SSC MOCK TEST - 395 (SOLUTION)

1. (1) As,
$27 \Rightarrow 2^3$ and $7^2 \Rightarrow 849$
Similarly,
$38 \Rightarrow 3^3$ and $8^2 \Rightarrow 2764$

2. (4) Neigh is the sound of Horse, while Quack is the sound of Duck.

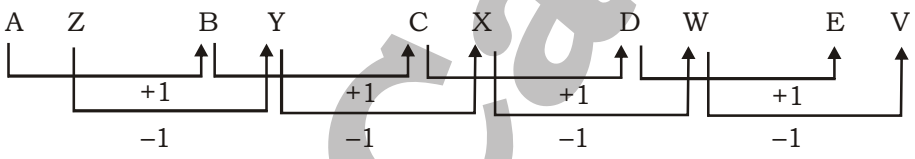
3. (2) Except (2), in others second number is exactly divided by the first number.

4. (4) Except Deteriorate, others are related to each other.

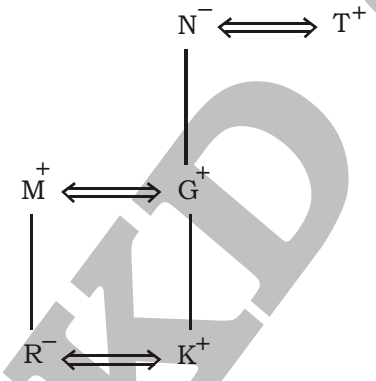
5. (2) As,
R I D E $\Rightarrow$ 18 9 4 5 $\overset{\text{Reverse}}{\Longleftrightarrow}$ 81 9 4 5
And,
S U N $\Rightarrow$ 19 21 14 $\overset{\text{Reverse}}{\Longleftrightarrow}$ 91 12 41
Similarly,
M U G $\Rightarrow$ 13 21 7 $\overset{\text{Reverse}}{\Longleftrightarrow}$ 31 12 7

6. (3) 24 + (24 ÷ 2) = 36
36 + (36 ÷ 2) = 54
54 + (54 ÷ 2) = 81
81 + (81 ÷ 2) = 121.5

7. (4)



8. (4)



Hence, T is not the paternal grandfather of M.

9. (2) As,
$15 \Rightarrow (1 + 5)^2 = 36$
$36 \Rightarrow (3 + 6)^2 = 81$
Similarly,
$25 \Rightarrow (2 + 5)^2 = 49$
$49 \Rightarrow (4 + 9)^2 = 169$

10. (2) pq**m**dh/**p**qmd**h**/p**q**m**d**h/**p**q**m**dh

11. (3)

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

$18 + 9 = 27 = (2 + 7)^2 = 81$

In second row,

$15 + 14 = 29 = (2 + 9)^2 = 121$

In third row,

$13 + 17 = 30 = (3 + 0)^2 = 9$

13. (2) 45 * 24 * 72 * 20 * 12 * 7

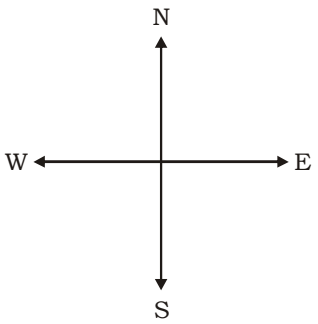
Putting the sign in place of *,

$45 \times 24 \div 72 = 20 - 12 + 7$

$\frac{45 \times 24}{72} = 27 - 12$

$15 = 15$

14. (3)



Sun always rises in the East. So in morning, the shadow falls towards the West. Now Pole's shadow falls to the left of Raghav. So he is standing facing North.

