



**SSC CGL - 180607 GRAND TEST**  
**HINTS AND SOLUTIONS**

**ANSWER KEY**

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

- (3) Yen is the currency of Japan and Renminbi is the currency of china.
- (3) First is the name given to the meat of second.
- (3)  $749 \Rightarrow 74 \div 9 \Rightarrow \text{Remainder} = 2$   
 $618 \Rightarrow 61 \div 8 \Rightarrow \text{Remainder} = 5$
- (2) As,
 

Word	E	G	I	M
Position	5	7	9	13

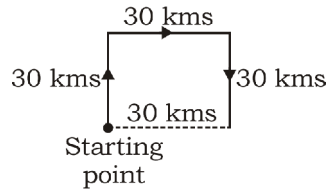
  
So,
 

Word	C	E	H	P
Position	3	5	8	16
- (4) Ink is used in a pen and petrol is used in a car.
- (1) All except doctor required raw material to work.
- (4) We can't find a vowel in VNYQ.
- (3)  $1261 = 97 \times 13$  (not a prime no.)  
 $1581 = 93 \times 17$  (not a prime no.)

$7331 = A$  prime no.  
 $713 = 23 \times 31$  (not a prime no.)

9. (3) All except thump are sound of animals.

10. (4)



So, he is 30 kms east from starting point.

11. (2) As, S E N S A T I O N A L

1 2 3 1 4 5 6 7 3 4 8

then, S T A T I O N

1 5 4 5 6 7 3

12. (3)  $10 + 5 - 5 \div 5 \times 5 = 10$  (given)

As per the given details, replacing the signs-

LHS =  $10 \times 5 \div 5 - 5 + 5 = 10 \times 1 - 0 = 10 = \text{RHS}$

13. (3) Number of educated poor youth =  $11 + 3 = 14$

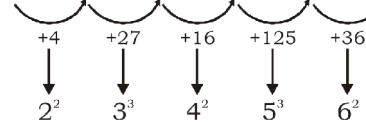
14. (1)

Person	Languages		
	A	Tamil	Malyalam
B	Tamil	Malyalam	Hindi
C	English	Hindi	Tamil
D	English	Hindi	Malyalam

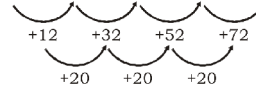
So, the person who can speak english, Hindi and Tamil is C.

15. (3) b cb/ a ca/b c b/aca/ b cb/a c a/b.

16. (3) 154 158 185 201 326 362



17. (4) 112 124 156 208 280



18. (2) Let the age of Ranveer Kapoor, Rishi Kapoor and Raj Kapoor be x, y and z respectively.

Given:  $x + y + z = 140$  ... (i)

As, the age of Ranveer Kapoor in no. of months = Age of Raj Kapoor in no. of years

$\Rightarrow 12x = z$  (multiply by 12 to convert year to month)

Also, the age of Ranveer Kapoor in no. of days

= Age of Rishi Kapoor in no. of weeks

$\Rightarrow 365 \times x = 365 \times y/7$

$\Rightarrow 7x = y$

Putting the value of y and z in equation (i)

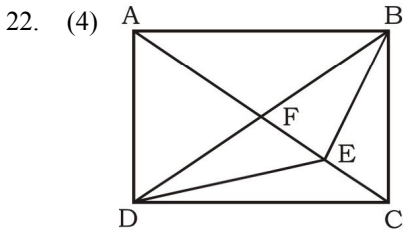
$x + 7x + 12x = 140 \Rightarrow 20x = 140 \Rightarrow x = 7$

