

SSC MOCK TEST - 354 (SOLUTION)

1. (D) 'Father' is related to 'Parents', similarly 'Sister' is related to 'Sibling'.

2. (D) As,

A N Y T H I N G
 $\swarrow \quad \searrow \quad \swarrow \quad \searrow$
 N A T Y I H G N

Similarly,

G R O U N D
 $\swarrow \quad \searrow \quad \swarrow \quad \searrow$
 R G U O D N

3. (B) $33 : 10 :: 54 : 21$
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
 $(3 \times 3) + 1 \uparrow \quad (5 \times 4) + 1 \uparrow$

4. (D) $24 \ 20 \Rightarrow 2^2 + 4^2 = 20$

$35 \ 34 \Rightarrow 3^2 + 5^2 = 34$

$56 \ 61 \Rightarrow 5^2 + 6^2 = 61$

$67 \ 83 \Rightarrow 6^2 + 7^2 = 85 \neq 83$

5. (B) Except Scold, others are related to each other.

(D) (A) A G
 $1 + 7 = 8$

(B) C E
 $3 + 5 = 8$

(C) B F
 $2 + 6 = 8$

(D) G I
 $7 + 9 = 16 \neq 8$

7. (B) 4. Pabloism \rightarrow 2. Pacable \rightarrow 3. Pachometer \rightarrow 5. Pachytenes \rightarrow 1. Parliamentarian

8. (C) $60, 80, 95, 105, 110$
 $\uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 $+20 \quad +15 \quad +10 \quad +5$

9. (D) AB, EFG, KLMN, **STUVW**
 $\uparrow \quad \uparrow \quad \uparrow$
 $+3 \quad +4 \quad +5$

10. (C) $5 \ \& \ 8 \Rightarrow (5 - 1) \times 8 = 32$

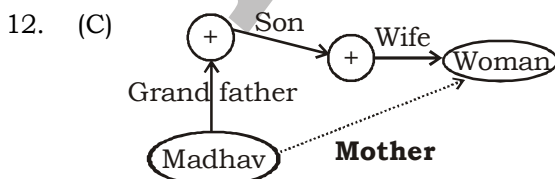
$9 \ \& \ 6 \Rightarrow (9 - 1) \times 6 = 48$

$7 \ \& \ 9 \Rightarrow (7 - 1) \times 9 = 54$

11. (B) $14^2 \times 4 = 784$

$16^2 \times 5 = 1280$

$12^2 \times 6 = 864$



Hence, the Woman is Mother of Madhav.

13. (D) $M > K > L$

$K > P$

$M > K > L/P > P/L > Q$

Hence, M has the maximum income.

14. (B) As,

Similarly,

| | | | | |
|----|----|----|----|----|
| A | D | U | L | T |
| | | | | |
| +1 | +2 | +3 | +4 | +5 |
| ↓ | ↓ | ↓ | ↓ | ↓ |
| B | F | X | P | Y |

| | | | | |
|----|----|----|----|----|
| R | I | V | E | R |
| | | | | |
| +1 | +2 | +3 | +4 | +5 |
| ↓ | ↓ | ↓ | ↓ | ↓ |
| S | K | Y | I | W |

15. (B) $96 \div 4 \times 6 \div 11 \div 9$

After changing the signs as per the given details,

$$96 \div 4 - 6 + 11 \times 9$$

$$= 24 - 6 + 11 \times 9$$

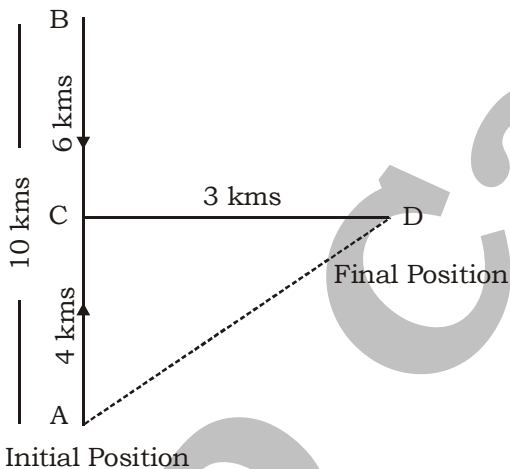
$$= 24 - 6 + 99 = \mathbf{117}$$

16. (A)

17. (C) The word 'SOLVE' cannot be formed using the letters of the given word because the word 'ABSOLUTE' does not have letter 'V'.

18. (B) The number of girls in the row = $18 + 18 - 1 = 35$

19. (B)



$$AB = 10 \text{ km}$$

$$AC = 10 - 6 = 4 \text{ km}$$

$$CD = 3 \text{ km}$$

In $\triangle ACD$,

$$AD^2 = AC^2 + CD^2$$

$$AD^2 = 4^2 + 3^2$$

$$AD = \sqrt{25} = 5 \text{ km}$$

Kusum is 5 km in North-East direction with respect to initial point.