15. (4) 3. Education → 5. Job → 1. Income → 2. Status → 4. Well-being

16. (2) G = ₹ (P + 88) .....(i)

S + K = ₹ 550 .....(ii)

K = G + 25 .....(iii)

S + K + G = ₹ 840 .....(iv)

From equation (ii) and (iv),

G = 840 – 550 = ₹ 290

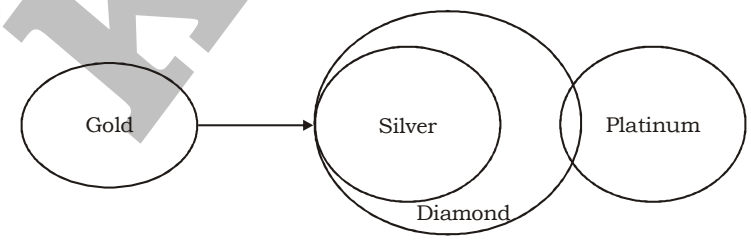
Put the value of G in equation (i),

290 = P + 88

P = 290 – 88 = ₹ 202

Hence, P has ₹ 202.

17. (3)



I. Doubt II. False III. Doubt

Hence, either conclusion I or III follows.

18. (4) 19. (2)

20. (2) At 2 O'clock, the hour hand is at 2 and the minute hand is at 12, i.e. they are 10 min spaces apart.

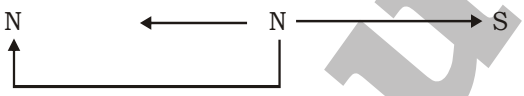
To be together, the minute hand must gain 10 minutes over the hour hand.

Now, 55 minutes are gained by it in 60 minute.

10 minutes will be gained in $\frac{60}{55} \times 10$ minutes = $10\frac{10}{11}$ min.

$\therefore$ The hands will coincide at $10\frac{10}{11}$ min. past 2

21. (4) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17.....



Suman is 3 places to the right of Neha's original position.

Clearly, Suman is 17^{th} from the left end.

22. (4) 23. (4) 24. (3) 25. (4)

26. (2) According to tradition and epigraphic evidence two brothers, Harihara and Bukka, founded the Vijayanagara Empire in 1336. This empire included within its fluctuating frontiers peoples who spoke different languages and followed different religious traditions.

27. (2) John Dalton, (born September 5 or 6, 1766, Eaglesfield, Cumberland, England—died July 27, 1844, Manchester), English meteorologist and chemist, a pioneer in the development of modern atomic theory.

28. (3) Heena Sidhu (born 29 August 1989) is an Indian sport shooter. On 7 April 2014, Sidhu became the first Indian pistol shooter to reach number one in world rankings by the International Shooting Sport Federation.

30. (3) Deep sea planes are gently sloping areas of the ocean basins. These are the flattest and smoothest regions of the world because of terrigenous [denoting marine sediment eroded from the land] and shallow water sediments that buries the irregular topography. It covers nearly 40% of the ocean floor.

34. (4) Ibn Batuta reached Delhi during the reign of Mohammad Bin Tughlaq and with him he bought several precious presents for the Sultan of Delhi. The explorer served the king for seven years as a judge in his royal court.

35. (2) The Uttar Pradesh government launched a 15-day registration campaign for Micro, Small and Medium Enterprises (MSMEs) in all 75 districts across the state.

39. (2) Kanchenjunga, also spelled Kangchenjunga or Kinchinjunga, Nepali Kumbhkaran Lungur, world's third highest mountain, with an elevation of 28,169 feet (8,586 metres).

41. (3) The 42nd Amendment changed the description of India from a "sovereign democratic republic" to a "sovereign, socialist secular democratic republic", and also changed the words "unity of the nation" to "unity and integrity of the nation".

42. (4) Sambhar Salt Lake, ephemeral salt lake, the largest lake in India, situated in east-central Rajasthan state, west of Jaipur.

44. (4) A Judge of the Supreme Court cannot be removed from office except by an order of the President passed after an address in each House of Parliament supported by a majority of the total membership of that House and by a majority of not less than two-thirds of members present and voting, and presented to the President in the same Session for such removal on the ground of proved misbehaviour or incapacity. A person who has been a Judge of the Supreme Court is debarred from practising in any court of law or before any other authority in India.