$\therefore$  Ranveer Kapoor's age (x) = 7 yrs

Rishi Kapoor's age (y) =  $7x = 7 \times 7 = 49$  yrs and Raj

Kapoor's age (z) =  $12x = 12 \times 7 = 84$  yrs

19. (1) 0, 4, 18, 48, 100, 180, 296, 448  
 $0 = 1^3 - 1^2$ ,  $4 = 2^3 - 2^2$ ,  $18 = 3^3 - 3^2$   
 $48 = 4^3 - 4^2$ ,  $100 = 5^3 - 5^2$ ,  $180 = 6^3 - 6^2$ ,  
 $296 = 7^3 - 7^2 = 294$   
 $448 = 8^3 - 8^2$
20. (1)  $3 \times 5 \times 4 = 60$   
 $5 \times 7 \times 2 = 70$   
 $8 \times 6 \times 3 = 144$
21. (3) As,  $(3 \times 5) + (7 + 2) = 15 + 9 = 24$   
 $(2 \times 4) + (6 + 8) = 8 + 14 = 22$   
then,  $(4 \times 4) + (8 + 9) = 16 + 17 = 33$



Simple triangles are AFB, FEB, EBC, DEC, DFE and AFD i.e. 6 in number.

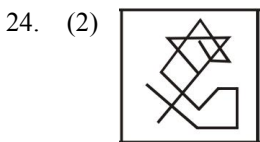
Triangles composed of two components are AEB, FBC, DFC, ADE, DBE and ABD i.e. 6 in number.

Triangles composed of three components are ADC and ABC i.e. 2 in number.

There is only one triangle i.e. DBC which is composed of four components.

Thus, there are  $6 + 6 + 2 + 1 = 15$  triangles in the figure.

23. (2) From dice (2) and dice (4), we have  
Front face 6 4 2  
Opposite face 1 3 5  
So, 5 is at bottom, when 2 is on top.



25. (1)
26. (4) Red Crescent Society is a worldwide humanitarian organization providing assistance without discrimination as to nationality, race, religious beliefs, class or political opinions. It provided medical help to the Turkish troops in the Balkan War.
27. (4) The first session of the Indian National Congress was held from 28-31 December, 1885 at Gokul Das Tejpal Sanskrit College, Bombay and was attended by 72 delegates. Its president was Wyomesh Chandra Banerjee. Indian National Congress was formed during times of Governor General Lord Dufferin.
28. (2) Mixed melting point is considered the best criteria for purity of a substance. The purified sample is mixed with a small quantity of pure compound and melting point of mixture is determined. If melting point of mixture is same as that of the pure compound, the sample compound is pure, otherwise it requires further purification.

29. (4) The world's largest wetland is the Pantanal, which covers 200,000 square kilometres (during the wet season) through Brazil, Paraguay and Bolivia, although 80% of it is in Brazil. It is a land of flooded grasslands, savannas and tropical forests.
30. (4) Calcium carbide reacts with water to produce acetylene gas.  

$$\text{CaC}_2 + 2\text{H}_2\text{O} \longrightarrow \text{C}_2\text{H}_2 + \text{Ca(OH)}_2$$
31. (1) The current age of retirement for Supreme Court judge is 65 years while High Court Judge is 62 years. There was a bill introduced to raise the age of retirement of high court judges also to 65 years but that bill has never passed.
32. (1) L.M.Singhvi Committee was formed by the government to study the Panchayati Raj. The Gram Sabha was considered the base of a decentralized democracy, and PRIs viewed as institutions of self-governance which would actually facilitate the participation of the people in the process of planning and development. Its salient recommendations are as follows: Local self-government should be constitutionally recognized, protected and preserved by the inclusion of new chapter in the Constitutional non-involvement of political parties in Panchayat elections.
35. (1) The historic Chandragiri Fort was venue of the 545 th birth anniversary of Vijayanagara emperor Sri Krishnadevaraya in February 2016. The fort is under the control of the Archaeological Survey of India (ASI) and is located at Chandragiri, Tirupati in Andhra Pradesh. A fort with same name is also located in Kasaragod District of Kerala.
36. (1) "Although aluminum is the most abundant metal in the earth's crust, it is never found free in nature. All of the earth's aluminum has combined with other elements to form various compounds. Two of the most common compounds are alum, such as potassium aluminum sulphate, and aluminum oxide ( $\text{Al}_2\text{O}_3$ ). About 8.2% of the earth's crust is composed of aluminum."
39. (1) The second statement is incorrect. Attorney General holds the office during the pleasure of the president, while solicitor general is appointed and removed by central government.
40. (1) Article 19 is the most important and key article which embodies the "basic freedoms". Article 19 provides that all citizens shall have the right- (originally 7, now 6).  
  - to freedom of speech and expression;
  - to assemble peacefully and without arms;
  - to form associations or unions;
  - to move freely throughout the territory of India;
  - to reside and settle in any part of the territory of India;
  - omitted by 44 th amendment act. (it was right to acquire, hold and dispose of property)
  - to practice any profession, or to carry on any occupation, trade or business.

