SSC MOCK TEST - 329 (SOLUTION)

1. (A) As,

    $58 \Rightarrow (8 - 5) = 3 \Rightarrow 3 \times 4 = 12$

    Similarly,

    $49 \Rightarrow (9 - 4) = 5 \Rightarrow 5 \times 6 = 30$

2. (B) Lion eats flesh, while cow eats grass.

3. (D) Except 86, others are divisible by 12.

4. (B) Except Badminton, others are outdoor games.

5. (B) As,

    REMOTE $\Rightarrow 18 + 5 + 13 + 15 + 20 + 5 = 76 \Rightarrow 76 + 67 = 143$

    And,

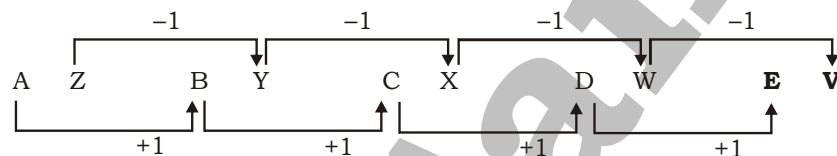   BOX $\Rightarrow 2 + 15 + 24 = 41 \Rightarrow 41 + 14 = 55$

    Similarly,

    CHARGE $\Rightarrow 3 + 8 + 1 + 18 + 7 + 5 = 42 \Rightarrow 42 + 24 = 66$

6. (C) 25   35   50   70   95   **125**

    +10   +15   +20   +25   +30

7. (A)

8. (A) Required number = 12 + 3 = 15

9. (D) As,

    $16 \times 5 = 80$

    $80 + 16 = 96$

    Similarly,

    $20 \times 5 = 100$

    $100 + 20 = 120$

10. (A) **x**dr**l**m/xd**r**lm/xd**r**lm

11. (B)

12. (C) **In the first row,**

    $21 + 18 = 39 \Rightarrow 93$

    In the second row,

    $45 + 24 = 69 \Rightarrow 96$

    In the third row,

    $64 + 18 = 82 \Rightarrow 28$

13. (B) $18 + 5 \times 26 - 34 \div 17 = 114$

    Change the sings + and × to each other

    $18 \times 5 + 26 - 34 \div 17 = 114$

    $90 + 26 - 2 = 114$

    $116 - 2 = 114$

    $114 = 114$

14. (C) A clock gains 5 minutes every hour i.e. 65 minutes instead of 60 minutes.

Now, hour hand = $\dfrac{65}{60} = \dfrac{13}{12}$

Therefore, the second hand will traversed $\dfrac{13}{12} \times 360° = 390°$

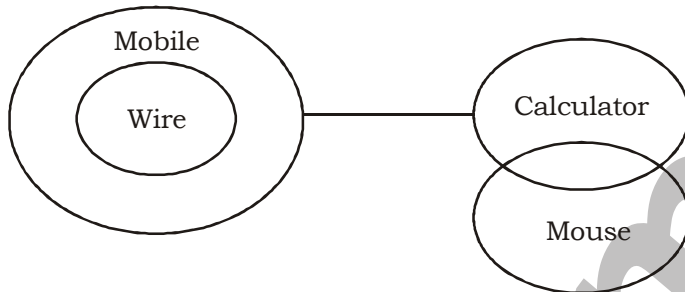15. (A) 1. Country → 3. Forest → 5. Trees → 4. Wood → 2. Furniture

16. (B) The man and his wife = 2 members

Three sons and their wives = 6 members

Three children each of the thrice sons = 3 × 3 = 9 members
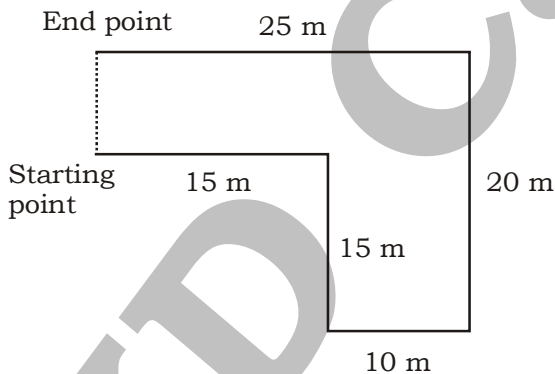
Total number of members = 2 + 6 + 9 = 17

