SSC MOCK TEST - 318 (SOLUTION)

1. (A) As,

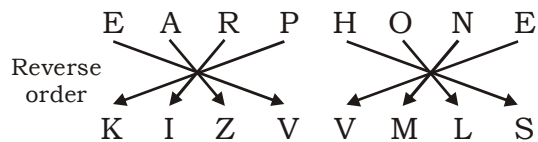$$48 \times \frac{5}{12} = 20$$

Similarly,

$$36 \times \frac{5}{12} = 15$$

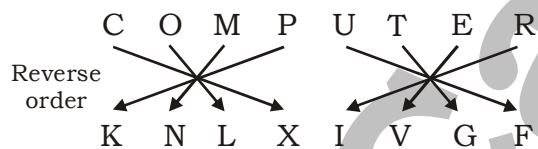2. (C) Poem is related Rhyme, while Movie is related to Scene.

3. (D) Except Car, others are operated with the help of electricity.

4. (D) Except ROSE, others have two vowels of same letter .

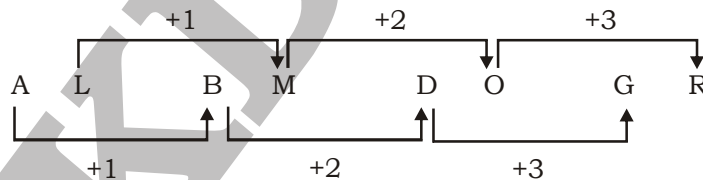5. (A) As,

Similarly,

6. (D) $13 + 6^1 = 19$
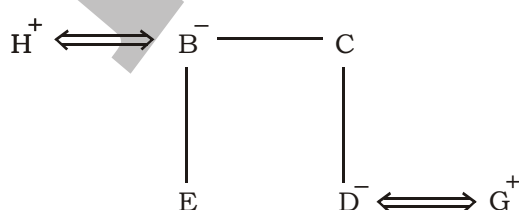
$19 + 6^2 = 55$

$55 + 6^3 = 271$

$271 + 6^4 = 1567$

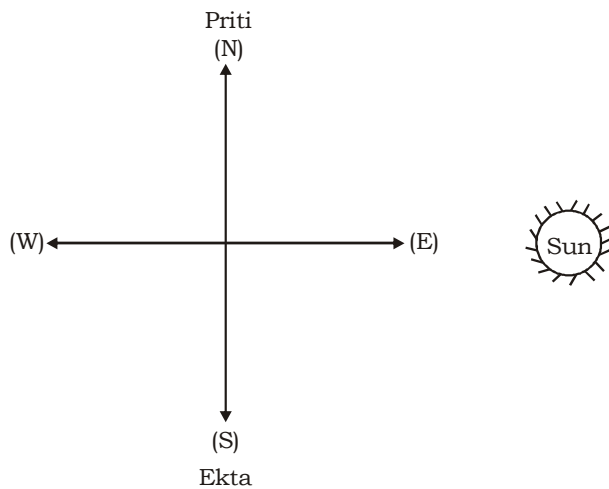$1567 + 6^5 = \mathbf{9343}$

7. (B)

8. (C)

Hence, H is the father of E.

9. (A) As,

    $32 \Rightarrow 32 + 23 = 55$

    $55 \Rightarrow 55 + 55 = 110$

    Similarly,

    $68 \Rightarrow 68 + 86 = 154$

    $154 \Rightarrow 154 + 451 = 605$

10. (C) **c**ld**k**r/cl**d**kr/c**l**dk**r**

11. (D)

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

    $52 + 18 - 45 = 25$

    In the second column,

    $19 + 73 - 61 = 31$

    In the third column,

    $18 + 84 - 25 = 77$

13. (D) $52 + 25 \times 4 - 8 \div 6 \times 4 \text{ of } 3 = 217$

    After Changing the 52 and 25 with each other,

    $25 + 52 \times 4 - 8 \div 6 \times 4 \text{ of } 3 = 217$

    $25 + 208 - 8 \div 6 \times 12 = 217$

    $25 + 208 - \dfrac{8}{6} \times 12 = 217$

    $233 - 16 = 217$

14. (D) 5. Solitude $\rightarrow$ 1. Solution $\rightarrow$ 2. Solvent $\rightarrow$ 3. Someone $\rightarrow$ 6. Summon $\rightarrow$ 4. Surmounted

15. (C) Let the total number of students be 3a.

