses = 375 millions  
 $\therefore$  Required percentage =  $\frac{375}{850} \times 100 = 45$

49. (1) Required ratio = 375 : 275 = 15 : 11

50. (5) In the year 2003,  
 Number of people travelling by rail = 300 millions  
 Number of people travelling by air = 175 millions  
 Now, 50% of people travelling by rail shift to air.  
 $\therefore$  Required number of people = 175 + 150 = 325 million

51. (4) Area of right-angled triangle =  $\frac{1}{2} \times b \times h$  and  
 hypotenuse =  $\sqrt{b^2 + h^2}$

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Combining any two of the three given statements we can find the area of the triangle

52. (1) From I and II we can only find the average ages of the family

53. (5) Only either I or II

54. (3) Marks obtained by Abhijeet in English → E  
 Marks obtained by Abhijeet in Science → S  
 Marks obtained by Abhijeet in Math → M  
 We got the following equations

$$M = S + 20, M + S + E = 198, S = E + 12$$

We need all the three statements to solve the equations

55. (3) We need all three equations to solve the equation

56. (3)  $2\pi r = 132$

$$\Rightarrow 2 \times \frac{22}{7} \times r = 132$$

$$\Rightarrow r = \frac{132 \times 7}{2 \times 22} = 21 \text{ cm}$$

∴ Side of square = 21 cm

$$\therefore \text{Length of the rectangle} = \frac{3 \times 21}{5} \text{ cm}$$

$$\therefore \text{Area of the rectangle} = \frac{3 \times 21}{5} \times 8 = 100.8 \text{ sq.cm.}$$

57. (2) Second number

$$= \frac{1}{4} \times 2960 = 740$$

$$\therefore \text{First number} \times \frac{5}{9} = \frac{740 \times 25}{100}$$

$$\Rightarrow \text{First number} = \frac{740}{4} \times \frac{9}{5} = 333$$

$$\therefore 30\% \text{ of } 333 = \frac{333 \times 30}{100} = 99.9$$

58. (3) Side of a square =  $\frac{\text{Perimeter}}{4} = \frac{56}{4} = 14 \text{ cm}$

∴ Smallest side of the right angled triangle =  $14 - 8 = 6$  cm.

$$\text{Length of rectangle} = \frac{\text{Area}}{\text{Breadth}}$$

$$= \frac{96}{8} = 12 \text{ cm}$$

∴ Second side of the triangle =  $12 - 4 = 8$  cm

$$\therefore \text{Hypotenuse of the right angled triangle} = \sqrt{6^2 + 8^2}$$

$$= \sqrt{36 + 64} = \sqrt{100} = 10 \text{ cm}$$

59. (5) Fifth number of set-A =  $\frac{621}{9} = 69$

Smallest number of Set-A = 61

∴ Smallest number of Set-B =  $61 + 15 = 76$

∴ Required sum =  $76 + 78 + 80 + 82 + 84 + 86 = 486$

60. (5) Average speed of car =

$$\frac{\text{Distance}}{\text{Time}} = \frac{588}{6} = 98 \text{ kmph}$$

$$\text{Average speed of train} = \frac{98 \times 10}{7} = 140 \text{ kmph}$$

Distance covered by train in 13 hours = Speed × Time  
 $= 140 \times 13 = 1820 \text{ km}$

61. (2)  $\frac{7441}{34} \times 12 = ? \times 9 + 110$

$$\Rightarrow 2626 = ? \times 9 + 110$$

$$\Rightarrow ? \times 9 = 2516$$

$$\Rightarrow ? = \frac{2516}{9} = 280$$

62. (3)  $? = \frac{989}{34} \times \frac{869}{65} \times \frac{515}{207} = 970$

63. (5)  $? = (32)^2 + (24)^2 - (17)^2$   
 $= 1024 + 576 - 289 = 1311$

∴ Required answer = 1310

64. (3)  $? = \sqrt{5456} \times \sqrt{2120} \div \sqrt{460}$   
 $= 74 \times 46 \div 21 = 162$

∴ Required answer = 160

65. (1)  $\frac{800 \times 67}{100} - 231$

$$= ? - \frac{800 \times 23}{100}$$

$$\Rightarrow 536 - 231 = ? - 184$$

$$\Rightarrow 305 = ? - 184$$

$$? = 305 + 184 = 489$$

∴ Required answer = 490

(66 – 70):

66. (3)

67. (1)

68. (5)

(69 – 70):

69. (4)

70. (3)

71. (3)

A @ F ⇒ A is wife of F.

F \$ M ⇒ F is son of M.

M % J, ⇒ M is mother of J.

J + T ⇒ J is the sister of T.

F is the husband of A. J is the sister of F. So, J is the sister-in-law of A.

72. (4) J % B ⇒ J is the mother of B

B \$ K ⇒ B is the son of K.

K \$ T ⇒ K is the son of T.

Therefore, J is daughter-in-law of T.

