SSC MOCK TEST – 86 (SOLUTION)

1. (B) Tiger is the national animal of India and **Dolphin** is the national animal of Greece.

2. (A) January ⟹ 3 (Vowels) 4 (Consonants)
February ⟹ **3** (Vowels) **5** (Consonants)

3. (D) Pencil is used for writing and **Brush** is used for Painting

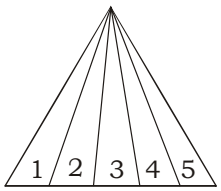
4. (D) $7 + 2 = 9 \Rightarrow 9^2 = 81 \xrightarrow{\text{Reverse}} 18$
$3 + 4 = 7 \Rightarrow 7^2 = 49 \xrightarrow{\text{Reverse}} \mathbf{94}$

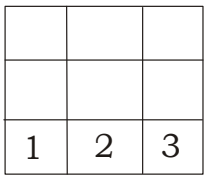
5. (C) As, M O R P → O R P M (+2, +3, −2, −3)

Similarly,

C S T N → **E V R K** (+2, +3, −2, −3)

6. (C)





No. of triangles = $5 \times \frac{6}{2}$ = 15

No. of squares = $1^2 + 2^2 + 3^2$ = 1 + 4 + 9 = 14

∴ Required difference = 15 – 14 = **1**

7. (C) Except **169**, others are multiple of 17.

8. (D) Except **Tajmahal**, others are famous temples

9. (A) All except **Aeroplane** runs on road.

10. (D) Except '**DALDA**', other words are same in reading from both the ends.

11. (B) The correct order is:-
Apparatus (4) → Apparel (3) → Appeal (5) → Application (1) → Appreciation (2)

12. (A)

32	**16**	**8**	**4**	**2**	**1**	
1	0	1	1	0		1= 32 + 8 + 4 + 1= 45
1	1	0	0	1		1= 32 + 16 + 2 = 50
1	0	1	0	1		1= 32 + 8 + 2 + 1 = 43
1	1	0	1	1		1= 32 + 16 + 4 + 2 + 1 = **55**

13. (C) The word '**INITIATE**' can't be formed.

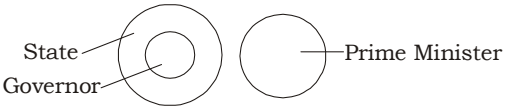
14. (C) The correct order is
Line (1) → Triangle (4) → Rhombus (2) → Hexagon (5) → Octogon (3)

15. (D) $8 \times 3 - 2 = 22 \Rightarrow 22^2 = 484$
$\Rightarrow 484 + (8+2+3) = 492$
$7 \times 9 - 2 = 61 \Rightarrow 61^2 = 3721$
$\Rightarrow 3721 + (7+2+9) = \mathbf{3739}$
$6 \times 4 - 5 = 19 \Rightarrow 19^2 = 361$
$\Rightarrow 361 + (6 + 5 + 4) = 376$
$5 \times 8 - 2 = 38 \Rightarrow 38^2 = 1444$
$\Rightarrow 1444 + (5 + 2 + 8) = 1459$

16. (C)
$$\begin{array}{r} 8\ 7\ 1 \\ -\ 3\ 8\ 9 \\ \hline 4\ \mathbf{8}\ 2 \end{array}$$

17. (A) Let us calculate the sum diagonally
24 + 18 + 37 + 24 = 100
14 + 57 + **29** = 100
67 + 33 = 100

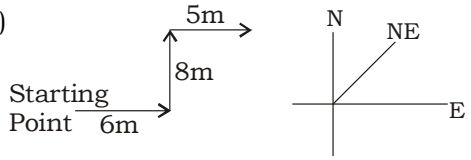
18. (B)



19. (C) We have combined two continuous prime numbers. Next two prime no's are 13 and17. So, **1317** is the answer.

20. (D)
30 (+7) 37 (+11) 48 (+13) 61 (+17) 78 (+19) 97 (+23) 120 (+29) **149**
(∵ Next prime no after 23 is 29)

21. (A)



So, Shalu is in **north-east** direction from the starting point.

