

SSC CGL - GRAND TEST-2021-210004

HINTS AND SOLUTIONS

ANSWER KEY

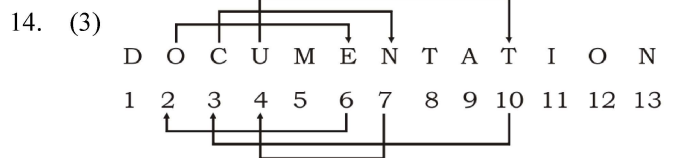
1	(4)	26	(4)	51	(1)	76	(2)
2	(1)	27	(4)	52	(4)	77	(2)
3	(3)	28	(1)	53	(3)	78	(2)
4	(1)	29	(3)	54	(3)	79	(2)
5	(4)	30	(1)	55	(3)	80	(1)
6	(3)	31	(2)	56	(4)	81	(1)
7	(3)	32	(2)	57	(1)	82	(4)
8	(4)	33	(2)	58	(4)	83	(3)
9	(4)	34	(4)	59	(1)	84	(3)
10	(4)	35	(3)	60	(4)	85	(4)
11	(3)	36	(2)	61	(2)	86	(1)
12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

- (4) Adam Smith is called father of economics where as A. Lavoisier is father of (Modern) Chemistry.
- (1) $13 \times 87 = 1131$ and $29 \times 87 = 2523$
- (3) A son is a part of nuclear family and a cousin is a part of an extended family.
- (1) Stars are component of astronomy and battles make up history.
- (4) Feta is a Greek cheese and provolone is an Italian cheese.
- (3) $11 = \text{Eleven} = 3 \text{ 'e'}$
 $17 = \text{Seventeen} = 4 \text{ 'e'}$
- (3) Deke is a term used in Hockey, whereas rest are terms used in tennis.
- (4) Except Ian Chappell, others are Captain of England Test Cricket Team whereas Ian Chappell is an Australian captain.
- (4) Renin, Pepsin and Trypsin are types of enzyme whereas Lexin is not an enzymes.

- (4) Chitrakoot is a place in Uttar Pradesh whereas rest of the three are in Gujrat.
- (3) Except Nose, rest are in pairs.
- (1) In the first and second statements, the common code word is 'nat' and the common word is 'harmful'. So, 'nat' stands for 'harmful'.

In the second and third statements, the common code word is 'dor' and the common word is 'avoid'. So, 'dor' stands for 'avoid'. Thus, in the second statement, 'vog' means 'habit'.

- (1) The correct order is : many, me, meeta, meets, mother.



The new letter sequence is DETNMOUTACION.

The eleventh letter from the right is T.

- (2) a b c d / a b b c d / a b c c d / a b c d d d d.
- (3) Clearly, F is the maternal uncle of D means F is the brother of D's mother i.e., F is the brother of C. C is the sister of B. So, F is the brother of B who is A's mother. Thus, F is the maternal uncle of A. So, A and D are the nephews of F i.e., F has two nephews.
- (3) In terms of marks obtained, Mukesh < Raj, Raj < Priya, Gaurav < Priya, Kavita < Priya, Gaurav < Mukesh. Since Gaurav's marks is not the lowest, so, Kavita's marks is the lowest So, the sequence becomes: Kavita < Gaurav < Mukesh < Raj < Priya. Clearly, in the descending order, Raj comes second.
- (3) Using the usual notations ' \times ' = '>', ' ϕ ' = '=', '<' = '<', ' \perp ' = ' \neq ', ' Δ ' = '<' and ' $+$ ' = '>', we have:

(1) The statement is $a > b < c$
 $\Rightarrow a = c < b$, which is false. [$\therefore c > b$]

(2) The statement is $a > b < c$
 $\Rightarrow b < a > c$, which is false. [$\therefore b < a$]

(3) The statement is $a > b < c$
 $\Rightarrow a < b > c$, which is true.

(4) The statement is $a > b < c$
 $\Rightarrow b < a = c$, which is false. [$\therefore b < a$]

Hence, the statement (4) is true.