    Number of students in class X = a

    Number of students in class Y = 3a

    ATQ,

    $a + 20 = \dfrac{3a}{2}$

    $2a + 40 = 3a$

    $a = 40$

    Total number of students = 40 × 3 = 120

    $\text{Required}\% = \left(\dfrac{20}{120} \times 100 \right)\% = 16\dfrac{2}{3}\%$

16. (C)

17. (B) Angle made by hour hand in hours = 360°

    Angle made by hour hand in 5 hours 10 minutes, i.e. $\dfrac{31}{6}$ hours

    $= \left(\dfrac{360}{12} \times \dfrac{31}{6} \right)^{\circ} = 155°$

18. (A)

19. (C)

Priti
(N)

(W) ← → (E)   Sun

(S)
Ekta

Hence, Ekta is facing to South direction.

20. (C)

Yesterday	Today
↓	↓
Monday	Tuesday

Today is Tuesday. So, after 7 days, it will be Tuesday and after 3 days of Tuesday will be Friday.

21. (D) $5 \xrightarrow{\times 2} 10$; $23 \xrightarrow{\times 4} 92$; $31 \xrightarrow{\times 6}$ **186**

22. (D)　　23. (D)　　24. (B)　　25. (B)

28. (C) Under the original Constitution of J & K (1957), the head of the state and the head of the government were designated as Sadar-i-Riyasat (President) and WazirH-Azam (Prime Minister) respectively. In 1965, they were redesignted as Governor and Chief Minister respectively. Also, the head of the state was to be elected by the state assembly.

31. (B) Historians divide the ancient history of Egypt into three periods: the Old Kingdom, the Middle Kingdom and the New Kingdom. The Old Kingdom is called the Age of the Pyramids.

34. (D) The correct answer is Radiocarbon dating. The advent of radiocarbon dating has been used to fix the date of the Harappan Civilization

36. (B) The centripetal force having been removed the body cannot execute the curved path.

37. (B) Aryabhatta, the first Indian space satellite, was launched for India on April 19, 1975. Later, Bhasker-I, an Earth observation satellite, was launched for India on June 7, 1979.

39. (C) The Narmada rises near Amarkantak. The Narmada is the largest of all the west flowing rivers of the Peninsular India. It rises from the western flanks of Amarkantak plateau about 20°40'N at an elevation of 1057 m in Shahdol district of Madhya Pradesh and flows westwards through a rift valley (formed due to faulting) between the Vindhyan Range on the north and the Satpura Range on the south. Its total length from its source in Amarkantak to its estuary in the Gulf of Khambhat is 1310 km. On its way to the sea, the Narmada creates many picturesque locations. The 'Marble Rocks', near Jabalpur where the Narmada flows through a deep gorge, and the 'Duandhar Falls' (cloud of mist), where the river plunges over steep rocks are some of the notable ones. All the tributaries of the Narmada are very short and most of these join the main stream at right angles. Narmada basin covers parts of Madhya Pradesh and Gujarat.

41. **(B)** Namdeva (1426-1506 AD) was the first in Maharashtra to preach against caste, image-worship and rituals and ceremonies. He laid emphasis on the true devotion and worship of god. The only way of salvation is the worship of true name. Namdeva preached the oneness of Godhood. According to him the God of the Hindus and the Muslims as well as the Brahmanas and the Chandals is one and the same and so all are equal.

