SSC MOCK TEST – 103 (SOLUTION)

1. (A) Dogs bark and goats bleat.
2. (C) As, PALAM
16 + 1 + 12 + 1 + 13 = 43
Similarly,
STRUCTURE = 19 + 20 + 18 + 21 + 3 + 20 + 21+ 18 + 5
= **145**

3. (D) As, $\frac{(8)^3}{2} = 256$

Similarly, $\frac{(12)^3}{2} =$ **864**

4. (B) As, PEN = 16 + 5 + 14 $\Rightarrow (35)^2 = 1225$
Similarly,
SOLUTION = 19 + 15 + 12 + 21 + 20 + 9 + 15 + 14
$\Rightarrow$ $(125)^2 =$ **15625**

5. (A) Except **River**, all contain stagnant water.
6. (D) Except **493**, all are multiple of 19.
7. (D) $1^3 - 1 = 0$
$3^3 - 1 = 26$
$8^3 - 1 = 511$
$7^3 + 1 =$ **344**

8. (C) The day after 1335 days = $\frac{1335}{7}$
= 190 Week + 5 Days
$\therefore$ The Required Day = Monday + 5 Days
= **Saturday**

9. (B) 'Pi means 'good' [From sentence I and II]
'ni' means 'These' [From sentence I and II]
and
Required word = '**co**' means '**are**'

10. (A) Satang $\rightarrow$ Statia $\rightarrow$ **Static** $\rightarrow$ Statil $\rightarrow$ Station

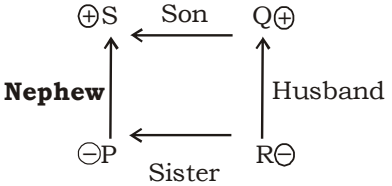
11. (C) Required Angle = $\frac{11}{2} \times 36 - 30 \times 4 =$ **78°**

12. (C) 6 7 16 51 204 **1025**
$\times 1+1$ $\times 2+2$ $\times 3+3$ $\times 4+4$ $\times 5+5$

13. (C) $27648 \div 4^4 = 108$
$108 \div 3^3 = 4$
$4 \div 2^2 = 1$
$1 \div 1^1 =$ **1**

14. (D) $(31-1) \times 0 + (31-1) \div 2 = 15$
$(15-1) \times 1 + (15-1) \div 2 = 21$
$(21-1) \times 2 + (21-1) \div 2 = 50$
$(50-1) \times 3 + (50-1) \div 2 = 171.5$
$(171.5-1) \times 4 + (171.5-1) \div 2 =$ **767.25**

15. (A)



16. (C) 16 – 12 + 3 × 12 ÷ 48 = 16
After interchanging the sign as the given details
16 – 12 ÷ 3 × 12 + 48 = 16
16 – 4 × 12 + 48 = 16
16 – 48 + 48 = 16
16 = 16

17 (A) 12 × 5 + 5 = 65
Reverse the digit of the number = 56
12 × 2 + 5 = 29
Reverse the digit of the number = 92
14 × 5 + 10 = 80
Reverse the digit of the number = **08**

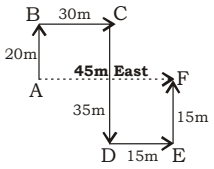
18. (B) $9 \times 3 - 3^2 = 18$
$6 \times 4 - 4^2 = 8$
$5 \times 3 - 4^2 = -1$

19. (A)
$$\begin{array}{r} 4\ 8\ 7 \\ +\ 3\ 7\ 5 \\ \hline \mathbf{8}\ 6\ 2 \end{array}$$

20. (D)

F	**E**	**E**	**D**	**B**	**A**	**C**	**K**
↓	↓	↓	↓	↓	↓	↓	↓
6	**5**	**7**	**4**	**2**	**1**	**3**	**8**

21. (A)



22. (D) 16 + 8 – 12 ÷ 4 × 8
Change the sign as per the given details
16 ÷ 8 × 12 – 4 + 8 = 28

23. (C)
24. (C)
25. (D)

26. (B) Amazon is the greatest river in the world by so many measures; the volume of water it carries to the sea (approximately 20% of all the freshwater discharge into the oceans), the area of land that drains into it, and its length and width. It is one of the longest rivers in the world.

27. (D) The Vijaya Bank will set up 100 digital villages in various States of the country as part of its initiative to promote digital banking among the rural population. It is the only public sector financial institution to develop digital villages with focus on rural areas and it has already developed five villages including the one

in Guntur district. In those villages, the bank will provide Internet, free Wi-Fi connectivity, mobile payment facilities, ATM cards, online banking and others besides educating the villagers through door-to-door campaign. The bank will also open bank accounts to all the eligible villagers including children and encourage them to make transactions digitally.