17. (D)

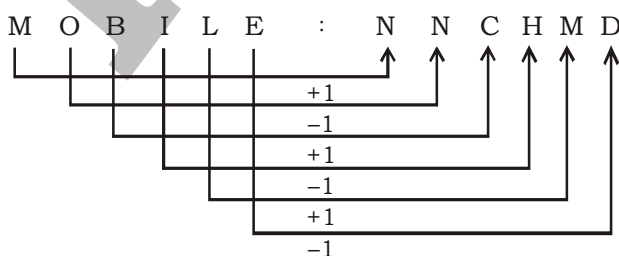I. True   II. False   III. False

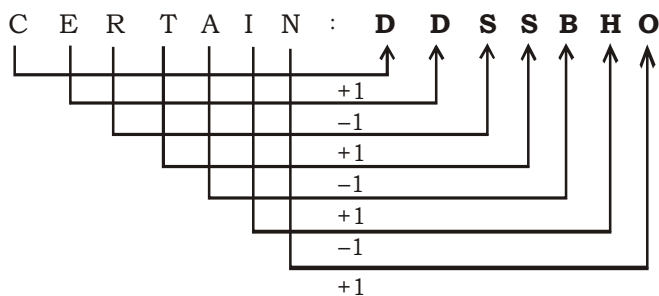Hence, only conclusion I follows.

18. (B)   19. (B)

20. (A)

∴ Required distance = 5 m

21. (B) As,

Similarly,

C E R T A I N : **D D S S B H O**

+1
−1
+1
−1
+1
−1
+1

22. (A)   23. (B)   24. (A)   25. (A)

26. (C) 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. (B) $2x + \dfrac{2}{x} = 4$

$x + \dfrac{1}{x} = 2$

$\left(x + \dfrac{1}{x}\right)^3 = x^3 + \dfrac{1}{x^3} + 3 \times x \times \dfrac{1}{x}\left(x + \dfrac{1}{x}\right)$

$2^3 = x^3 + \dfrac{1}{x^3} + 3 \times 2$

∴ $x^3 + \dfrac{1}{x^3} = 2$

52. (B) Let CP = ₹ 100

SP = $100 \times \dfrac{130}{100}$ = ₹ 130

Now, CP = ₹ 50
SP = ₹ 130

∴ Profit% = $\left(\dfrac{80}{50} \times 100\right)\%$ = 160%

53. (C) Given 10-digit number 6220x558y2 is divisible by 88.
Hence it should be divisible by 88 = 8 × 11.
Divisibility of 8: Last three digits must be divisible by 8
Hence, 8y2 must be divisible by 8.
So, y = 3; i.e. 832
Divisibility of 11: The difference of the sum of the alternate numbers is divisible by 11.
Sum of odd places = 6 + 2 + x + 5 + 3 = 16 + x
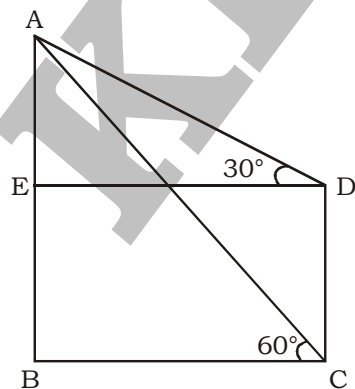Sum of even places = 2 + 0 + 5 + 8 + 2 = 17
Difference = (16 + x) – 17
x = 1
As 0 is divisible by 11.
∴ 4x + 3y = 4 × 1 + 3 × 3 = 13

54. (B)

In ΔABC,

$\tan 60° = \dfrac{AB}{BC}$

$\sqrt{3} = \dfrac{400}{BC}$

$BC = \dfrac{400}{\sqrt{3}}$ ......(i)