22. (C)

23. (B)

24. (C)
25. (C)
26. (B)Dantidurga, a feudatory of Chalukyas, founded the Rastrakuta empire in 753 C E (AD) with their capital at Manyakhet.The word Rashtrakuta is derived from the Sanskrit words 'rashtra' signifying region and 'kuta' meaning the chief.
27. (D)The characteristic of the Tropical Savannah Region is dry and wet season.
30. (A)Scalars are quantities that have magnitude only; they are independent of direction. Vectors have both magnitude and direction. Momentum is the product of the mass and velocity of an object (p = mv). Momentum is a vector quantity, since it has a direction as well as a magnitude. The rest of quantities in option pressure, work and energy have magnitude but not direction.
31. (C) Night Vision as referenced here is the technology that provides us with the miracle of vision in total darkness and the improvement of vision in low light environments. Infra-red waves are used in night vision apparatus.
32. (B) Ethanol is produced in India from maize, sugarcane, starch, corn grain etc. Maize is easily available and maize is not costly for production. So economically. Maize is the preferrable choice.
33. (C) The National Security Council Secretariat (NSCS) is a body responsible for advising the Prime Minister on key strategic and security issues, both on domestic as well as international fronts. It is in news because of tenfold increase of fund allocation from Rs. 33 crore to Rs. 333 crore for fiscal year 2017-18. The NSCS that works as an advisory group, consists of various experts on security-related matters and is headed by Deputy NSA Arvind Gupta.
34. (A) Lakshya Sen (15) from India has become the World No. 1 Junior Badminton player, as per latest rankings of the Badminton World Federation (BWF). According to BWF current rankings, Lakshya has 16,903 points in eight tournaments that he played in the season. In 2016, he won the Senior India International Series Badminton Tournament along with the All India Senior Ranking Badminton Tournament at Itanagar. He was youngest-ever player and the first-ever from Uttarakhand to win the title at senior level. Earlier, his brother Chirag Sen was ranked number two in the world junior badminton rankings.
35. (B) The largest Committee is the committee of Estimates, given its 30 members

Committee	**No. of members**
Public Accounts	22
Estimates	30
Public Undertakings	22
Petitions	LS (15), RS (10)

36. (D) Shah Jahan recovered Kandhar in 1638 from the Iranians but lost it again in 1649 despite three campaigns. The loss of Kandhar was a big blow as it was a strategic stronghold.
37. (B) Nallamalai is not a biosphere reserve. It is hill of Eastern Ghats which stretches over Kurnool, Mahabubnagar, Guntur and Kadapa districts of the state of Andhra Pradesh.
40. (D) Air bubble in water would act as a diverging lens, because the index of refraction of air is less than that of water.
41. (D) Fertilizers are those compounds which provide essential primary nutrients (nitrogen, phosphorus and potassium) required for healthy growth of plants and crops. Nitrogeneous fertilizer provide nitrogen, phosphatic fertilizer provide phosphorus whereas Potash fertilizer provide potassium to soil. NPK fertilizers are mixed fertilizers. They provide all three essential nutrients (Nitrogen, Phosphorus and Potassium). NPK fertilizers contain nitrogen, phosphorus and potassium in different proportion depending upon the requirement of soil.
42. (A) Panda and bear belong to family Ursidae. Pandas are medium sized bears. Of all the endangered bear species they have the most distinguished colour combination.
43. (B) The Bihar government has recently introduced third gender category in school exams after the Supreme Court recognised transgender people as a third gender in 2014. Now, under the third-gender category the Board exams will be conducted by the Bihar School Examination Board (BSEB). So far, the BSEB did not allow students to take Board exams under the 'third gender' category because the exam form specified two categories, male and female.
44. (B) Rowlatt Satyagraha was the first action of Gandhi on all India level. Satyagraha was to be launched on April 6, 1919. But after the Jallianwala Bagh massacre, Gandhiji was alarmed by the atmosphere of violence and withdrew the Movement on April 18, 1919.

45. (A) Gujarat is the foremost producer of cotton. Gram is produced in Madhya Pradesh, Black pepper is produced in Kerala and Pineapple is produced highest in West Bengal.

46. (A)Panchayati Raj System was first introduced in Nagaur district of Rajasthan on October 2, 1959 followed by Andhra Pradesh.