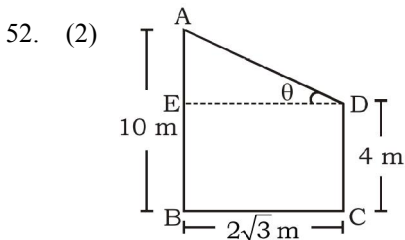
42. (2) American Doctor Daniel Hale Williams is credited with having performed open heart surgery on July 9, 1893 before such surgeries were established. In 1913, Daniel Hale Williams was the only African-American member of the American College of Surgeons.
43. (1) Xerophthalmia is a more serious eye disease caused by a lack of vitamin A, and can occur if night blindness is not treated. In xerophthalmia, the tear ducts do not produce enough tears, which lubricate the eye. This leads to the cornea (the clear part of the eye covering the pupil and iris) and conjunctiva (the clear covering to the white of the eye) becoming inflamed.
44. (4) Nichrome is an alloy of nickel (80)%+chromium(20)% has very high resistance.
46. (1) Konark Sun Temple is a 13 th century temple of Odisha, built by Narasimhadeva I of the Eastern Ganga Dynasty. It is also known as Black Pagoda. It's a World Heritage Site. It is considered architectural marvel for which Odisha is best known worldwide.
47. (1) Recently, the Rajasthan government has inaugurated the state's second biological park 'Machia Biological Park' in Jodhpur. The new park will have a food store, cafeteria, interpretation centre, ticket window, visitors and service roads and will be opened for public in March 2016. The park is spread over 41 hectare and is the house of lions, tigers, jackals, hyenas, desert cats and desert foxes, etc.
49. (2) The National Advisory Council was set up on 4 th June 2004 by Prime Minister Manmohan Singh, during the tenure of the first UPA government, to implement the National Common Minimum Programme.

51. (2)  $x = 8 + 3\sqrt{7}$

$$\frac{1}{x} = \frac{1}{8 + 3\sqrt{7}} = 8 - 3\sqrt{7}$$

$$x + \frac{1}{x} = 8 + 3\sqrt{7} + 8 - 3\sqrt{7} = 16$$

$$x^2 + \frac{1}{x^2} = \left(x + \frac{1}{x}\right)^2 - 2 = (16)^2 - 2 = 256 - 2 = 254.$$



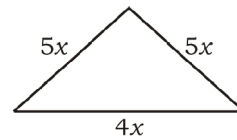
$$AE = AB - CD = 10 - 4 = 6 \text{ m}$$

$$\tan \theta = \frac{AE}{ED}$$

$$\Rightarrow \tan \theta = \frac{6}{2\sqrt{3}} = \frac{\sqrt{3}}{1}$$

$$\therefore \theta = 60^\circ.$$

53. (4)



Lateral side : Base

$$5x : 4x$$

$$P = 10x + 4x = 28 \text{ cm}$$

$$\Rightarrow 14x = 28 \Rightarrow x = 2$$

$$\text{Area of triangle} = \frac{1}{4} \times 8\sqrt{4 \times 100 - 64} = 8\sqrt{21} \text{ cm}^2$$

