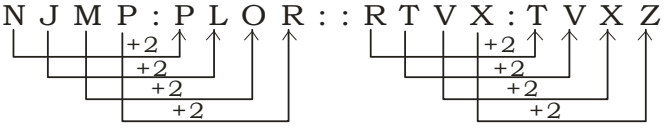
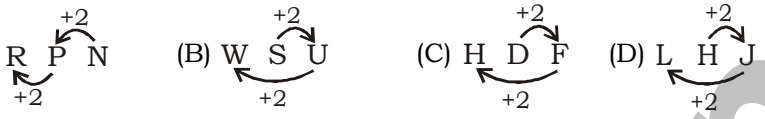
SSC MOCK TEST - 278 (SOLUTION)

1. (B) N J M P : P L O R : : R T V X : T V X Z
   

2. (C) There are two vowels in Monday, while there are three vowels in Tuesday.

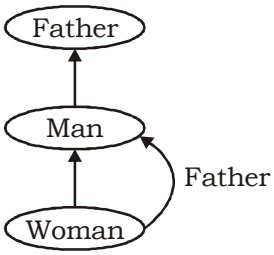
3. (A) 63 : 9 :: **86** : 14

4. (A) (A) R P N (B) W S U (C) H D F (D) L H J
   

5. (C) Bat is a mammal, while others are birds.

6. (C) The numbers 93165, 36747 and 76137 are divisible by 3, while 85253 is not divisible by 3.

7. (A) 5. Shoulder → 6. Elbow → 1. Wrist → 4. Palm → 3. Fingers → 2. Nails

8. (C)
   

   Hence the women is daughter of that man.

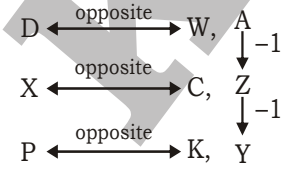
9. (D) As,

   $14 \xrightarrow{\times\frac{14}{2}} 98$

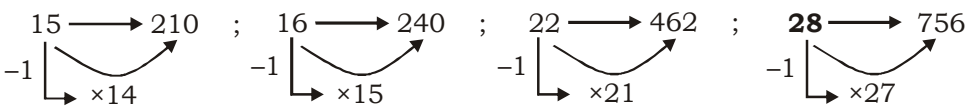
   $12 \xrightarrow{\times\frac{12}{2}} 72$

   Similarly,

   $8 \xrightarrow{\times\frac{8}{2}} 32$

10. (B)
    

11. (D) DIMENTION

12. (B) 15 → 210 ; 16 → 240 ; 22 → 462 ; **28** → 756
    

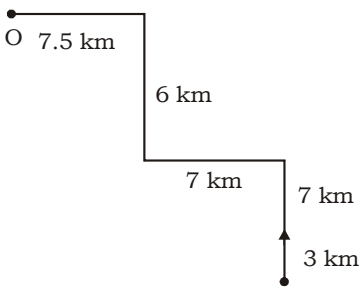
13. (B) Time → 3 : 24

Angle made by hour hand = 3 × 30 = 90°

Angle made by minute hand = $24 \times \frac{11}{2} = 132°$

∴ Required Angle = 132° - 90° = 42°

14. (C)



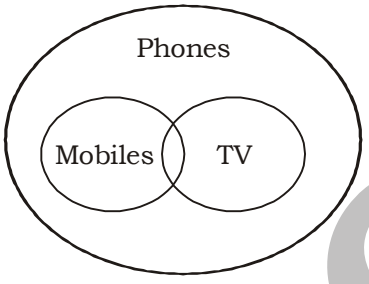
Hence, his face is in north direction.

15. (C) $B_2\ O_{15}\ O_{15}\ K_{11} \rightarrow 2 + 15 + 15 + 11 = 43 \rightarrow 4 + 3 = 7$

$P_{16}\ E_5\ N_{14} \rightarrow 16 + 5 + 14 = 35 \rightarrow 3 + 5 = 8$

$C_3\ O_{15}\ P_{16}\ Y_{25} \rightarrow 3 + 15 + 16 + 25 = 59 \rightarrow 5 + 9 = 14$

16. (B)



Conclusion:

I. False II. True

Hence, only conclusion II follows.