28. (A) BRICS is the acronym for an association of five major emerging national economies: Brazil, Russia, India, China and South Africa. Originally the first four were grouped as "BRIC", before the induction of South Africa in 2010. The BRICS members are all leading developing or newly industrialized countries.

29. (C) "Public interest Litigation", in simple words, means litigation filed in a court of law, for the protection of "Public Interest", such as Pollution, Terrorism, Road safety, Constructional hazards etc. Any matter where the interest of public at large is affected can be redressed by filing a Public Interest Litigation in a court of law.

31. (B) Human Rights Day is observed every year on 10th December. It commemorates the day on which, the United Nations General Assembly adopted the Universal Declaration of Human Rights. In 1950, the Assembly passed resolution 423 (V), inviting all States and interested organizations to observe 10th December of each year as Human Rights Day.

32. (D) Sankalp is a pilot project, launched by the Employees' State Insurance Corporation (ESIC) in collaboration with the Hindustan Latex Family Planning Promotion Trust, to prevent fresh HIV positive cases among members of the ESIC in the State through awareness camps.

33. (B) Mixed melting point is considered to be the best criteria for purity of a substance. The purified sample is mixed with a small quantity of pure compound and melting point of mixture is determined. If melting point of mixture is same as that of the pure compound, the sample compound is pure, otherwise it requires further purification.

34. (A) Remote sensing is the acquisition of information about an object or phenomenon without making physical contact with the object and thus in contrast to on site observation. Remote sensing is used in numerous fields, including geography and most Earth Science disciplines.

35. (A) The Antikythera mechanism is an ancient analogue computer and orrery used to predict astronomical positions and eclipses for calendrical and astrological purposes, as well as the Olympiads, the cycles of the ancient Olympic Games.

36. (B) Alauddin Khilji was a militarist and imperialist to the core. He was very ambitious. Alauddin, whose original name was Ali Gurshap, assumed the title Sikandar-i-Sani (Alexander the Second) and proclaimed Delhi as Dar-ul-Khilafa (Seat of the Caliphate).

37. (A) Kaziranga National Park is the name to exemplify the most popular conservation efforts to save the endangered species like one-horned rhinoceros in India. Located in the Golaghat and Nagaon district of Assam, this most notable wildlife sanctuary is being declared as a World Heritage Site by UNESCO in the year 1985. The park resides at an edge of the Eastern Himalayan biodiversity hotspot and this could be the perfect reason to envision high degrees of diversified species with great visibility.

39. (B) Each kidney is made up of about a million filtering units called nephrons. Each nephron filters a small amount of blood. The nephron includes a filter, called the glomerulus and a tubule. The nephrons work through a two-step process.

40. (C) Edson Arantes do Nascimento known as Pele is a retired Brazilian professional footballer who played as a forward. Pele has also been known for connecting the phrase "The Beautiful Game" with football.

42. (B) The International Development Association (IDA) is an international financial institution which offers

concessional loans and grants to the world's poorest developing countries. The IDA is a member of the World Bank Group and is headquartered in Washington, D.C., United States.

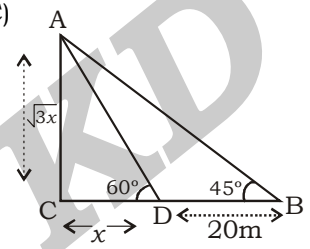
43. (A) Nepal has recently signed a financing agreement with China Gezhouba Group Corporation (CGGC) to build 1,200-megawatt Budhi-Gandaki hydroelectric project. The estimated cost of the project is $2.5 billion. This project will be helpful for Nepal, which is facing acute power shortage.

47. (D) Mumps is a relatively mild short term viral infection of the salivary glands that usually occurs during childhood.The salivary glands are also called the parotid glands; therefore, mumps is some times referred to as an inflammation of the parotid glands (epidemic parotitis).

49. (D) Taxes on tooth paste come under GST which is administered by State government. Sales tax is paid to sales tax authority in the state from where the goods are moved.

50. (A) Wajid Ali Shah was the tenth and last Nawab of Awadh, holding the position for 9 years, from February 13, 1847 to February 11, 1856. He was the Nawab when Awadh merged into British Empire.