In ΔAED,

$\tan 30° = \dfrac{AE}{ED}$

$\dfrac{1}{\sqrt{3}} = \dfrac{AE}{\dfrac{400}{\sqrt{3}}}$ $(\because BC = ED)$

$AE = \dfrac{400}{3}$ m .....(ii)

$\therefore CD = AB - AE$ $(\because BE = CD)$

$= 400 - \dfrac{400}{3} = \dfrac{800}{3}$ m

55. (B) $12 + 20 \times 4 \div (36 \div 9 \times 5) + 17$ of $13 + 4$

$= 12 + 20 \times 4 \div (20) + 221 + 4$

$= 12 + 20 \times 4 \div 20 + 225$

$= 12 + 20 \times \dfrac{1}{5} + 225$

$= 12 + 4 + 225 = 241$

56. (C) $\dfrac{\cos 29° \, \text{cosec} \, 61° \tan 45° + 2\sin 35° \sec 55°}{3\sin^2 42° + 3\sin^2 48°}$

$= \dfrac{\cos (90° - 61°) \, \text{cosec} \, 61° \tan 45° + 2\sin (90° - 55°)\sec 55°}{3\sin^2 (90° - 48°) + 3\sin^2 48°}$

$= \dfrac{\sin 61° \, \text{cosec} \, 61° \tan 45° + 2\cos 55° \sec 55°}{3\sin^2 48° + 3\sin^2 48°}$

$= \dfrac{\dfrac{1}{\text{cosec} \, 61°} \, \text{cosec} \, 61° \tan 45° + 2\dfrac{1}{\sec 55°}\sec 55°}{3\left(\cos^2 48° + \sin^2 48°\right)}$
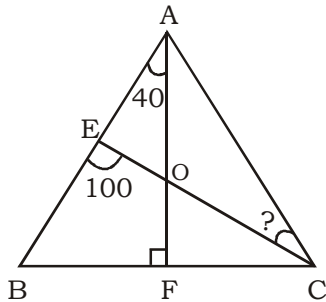
$= \dfrac{1 + 2}{3} = \dfrac{3}{3} = 1$

57. (D) Average speed of three equal distance = $\dfrac{(3 \times S_1 \times S_2 \times S_3)}{(S_1 \times S_2 \times S_2 \times S_3 + S_1 \times S_3)}$

$= \dfrac{3 \times 25 \times 30 \times 40}{25 \times 30 + 30 \times 40 + 25 \times 40}$

$= \dfrac{90000}{2950}$ = 30.50 km/hr

58. (B)

In ΔABF,

$\angle ABF + \angle AFB + \angle BAF = 180°$

$\angle ABF = 180° - 40° - 90° = 50°$

Now, in $\square BEFO$,

$\angle EBF + \angle BFO + \angle FOE + \angle OEB = 360°$

$\angle EOF = 360° - 100° - 90° - 50° = 120°$

Because, lines EC and AF intersect each other.

So,

$\angle AOC = \angle EOF$

$\angle AOC = 120°$

Now, as given, OA = OC

So, $\angle OAC = \angle ACO$ (Let x)

Now, in ΔOAC,

$\angle AOC + \angle OCA + \angle OAC = 180°$

$120° + 2x = 180°$

$x = 30°$

∴ $\angle ACE = x = 30°$

59. (A) Let the number of boys = 100

Number of girls = 40

∴ Average age of class = $\dfrac{100 \times 24 + 40 \times 24 \times \dfrac{75}{100}}{140} = \dfrac{2400 + 720}{140}$

$= \dfrac{3120}{140} = 22\dfrac{2}{7}$ years

60. **(D)** A can do a work = $\dfrac{15}{50} \times 100 = 30\,\text{days}$

B can do a work = $\dfrac{9}{20} \times 100 = 45\,\text{days}$

Let the total work = 90 units

(A + B)'s 1 day work = $\left(\dfrac{90}{30} + \dfrac{90}{45}\right) = 5\,\text{units}$

