SSC MOCK TEST - 411 (SOLUTION)

1. (1) As, $32 \Rightarrow (3+2)^2 = 25 \Rightarrow 52$

   Similarly, $43 \Rightarrow (4+3)^2 = 49 \Rightarrow 94$

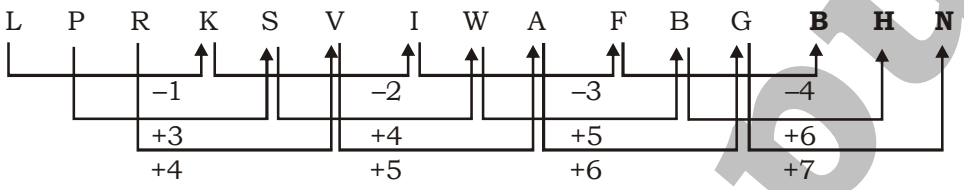
2. (3) Clock shows Time, while Ammeter shows Electric current.

3. (2) Except MAN, others have two vowels.

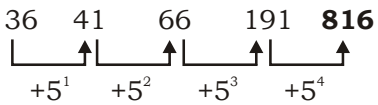
4. (4) Except Windows, others are hardware device.

5. (3)

6. (4)



7. (2)



8. (1) Let the present age of B be x years.

   Present age of A = (x – 9) years

   ATQ,

   $(x - 9 + x) = 71$

   $2x = 71 + 9$

   $x = \frac{80}{2} = 40$ years

   ∴ Age of B three years ago = 40– 5 = 35 years

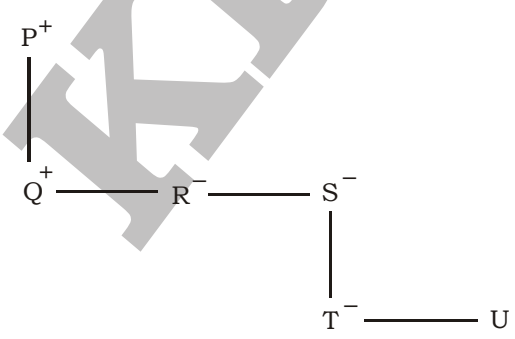
9. (2) As, $14 \times 15 = 210$

   $210 + (14)^2 = 406$

   Similarly, $21 \times 15 = 315$

   $315 + (21)^2 = 756$

10. (1)



    Hence, R is the aunt of U.

11. (2) **a**c**d**bd/**a**cdbd/a**c**d**b**d/a**c**dbd

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

$(98 + 45) \times (98 - 45) = 7579$

In the second row,

$(46 + 25) \times (46 - 25) = 1491$

In the third row,

$(32 + 11) \times (32 - 11) =$ **903**

13. (3) $72 \times 8 - 9 \div 7 + 8$

After Changing the signs,

$72 \div 8 \times 9 + 7 - 8$

$= 9 \times 9 + 7 - 8$

$= 81 + 7 - 8$

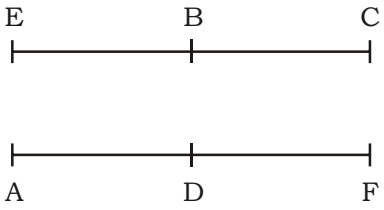
$= 88 - 8 =$ **80**

14. (4) From figure (i), (ii) and (iv), we can conclude that F, D, C and A lie adjacent to B.

Hence, E must be opposite to B.

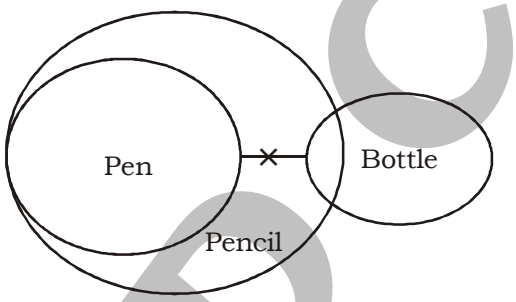
15. (1) 3. Member → 1. Family → 2. Community → 4. Locality → 5. Country

16. (1)



BCE are sitted in a row.

17. (2)



I. True II. False III. True

Hence, only conclusion III follows.