20. (C) ~~ptxp~~/~~ptxp~~/~~ptxp~~/~~ptxp~~

21. (B) 22. (A) 23. (A) 24. (C)

25. (C) From the statement of Amar, his sister's birthday is on 20 or 21 or 22 June.

From the statement of Amar's brother, his sister's birthday is on 20 or 21 June.

26. (A) Direct demand- Commodities or services which satisfy our wants directly are said to have direct demand.
27. (C) University Grants Commission was formally established in 1956 by UGC Act.
28. (A) Mithun is a cattle breed is found in Arunanchal Pradesh. Mithun is also known as 'Cattle of Mountain'.
30. (C) Bhutan is also referred as 'Druk Yul' because druk means thunder dragon and the Bhutan flag has a Druk holding jewels to represent wealth of nation hence it is called Druk Yul.
32. (A) A contact force is any force that requires contact to occur. When surfaces in contact move relative to each other, the friction between the two surfaces arises. So, it can be said that contact force is another name for frictional force.
33. (D) Wajid Ali Shah was the tenth and last Nawab of Awadh, holding the position for 9 years, from 13 February 1847 to 11 February 1856.
35. (D) Non-Banking Financial institutions refer to those institutions that doesn't accept chequable deposits nor extend loans to general public. So going by this definition, Bank of India, is not an NBFC, but rather a commercial bank.
36. (B) Kandyan dance is folk dance of Sri Lanka. It is native to Central hills region on Sri Lanka which is known as Udarata.
37. (C) It's in Mitochondria that pyruvic acid is broken down into carbon dioxide, water and energy.
38. (B) In chemistry, neutralization or neutralisation is a chemical reaction in which an acid and a base react quantitatively with each other.
39. (A) Bishnoi is the movement for saving trees. this movement was started by the Environmentalist Amrita Devi and other village men in 1730 to save the villages sacred trees and protect the forest from deforestation.
41. (B) The ozone layer or ozone shield is a region of Earth's stratosphere that absorbs most of the Sun's ultraviolet radiation.
42. (B) Kolkata Port is the oldest operating port in India built by the British East India Company. It was established in 1870. It is a riverine port. In the 19th century, this Port was the premier port in British India.
46. (A) Light year is the measure of distance and not that of time. It actually means the distance which the light can cover in a year. Based on the definition, one light year equals to 95×10^{11} Kilometers.
47. (C) Governor is the constitutional head of each state appointed by the president for a term of 5 years. To become a governor a person should be a citizen of India, be at least 35 years of age, should not be a member of the either house of the parliament or house of the state legislature and he should not hold any other office of profit.
49. (A) In oxidation there is gain of oxygen atoms and loss of hydrogen atoms. Example during rusting iron oxide is converted to iron hydroxide due to gain of oxygen atom.

51. (D)
- | | Let total capacity | Efficiency |
|-------|--------------------|----------------------------|
| A → 8 | 24 | 3 |
| B → 4 | | 6 |
| C → 6 | | -4 (as C is emptying pipe) |

Now (A + B + C) 1 hour work = (3 + 6 - 4) = 5 unit

∴ Required time to fill the tank by all the pipes together = $\frac{24}{5}$ hr = 4 hr 48 min

52. (A) $\text{HCF of } \frac{12}{7}, \frac{15}{16}, \frac{21}{4} = \frac{\text{HCF of } (12, 15, 21)}{\text{LCM of } (7, 16, 4)} = \frac{3}{112}$

53. (A) Let income of B = 100

A's income = 75

C's income = $75 \times \frac{116}{100} = 87$

| | | |
|---|---|---|
| A | B | C |
|---|---|---|

| | | |
|----|-----|----|
| 75 | 100 | 87 |
|----|-----|----|

C's income is more than A's income.

\therefore Required more percentage = $\frac{87 - 75}{75} \times 100 = \frac{12 \times 100}{75} = 16\%$ more

54. (B) As $(x + 3)$ is a factor of $F(x) = x^3 + 3x^2 + 2x + K$

$F(-3) = 0$

$F(-3) = (-3)^3 + 3(-3)^2 + 2(-3) + K = 0$

$-27 + 27 - 6 + K = 0$

$\therefore K = 6$

55. (B) $20W \times 16 = 16M \times 15$

$\frac{M}{W} = \frac{20}{15}$

$\frac{M}{W} = \frac{4}{3} = 4 : 3$

56. (B) $x + \frac{1}{x} = \sqrt{3}$

Cubing both sides,

$x^3 + \frac{1}{x^3} - 3 \cdot x \cdot \frac{1}{x} \left(x + \frac{1}{x} \right) = 3\sqrt{3}$