54. (2) Discount = 300 - 274.50 = ₹ 25.50

$$\text{Discount \%} = \frac{25.50}{300} \times 100 = 8.5\%$$

55. (1) Distance = (10 - 2) × 4 = 32 km

$$\text{Required time} = \frac{32}{10 + 2} = \frac{32}{12} = 2 \text{ hour } 40 \text{ minutes}$$

56. (3)  $\frac{(a-b)^2}{(b-c)(c-a)} + \frac{(b-c)^2}{(a-b)(c-a)} + \frac{(c-a)^2}{(a-b)(b-c)}$

$$= \frac{(a-b)^3 + (b-c)^3 + (c-a)^3}{(a-b)(b-c)(c-a)}$$

$$\text{since, } (a-b) + (b-c) + (c-a) = 0$$

$$\therefore (a-b)^3 + (b-c)^3 + (c-a)^3$$

$$= 3(a-b)(b-c)(c-a)$$

$$= \frac{3(a-b)(b-c)(c-a)}{(a-b)(b-c)(c-a)} = 3$$

57. (3) Let their present age be x and y year

$$\frac{x-4}{y-4} = \frac{2}{3}$$

$$\Rightarrow 3x - 12 = 2y - 8$$

$$\Rightarrow 3x - 2y = 4 \quad \dots(i)$$

$$\frac{x+4}{y+4} = \frac{5}{7}$$

$$\Rightarrow 7x + 28 = 5y + 20$$

$$\Rightarrow 7x - 5y = -8 \quad \dots(ii)$$

From eq. (i) × 5 & eq. (ii) × 2

$$15x - 10y = 20$$

$$14x - 10y = -16$$

$$- \quad + \quad +$$

$$x = 36 \text{ years}$$

$$\text{And } y = 52 \text{ years}$$

58. (1)  $\sqrt{-\sqrt{3} + \sqrt{3 + 8\sqrt{(2 + \sqrt{3})^2}}}$

$$= \sqrt{-\sqrt{3} + \sqrt{3 + 8(2 + \sqrt{3})}} = \sqrt{-\sqrt{3} + \sqrt{3 + 16 + 8\sqrt{3}}}$$

$$= \sqrt{-\sqrt{3} + \sqrt{19 + 8\sqrt{3}}} = \sqrt{-\sqrt{3} + \sqrt{(4 + \sqrt{3})^2}}$$

$$= \sqrt{-\sqrt{3} + (4 + \sqrt{3})}$$

$$= \sqrt{-\sqrt{3} + 4 + \sqrt{3}} = \sqrt{4} = 2$$

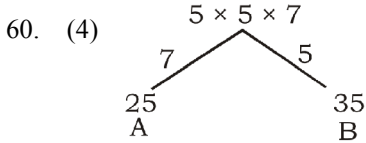
59. (1)  $AB = \sqrt{(3-1)^2 + (4+2)^2} = 2\sqrt{10}$  units

$BC = \sqrt{(4-3)^2 + (7-4)^2} = \sqrt{10}$  units

$AC = \sqrt{(4-1)^2 + (7+2)^2} = 3\sqrt{10}$  units

$\therefore AB + BC = AC$

So, A, B and C are points on straight line.