18. (3)

19. (3)

20. (1) 26 January 1980 is Saturday. Since, 1980 is a leap year.

B's birthday is 4 days before A's birthday.

So, B's birthday is on 28 February 1980.

So, there is a gap of (5 + 28) = 33 days between 26 January and 28 February.

Since, a day repeats itself after every 7 days or a week, there will be 4 weeks + 5 day between them.

Therefore, the 5^{th} day from Saturday will be Thursday.

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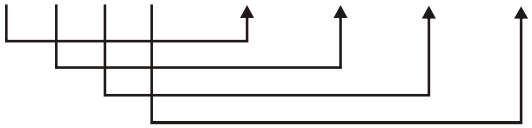
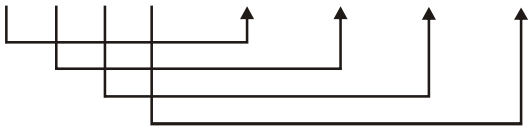
21. (3) As,

M O O N $\Rightarrow (13)^2 + (15)^2 + (15)^2 + (14)^2$



= 815 $\xleftrightarrow{\text{Reverse}}$ 518

S T A R $\Rightarrow (19)^2 + (20)^2 + (1)^2 + (18)^2$



= 1086 $\xleftrightarrow{\text{Reverse}}$ 6801

22. (3) 23. (1) 24. (2) 25. (3)

26. (3) AIX (Advanced Interactive Executive) is a series of proprietary Unix operating systems developed and sold by IBM for several of its computer platforms.

27. (4) Karun Chandhok is an Indian racing driver and television presenter who last competed in Formula E for Mahindra Racing. Previously, Chandhok has competed for Hispania Racing in Formula One in 2010.

30. (1) Bhagat Singh, Shivaram Rajguru and Sukhdev Thapar who were hanged to death by the British rulers in Lahore jail on 23 March in 1931.

34. (4) The Rovers Cup is a football tournament held in India. It was started by British football enthusiasts at Bombay in 1891. It is the 2nd oldest football tournament in India, after Durand Cup.

36. (2) Martian dust devil was captured recently by the Perseverance rover. A dust devil on Mars is akin to a dust tornado, resembling the tornadoes observed on Earth, although Martian dust devils are typically smaller in size compared to those on our planet.

38. (3) FIFA is headquartered in Zürich, and is an association established under the law of Switzerland.

39. (3) The Bahujan Samaj Party was founded on the birth anniversary of B. R. Ambedkar, 14 April 1984, by Kanshi Ram, who named former school teacher, Mayawati, as his successor of BSP in 2001.

40. (1) Rajatarangini is a metrical legendary and historical chronicle of the north-western Indian subcontinent, particularly the kings of Kashmir. It was written in Sanskrit by Kashmiri historian Kalhana in the 12th century CE.

42. (1) The Viceroy was appointed directly by the British government. The first Viceroy of India was Lord Canning.

46. (1) Rajasansi is a town and a nagar panchayat in Amritsar district in the Indian state of Punjab. Sri Guru Ram Dass Jee International Airport (Amritsar International Airport) is located in Rajasansi village on Ajnala-Rajasansi Road.

47. (2) Melanin is the main pigment responsible for the various pigmentations found in animal and human skin, hair, and eyes.

50. (3) Telangana hosts a biennial festival known as the Sammakka Saralamma Jatara, which is renowned as one of the world's largest gatherings of tribal people.

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51. (3) Let three numbers are x, y and z.

ATQ,

$\frac{x+y}{2}+z=183$

$x + y + 2z = 366$ .....(i)

$\frac{x+z}{2}+y=157$

$x + z + 2y = 314$ .....(ii)

$\frac{y+z}{2}+x=136$

$y + z + 2x = 272$ .....(iii)

Adding equations (i), (ii) and (iii), we get

$4x + 4y + 4z = 366 + 314 + 272$

$4(x + y + z) = 952$

$x + y + z = \frac{952}{4} = 238$ .....(iv)

Subtract equation (iv) from (i),

$z = 366 – 238 = 128$

Subtract equation (iv) from (ii),

$y = 314 – 238 = 76$

Subtract equation (iv) from (iii),

$x = 272 – 238 = 34$

Now, Average of x, y and $z = \frac{34+76+128}{3}=\frac{238}{3}=79\frac{1}{3}$

52. (4) Let speed of boat in still water and stream be 8x kmph and x kmph respectively.