∴ They can do 80% work = $\dfrac{90}{5} \times \dfrac{80}{100} = 14.4\,\text{days}$

61. **(D)** P = ₹ 4800

A = ₹ 5520

T = 3 years

SI = 5520 – 4800 = ₹ 720

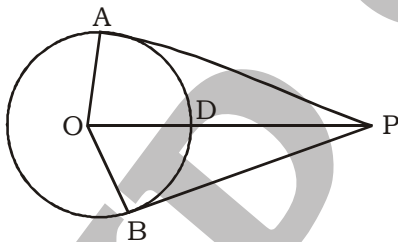R = $\dfrac{720 \times 100}{4800 \times 3}$ = 5%

Now, A = ₹ 12000

R = 5%

T = 5 years

∴ $P = \dfrac{A \times 100}{100 + (R \times T)}$

$= \dfrac{12000 \times 100}{100 + 25}$ = ₹ 9600

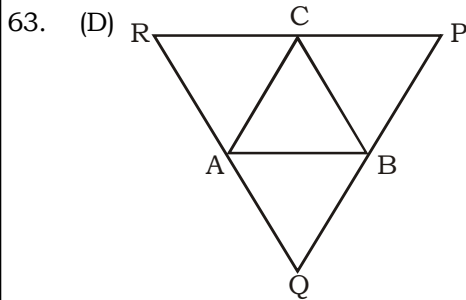62. **(B)**

OA = OB = r

OP = 2r

AP = PB = $\sqrt{4r^2 - r^2}$ = $\sqrt{3}r$

$\sin \angle APO = \dfrac{OA}{OP} = \dfrac{r}{2r} = \dfrac{1}{2}$

$\sin \angle APO = \sin 30°$

$\angle APO = 30°$

∴ $\angle APB = 60°$

63. (D)

$AQ \parallel CB$ and $AC \parallel QB$

AQBC is a parallelogram.

BC = AQ

Again, $AR \parallel BC$ and $AB \parallel RC$

ARCB is a parallelogram.

BC = AR

AQ = AR

$AQ = AR = \dfrac{1}{2} QR$

Similarly, $AB = \dfrac{1}{2} PR$ and $AC = \dfrac{1}{2} PQ$

∴ Required ratio = (PQ + QR + PR) : (AB + BC + AC) = 2 : 1

64. (B) $\left[\left(\sqrt[5]{x^{-\frac{3}{5}}} \right)^{-\frac{5}{3}} \right]^{5}$

$= \left(x^{-\frac{3}{5}} \right)^{\frac{1}{5} \times -\frac{5}{3} \times 5}$

$= x^{-\frac{3}{5} \times -\frac{5}{3}} = x$

65. (C) Let the numbers be 7x and 7y.

Where x and y are co-primes.

Now, LCM of 7x and 7y = 7xy

7xy = 140

$xy = \dfrac{140}{7} = 20$

Now, required values of x and y, whose product is 50 and are co-prime will be 4 and 5.

Numbers are 28 and 35, which lie between 20 and 45.

∴ Required sum = 28 + 35 = 69

66. (D) Original rate = ₹ x pen lemon

New rate = $x \times \dfrac{120}{100}$ = ₹ $\dfrac{6x}{5}$

ATQ,

$\dfrac{48}{x} - \dfrac{48 \times 5}{6x} = 4$

$\dfrac{48}{x} - \dfrac{40}{x} = 4$

$\dfrac{8}{x} = 4$

x = 2

New rate = $\dfrac{6 \times 2}{5}$ = ₹ $\dfrac{12}{5}$ per lemon

∴ Rate of lemon of lemon = $\dfrac{12}{5} \times 12$ = ₹ 28.80

67. (A) Volume of the hemispherical ditch = $\dfrac{2}{3}\pi r^3 = \dfrac{2}{3}\pi \times (15)^3 = 2250\pi\,\mathrm{m}^3$