$x^6 + 1 = 0$

$\therefore x^{60} + x^{54} + x^{47} + x^{41} + 1$

$= x^{54}(x^6 + 1) + x^{41}(x^6 + 1) + 1 = 1$

57. (D) Speed of Sound = $\frac{1700}{25} = 68$ m/s

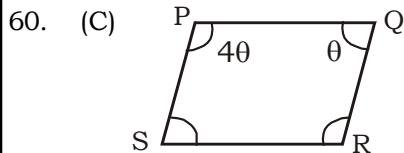
58. (B) $\frac{3000 \times 12 \times T}{100} = 1080$

$12T = 36$

$T = 3$ years

59. (B) $\frac{3\sqrt{8} - 2\sqrt{12} + \sqrt{20}}{3\sqrt{18} - 2\sqrt{27} + \sqrt{45}} = \frac{6\sqrt{2} - 4\sqrt{3} + 2\sqrt{5}}{9\sqrt{2} - 6\sqrt{3} + 3\sqrt{5}}$

$$= \frac{2(3\sqrt{2} - 2\sqrt{3} + \sqrt{5})}{3(3\sqrt{2} - 2\sqrt{3} + \sqrt{5})} = \frac{2}{3}$$



Let $\angle Q$ be θ .

Then, $\theta + 40 = 180^\circ$

$$5\theta = 180^\circ$$

$$\theta = 36^\circ$$

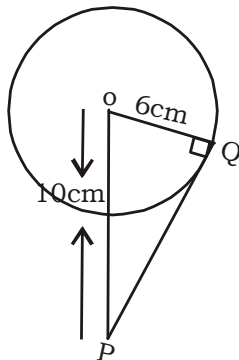
$$\angle Q = 36^\circ$$

$\angle Q + \angle R = 180^\circ$ (Pairs of Adjacent angles of \parallel gm are supplementary)

$$\angle R = 180 - 36 = 144^\circ$$

61. (A) Weight of the new man = $42 + 15 \times 1.6$
 $= 42 + 24 = 66$ kg

62. (B)



$$PQ = \sqrt{10^2 - 6^2} = \sqrt{100 - 36}$$

$$= \sqrt{64} = 8 \text{ cm}$$

63. (C) $\frac{\cos^2 45^\circ}{\sin^2 60^\circ} + \frac{\cos^2 60^\circ}{\sin^2 45^\circ} - \frac{\tan^2 30^\circ}{\cot^2 45^\circ} - \frac{\sin^2 30^\circ}{\cot^2 30^\circ}$

$$= \frac{\left(\frac{1}{\sqrt{2}}\right)^2}{\left(\frac{\sqrt{3}}{2}\right)^2} + \frac{\left(\frac{1}{2}\right)^2}{\left(\frac{1}{\sqrt{2}}\right)^2} - \frac{\left(\frac{1}{\sqrt{3}}\right)^2}{(1)^2} - \frac{\left(\frac{1}{2}\right)^2}{(\sqrt{3})^2} = \frac{1}{2} + \frac{1}{4} - \frac{1}{3} - \frac{1}{4}$$

$$= \frac{2}{3} + \frac{1}{2} - \frac{1}{3} - \frac{1}{4} = \frac{8+6-4-1}{12}$$

$$= \frac{14-5}{12} = \frac{9}{12} = \frac{3}{4}$$

64. (D) If equations have no solution, then,

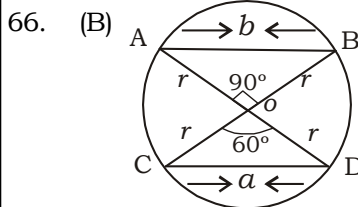
$$\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$$

$$\frac{2}{6} = \frac{-k}{-12} \neq \frac{7}{15}$$

$$6k = 24$$

$$\therefore k = 4$$

65. (C) Required time = $\frac{4 \times \frac{165}{60}}{16.5}$ hours = $\frac{4 \times 165}{16.5 \times 60} \times 60 = 40$ minutes



$\triangle COD$ is an equilateral triangle.

$$a = r$$

$\triangle AOB$ is an isosceles triangle.

$$\text{So, } \angle OBA = 45^\circ$$

$$\sin 45^\circ = \frac{r}{b}$$

$$\frac{1}{\sqrt{2}} = \frac{r}{b}$$

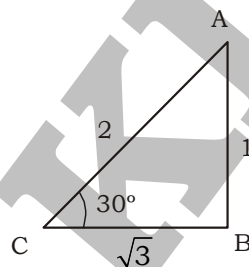
$$b = \sqrt{2} r \text{ or } \sqrt{2} a$$