42. **(D)** The group of small pieces of rock revolving around the sun between the orbits of mars and Jupiter are called asteroids.

43. **(C)** The basis for vaccination began in 1796 when the English doctor Edward Jenner noticed that milkmaids who had gotten cowpox were protected from smallpox.

44. **(A)** Diarthroses. Most joints in the adult body are diarthroses, or freely movable joints. The singular form is diarthrosis. In this type of joint, the ends of the opposing bones are covered with hyaline cartilage, the articular cartilage, and they are separated by a space called the joint cavity.

45. **(C)** By the late 1830s, botanist Matthias Schleiden and zoologist Theodor Schwann were studying tissues and proposed the unified cell theory. The unified cell theory states that: all living things are composed of one or more cells; the cell is the basic unit of life; and new cells arise from existing cells.

48. **(A)** Geosynchronous Satellite Launch Vehicle (GSLV): It is equiped with a cryogenic engine. It is capable of carrying communication satellites that are about one tonne heavier.

51. **(A)** Let the total work = 120 units

Total work done by K and R in 30 days = $\left(\dfrac{120}{60}+\dfrac{120}{120}\right)\times 30$ = 90 units

Remaining work done by S = 120 – 90 = 30 units

Percentage of work done by S = $\left(\dfrac{30}{120}\times 100\right)\%$ = 25%

∴ Share of S = $4800\times\dfrac{25}{100}$ = ₹ 1200

52. **(C)** Ratio of their profit = (8000 × 12) : (6400 × 4 + 5600 × 8) : (2400 × 4 + 2000 × 8)
= 96000 : 70400 : 25600 = 240 : 176 : 64

∴ Share of B = $\dfrac{9120}{480}\times 176$ = ₹ 3344

53. **(B)** Let the quantity of A = 3x
Quantity of B = 5x

Qunatity of A = $\dfrac{32}{8}\times 3$ = 12 litres

Qunatity of B = $\dfrac{32}{8}\times 5$ = 20 litres

After removing the mixture and replaced by A.
ATQ,

$\dfrac{3x-12+32}{5x-20}=\dfrac{5}{3}$

$\dfrac{3x+20}{5x-20}=\dfrac{5}{3}$

9x + 60 = 25x – 100
16x = 160
x = 10 litres

∴ Total capacity = 3x + 5x
= 8x = 8 × 10 = 80 litres

54. (A) Let the total distance be 3d km.

Now,

$$x \times \frac{5}{2} = 2d$$

$5x = 4d$ ....(i)

Again,

$$(x + 2) \times \frac{50}{60} = d$$

$5(x + 2) = 6d$ ....(ii)

On dividing (ii) by (i), we get

$$\frac{\left[5\left(x+2\right)\right]}{5x} = \frac{6d}{4d}$$
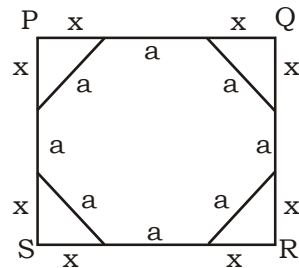
$$\frac{x+2}{x} = \frac{3}{2}$$

$2x + 4 = 3x$

$x = 4$

Put the value of x in equation (i),

$5 \times 4 = 4d$

$d = 5$

∴ Total distance = 3d = 3 × 5 = 15 km

55. (C)

a = side of octagon

x = part cut from the side,

Now,

$x^2 + x^2 = a^2$

$2x^2 = a^2$

$$x = \frac{a}{\sqrt{2}}$$

Also, 2x = 25 – a

$$2 \times \frac{a}{\sqrt{2}} = 25 - a$$

$$\sqrt{2}a + a = 25$$

$$a\left(\sqrt{2} + 1\right) = 25$$

$$a = \frac{25}{\sqrt{2} + 1} = 25\left(\sqrt{2} - 1\right) \text{cm}$$

56. (B) $68 - 4 (2 + 24 \div 4 \times 5 - 3 \times 7) + 9$

$= 68 - 4 (2 + 6 \times 5 - 3 \times 7) + 9$

$= 68 - 4 (32 - 21) + 4$

$= 68 - 44 + 9$

$= 77 - 44 = 33$

57. (D) Required marked price $= \dfrac{63000}{70} \times 100 \times \dfrac{100}{90} = ₹\ 100000$