48. (A) Aufbau principle states that 'in the ground state of the atom, the orbitals are filled in order of their increasing energies, starting with the orbital of lowest energy.' The word aufbau is German word means building up.
The increasing order of energy and hence that of filling of orbitals is as follows: 1s, 2s, 2p, 3s, 3p, 4s, 3d, 4p, 5s, 4d, 5p, 6s, 4f, 5d, 6p.

50. (B)The Indian Coast Guard (ICG) has recently celebrated its 40th raising day on February 1, 2017, which is the 4th largest Coast Guard in the world. The ICG came into existence on February 1, 1977 with an enactment of Coast Guard Act 1978, as a full-fledged independent Armed Force of the Union under the Ministry of Defence (MoD). It's primary task is to secure the Indian coasts and to enforce the regulations within the Maritime Zones of India.

51. (B) Required percentage $= \dfrac{16\frac{2}{3}\times 100}{100-16\frac{2}{3}}$

$= \dfrac{\frac{50}{3}\times 100}{100-\frac{50}{3}} = \dfrac{\frac{50}{3}\times 100}{\frac{250}{3}} = 20\%$

52. (D) Let the original radius and height of the cone be r and h respectively.

Then, original volume $= \dfrac{1}{3}\pi r^2 h$

New radius $= \dfrac{r}{2}$ and new height $= 2h$

New volume $= \dfrac{1}{3} \times \pi \times \left(\dfrac{r}{2}\right)^2 \times 2h$

$= \dfrac{\pi r^2 h}{6}$

$\therefore$ Decrease % $= \dfrac{\frac{1}{6}\pi r^2 h}{\frac{1}{3}\pi r^2 h}\times 100\ \% = 50\%$

53. (C) Total cost price = 180 × 10 + 200
= ₹ 2000
Total selling price = 180 × 12 × 0.80 = ₹ 1728
Loss = ₹ 2000 – ₹ 1728 = ₹ 272

Loss % $= \dfrac{272}{2000} \times 100 = 13.6\%$

54. (B) Let the profit and loss be ₹ x.
ATQ,
$360 - x = 240 + x$
$\Rightarrow 2x = 600$
$\Rightarrow x = 300$

Required SP $= 300 \times \dfrac{130}{100} =$ ₹ 390

55. (C) $\tan\theta = 1 \Rightarrow \theta = 45°$

$\therefore \dfrac{9\sin\theta + 11\cos\theta}{5\sin^3\theta - 3\cos^3\theta + 4\cos\theta}$

$= \dfrac{9\times\frac{1}{\sqrt{2}} + \frac{11}{\sqrt{2}}}{\frac{5}{2\sqrt{2}} - \frac{3}{2\sqrt{2}} + \frac{4}{\sqrt{2}}} = \dfrac{9\times\frac{1}{\sqrt{2}} + \frac{11}{\sqrt{2}}}{\frac{5}{2\sqrt{2}} - \frac{3}{2\sqrt{2}} + \frac{8}{2\sqrt{2}}}$

$= \dfrac{\frac{20}{\sqrt{2}}}{\frac{10}{2\sqrt{2}}} = \dfrac{20}{\sqrt{2}} \times \dfrac{2\sqrt{2}}{10} = 4$

56. (D) $x + \dfrac{1}{x} = \sqrt{3}$

Cubing both sides,

$x^3 + \dfrac{1}{x^3} + 3\left(x + \dfrac{1}{x}\right) = \left(\sqrt{3}\right)^3$

$\Rightarrow x^3 + \dfrac{1}{x^3} + 3\sqrt{3} = 3\sqrt{3}$

$\Rightarrow x^3 + \dfrac{1}{x^3} = 0$

Now, $x^{30} + x^{24} + x^{18} + x^{12} + x^6 + 1$
$= x^{24}(x^6 + 1)\, x^{12}(x^6 + 1) + 1\,(x^6 + 1)$
$= (x^{24} + x^{12} + 1)(x^6 + 1)$

$= (x^{24} + x^{12} + 1).\, x^3\left(x^3 + \dfrac{1}{x^3}\right) = 0$

57. (B) February 2015 = 28 days
Number of days, he was absent = 28 – 24 = 4 days
∴ Required salary = 24 × 800 – 4 × 1600
= ₹12800

58. (C) If Q takes x hours to complete the work alone, then,

$$\frac{1}{x} + \frac{1}{x+4} = \frac{3}{8} \Rightarrow \frac{x+4+x}{x(x+4)} = \frac{3}{8}$$

$$\Rightarrow \frac{2x+4}{x(x+4)} = \frac{3}{8} \Rightarrow 16x + 32 = 3x^2 + 12x$$

$\Rightarrow (3x + 8)(x - 4) = 0$
$\therefore x = 4$
So, Q takes 4 hours to complete the work alone.