ATQ,

$\frac{54}{8x+x}+\frac{42}{8x-x}=4$

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

$x = 3$

Downstream speed = $8x + x = 9x = 9 \times 3 = 27$ km/h

53. (1) Let salary of Ramesh be ₹ 100x.

Amount given to wife = $\frac{60}{100} \times 100x$ = ₹ 60x

ATQ,

$60x \times \frac{50}{100} = 18000$

$x = 600$

∴ Salary of Ramesh = $100x = 100 \times 600$ = ₹ 60000

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54. (3) Let length and breadth of rectangle be 4x cm and 7x cm.

ATQ,

$2(4x + 7x) = 88$

$22x = 88$

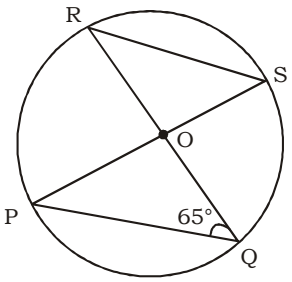
$x = 4$ cm

$\therefore$ Area of rectangle = $4x \times 7x = 28x^2 = 28 \times 4 \times 4 = 448\ cm^2$

55. (2) Radius of second circle = $1.5 \times 14 = 21$ cm

$\therefore$ Required area of circle = $\pi r^2 = \frac{22}{7} \times 21 \times 21 = 1386\ cm^2$

56. (3)



In ΔOPQ

$\angle OQP = 65°$

$OP = OQ$ (Radius of circle)

$\angle OQP = \angle OPQ = 65°$

We know that sum of angles of trinagle is 180°.

$\angle OQP + \angle OPQ + \angle QOP = 180°$

$\angle QOP = 180° - 65° - 65°$

$\angle QOP = 50°$

$\angle QOP = \angle ROS$ (vertically opposite angle)

$\therefore$ $\angle ROS = 50°$

57. (2) Let the speed of flight A and B x km/hr and y km/hr respectively, where y > x.

Time taken by A to complete journey of 7200 km = $\frac{\text{Distance}}{\text{Speed}} = \frac{7200}{x}$ hours

Time taken by B to complete journey of 7200 km = $\frac{7200}{y}$ hours

ATQ,

$$\frac{7200}{y} + 1 = \frac{7200}{x} \quad \text{-----(i)}$$

$$\frac{1}{x} - \frac{1}{y} = \frac{1}{7200}$$

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Reduced speed of B = y - y of $\frac{1}{6} = \frac{5y}{6}$ km / hr

Time taken by B to complete journey at speed of $\frac{5y}{6}$ km / hr $= \left(\frac{7200}{5y} \times 6\right)$ hours $= \frac{8640}{y}$ hours

ATQ,

$$\frac{8640}{y} - \frac{36}{60} = \frac{7200}{x} \qquad \text{------(ii)}$$

From equation (i) and (ii),

$$\frac{8640}{y} - \frac{36}{60} = \frac{7200}{y} + 1$$

$$\frac{8640}{y} - \frac{7200}{y} = 1 + \frac{3}{5}$$

$$\frac{1440}{y} = \frac{8}{5}$$

$\therefore$ $y = \frac{1440 \times 5}{8} = 900$ km/hr

58. (1) Maximum value of$A\cos\theta + B\sin\theta = \sqrt{A^2 + B^2}$

$= \sqrt{(10)^2 + (24)^2} = \sqrt{100 + 576} = \sqrt{676} = 26$

Minimum value of $A\cos\theta + B\sin\theta = -\sqrt{A^2 + B^2} = -\sqrt{(10)^2 + (24)^2} = -26$