67. (B) Arithmetic mean of first n natural number = $\frac{n+1}{2}$

68. (A) One side of cube = $\frac{20}{4}$ cm = 5 cm

$$\therefore \text{Area of cube} = 5^3 \text{ cm}^3 = 125 \text{ cm}^3$$

69. (C)



ATQ,

$$\sqrt{3} \text{ units} = 129$$

$$1 \text{ unit} = \frac{129}{\sqrt{3}} = 43\sqrt{3}$$

$$\therefore \text{Height of the cliff} = 43\sqrt{3} \text{ m}$$

70. (C) ATQ,

$$\frac{22}{7} \times (81 - r^2) \times 14 = 748$$

$$(81 - r^2) \times 4 = 68$$

$$81 - r^2 = 17$$

$$r^2 = 81 - 17$$

$$r^2 = 8$$

$$\therefore \text{Thickness} = 9 - 8 = 1 \text{ cm}$$

71. (C) $\tan \theta = \frac{8}{15}$

$$\sin \theta = \frac{8}{\sqrt{15^2 + 8^2}} = \frac{8}{17}$$

$$\therefore \frac{\sqrt{1 - \sin \theta}}{\sqrt{1 + \sin \theta}} = \frac{\sqrt{1 - \frac{8}{17}}}{\sqrt{1 + \frac{8}{17}}} = \sqrt{\frac{9}{25}} = \frac{3}{5}$$

72. (B) Required difference = $540 - 120 = 420$

73. (C) Average production = $\frac{260 + 540 + 360 + 120 + 200 + 320}{6} = 300$

74. (C) Required ratio = $(260 + 540 + 360) : (120 + 200 + 320) = 1160 : 640 = 29 : 16$

75. (B) Average production of table fans on Monday and Tuesday = $\frac{260 + 540}{2} = 400$

$$\text{Average production of table fans during the week} = \frac{260 + 540 + 360 + 120 + 200 + 320}{6} = 300$$

$$\therefore \text{Required number of fans} = 400 - 300 = 100$$

MEANINGS IN ALPHABETICAL ORDER

| | | |
|----------------|---|---|
| Autonomy | the right or condition of self-government | स्वयं शासन |
| Blatant | (of bad behavior) done openly and unashamedly | मुखर |
| Broad | having an ample distance from side to side; wide | विस्तृत |
| Calligrapher | someone skilled in penmanship | सुंदर लिखावट वाला व्यक्ति |
| Cannibalism | act of feeding on human flesh | नरमांस-भक्षण |
| Cartographer | a person who draws or produces maps. | वह व्यक्ति जो मानचित्र बनाता हो |
| Concede | admit that something is true or valid | स्वीकार करना |
| Confer | grant or bestow (a title, degree, benefit, or right) | उपाधि प्रदान करना |
| Confide | tell someone about a secret or private matter | गुप्त बात कहना |
| Confined | limited to a certain extent | सीमित |
| Connoisseur | A critical judge of any art and craft | विशेषज्ञ |
| Constituent | a component part of something | घटक |
| Contemporaries | Persons living at the same time | समकालीन |
| Convalescent | One who is recovering health after illness | स्वास्थ्य प्रदान करने वाला व्यक्ति |
| Cynosure | One who is a centre of attraction | आकर्षण बिंदु |
| Debonair | A person having a sophisticated charm | सुशील व्यक्ति |
| Demagogue | A leader who sways his followers by his oratory | वाक-चातुर्य जननेता |
| Denominator | a divisor | भाजक |
| Dilettante | A dabbler (not serious) in art, science and literature | (कला, विज्ञान और साहित्य आदि के मामले में) शौकिया, अनाड़ी |
| Exaggerated | regarded or represented as larger, better, or worse than in reality | अतिशयोक्तिपूर्ण |
| Exemplary | serving as a desirable model | अनुकरणीय |
| Futile | incapable of producing any useful result | व्यर्थ |
| Magnitude | the great size or extent of something | परिमाण, मात्रा |
| Parity | the state or condition of being equal | समता |
| Valour | great courage in the face of danger | साहस |
| Vociferously | in a loud and forceful manner | तेज आवाज में |

SSC MOCK TEST - 354 (ANSWER KEY)

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

76. (B) Since the indirect speech is in past tense, 'is' should be changed into 'was'.
77. (C) 'is' should be changed into 'are', as the subject is plural.
87. (B) 'A few' is used with countable nouns. e.g- rats.
90. (B) The correct spelling of 'Convelescent' is 'Convalescent'.
91. (B) The correct spelling of 'Demogogue' is 'Demagogue'.