Volume of the cylindrical ditch = Volume of each dug out = $\pi r^2 h$

= $\pi \times 8^2 \times 4 = 256\pi\,\mathrm{m}^3$

So, traction of hemispherical ditch by the earth dug out from the cylindrical ditch

$= \dfrac{256\pi}{2250\pi} = \dfrac{128}{1125}$

68. (B) $\sin 17° = \dfrac{x}{y}$

$\cos 17° = \sqrt{1 - \sin^2 17°}$

$= \sqrt{1 - \dfrac{x^2}{y2}}$

$= \sqrt{\dfrac{y^2 - x^2}{y^2}} = \dfrac{\sqrt{y^2 - x^2}}{y}$

$= \sec 17° = \dfrac{y}{\sqrt{y^2 - x^2}}$

sin 73° = sin(90° – 17°) = cos 17°

∴ sec 17° – sin73°

$= \dfrac{y}{\sqrt{y^2 - x^2}} - \dfrac{\sqrt{y^2 - x^2}}{y}$

$= \dfrac{y^2 - y^2 + x^2}{\sqrt[y]{y^2 - x^2}} = \dfrac{x^2}{\sqrt[y]{y^2 - x^2}}$

69. (B) Slope of line passing through points (4, – 2) and (– 3, 5)

$$= \frac{5+2}{-3-4} = \frac{7}{-7} = -1$$

Slope of two parallel lines is always equal.

∴ Slope of the line parallel to the line having slope −1 = −1

70. (D) Given, Investment of P = ₹ 28000

Duration of P = 8 months

Hence, Total investment amount of P = ₹ 28000 × 8

Investment of Q = ₹ 42000

Duration of Q = 12 months

Hence, Total investment amount of Q = ₹ 42000 × 12

Ratio of profits = Ratio of investments = 28000 × 8 : 42000 × 12 = 4 : 9

Given, Total profit = ₹ 21125

∴ Profit of A = $\frac{4}{13} \times 21125$ = ₹ 6500

71. (D) Number of fresh items = 15600 – 1200 = 14400

Required more number = $14400 \times \frac{5}{100}$ = 720

72. (A) Required ratio = 16 : 17

73. (C) Number of items manufactured by India = 75600 – 4200 = 71400

∴ Required average = $\frac{71400}{2} \times \frac{31}{100}$ = ₹ 11067

74. (A) Required more% = $\left(\frac{17-15}{15} \times 100\right)\%$ = 13.33% ≈ 13%

75. (B) Number of items manufacture by India = $\frac{59800}{130} \times 100$ = 46000

∴ Required difference = $46000 \times \frac{4}{100}$ = 1840

MEANINGS IN ALPHABETICAL ORDER

Allusive	(of a remark or reference) working by suggestion rather than explicit mention	सांकेतिक
Ambidextrous	(of a person) able to use the right and left hands equally well	कपटी
Ambiguous	(of language) open to more than one interpretation; having a double meaning	अस्पस्ट
Battered	injured by repeated blows or punishment	चकनाचूर
Benediction	the utterance or bestowing of a blessing, especially at the end of a religious service	आर्शीवाद
Benevolence	the quality of being well meaning; kindness	भलाई
Besmirch	damage the reputation of (someone or something) in the opinion of others	गंदा करना
Elusive	difficult to find, catch, or achieve	मायावी
Explicit	stated clearly and in detail, leaving no room for confusion or doubt	मुखर यौन
Extravagant	lacking restraint in spending money or using resources	खर्च
Fleet	a group of ships sailing together, engaged in the same activity, or under the same ownership	बेड़ा
Lexicographer	a person who compiles dictionaries	कोशकार
Linguist	relating to language or linguistics	भाषाई
Nausea	a feeling of sickness with an inclination to vomit	जी मिचलाना
Spendthrift	a person who spends money in an extravagant, irresponsible way	अपव्ययी
Vulnerable	susceptible to physical or emotional attack	चपेट में

SSC MOCK TEST - 329 (ANSWER KEY)

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