51. (C)



In ΔABC

$$\frac{\sqrt{3}x}{x+20} = \tan 45^\circ$$

$$\Rightarrow \sqrt{3}\,x = 20 + x$$

$$\Rightarrow x = \frac{20(\sqrt{3}+1)}{2} = 10(\sqrt{3}+1)$$

Hence, the height of the tower

$= \mathbf{10\sqrt{3}\,(\sqrt{3}+1)}$ m

52. (D) ATQ,

$$\frac{x\times 27 + 12\times 17}{x+12} = 27 - 4$$

$$\Rightarrow x = \mathbf{18}$$

53. (A) Only 2 is an even number that is a prime number.

As we know, odd + odd = even

$\Rightarrow$ 2 times odd = even

$\Rightarrow$ 100 times odd = even

Hence, 100 times odd + 2 is an even number. So, it divisible by **2**

54. (C) ATQ,

Tap — x, Sink — y $\rightarrow$ xy $\leftarrow$ y, x

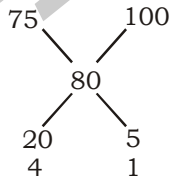
then, $\frac{xy}{y-x} = z$

$$\Rightarrow \frac{1}{z} = \frac{y-x}{xy}$$

$$\Rightarrow \mathbf{\frac{1}{z} = \frac{1}{x} - \frac{1}{y}}$$

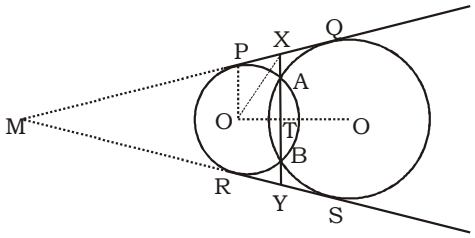
55. (A) C.P = $\frac{96\times 100}{120}$ = ₹80

Then,



Hence, Required ratio = **4 : 1**

56. (C)



XP is tangent and XB is secant

$\therefore$ $PX^2 = XA \times XB$ ------ (i)

Similarly,

$XQ^2 = XA \times XB$ ------- (ii)

From equation (i) and (ii)

$\Rightarrow$ $PX^2 = XQ^2$

$\Rightarrow$ PX = XQ

Suppose QP and SR meet at M

$\Delta XMT \cong \Delta YMT$

$\Rightarrow$ XT = YT

$$\Rightarrow XT = \frac{1}{2}XY = \frac{1}{2}\times 5 = \frac{5}{2}$$

In right angle ΔOPX

$\Rightarrow$ $OX^2 = PX^2 + OP^2$

$\Rightarrow \quad = \frac{PQ^2}{4} + OP^2$ ---------- (iii)

In right angle ΔOXT

$OX^2 = OT^2 + XT^2$

$\Rightarrow OX^2 = OT^2 + \frac{XY^2}{4}$

$\Rightarrow \quad = OT^2 + \frac{25}{4}$ --------- (iv)

From equation (iii) and (iv)

$\Rightarrow \frac{PQ^2}{4} + OP^2 = OT^2 + \frac{25}{4}$

$\Rightarrow PQ^2 + 4\,OP^2 = 4\,OT^2 + 25$

$\Rightarrow 25 = PQ^2 + 4\,OP^2 - 4\,OT^2$

$\Rightarrow 25 = PQ^2 + 4\,(OP^2 - OT^2) = PQ^2 + 4 \times \frac{AB^2}{4}$

$\Rightarrow 25 = PQ^2 + 9$

$\Rightarrow PQ^2 = 16$

$\Rightarrow PQ =$ **4cm**

57. (C) ATQ,

$3 \times \frac{1}{3}\pi r^2 h = \pi r^2 H + \frac{1}{3}\pi r^2 h$

$\Rightarrow \frac{2}{3}\pi r^2 h = \pi r^2 H$

$\Rightarrow H = \mathbf{\frac{2}{3}\,h}$

58. (D) Required percentage $= 480 \times \frac{100}{120} \times \frac{100}{80} \times \frac{100}{600}$

$= \mathbf{83\frac{1}{3}}$

59. (C) $\frac{40}{12+x} + \frac{40}{12-x} = 7$

$\Rightarrow 40 \times \frac{(24)}{144 - x^2} = 7$

$\Rightarrow 7x^2 = 48$

$\Rightarrow x =$ **2.618 kmph**

60. (D) ATQ,

$x^2 + \frac{1}{x^2} = 62$

$\Rightarrow x - \frac{1}{x} = 2\sqrt{15}$

then,

$x^3 - \frac{1}{x^3} = (2\sqrt{15})^3 + 3 \times 2\sqrt{15}$

$= 120\sqrt{15} + 6\sqrt{15} =$ **$126\sqrt{15}$**

61. (C) Required Difference = 3500 + 4500 + 4750 + 2250 + 3250 – 3000 – 3500 – 4000 – 1500 – 3750 = **2500**