17. (C) l**m**n**o** / o**n**m**l** / lm**n**o

18. (B) $30 - 6 \times 8 + 2.6 \div 13$

$= 30 - 48 + \frac{2.6}{13}$

$= 30 - 48 + 0.2$

$= -17.8$

19. (C) I > J .....(i)

K > L .....(ii)

L > I .....(iii)

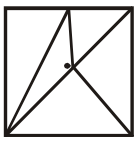
From (i), (ii) and (iii), we get

K > L > I > J

Hence K is the tallest among them.

20. (D) Required Number = 18 + 8 = 26

Hence, the right option is (D).

21. (A) 

22. (B) 23. (C)

24. (C) SOUL

25. (A) 00, 55, 22, 11, 96
(P E A R L)

26. (A) The Mauryan emperor, Ashoka invaded Kalinga in 261 BC and after a fierce battle Kalinga was conquered. The 13th rock edict of Ashoka elaborates the Kalinga war.

27. (A) The First battle of Muhammad Ghori against a Hindu ruler was with Raja Bhimdev II of Gujarat who was a member of Solanki Dynasty. This is called "Battle of Gujarat" and it took place at Kayadra near Mount Abu. Raja Bhimdev II was young and real regent was his mother Naikidevi. Naikidevi inflicted such a major defeat to Muhammad Ghori that this invasion became Muhammad's first and last attack on India from the Gujarat side. He never turned to Gujarat again.

28. (A) Mahapadma Nanda (345 BC - 329 BC) was the founder of Nanda dynasty. Mahapadma Nanda was also known as Ekarat and Sarvakshatrantaka.

32. (B) Only 2 and 3 options are correct .The first statement is factually incorrect. Legislative Council is a continuing House and one-third of the members retire in every two years.

33. (D) Fiscal deficit is a shortfall in a government's income compared with its spending.

37. (D) 'Directive Principles' in our constitution are are not enforceable by any court of law.

38. (A) EDSAC is the first generation of computer.

39. (B) River Hoover dam is a concrete and gravity dam in black canyon of the Colorado river on the Border between the US states of Arizona and Nevada.

40. (A) The Treaty of Bassein (Now called Vasai) was a pact signed on December 31st, 1802 between the British East India Company and Baji Rao II, the Maratha peshwa of Pune (Poona) in India after the Battle of Poona. The treaty was a decisive step in the dissolution of the Maratha Confederacy, which led to the East India Company's usurpation of the Peshwa's territories in western India in 1818.

41. (D) On the occasion of 150th birth anniversary of Mahatma Gandhi, Cricketer Sachin Tendulkar bagged the 'Most Effective Swachhata Ambassador' award by the President of India. He has been promoting cleanliness drives in India for almost 10 years.

45. (A) The Strait of Dover is the strait at the narrowest part of the English Channel and marks a boundary between the Channel and North Sea, separating Great Britain from continental Europe (United Kingdom and France.

46. (B) Charter Acts of 1813 was an Act of the Parliament of the United Kingdom which renewed the charter issued to the British East India Company, and continued the Company's rule in India. However, the Company's commercial monopoly was ended, except for the tea trade and the trade with China. Reflecting the growth of British power in India.

47. (C) Alaknanda river meets the Dhauliganga river at Vishnuprayag, the Nandakini river at Nandprayag ,the Pindar river at Karnaprayag , the Mandakini river at Rudraprayag and finally the Bhagirathi river at Devprayag to form the mainstream, the Ganges.

48. (B) Henri Becquerel was a physicist, Nobel laureate, and the discoverer of radioactivity, for his work in this field he, along with Marie Curie and Pierre Curie, received the 1903 Nobel Prize in Physics.

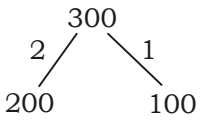
49. (D) Bargis was the Royal cavalry of the Maratha army system. There were two kinds of cavalry viz. Bargirs and the Shiledars. Bargirs were provided horses from the state and thus, the horses were the property of the royal household and were looked after by state officers. Shiledars used to keep their own horses.