- (3) $5 \times 0.5 + 0.5 = 3$
 $3 \times 1 + 1 = 4$
 $4 \times 1.5 + 1.5 = 7.5$
 $7.5 \times 2 + 2 = 17$
 $17 \times 2.5 + 2.5 = 45$
- (2) $3 \times 2 + 3 = 9$
 $9 \times 3 + 2 = 29$
 $29 \times 2 + 3 = 61$
 $61 \times 3 + 2 = 185$
 $185 \times 2 + 3 = 373$

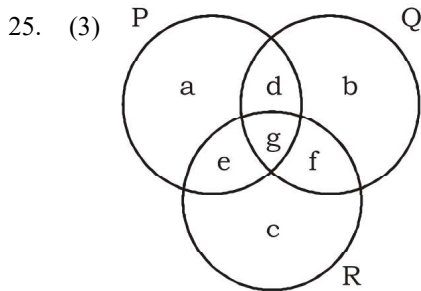
21. (3) $15 + 1^3 = 16$
 $16 + 2^3 = 24$
 $24 + 3^3 = 51$

22. (4)

23. (4)

24. (2)

	No. of consonants	No. of vowels	
JITENDRA	5	3	$\Rightarrow 5^2 - 3^2 = 16$
DHARMENDRA	7	3	$\Rightarrow 7^2 - 3^2 = 40$
SHAHIRUKH	6	2	$\Rightarrow 6^2 - 2^2 = 32$
SALMAN	4	2	$\Rightarrow 4^2 - 2^2 = 12$



Now, $a + b + c + d + e + f + g = 120$.

Number of musicians who can play all the three instruments = $g = 5\%$ of $120 = 6$.

Number of musicians who can play any two and only two of the instruments = $d + e + f = 30$

Number of musicians who can play guitar only = $a = 40$.

\therefore Number of musicians who can play violin alone or flute only = $b + c$

$$= 120 - (a + d + e + f + g)$$

$$= 120 - (40 + 30 + 6) = 44.$$

51. (1)

$A \rightarrow 20 \xrightarrow{1}$
 $B \rightarrow 5 \xrightarrow{4}$
 $\quad \quad \quad 20 \quad \quad 4$
 $\quad \quad \quad \quad \quad 5 \text{ unit total}$

\therefore Time taken by C = 4 days

\therefore Required days to complete the work by A, B and C together

$A \rightarrow 20 \xrightarrow{1}$
 $B \rightarrow 5 \xrightarrow{4}$
 $C \rightarrow 4 \xrightarrow{5}$
 $\quad \quad \quad 20 \quad \quad 4 \quad \quad 5$
 $\quad \quad \quad \quad \quad 10 \text{ unit}$

$$\Rightarrow \frac{20}{10} = 2 \text{ days.}$$

52. (4) $10\% = \frac{1}{10}$, $25\% = \frac{1}{4}$, $20\% = \frac{1}{5}$

A : B : C : D
 9 : 10 : 8 : 10
 $\times 5 \times 2 \quad \times 4 \times 2 \quad \times 5 \times 2$

 9 : 10 : 8 : 10
 $\downarrow \times 80 \quad \downarrow \times 80$
 720 : 800

D got = 800 marks

$$\therefore \text{Required \%} = \frac{800}{1000} \times 100 = 80\%$$

53. (3) $1 : \frac{2}{2} : \frac{3}{4}$

$$4 : 4 : 3$$

$$11 = 55$$

$$1 = 5$$

$$4 = 20$$

$$20 \times 2 = 40$$

54. (3) Dist. travelled by bullet in 30 sec = distance travelled by train in 12 min 30 sec

$$30 \times 330 = \text{train in 12 min 30 sec}$$

$$\text{Speed of train} = \frac{D}{T} = \frac{9900}{750} \text{ sec}$$

$$= \frac{990}{75} \text{ m/sec} = \frac{990}{75} \times \frac{18}{5} \text{ kms/hr}$$

$$= 47 \frac{13}{25} \text{ kms/hr.}$$

55. (3) $10\% = \frac{1}{10}$

C.P	S.P
10	11
$\downarrow \times 40.5$	\downarrow
405	445.5

\therefore 1 kg potato rotten

$$\therefore \text{S.P of remaining potato} = \frac{445.5}{9} = \text{Rs.} 49.5/\text{kg}$$