59. (3) $b + c = ax$

$x = \frac{b + c}{a}$

$c + a = by$

$y = \frac{c + a}{b}$

$a + b = cz$

$z = \frac{a + b}{c}$

Now, $\frac{1}{5}\left[\frac{1}{x+1} + \frac{1}{y+1} + \frac{1}{z+1}\right] = \frac{1}{5}\left[\frac{1}{\frac{b+c}{a}+1} + \frac{1}{\frac{c+a}{b}+1} + \frac{1}{\frac{a+b}{c}+1}\right]$

$= \frac{1}{5}\left[\frac{a}{a+b+c} + \frac{b}{a+b+c} + \frac{c}{a+b+c}\right] = \frac{1}{5}\left[\frac{a+b+c}{a+b+c}\right] = \frac{1}{5}$

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60. (1) Diameter of cone = 14 cm

Radius of cone = $\frac{14}{2}$ cm = 7 cm

Curved surface area of cone = πrl

Slant height of cone = $\frac{\text{Area}}{\pi r} = \frac{550}{\frac{22}{7}\times 7}$ cm = 25 cm

Height of cone = $\sqrt{l^2 - r^2} = \sqrt{(25)^2 - (7)^2} = \sqrt{576}$ cm = 24 cm

$\therefore$ Volume of cone = $\frac{1}{3}\pi r^2 h = \frac{1}{3}\times\frac{22}{7}\times 7\times 7\times 24$ = 1232 cm^2

61. (2) 14.4 + (16.8 ÷ 0.24 × 0.4) – 10 × 6 ÷ 0.10 + 6

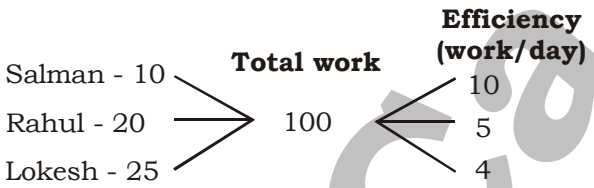
= 14.4 + (70 × 0.4) - 10 × 60 + 6

= 14.4 + 28 – 600 + 6

= 48.4 – 600

= – 551.6

62. (4)



2 days work of Lokesh = 4 × 2 = 8

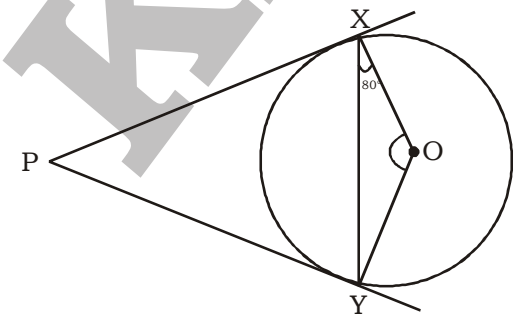
4 days work of Rahul = 5 × 4 = 20

Remaining work in completed by Salman

Total work completed by Salman = 100 - (8 + 20) = 72

$\therefore$ Percentage of work completed by Salman = $\left(\frac{72\times 100}{100}\right)\% = 72\%$

63. (2)



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In ΔOXY,

OX = OY (radius of circle)

$\angle OXY = \angle OYX = 80°$

$\angle XOY = 180° - (\angle OXY + \angle OYX)$ {sum of angle of Δ is 180°}

$\angle XOY = 180° - (80° + 80°) = 20°$

We know that,

Radius is perpendicular to the tangent

$\angle OXP = 90°$

$\angle OYP = 90°$

In $\square$ PXOY

$\angle XPY + \angle OYP + \angle YOX + \angle OXP = 360°$ {sum of angles of quadrilateral}

$\angle XPY + 90° + 20° + 90° = 360°$

$\therefore \quad \angle XPY = 360° - 200° = 160°$

64. (1) Good quality content in 150 kg of wheat = 90% of 150 = 135 kg

In new mixture, low quality wheat is 5%, so good quality wheat 95%

5% of the new mixture = 15 kg,

New mixture $= \frac{15 \times 100}{5} = 300$ kg

$\therefore$ Good quality of wheat added = (300 – 150) = 150 kg

65. (4) Rate $= \frac{SI \times 100}{Principal \times Time} = \frac{12000 \times 100}{40000 \times 3} = 10\%$

$$CI = Principal\left[\left(1+\frac{Rate}{100}\right)^{Time} - 1\right] = 40000\left[\left(1+\frac{10}{100}\right)^{3} - 1\right]$$