62. (D) ATQ,

B + C	:	D + E
3500 + 4000	:	2250 + 3250
7500	:	5500
15	:	11

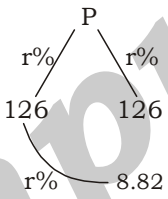
Hence, Required Ratio = **15 : 11**

63. (A) ATQ,

Females From A, B and C	:	Males from C, D and E
$\frac{3000 + 3500 + 4000}{3}$	:	$\frac{4750 + 2250 + 3250}{3}$
10500	:	10250
42	:	41

Hence, Required Ratio = **42 : 41**

64. (B) ATQ,



Then, $= \frac{882 \times 100}{100 \times 126} = 7\%$

and P $= \frac{126 \times 100}{7} =$ ₹1800

Hence, Required rate of interest and Principal = **7%** and **₹1800**

65. (D) Let the quantity of total colour = 70ml then, the quantity of blue colour = 40ml the quantity of blue colour used in one half

$= \frac{2}{5} \times 35 = 14$ml

then the quantity of blue colour used in other half = 40 – 14 = 26ml

Hence, required ratio = 26 : 35 – 26

= **26 : 9**

66. (C) Speed of Ist train $= \frac{180}{18 \times \frac{5}{18}} = 36$ kmph

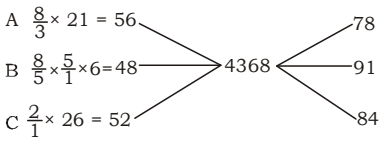
Let the speed of IInd train = x

Then, $\frac{180 + 180}{(x + 36) \times \frac{5}{18}} = 8$

$\Rightarrow \quad x + 36 = 162$

$\Rightarrow \quad x =$ **126 kmph**

67. (A)



Hence, time taken by them = $\frac{4368}{253}$

$= \mathbf{17\frac{67}{253}}$ **days**

68. (A) ATQ,
$x - y = 6$ ------ (i)
and $x^2 - y^2 = 288$
$\Rightarrow$ $x + y = 48$ -------- (ii)
from equation (i) and (ii)
$x = 27$ and $y = 21$
Hence, the smaller number = **21**

69. (D)

	Sphere A	:	Sphere B
area	1	:	4
then, radii	1	:	2
Now, Volume	1	:	8

Hence, required percentage = $\frac{(8-1)}{8} \times 100$
$= \mathbf{87.5}$

70. (B) $a^3 = \frac{\cos^2\theta}{\sin\theta} = \frac{\cos^3\theta}{\cos\theta \sin\theta}$

$\Rightarrow a = \frac{\cos\theta}{(\cos\theta.\sin\theta)^{1/3}}$ and

$b^3 = \frac{\sin^2\theta}{\cos\theta} = \frac{\sin^3\theta}{\sin\theta \cos\theta}$

$\Rightarrow b = \frac{\sin\theta}{(\sin\theta \cos\theta)^{1/3}}$

then,

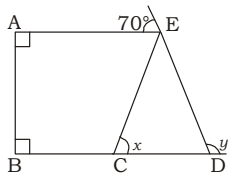
$a^2 b^2 (a^2+b^2) = \frac{\sin^2\theta \cos^2\theta}{(\cos\theta \sin\theta)^{2/3}(\cos\theta \sin\theta)^{2/3}}$

$\Rightarrow \left[\frac{\sin^2\theta}{(\cos\theta \sin\theta)^{2/3}} + \frac{\cos^2\theta}{(\cos\theta \sin\theta)^{2/3}}\right]$

$= \frac{\cos^2\theta \sin^2\theta}{(\sin\theta \cos\theta)^{4/3}} \left[\frac{1}{(\cos\theta \sin\theta)^{2/3}}\right] = 1$

Hence, $a^2 b^2 (a^2 + b^2) - 2 = 1 - 2 = \mathbf{-1}$

71. (B)



ATQ,
$\angle AED = 110°$
In given figure, AE||BD
$\Rightarrow$ $y = 110°$
and $180° - y = x$ $[\because EC = ED]$
$\Rightarrow$ $x = 70°$
Hence, x = **70°** and y = **110°**

72. (B) ATQ,

A	:	B
$5 \times 4 + 5 \times \frac{4}{5} \times 6$	:	$6 \times 4 + 6 \times \frac{4}{5} \times 6$
$\Rightarrow$ 20 + 24	:	$24 + \frac{144}{5}$
$\Rightarrow$ 220	:	264
$\Rightarrow$ 5	:	6