56. (4) $5x \times 8 : 6x \times y$

$$\frac{5x \times 8}{6x \times y} = \frac{5}{9} \Rightarrow \frac{8}{2y} = \frac{1}{3}$$

$$y = 12 \text{ months.}$$

57. (1) Let the price of article be 100 ATQ,

100 $\xrightarrow{+10\%}$ 90 $\xrightarrow{+22}$ 55
 $\downarrow -20\%$ 80 $\xrightarrow{+40\%}$ 112

$$\therefore \text{cost price of article} = \frac{55 \times 100}{22} = \text{Rs.} 250.$$

58. (4) Difference of correct and incorrect marks = $64 - 46 = 18$

$$\therefore \text{Correct mean} = 52 + \frac{18}{36} = 52.5$$

59. (1) Let Vimal's age and Arun's age be $3x$ years & $5x$ years respectively.

ATQ,

$$3x + 5x = 80$$

$$\Rightarrow 8x = 80 \Rightarrow x = 10$$

$$\text{Vimal's age} = 3x = 3 \times 10 = 30 \text{ years}$$

$$\text{Arun's age} = 5x = 5 \times 10 = 50 \text{ years}$$

After 10 years

$$\text{Vimal's age} = 30 + 10 = 40 \text{ years}$$

$$\text{Arun's age} = 50 + 10 = 60 \text{ years}$$

$$\therefore \text{Ratio of their ages after 10 years } 40 : 60 = 2 : 3.$$

60. (4) $15\% = \frac{3}{20}, 10\% = \frac{1}{10}, 5\% = \frac{1}{20}$

Income	Remain
20	17
10	9
20	19
4000	2907
$\downarrow \times 5$	$\downarrow \times 5$
20,000	14535

61. (2) Daily income of $A + B + C = \frac{1500}{10} = \text{Rs. } 150$

$$\text{Daily income of } A + C = \frac{800}{8} = \text{Rs. } 100$$

$$\text{Daily income of } B + C = \frac{900}{9} = \text{Rs. } 100$$

$$\therefore \text{Total income of } B = (A + B + C) - (A + C) \\ = (150) - (100) = \text{Rs. } 50$$

62. (2) Circum. of pulley $= \pi d = \frac{22}{7} \times 10.5 = 33 \text{ cm}$

$$\therefore \text{No. of rotation} = \frac{4950}{33} = 150.$$

63. (1) Speed downstream $= (9 + 3) \text{ km/hr}$
Speed upstream $= (9 - 3) \text{ km/hr}$
ATQ,

$$\frac{d}{x-y} - \frac{d}{x+y} = 3$$

$$\Rightarrow \frac{d}{9-3} - \frac{d}{9+3} = 3 \Rightarrow \frac{d}{6} - \frac{d}{12} = 3$$

$$\Rightarrow \frac{2d-d}{12} = 3 \Rightarrow d = 36 \text{ kms.}$$

64. (2) Amount deposited $= 31,100$

$$1\% \text{ of } 10,000 = 100$$

$$\mathbf{31,200}$$

$$96\% \text{ of total sale} = 31,200$$

$$100\% = 31200 \times \frac{100}{96} = \text{Rs. } 32,500.$$

65. (2) $(x+5)^\circ + (2x-3)^\circ + (3x+4)^\circ = 180^\circ$
 $(6x+6)^\circ = 180^\circ$

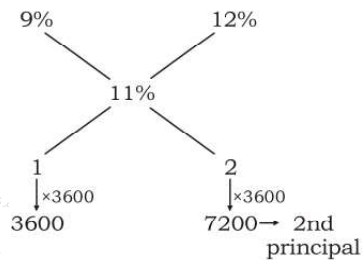
$$\therefore x = \frac{180^\circ - 6^\circ}{6} = 29^\circ.$$