46. (4) Sesamum is a kharif crop in north and rabi crop in south India. Castor seed is grown both as rabi and kharif crop.

47. (1) Alan Burgess, New Zealand first-class cricketer and World War II veteran, dies aged 100.

48. (4) In Article 48, the State shall endeavor to organize agriculture and animal husbandry on modern and scientific lines and shall, in particular, take steps for preserving and improving the breeds, and prohibiting the slaughter, of cows and calves and other milch and draught cattle.

50. (3) India and Nepal signed a series of agreements on energy and transport including the export of Nepal's hydropower to Bangladesh through Indian territory.

51. (2) P = ₹ 8000

R = 25%

T = 3 years

CI – SI for 3 years = $P\left(\frac{R}{100}\right)^2\left(\frac{300+R}{100}\right)$

$= 8000\left(\frac{25}{100}\right)^2\left(\frac{300+25}{100}\right)$

$= 8000 \times \frac{1}{16} \times \frac{325}{100}$ = ₹ 1625

52. (1) Speed of boat in still water = 14 km/hr

Speed of stream = 6 km/hr

Speed of boat in downstream = 14 + 6 = 20 km/hr

Speed of boat in upstream = 14 – 6 = 8 km/hr

So, distance covered in 1 hour in downstream = 20 km

Remaining distance = 60 – 20 = 40 km/hr

Now, speed of boat in downstream = 14 + 2 = 16 km/hr

Time taken to cover 24 km in downstream $= \frac{24}{8}$ = 3 hour

Time taken to cover 40 km in upstream $= \frac{40}{16}$ = 2.5 hour

∴ Required time taken = 1 + 2.5 + 3 = 6.5 hours

53. (4) R = 8 m

r = 5 m

h = 21 m

Volume of hollow cylinder = $\pi (R^2 - r^2)h$

$= \frac{22}{7}\left(8^2 - 5^2\right) \times 21$

$= \frac{22}{7} \times 13 \times 3 \times 21 = 2574 \text{ m}^3$

∴ Volume of metal which is used to make the pipe = 2574 m^3

54. (3) Usual speed of Raghav = 24 km/hr

Now, speed of Raghav = $24 \times \frac{5}{6}$ = 20 km/hr

Let the distance be x km.

ATQ,

$$\frac{x}{20} - \frac{x}{24} = \frac{20}{60}$$

$$\frac{6x - 5x}{120} = \frac{1}{3}$$

$$\frac{x}{120} = \frac{1}{3}$$

$$x = \frac{120}{3} = 40 \text{ km}$$

$\therefore$ Required usual time = $\frac{40}{24} = \frac{5}{3}$ hours = 100 minutes

55. (1) Let the present age of son be x year.

Age of father = (x + 30) years

Five years ago,

Age of son = (x – 5) years

Age of father = (x + 30 – 5) = (x + 25) years

ATQ,

(x + 25) = (x – 5)× 2

x + 25 = 2x – 10

x = 35 years

Sum of present age of son and father = 35 + 65 = 100 years

Total age will be 120 years in 10 years.