59. (B) Number of books in each stack
= HCF of 24, 36, 64 = 4
∴ Total number of stacks

$$= \frac{24}{4} + \frac{36}{4} + \frac{64}{4}$$

= 6 + 9 + 16 = 31

60. (C) Pipe A is opened at 3 p.m., Pipe B at 4 p.m. and the pipe C at 5 p.m.
Part of the tank filled by Pipe A in

$$2 \text{ hours} = \frac{2}{3}$$

Part of the tank filled by Pipe B in

$$1 \text{ hour} = \frac{1}{4}$$

Part of the tank filled by Pipe B in

$$1 \text{ hour} = \frac{1}{4}$$

Part of the tank filled till 5 p.m.

$$= \frac{2}{3} + \frac{1}{4} = \frac{8+3}{12} = \frac{11}{12}$$

$$\text{Remaining part} = 1 - \frac{11}{12} = \frac{1}{12}$$

Net part empited, when A, B and C are opened

$$= 1 - \frac{1}{3} - \frac{1}{4} = \frac{12-4-3}{12} = \frac{5}{12}$$

$\therefore \frac{5}{12}$ Part is emptied in 1 hour

$\therefore \frac{11}{12}$ is emptied in

$$= \frac{12}{5} \times \frac{11}{12} = \frac{11}{5} \text{ hours}$$

= 2 hours 12 minutes
Hence the tank will be emptied at 7 : 12 p.m.

61. (B) In the first case,

$$\text{Boys} = 240 \times \frac{7}{12} = 140$$

$$\text{Girls} = 240 \times \frac{5}{12} = 100$$

If x boys left the school, then

$$\frac{140 - x}{100+20} = \frac{1}{1}$$

$\Rightarrow x = 20$
∴ The number of boys left the school = 20

62. (D) Volume of the block = (10 × 15 × 1) cm^3
= 150 cm^3.
Volume of the cone carved out

$$= \frac{1}{3} \times \frac{22}{7} \times 3 \times 3 \times 14 \text{ cm}^3 = 132 \text{ cm}^3$$

$$\therefore \text{Wood wasted} = (150 - 132) \times \frac{100}{150} \% = 12\%$$

63. (B) LCM of 324 and 72 = 648
HCF of 324 and 72 = 36

$$\text{Required ratio} = \frac{648}{36} = 18 : 1$$

64. (A) Let the speed of the boat in still water be x kmph. Then,
Speed downstream = $(x + 4)$ kmph,
Speed upstream = $(x - 4)$ kmph
$\therefore (x + 4) \times 1 = (x - 4) \times 2 \Rightarrow x + 4 = 2x - 8$
$\Rightarrow x = 12$ kmph
So, The speed of the boat in still water = 12kmph

65. (B) $(1 - \sin^2\alpha)(1 - \cos^2\alpha)(1 + \cot^2\beta)(1 + \tan^2\beta)$
$= \cos^2\alpha \cdot \sin^2\alpha \cdot \text{cosec}^2\beta \sec^2\beta$
$= (\cos^2\alpha \cdot \text{cosec}^2\beta)(\sin^2\alpha \cdot \sec^2\beta)$
$= (\cos^2\alpha \cdot \sec^2\alpha)(\sin^2\alpha \cdot \text{cosec}^2\alpha) = 1$
$[\alpha + \beta = 90° \Rightarrow \beta = 90° - \alpha \text{cosec } \beta = \text{cosec } (90° - \alpha)]$
$= \sec \alpha$; $\sec \beta = \sec (90° - \alpha)$
$= \text{cosec } \alpha$, $\sin \alpha \cdot \text{cosec } \alpha$
$= \cos \alpha \cdot \sec \alpha = 1$

66. (C) Let the principal be ₹ x.