66. (2) $\therefore x + \frac{1}{x} = 4$

$$\Rightarrow x^2 + \frac{1}{x^2} = 14 \text{ and } x^3 + \frac{1}{x^3} = 52$$

$$\therefore \text{The value of } x^5 + \frac{1}{x^5} = 14 \times 52 - 4 = 724.$$

67. (1) By alligation :



$$\therefore \text{total principal} = 7200 + 3600 = \text{Rs. } 10,800.$$

68. (3) Total expenditure of man in a year
 $= \text{Rs. } (4 \times 1800 + 8 \times 2000)$
 $= \text{Rs. } (7200 + 16000) = \text{Rs. } 23200$
Total annual income $= (23200 + 5600) = \text{Rs. } 28800$
 \therefore Average monthly income

$$= \frac{28800}{12} = \text{Rs. } 2400$$

69. (3) Take the value of $\theta = 45^\circ$

$$\therefore x = \operatorname{cosec} \theta - \sin \theta = \sqrt{2} - \frac{1}{\sqrt{2}}$$

$$x^2 = \frac{1}{2} \text{ similarly } y^2 = \frac{1}{2}$$

$$\therefore x^2 y^2 (x^2 + y^2 + 3) = \frac{1}{2} \times \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} + 3 \right) = 1.$$

70. (3) $2x + y = 15$
 $y = 15 - 2x$

$$\text{similarly } x = 26 - 2z$$

$$\therefore 2y + z = 25$$

$$\Rightarrow 30 - 4x + z = 25$$

$$\Rightarrow 30 - 4(26 - 2z) + z = 25$$

$$\Rightarrow 9z - 74 = 25$$

$$\Rightarrow z = \frac{74 + 25}{9} = 11$$

71. (4) If the quotient in the first case be x .

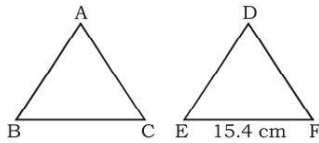
$$\text{Then, number} = 5x + 3$$

$$\text{On squaring, the number} = (5x + 3)^2$$

$$= 25x^2 + 30x + 9$$

$$\text{On dividing by 5, remainder} = 9 - 5 = 4$$

72. (4)



$\therefore \triangle ABC$ and $\triangle DEF$ are similar then

$$\frac{\text{ar}(\triangle ABC)}{\text{ar}(\triangle DEF)} = \frac{BC^2}{EF^2} \Rightarrow \sqrt{\frac{64}{121}} = \frac{BC}{15.4}$$

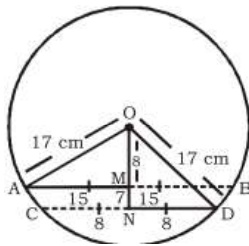
$$\therefore BC = \frac{8 \times 15.4}{11} = 11.2 \text{ cm}$$

73. (2) When 36798 is divided by 78.

Remainder = 60

\therefore The least number to be subtracted = 60

74. (4)



Length of OM = 8 cm (By Triplet)

\therefore Length of ON = 15 cm (By Triplet)

\therefore Length of MN = 15 - OM = 7 cm

75. (1) Each internal angle = $\frac{(2n-4)90^\circ}{n}$

$$\therefore \frac{(2n-4)90^\circ}{n} = 144^\circ$$

$$\Rightarrow 180^\circ n - 360^\circ = 144^\circ n \Rightarrow 36n = 360^\circ \Rightarrow n = 10.$$

76. (2) Add 'the' before poor, as 'the poor' represents class of poor people.

77. (2) Remove 'had', when two actions take place subsequently, the first action which happened earlier will be in past perfect tense and the 2nd action will be simple past tense.

78. (2) Nouns such as 'information' have no plural form, but adding a few words before those certain uncountable nouns make them countable, thus plural. Thus, it should be 'prakash gave me two pieces of information'.

79. (2) Words such as 'everything' and 'everyone' i.e both living and non-living will take a relative pronoun 'that'. Thus, replace 'who' by 'that'.

80. (1) 'When you have found out' is correct. If the 2nd action takes place after the 1st action has already finished, the 1st action will be in present perfect tense.

91. (3) Since, this is a case of an unfulfilled wish, it will take 'had' as a main verb.