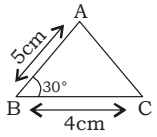
Hence B's profit = $\frac{3300 \times 6}{11}$ = **1800**

73. (B) ATQ,
LCM of 3, 4, 5, 6 and 8 = 120
but 120 is not a perfect square number
then,

2	120
2	60
2	30
3	15
	5

$\Rightarrow$ $= 2 \times 2 \times 2 \times 3 \times 5$
$\therefore$ Required Number = $2\times2\times2\times2\times3\times3\times5\times5$
$= \mathbf{3600}$

74. (A)



Required Area = $\frac{1}{2} \times 5 \times 4 \times \sin 30°$

$\Rightarrow$ $= \frac{1}{2} \times 5 \times 4 \times \frac{1}{2} = 5\text{cm}^2$

75. (A) Required number = $\frac{n(n-3)}{2} = \frac{6 \times (6-3)}{2}$
$= \mathbf{9}$

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Ambush	to attack by surprise from a hidden place	घात लगाकर आक्रमण करना
Amputate	to cut (a part, such as a limb) from the body	शरीर का कोई हिस्सा काटना
Anticipated	expected or looked forward to	अनुमानित, अपेक्षित
Bouquet	a bunch of flowers	गुलदस्ता
Dawdle	waste time	समय नष्ट करना
Defalcate	embezzle (funds with which one has been entrusted)	गबन करना
Devastate	to bring to ruin by violent action	नाश करना
Devour	eat (food) hungrily or quickly	बहुत जल्दी जल्दी भुक्कड़ की तरह खाना
Ecstasy	a state of overwhelming emotion	उल्लास, उत्साह
Evident	clear to the vision or understanding	सुस्पष्ट
Expiate	make amends or reparation for (guilt)	प्रायश्चित करना
Impeccable	free from fault or blame	त्रुटिहीन
Mitigate	make (something bad) less severe	कम करना (दर्द, परेशानी इत्यादि)
Mutilate	to cause severe damage to (the body of a person or animal	अंग भंग करना, विकृत करना
Padre	priest	पादरी
Paean	a joyous song or hymn of praise	प्रशंसात्मक गीत
Palimpsest	a very old document on which the original writing has been erased and replaced with new writing	एक बहुत पुराना दस्तावेज जिसका मूल लेखन मिटाकर नए से बदल दिया गया हो
Pedant	one who makes a show of knowledge	विदयाडम्बरी
Pervert	a person whose sexual behavior is considered not accetable	भ्रष्ट व्यक्ति, दुराचारी
Perspicuity	clarity, lucidity	स्पष्टता
Philosopher	a person who studies ideas about knowledge, truth, the nature and meaning of life, etc	दर्शनशास्त्री
Pococurante	indifferent, nonchalant	दिलचस्पी न रखनेवाला
Recant	to withdraw (a statement or belief) formally and publicly	वापस लेना
Remonstrate	to say or plead in protest	विरोध करना, आपत्ति करना
Renounce	to give up by formal declaration	त्यागना
Skimp	to spend less time, money, etc., on something than is needed	कंजूसी करना
Slander	to make a false and damaging statement against someone	अपयश फैलाना, झूठी निंदा करना
Squander	to spend extravagantly	अपव्यय करना

SSC MOCK TEST - 103 (ANSWER KEY)

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

76. (B) In a single sentence a noun and a pronoun for the same noun cannot come together. Remove 'She' from the second part of the sentence.

77. (B) Replace 'doubled' with 'double to'.

78. (B) If two actions take place in the past one after the other, the 1st action will be in Past Perfect Tense and the 2nd in simple past tense.
Here in the given sentence 'struck' is 2nd action so it should come in Simple Past Tense.
Replace 'had struck' with 'struck'.

88. (B) If 'If' clause is in ' Past Perfect Tense'
General formulae: If Past Perfect tense, Sub + Would + Have + V_3

89. (D) 'Very much' is also used with Past Participle (V_3).

90. (C) Replace 'wouldn't you' with 'should't you'. For details refer Chapter - 5 of Volume -1

91. (B) After 'deny' if any verb comes it is used in $V_{1\ +\ ing}$ form. Replace 'have admitted' with 'having admitted'.

92. (B) 'Taking into account' will come as it is at the starting of the sentence.

Note:- If your opinion differs regarding any answer, please message the mock test and question number to 8860330003

Note:- Whatsapp with Mock Test No. and Question No. at 7053606571 for any of the doubts. Join the group and you may also share your suggestions and experience of Sunday Mock Test.

Note:- If you face any problem regarding result or marks scored, please contact 9313111777