51. (A) S.P. = ₹ 66
Loss = ₹ 11
CP = 66 + 11 = ₹ 77

Loss % = $\frac{11}{77} \times 100 = 14\frac{2}{7}\%$

52. (A) $\frac{xy}{y-x}$ hours

53. (D)



Relative speed of both the trains = 48 + 42 = 90 km/hr

$= 90 \times \frac{5}{18} = 25$ m/sec

Total length of both the trains = 25 × 12 = 300 m

Distance in 45 seconds by first train (D) = $48 \times \frac{5}{18} \times 45 = 600$ m

$D = L_T + L_P$
$L_P = 600 - 200 = 400$ m

54. (A) If speed $\frac{x}{y}$

Then, usual time = $\frac{x}{x-y} \times t = \frac{4}{4-3} \times 10 = 40$ minutes

55. (C) A can type $\frac{75}{25} = 3$ pages in 1 hour

A + B can type $\frac{135}{27} = 5$ pages/hour

B can type (5 – 3) = 2 pages/hour

B can type 42 pages in $\frac{42}{2} = 21$ hours

56. (B) $pq + qr + rp = 0$
$-qr = pq + rp$ ...(i)
$-pq = qr + rp$ ...(ii)
$-rp = pq + qr$ ...(iii)

$$\frac{p^2}{p^2 - qr} + \frac{q^2}{q^2 - rp} + \frac{r^2}{r^2 - pq}$$

$$\frac{p^2}{p^2 - rp + pq} + \frac{q^2}{q^2 - pq + qr} + \frac{r^2}{r^2 - qr + rp}$$

$$\frac{p+q+r}{p+q+r} = 1$$

57. (B) Let the daily sale be ₹ 100.

Then,

$$100 \times \frac{75}{100} \times \frac{130}{100} = 97.5$$

Mean % decrease = 100 – 97.5 = 2.5%

58. (B) $\tan5° \tan10° \tan20° = \tan 3 \times 5°$

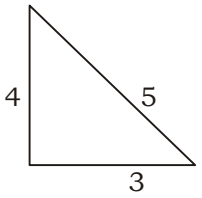
$\tan15° = 2 - \sqrt{3}$ (Where $\theta = 5°$)

59. (B) $2 \sin\alpha + 15(1 - \sin^2\alpha) = 7$

$15 \sin^2\alpha - 2\sin\alpha - 8 = 0$

$(3\sin\alpha + 2)(5\sin\alpha - 4) = 0$

$\sin\alpha = \frac{4}{5}, \frac{-2}{3}$ (α can't be negative)



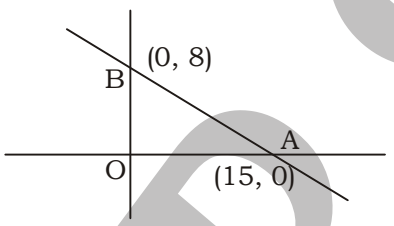
$\cot\alpha = \frac{3}{4}$

60. (C) $2\pi R_1 (R_1 + h) = \pi(12^2 - 8^2)$

$$R_1 + h = \frac{80}{2R_1} = \frac{40}{R_1}$$

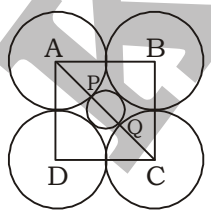
$$h = \frac{40}{R_1} - R_1 = \frac{40 - R_1^2}{R_1}$$

61. (D)



$= \sqrt{(15-0)^2 + (0-8)^2} = \sqrt{289} = 17$ units

62. (C)



Let the radius of inner circle = r

ABCD is a square.

AC = $\sqrt{2}$ × side = $\sqrt{2}$ (2R) = $2\sqrt{2}$ R

$PQ = AC - AP - QC = 2\sqrt{2}\,R - R - R = 2R\left(\sqrt{2}-1\right)$

$2r = 2R\left(\sqrt{2}-1\right)$

$r = R\left(\sqrt{2}-1\right)$

63. (C) ABC is an equilateral triangle with sides = 2 cm
Area of shaded region = Area of ΔABC – Area of 3 quadrant

$= \frac{\sqrt{3}}{4}(2)^2 - 3\left(\frac{\pi r^2\theta}{360}\right)$ [$\theta = 60°$ as triangle is equilateral triangle]