58. (A) P = ₹ 768

A = ₹ 972

R = 12.5%

Now, $A = P\left(1 + \dfrac{R}{100}\right)^T$

$972 = 768\left(1 + \dfrac{12.5}{100}\right)^T$

$\dfrac{972}{708} = \left(\dfrac{9}{8}\right)^T$

$\dfrac{81}{64} = \left(\dfrac{9}{8}\right)^T$

$\left(\dfrac{9}{8}\right)^2 = \left(\dfrac{9}{8}\right)^T$

T = 2 years

59. (B) $\sin q + \operatorname{cosec} q = 2$

$\sin\theta + \dfrac{1}{\sin\theta} = 2$

$\sin^2 q + 1 = 2\sin q$

$\sin^2 q + 1 - 2\sin q = 0$

$(\sin^2 q - 1) = 0$
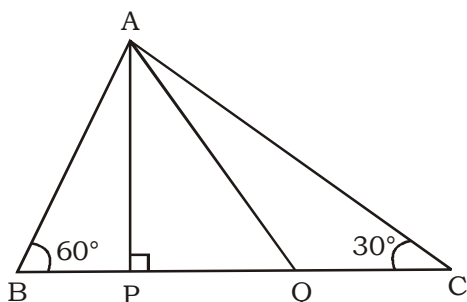
$\sin q = 1$

$\therefore\ \sin^2 q + \operatorname{cosec}^2 q$

$= \sin^2\theta + \dfrac{1}{\sin^2\theta}$

$= 1 + 1 = 2$

60. (D)

Given, AP is perpendicular to BC, and AQ is the bisector of angle PAC.

In $\triangle$ABP,

$\angle$ APB = 90°

$\angle$ ABP = 60°

So, $\angle$ BAP = 180° − (90° + 60°) = 30°

Now in $\triangle$ABC,

$\angle$ABC = 60°, $\angle$ACB = 30°

So, $\angle$BAC = 180° − (60° + 30°) = 90°

And $\angle$BAC = $\angle$BAP + $\angle$PAQ + $\angle$QAC

Since, AQ is the bisector of angle PAC.

So, $\angle$PAQ = $\angle$QAC

$\angle$BAC = $\angle$BAP + 2$\angle$PAQ

90° = 30° + 2$\angle$PAQ

2$\angle$PAQ = 60°

Hence, $\angle$PAQ = 30°

61. (D) Ratio of volume of tank A and B = 6 : 5

Water increase in tank A = 30%

Let the volume of tank A and B = 4x and 5x

Increased volume of tank A = Initial volume + Increase = $6x + \dfrac{6x \times 30}{100}$ = 7.80x

So, the increased volume of tank B to become same as tank A = 7.80x – 5x = 2.80x

So, the percentage of increased volume = $\left(\dfrac{2.80x}{5x} \times 100 \right)\%$ = 56%

The increased volume of tank B is 56% to be equal with tank A.

62. (B) $\tan^2 q - 3\sec^2 q + 3 = 0$

$-(\sec^2 q - \tan^2 q) - \sec^2 q - 3 = 0$

$- 1 + 3 = 2\sec^2 q$

$2 \sec^2 q = 2$

$\sec^2 q = 1$

$\sec\theta \pm 1$

$\sec q = \sec 0°$ or $\sec 180°$

$\therefore \theta = 0°$ (since $\theta \le 90°$)

63. (C) $7p^2 + 7p = 7p(p + 1)$, which is always divisible by 7 and 14 both. Because as we know that $p(p + 1)$ is always even.