Ratio of wages = 7 : 5

$A = \frac{7}{12} \times 48132 = ₹28077$

61. (4)  $\tan(A - 38) \times \tan(2A + 23) = 1$

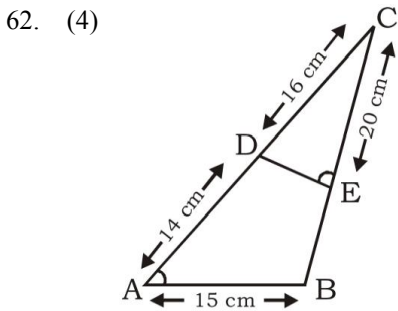
( $\because A + B = 90^\circ, \tan A \times \tan B = 1$ )

$\therefore A - 38 + 2A + 23 = 90^\circ$

$\Rightarrow 3A - 15 = 90^\circ$

$\Rightarrow 3A = 105^\circ$

$A = 35^\circ$



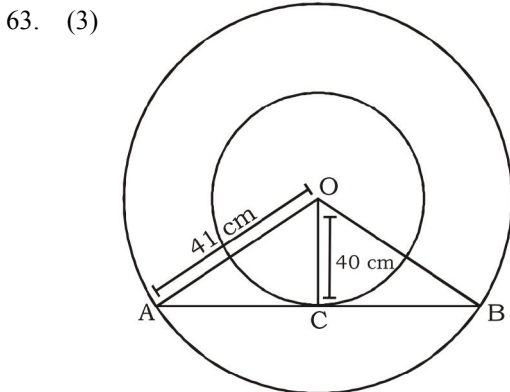
$\angle A = \angle CED$

$\angle C$  common

$\therefore \triangle ABC \cong \triangle EDC$

$\therefore \frac{AD}{DE} = \frac{AC}{EC}$

$\Rightarrow \frac{15}{DE} = \frac{14+16}{20} \Rightarrow DE = 10$  cm



$\therefore AC = \sqrt{41^2 - 40^2} = \sqrt{81} = 9$  cm

$\therefore$  Chord AB =  $2 \times 9 = 18$  cm

64. (2)  $x = 1 + \frac{2}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{3}}}}$

$= 1 + \frac{2}{1 + \frac{4}{7}} = 1 + \frac{14}{11} = \frac{25}{11}$

$\therefore 11x - 12 = 11 \times \frac{25}{11} - 12 = 13$

65. (2) Length = 8 m

Breadth : Height

$2x : x$

Area of 4 walls =  $2(8 \times x + 2x \times x) = 84 \times 1 \text{ m}^2$

$\Rightarrow 8x + 2x^2 = 42$

$\Rightarrow x^2 + 4x = 21$

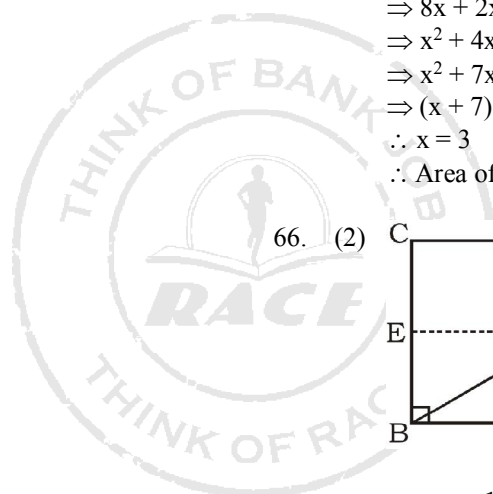
$\Rightarrow x^2 + 7x - 3x - 21 = 0$

$\Rightarrow (x + 7)(x - 3) = 0$

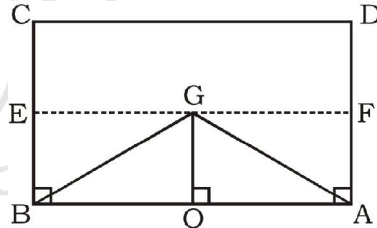
$\therefore x = 3$

(ignore -ve of  $x = -7$ )

$\therefore$  Area of floor =  $l \times b = 8 \times 2x = 8 \times 6 \text{ m}^2 = 48 \text{ m}^2$



66. (2)



$\triangle GAB = \frac{1}{2} \times OB \times OG + \frac{1}{2} \times OA \times OG$

$= \frac{1}{2} OG(OA + OB) = \frac{1}{2} \times OG \times AB = \frac{1}{2} (BE \times AB)$