$= \frac{\sqrt{3}}{4} \times 4 - 3\left(\pi \times \frac{1}{6}\right) = \sqrt{3} - \frac{\pi}{2}$

64. (A) Let principal be ₹ x
Then, amount = ₹ $2x$
$\therefore$ Interest = ₹ x
Let rate be $r\%$
Then,

$x = \frac{x \times r \times 5}{100}$

$r = \frac{100}{5} = 20\%$

65. (C) $a = \frac{1+x}{2-x}$

$\frac{1}{a+1} + \frac{2a+1}{a^2-1} = \frac{3a}{a^2-1}$

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

$= \frac{3(1+x)(2-x)}{6x-3} = \frac{3(1+x)(2-x)}{3(2x-1)}$

$= \frac{(1+x)(2-x)}{(2x-1)}$

66. (A) Speed in m/sec = $25 \times \frac{5}{18} = \frac{125}{18}$

$S = \frac{D}{T} = \frac{L_T + L_P}{18}$

$L_T + L_P = \frac{125}{18} \times 18 = 125$ m

67. (C) Let the present age of Ram and Shyam be $4x$ and $5x$ years.

After 5 years,

$$\frac{4x+5}{5x+5} = \frac{5}{6}$$

$24x + 30 = 25x + 25$

$x = 5$

Present age of Ram = $4 \times 5 = 20$ years

68. (D) Let number be N

$$\text{Then, \% error} = \frac{\frac{5}{3}N - \frac{3}{5}N}{\frac{5}{3}N} = \frac{16 \times 3}{15 \times 5} \times 100 = 64\%$$

69. (C) $\left(1+\frac{1}{x+1}\right)\left(1+\frac{1}{x+2}\right)\left(1+\frac{1}{x+3}\right)\left(1+\frac{1}{x+4}\right)$

$$= \left(\frac{x+1+1}{x+1}\right)\left(\frac{x+2+1}{x+2}\right)\left(\frac{x+3+1}{x+3}\right)\left(\frac{x+4+1}{x+4}\right) = \left(\frac{x+5}{x+1}\right)$$

70. (C) $+ 20\% - 20\% + \frac{(+20) \times (-20\%)}{100} = -4\%$

71. (C) Required Average $= \frac{(5+10+25+20+25+15) \times 1000}{6}$

$$= \frac{100000}{6} = 16666\frac{2}{3}$$

72. (D) Required $\% = \frac{(X+Y+Z)\ in\ 2007}{(X+Y+Z)\ in\ 2008} \times 100$

$$= \frac{55 \times 1000}{60 \times 1000} \times 100 = 91.67\ \%$$

73. (A) Required $\% = \frac{X\ in\ 2006}{(X+Y+Z)\ in\ 2006} \times 100$

$$= \frac{10 \times 1000}{55 \times 1000} \times 100 = 18\%\ \text{(approx)}$$

74. (B) Respective Ratio = (Z in 2005): (Z in 2004)

$= (15 \times 1000) : (10 \times 1000) = 3 : 2$

75. (D) Required number = Y in 2008 + Y in 2009

$= (25 \times 1000) + (15 \times 1000)$

$= 40 \times 1000 = 40000$

MEANINGS IN ALPHABETICAL ORDER

Acquaintances	a person's knowledge or experience of something	परिचय
Ambiguous	(of language) open to more than one interpretation; having a double meaning	अस्पष्ट
Bliss	perfect happiness; great joy	परमानंद
Decisive	settling an issue; producing a definite result	निर्णायक
Detach	disengage (something or part of something) and remove it	अलग करना
Inefficient	not achieving maximum productivity; wasting or failing to make the best use of time or resources	अकुशल
Tradition	the transmission of customs or beliefs from generation to generation, or the fact of being passed on in this way	परंपरा

SSC MOCK TEST - 278 (ANSWER KEY)

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

76. (C) Replace ‘nice’ by ‘nicer’.

77. (C) Replace ‘another’ by ‘other’.

90. (C) The correct spelling of 'Behaive' is 'Behave'.

91. (C) The correct spelling of 'Inefficent' is 'Inefficient'.