    So, 7 and 14 will be the answer.

64. (C) Let the three parts be x, y and Z respectively.

    ATQ,

    $$\frac{x \times 3 \times 1}{100} = \frac{y \times 4 \times 1}{100} = \frac{z \times 6 \times 1}{100}$$

    0.03x = 0.04y = 0.06z

    $\dfrac{x}{y} = \dfrac{4}{3}$ and $\dfrac{y}{z} = \dfrac{3}{2}$

    x : y : z = 4 : 3 : 2

    $\therefore$ Amount invested at 6% = $\dfrac{2}{5} \times 11250$ = ₹ 2500

65. (A) $a^3 + b^3 + c^3 - 3abc = (a + b + c) \dfrac{1}{2}\left[(a - b)^2 + (b - c)^2 + (c - a)^2\right]$

    $= (250 + 251 + 252) \dfrac{1}{2}\left[(250 - 251)^2 + (251 - 252)^2 + (252 - 250)^2\right]$

    $= 753 \times \dfrac{1}{2} \times [1 + 1 + 4] = 753 \times \dfrac{1}{2} \times 6 = 2259$

66. (B) In semi-circle, the diameter is the base of the semi-circle.

    To maximize the area, the height should be maximum.

    And in semi-circle, maximum height is equal to the radius.

    Therefore, area of the largest triangle that can be inscribed in a semi-circle of radius 4 cm.

    $= \dfrac{1}{2} \times \text{base} \times \text{heigh} = \dfrac{1}{2} \times (2r) \times (r)$

    $= \dfrac{1}{2} \times 8 \times 14 = 56$ cm^2

67. (B) Area of square = 1764 sq. cm

    Side = $\sqrt{1764}$ = 42 cm

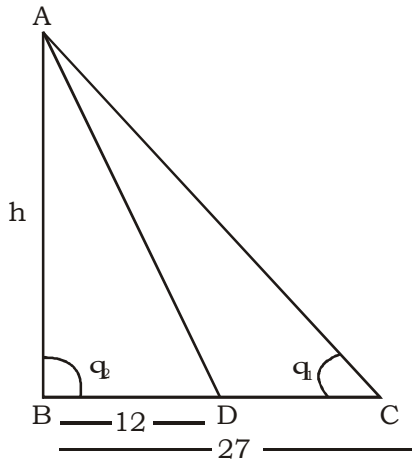   Radius of circle = 42 cm

    Length of rectangle = $42 \times \dfrac{2}{3}$ = 28 cm

    Breadth = 15 cm

    $\therefore$ Area = 28 × 15 = 420 cm^2

68. (C)

Given, $\theta_1 + \theta_2 = 90°$

$h = 27 \tan\theta_1$

$\dfrac{h}{27} = \tan\theta_1$ ....From (i)

$h = 12 \tan\theta_2$

$h = 12 \tan(90 - \theta_1)$

$h = 12 \cot\theta_1$

$\dfrac{h}{12} = \cot\theta_1$

$\tan\theta_1 = \dfrac{12}{h}$ ......(ii)

From (i) and (ii),
h = 18 ft

69. (A) Let $\angle AOB = 2x$

The chord AB subtends double the angle that is subtended by chord CD.

Then, $\angle COD = x$

As OA and OB are radius of the same circle.

OA = OB

$\angle BAO = \angle ABO = \theta$ (SAY)

Now in triangle AOB

$\angle AOB + \angle ABO + \angle BAO = 180°$

$2x + \theta + \theta = 180°$

$2\theta = 180° - 2x$

$\theta = 90° - x$ ......(i)

We know that radius is perpendicular to the tangent at point of contact.

$\angle OAE = \angle OBE = 90°$ ......(ii)

From (i) and (ii),

∠BAE = ∠ABE = x

Also, ∠AEB = 2∠AOB

∠AEB = 4x

In triangle AEB,

∠BAE + ∠ABE + ∠AEB = 180°

x + x + 4x = 180°

6x = 180°

x = 30°

Hence, ∠COD = 30°

70. (C) If 59a44b is divisible by 36 then 59a44b must be divisible by 4 and 9.