$\therefore$ Required answer = 10 years

56. (2) Let the total work = 48 units

(Priti and Lucky)'s 1 day work = $\frac{48}{8}$ = 6 work

Priti's 1 day work = $\frac{48}{12}$ = 4 work

Now, Lucky's 1 day work = 6 – 4 = 2 work

Raghav's 1 day work = $4 \times \frac{150}{100}$ = 6 work

Total work of Lucky and Raghav = 2 + 6 = 8 work

$\therefore$ Required time taken = $\frac{48}{8}$ = 6 days

57. (4) Cost price of an item = ₹ X

Selling price = ₹ Y

Profit = 12%

So, $Y = X \times \frac{112}{100}$ = ₹ 1.12X

New cost price = $X \times \frac{95}{100}$ = ₹ 0.95X

New selling price = $0.95X \times \frac{112}{100}$ = ₹ 1.064X

ATQ,

1.12X – 1.064X = 644

0.056X = 644

$X = \frac{644}{0.056}$ = ₹ 11500

∴ Value of Y = ₹ 1.12X = 1.12 × 11500 = ₹ 12880

58. (1) $x^{\frac{1}{3}} + y^{\frac{1}{3}} = z^{\frac{1}{3}}$

Cubing both sides,

$$x + y + 3\left(x^{\frac{1}{3}} + y^{\frac{1}{3}}\right)(xy)^{\frac{1}{3}} = z$$

$$x + y + 3(z)^{\frac{1}{3}}(xy)^{\frac{1}{3}} = z$$

$$(z + y - z) = -3(xyz)^{\frac{1}{3}}$$

$$(x + y - z)^3 = -27xyz$$

∴ $(x + y - z)^3 + 27xyz = 0$

59. (3) cosec A – cot A = x

$$\frac{1}{\sin A} - \frac{\cos A}{\sin A} = x$$

$$x = \frac{1-\cos A}{\sin A} \times \frac{1+\cos A}{1+\cos A}$$

$$= \frac{1-\cos^2 A}{\sin A(1+\cos A)} = \frac{\sin^2 A}{\sin A(1+\cos A)}$$

$$= \frac{\sin A}{1+\cos A}$$

60. (1) $x - \frac{2}{x} = 14$

Squaring both sides,

$$\left(x - \frac{2}{x}\right)^2 = 14^2$$

$$x - \frac{2}{x} = 14^2 + 2 \times x \times \frac{2}{x} = 196$$

$$x^2 - \frac{4}{x^2} = 196 - 4$$

$\therefore \quad x^2 + \frac{4}{x^2} = 192$

61. (2) $\sin^2 60° + \cos^2 30° - \sin^2 45° - 3\sin^2 90°$

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

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

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

$$= -\frac{8}{4} = -2$$

62. (4) $\frac{7}{12} \div \frac{1}{10} \text{ of } \frac{2}{3} - \frac{5}{3} \times \frac{9}{10} + \frac{5}{8} \div \frac{3}{4} \text{ of } \frac{2}{3}$

$$= \frac{7}{12} \div \frac{1}{15} - \frac{5}{3} \times \frac{9}{10} + \frac{5}{8} \div \frac{1}{2}$$

$$= \frac{7}{12} \times 15 - \frac{5}{3} \times \frac{9}{10} + \frac{5}{8} \times \frac{2}{1}$$

$$= \frac{35}{4} - \frac{3}{2} + \frac{5}{4}$$

$$= \frac{35 - 6 + 5}{4} = \frac{34}{4} = \frac{17}{2}$$

63. (4) Total surface are of prism having base as an equilateral Triangles
= 2 × area of base + (perimeter of base × height)
Side of equilateral Triangles = 12 cm
Height of prism = 10 cm

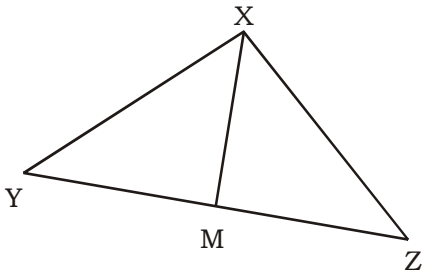
Area of equilateral Triangles = $\frac{\sqrt{3}}{4} \times \text{side}^2$

$$= \frac{\sqrt{3}}{4} \times 12^2 = 36\sqrt{3} \text{ cm}^2$$

Perimeter of equilateral Triangles = 3 × side = 3 × 12 = 36 cm

$\therefore$ Total surface area = $2 \times 36\sqrt{3} \times 36 \times 10 = 72\sqrt{3} + 360 = 72\left(5 + \sqrt{3}\right)\text{cm}^2$