$= 40000\ [(1.1)^3 - 1] = 40000\ (1.331 - 1)$

$= 40000 \times 0.331 = ₹13240$

66. (3) Total marked Price of article = 25 × 45 = ₹1125

Selling Price (Giving 10% discount) = $\frac{90}{100}$ of 1125 = ₹1012.5

CP = $\frac{1012.50}{150} \times 100 = ₹675$

Now the selling price is ₹1125, then profit = 1125 – 675 = ₹450

$\therefore$ Profit% = $\left(\frac{450}{675} \times 100\right)\% = 66\frac{2}{3}\%$

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67. (3) The number of tiles will be minimum if size of each marble is maximum.
Size of each tile = HCF of 3.78 and 5.25 metre = 0.21 metre

∴ Number of tiles = $\frac{3.78 \times 5.25}{0.21 \times 0.21} = 450$

68. (4) Ratio of the profit = Ratio of the equivalent capitals of Suraj and Manish
= 60000 × 12 : 100000 × 6
= 720000 : 600000 = 6 : 5

∴ Manish's share in the profit = $\left(\frac{5}{11} \times 151800\right)$ = ₹69000

69. (1) Let the present ages of E and A is 3x and 2x years respectively.
ATQ,

$\frac{3x+8}{2x+8} = \frac{11}{8}$

$24x + 64 = 22x + 88$

$2x = 88 - 64 = 24$

$x = 12$

A's age = $2x = 2 \times 12 = 24$ years

∴ Age of E's son = $\frac{1}{2} \times 24 = 12$ years

70. (1) Speed of bus = $\frac{480}{8}$ = 60 km/hr

Speed of Train = $\frac{60}{3} \times 4$ = 80 km/hr

Speed of car = $\frac{80}{16} \times 15$ = 75 km/hr

∴ A car covered distance in 6 hours = 75 × 6 = 450 km

71. (4) In 2012 = 1.8 – 1 = 0.8
In 2015 = 0.8 – 1 = – 0.2
In 2014 = 2.1 – 1 = 1.1
In 2016 = 3 – 1 = 2

∴ Required year is 2016.

72. (3)

73. (1) Required total import = $\frac{185}{(25+12)} \times (10 + 10) = \frac{185}{37} \times 20$ = ₹100 crore

74. (2) Required% = $\left(\frac{2.1-2}{2} \times 100\right)\% = \left(\frac{0.1}{2} \times 100\right)\% = 5\%$

75. (2) Required ratio = $\frac{28 \times \frac{75}{100}}{10 \times \frac{150}{100}} = \frac{2100}{1500} = \frac{7}{5} = 7 : 5$

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MEANINGS IN ALPHABETICAL ORDER

Adhere	stick fast to (a surface or substance)	मानना
Chalet	a wooden house or cottage with overhanging eaves, typically found in the Swiss Alps	षाले
Deficit	the amount by which something, especially a sum of money, is too small	घाटा
Dubious	hesitating or doubting	संदिग्ध
Ensue	happen or occur afterward or as a result	पीछा करना
Entail	involve (something) as a necessary or inevitable part or consequence	मिलना
Entice	attract or tempt by offering pleasure or advantage	लुभाना
Entrap	catch (someone or something) in or as in a trap	फंसाना
Exert	apply or bring to bear (a force, influence, or quality)	खींचना
Illuminate	make (something) visible or bright by shining light on it; light up	रोशन
Render	provide or give (a service, help, etc.)	प्रस्तुत करना
Steady	firmly fixed, supported, or balanced; not shaking or moving	नियमित

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SSC MOCK TEST - 411 (ANSWER KEY)

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

76. (3) Replace 'since' by 'for'. 'For' comes for a indefinite period of time, e.g., 'twenty years'.

77. (1) Sentence starting with 'scarcely' takes an inversion form. Put 'had' before 'my father'.

90. (2) The correct spelling is 'Contemporary'.

91. (1) The correct spelling is 'Battalion'.

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