We know that a number X is divisible by 4 if number formed by last two digit is divisible by 4.

Consider 59a44b

Number formed by last two digits = 4b

If 4b is divisible by 4 then b can take values 0, 4, 8

Now, We know that a number is divisible by 9, if sum of digits is divisible by 9.

Take b = 8

Resultant number = 59a448

Sum of digits = 5 + 9 + a + 4 + 4 + 8 = 30 + a

If a = 6

30 + a = 30 + 6 = 36 and 36 is divisible by 9.

Hence, Maximum value of 3a + 2b = 24 + 12 = 36

71. (A) Selling price of TV = $5000 \times \dfrac{100}{10} \times \dfrac{90}{100}$ = 45000

Marked price of laptop = 45000 + 15000 = 60000

∴ Required% = $\left(\dfrac{45000}{60000} \times 100\right)\%$ = 75%

72. (C) Total cost price of all items = $5000 \times \dfrac{100}{10} \times \dfrac{90}{120}$ + 25000 + $20000 \times \dfrac{100}{80}$ + 40000 + (45000 –

15000) + 40000 = 197500

Total marked price of all items

= $5000 \times \dfrac{100}{10}$ + 40000 + (20000 + 15000) + $4000 \times \dfrac{140}{70}$ + (45000 + 15000) + $40000 \times \dfrac{75}{60}$

= 315000

Profit = 315000 – 197500 = 117500

∴ Required% = $\left(\dfrac{117500 \times 100}{197500}\right)\%$ = 59.4%

73. (B) Total selling price = $5000 \times \dfrac{90}{100} + 40000 \times \dfrac{80}{100} + 20000 + 40000 \times \dfrac{140}{100} + 45000 + \dfrac{75}{100}$

   = 228000

74. (D) Total profit amount = $5000 \times \dfrac{100}{10} \times \dfrac{90}{120} \times \dfrac{20}{100} + \left(40000 + \dfrac{80}{100} - 25000\right)$

   $+ \left(20000 - 20000 \times \dfrac{100}{80}\right) + 40000 \times \dfrac{40}{100} + 15000 - 40000 \times \dfrac{25}{100}$

   = 7500 + 7000 – 5000 + 16000 + 15000 – 10000 = 30500

   Required average = $\dfrac{30500}{6}$ = 5083.3

75. (A) Marked price of AC = $40000 \times \dfrac{140}{70}$ = 80000

   Marked price of Music System 40000 × $\dfrac{75}{60}$ = 50000

   Required ratio = 80000 : 50000 = 8 : 5

MEANINGS IN ALPHABETICAL ORDER

Apathy	lack of interest, enthusiasm, or concern	उदासीनता
Complacent	self-satisfied	आत्मसंतुष्ट
Discrete	individually separate and distinct	अलग
Gloomy	dark or poorly lit	अंधेरा
Grim	forbidding or uninviting	निष्ठुर
Illicit	forbidden by law, rules, or custom	अवैध
Jubilant	feeling or expressing great happiness	प्रसन्नचित
Laudable	(of an action, idea, or goal) deserving praise and commendation	प्रशंसनीय
Paucity	the presence of something only in small or insufficient quantities	कमी
Prodigious	great in extent, size, or degree	बहुत बड़ा
Rectify	put (something) right	संशोधन करना
Reiterate	repeat or say again	दोहराना
Serenity	the state of being calm, peaceful, and untroubled	शांति
Severity	the fact or condition of being severe	तीव्रता
Superiority	the state of being superior	श्रेष्ठता
Vitality	the state of being strong and active	जीवन-शक्ति
Zeal	great energy or enthusiasm in pursuit of a cause or an objective	उत्साह

SSC MOCK TEST - 318 (ANSWER KEY)

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