64. (4)



In $\triangle XYM$,

$\angle MXY = \angle XMZ - \angle XYM$

$\angle MXY = 32° - 16° = 16°$

Since, $\angle MXY = \angle XYM$,

YM = MX = MZ (YM = MZ and M is the midpoint of YZ)

Now, In $\triangle XMZ$,

XM = MZ

Therefore, $\angle MXZ = \angle XZM$

$$\angle XZM = \frac{180° - \angle XZM}{2}$$

$$\angle XZY = \angle XZM = \frac{180° - 32°}{2} = \frac{148°}{2} = 74°$$

65. (2) Quantity of milk = $729 \times \frac{7}{9}$ = 567 ml and Water = 162 ml

Let x ml water be added.

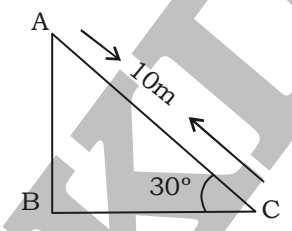
ATQ,

$$\frac{567}{162 + x} = \frac{7}{3}$$

$162 + x = 243$

$x = 81$ ml

66. (1)



Required distance is BC.

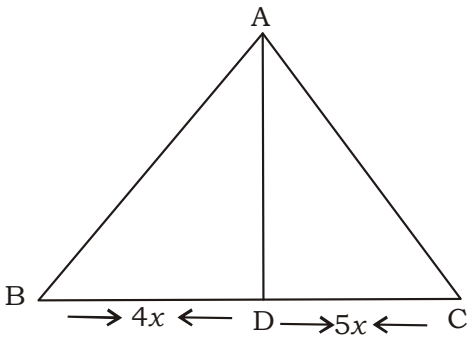
In ΔABC,

$$\cos 30° = \frac{BC}{AC}$$

$$\frac{\sqrt{3}}{2} = \frac{BC}{10}$$

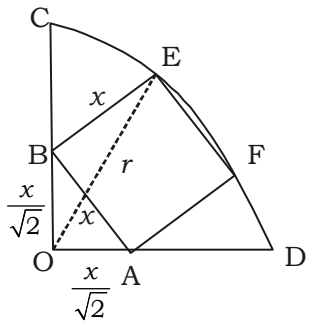
$\therefore$ BC = 8.66 m

67. (2)



Area of $\Delta ADC = \left(\frac{5}{4} \times 60\right) = 75 \text{ cm}^2$

68. (4)



Radius = OE

$OB = OA = \frac{x}{\sqrt{2}}$

$\angle EBO = 90° + 45°$

$\cos \angle EBO = \cos (90 + 45°)$

$\cos (90 + 45°) = \frac{BE^2 + OB^2 - OE^2}{2 \times BE \times OB}$

$-\sin 45° = \frac{x^2 + \left(\frac{x}{\sqrt{2}}\right)^2 - OE^2}{2 \times x \times \frac{x}{\sqrt{2}}}$

$-\frac{1}{\sqrt{2}} = \frac{x^2 + \frac{x^2}{2} - OE^2}{\sqrt{2} \times x^2}$

$OE^2 = \frac{5x}{2}$

$\therefore \quad OE = \sqrt{\frac{5}{2}}\, x$

69. (2) Total CP of the rice = 30 × 70 + 20 × 70.75 = ₹ 3515

Total SP of rice = 50 × 80.50 = ₹ 4025

∴ Profit = 4025 – 3515 = ₹ 510

70. (3) tan4°.tan43°.tan47°.tan86°

tan(90° – 86°). tan(90° – 47°). tan47°. tan86°

cot86°. cot47°. tan47° . tan86° = 1

71. (4) $27a^3 - 54a^2b + 36ab^2 - 8b^3 = (3a - 2b)^3$

$= (6 + 6)^3 = 12^3 = 1728$

72. (3) Mobile phones sold by Apple = $\left(\frac{30}{40} \times 100\right) = 75\%$

Mobile phones sold by Nokia $= \left(\frac{40}{55} \times 100\right)\% = 72.72\%$

Mobile phones sold by Samsung $= \left(\frac{70}{80} \times 100\right)\% = 87.5\%$

Mobile phones sold by Moto $= \left(\frac{60}{75} \times 100\right)\% = 80\%$

Hence, mobiles phones sold by Samsung is maximum.