$= \frac{1}{2} (\text{Rectangle BEFA})$

$= \frac{1}{2} \left( \frac{1}{2} \text{Rectangular ABCD} \right)$

( $\because E \ \& \ F$  are midpoint of BC & AD)

$= \frac{1}{4} (\text{Rectangle ABCD})$

67. (2) Ratio of internal angle to its exterior angle of regular polygon = 4 : 1

$\Rightarrow \frac{(n-2) \times \frac{180}{n}}{\frac{360}{n}} = \frac{4}{1}$

$$\Rightarrow \frac{180(n-2)}{360} = \frac{4}{1} \Rightarrow n-2=8 \Rightarrow n=10$$

$\therefore$  Number of sides = 10

$$68. (3) A = P \left(1 + \frac{r}{100}\right)^n$$

$$\Rightarrow 2P = P \left(1 + \frac{r}{100}\right)^6$$

$$\Rightarrow 2 = \left(1 + \frac{r}{100}\right)^6$$

$$\Rightarrow (2)^3 = 8 = \left(1 + \frac{r}{100}\right)^{6 \times 3} \quad \text{i.e., } n = 18 \text{ years}$$

$$69. (2) \text{Discount} = 32 \times \frac{25}{100} = ₹8$$

₹ 8 discount on 1 shirt

$$\text{So, number of shirt} = \frac{40}{8} = 5$$

$$70. (2) \text{Oil taken out} = \frac{3}{4} - \frac{1}{2} = \frac{3-2}{4} = \frac{1}{4} \text{ part}$$

$$\frac{1}{4} \text{ part} = 48 \text{ litres}$$

$$1 \text{ part} = 48 \times 4 = 192 \text{ litres}$$

$$71. (4) \text{Total number of vote} = 1136 + 7636 + 11628 = 20400$$

$$\text{Required percentage} = \frac{11628}{20400} \times 100 = 57\%$$

$$72. (3) \text{Let total income of Prakash be ₹ } x.$$

$$\text{saving} = x \times \frac{75}{100} \times \frac{80}{100} \times \frac{60}{100}$$

$$\Rightarrow 8640 = x \times \frac{75}{100} \times \frac{80}{100} \times \frac{60}{100} \Rightarrow x = ₹24000$$

$$73. (1) \text{Marks obtained by the boys in Hindi} \\ = (75\% \text{ of } 60) + (65\% \text{ of } 60) + (70\% \text{ of } 60) \\ = 45 + 39 + 42 = 126$$

$$\text{Marks obtained by girls in Hindi} \\ = (65\% \text{ of } 60) + (75\% \text{ of } 60) + (45\% \text{ of } 60) \\ = 27 + 39 + 45 = 111$$

$$\text{Required Difference} = 126 - 111 = 15$$

$$74. (2) \text{Total marks obtained by Renuka} \\ = (90\% \text{ of } 120 + 48\% \text{ of } 75 + 75\% \text{ of } 60 + 68\% \\ \text{of } 75 + 76\% \text{ of } 150 + 88\% \text{ of } 50) \\ = 108 + 36 + 45 + 51 + 114 + 44 = 398$$

$$75. (3) \text{Average marks in Economics by all the students}$$

$$= \frac{(92 + 64 + 80 + 52 + 68 + 88)}{6 \times 100} \text{ of } 75$$

$$= \frac{444}{6 \times 100} \times 75 = 55.50$$

$$76. (4)$$

$$77. (3) \text{Replace 'with' by 'against'}$$

$$87. (2) \text{'Opinion' will take 'about' as it is followed by a statement.}$$

$$88. (3) \text{'Having been' is the past participle form and is used to emphasize that the action has been already been completed while saying that particular statement, whereas 'being' is a present participle.}$$

$$90. (2) \text{Since the subject is plural (my sister and her daughter), it will take plural verb.}$$