(73 – 75):

(i) P # Q ⇒ P ≥ Q

(ii) P % Q ⇒ P ≤ Q

(iii) P @ Q ⇒ P > Q

(iv) P \$ Q ⇒ P < Q

(v) P © Q ⇒ P = Q

73. (3) H © W ⇒ H = W

W % R ⇒ W ≤ R

R @ F ⇒ R > F

Therefore, H = W ≤ R > F

**Conclusions**

I. R © H ⇒ R = H : Not True.

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II.  $R @ H \Rightarrow R > H$  : Not True  
 R is either greater than or equal to H.

74. (1)  $M \$ T \Rightarrow M < T$   
 $T @ K \Rightarrow T > K$   
 $K @ D \Rightarrow K = D$   
 Therefore,  $M < T > K = D$

**Conclusions**

I.  $D \$ T \Rightarrow D < T$  : True  
 II.  $K \$ M \Rightarrow K < M$  : Not True

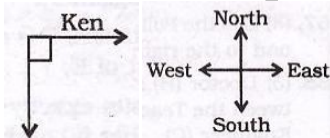
75. (2)  $R \% N \Rightarrow R \leq N$   
 $N \# F \Rightarrow N \geq F$   
 $F @ B \Rightarrow F > B$   
 Therefore,  $R \leq N \geq F > B$

**Conclusions**

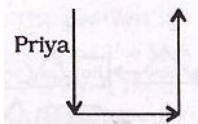
I.  $F @ R \Rightarrow F = R$  : Not True  
 II.  $B \$ N \Rightarrow B < N$  : True

76. (5) From statement I  
 $C > A > B$   
 From statement II  
 $\_ > \_ > C$   
 From both I and II  $E > D > C > A > B$   
 $\therefore$  E is tallest

77. (3) From statement I



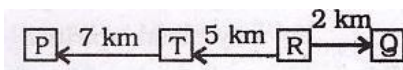
Ken is now facing south.  
 Therefore, All is facing north.  
 From statement II



Priya is now facing north.

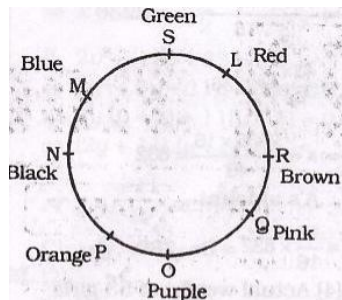
78. (4) No definite conclusion can be derived even with the data provided in both the statements.

79. (5) From both the statements



80. (4) From both the statements The gender of B is not known.

(81 – 85)



- 81. (2) P likes Orange colour. Q is second to the right of P.
- 82. (3) S likes Green colour.
- 83. (1) L likes Red colour. R is sitting exactly between L and Q.
- 84. (4) Q likes Pink colour.

85. (1) N and S are immediate neighbour of M.  
 (86 – 90):

Floor Number	Person	Favourite Superhero
8	O	Wolverine
7	K	Batman
6	R	Thor
5	N	Captian America
4	L	Nova
3	Q	Superman
2	M	Ironman
1	P	Hulk

86. (1) R lives immediately above N while L lives immediately below the floor of N.

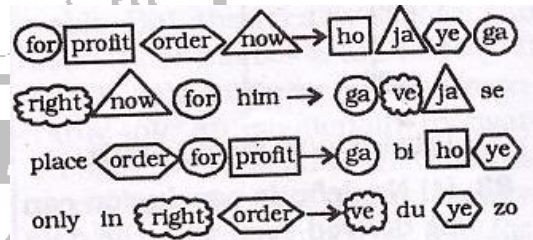
87. (2) K lives on floor numbered Seven  $\Rightarrow (5 + 2)$   
 Q lives on floor numbered Three  $\Rightarrow (6 - 3)$   
 L lives on floor numbered Four  $\Rightarrow (2 + 2)$   
 N lives on floor numbered Five  $\Rightarrow (7 - 2)$   
 R lives on floor numbered Six  $\Rightarrow (8 - 2)$

88. (4) R likes Thor.

89. (5) P likes Hulk.

90. (1) N lives on floor numbered Five.

(91 – 95):



91. (4) The code for 'him is 'se'.

92. (3) 'bi' stands for 'place'.

93. (1) ve  $\Rightarrow$  right; du  $\Rightarrow$  only/in 'fo' may mean 'spirits'.

94. (5) The code for 'profit' is 'ho'.

95. (3) only  $\Rightarrow$  du /zo ; for  $\Rightarrow$  ga; now  $\Rightarrow$  ja.

96. (2) The use of the 'most' in the assumption I makes it invalid. Clearly assumption II is implicit in the statement. Employees of the organisation have applied for special sabbatical leave assuming that they would complete their education during this leave.

97. (2) Only assumption II is implicit in the statement. Considering the current economic situations employees may honour the decision of the companies.

98. (5) Both the assumptions are implicit in the statement. Any notice is issued assuming that some (not all) people will obey it.

99. (2)

100. (5)