73. (2) Unsold mobiles of Apple = (40000 – 30000) = 10000

Unsold mobiles of Nokia = (65000 – 40000) = 25000

Unsold mobiles of Samsung = (80000 – 70000) = 10000

Unsold mobiles of Moto = (75000 – 60000) = 15000

Unsold mobiles of one-plus = (35000 – 35000) = 0

∴ Average number unsold mobiles of all the companies

$= \frac{10000 + 25000 + 10000 + 15000}{5} = \frac{60000}{5} = 12000$

74. (3) Total production of phone in all companies = (40 + 55 + 80 + 75 + 35) = 285 thousands

∴ Required% = $\left(\frac{55}{285} \times 100\right) = 19.30\% \approx 19\%$

75. (1) Unsold mobile phones of Apple = (40 – 30) = 10

Unsold mobiles phones of Nokia = (55 – 40) = 15

∴ Required ratio = 10 : 15 = 2 : 3

MEANINGS IN ALPHABETICAL ORDER

Alimony	a husband's or wife's court-ordered provision for a spouse after separation or divorce	गुजारा–भत्ता
Aromatic	having a pleasant and distinctive smell	सुगन्धित
Assassin	a murderer of an important person in a surprise attack for political or religious reasons	हत्यारा
Befit	be appropriate for	के अनुकूल
Clad	clothed	कपड़े पहने हुए
Commensurate	corresponding in size or degree; in proportion	(किसी वस्तु) के अनुरूप
Condole	express sympathy for (someone)	दु:ख में हमदर्दी दिखाना
Console	comfort (someone) at a time of grief or disappointment	सांत्वना देना
Fable	a short story, typically with animals as characters, conveying a moral	जानवरों के किरदारों वाली एक नीति कथा
Fiasco	a complete failure	असफलता
Kleptomaniac	a person who cannot control their desire to steal things, usually because of a medical condition	वह व्यक्ति जो आमतौर पर अपनी चिकित्सीय स्थिति के कारण चीज़ों को चोरी करने की अपनी इच्छा को नियंत्रित नहीं कर सकता हो
Optometrist	A person who has a profession of examining the eyes for visual defects and prescribing corrective lenses	आँखों के लिए लेंस बनाने वाला
Pantheist	one who practice a doctrine that equates God with the forces and laws of the universe	वह ब्रह्मांड की शक्तियों और उसके को भगवान मानता है
Parsimony	extreme unwillingness to spend money or use resources	मितव्ययिता
Pedantic	showing much knowledge	पांडित्य पूर्ण
Perennial	lasting or existing for a long or apparently infinite time	चिरस्थायी
Philanderer	a man who readily or frequently enters into casual sexual relationships with women	स्त्री लोलुप
Rhetoric	the art of effective or persuasive speaking or writing	वाकपटु
Tart	sharp or acid in taste	खट्टा
Verbatim	in exactly the same words	शब्दश:

SSC MOCK TEST - 395 (ANSWER KEY)

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

76. (4) No error

77. (1) 'Bacteria' is a plural noun, hence it is followed by a plural verb. Change 'is' into 'are'.

86. (3) Verb 'prefer' is followed by 'to'.

87. (3) No improvement. 'Taxes' is Third Person Plural Noun, therefore, 'they' should be used for it.

90. (2) The correct spelling of 'Optomatrist' is 'Optometrist'.

91. (2) The correct spelling of 'Perenial' is 'Perennial'.