Now, C.I. = $P\left[\left(1+\frac{R}{100}\right)^T - 1\right]$

$\Rightarrow 3783 = x\left[\left(1+\frac{5}{100}\right)^3 - 1\right]$

$\Rightarrow 3783 = x\left(\frac{9261}{8000} - 1\right)$

$\Rightarrow 3783 = x\left(\frac{9261-8000}{8000}\right) = \frac{1261x}{8000}$

$\Rightarrow x = \frac{3783 \times 8000}{1261}$ = ₹ 24000

$\therefore$ Required principal = ₹ 24000

67. (C) Let the installment be x.

$\therefore \frac{x}{\left(1+\frac{5}{100}\right)} + \frac{x}{\left(1+\frac{5}{100}\right)^2} = 820$

$\Rightarrow \frac{20x}{21} + \left(\frac{20}{21}\right)^2 x = 820$

$\Rightarrow \frac{20x}{21}\left(1+\frac{20}{21}\right) = 820$

$\Rightarrow \frac{20x}{21} \times \frac{41}{21} \times x = 820$

$\Rightarrow x = \frac{820 \times 21 \times 21}{20 \times 41}$

$\Rightarrow x$ = ₹ 441

$\therefore$ Required installment = ₹441

68. (D) Let the first train meet the second x hrs after its start, then

$40x + (x-3) \times 50 = 120$ (the 2nd train takes $x-2$ hrs. as the train starts two hours later than the 1st)

or, $90x = 120 + 150 = 270$

$\Rightarrow x = \frac{60}{17}$ hrs = 3 hrs

$\therefore$ Two trains meet at 11.00 a.m.

69. (A) Let the present age of mother be x years.

$\therefore$ Present age of M be $(24 - x)$ years

6 years ago,age of M = $(x - 4)$ years

and age of S = $24 - x - 4 = 20 - x$ years

ATQ,

$(x - 4) - (20 - x) = 12$

$\Rightarrow x - 4 - 20 + x = 12$

$\Rightarrow 2x - 24 = 12$

$\Rightarrow 2x = 36$

$\Rightarrow x = 18$

$\therefore$ 6 years ago, age of M = 18 – 6 = 12 years.

70. (D) First convert the ratio in ₹ 1 form

8	:	4	:	5
↓		↓		↓
$8x$		$4x$		$5x$
↓×10		↓×5		↓×2
$80x$		$20x$		$10x$

Now, Total = ₹ 1320

$[80x + 20x + 10x] = 1320$

$\Rightarrow x = 12$

$\therefore$ Value of ₹ 5 coin = 12 × 20 = 240

$\therefore$ No. of ₹ 5 coin = $\frac{240}{5}$ = 48

71. (C) Total income will be 7800

3% of A = 4% of B = 5% of C

If 5% = 1

then, 3A = 4B = 5C

L.C.M = 60

A	:	B	:	C
$\frac{60}{3}$	:	$\frac{60}{4}$	:	$\frac{60}{5}$

A : B : C = 20 : 15 : 12 $\Rightarrow$ Total = 47

B's income = $\frac{15}{47}$ × 1410 = ₹ 450

72. (D) Let the number be (47×1) + 13 = 60

$\therefore$ Required Remainder of $\frac{60}{17}$ = 9

73. (B) As, 20 + 20 × 50% = 30 and it is the birth rate of city C.

74. (A) Birth-rate of City C = 30

Birth-rate of City D = 16

$\therefore$ Required answer = $\frac{30}{16}$ = 1.875

75. (C) Required ratio = $\frac{16}{40} = \frac{2}{5}$ = 2 : 5

MEANINGS IN ALPHABETICAL ORDER

Words	Meaning in English	Meaning in Hindi
Aspersion	an attack on the reputation or integrity of someone	लांछन
Boorish	rough and bad-mannered; coarse	बेवकूफ
Celestial	relating to the sky, or outer space	आकाश संबन्धित
Chauffer	a driver	मोटर–चालक
Commend	to praise	तारीफ करना
Constellation	stars forming a recognizable pattern	तारों का समूह
Contrast	differ strikingly	विषम होना
Collaborate	work jointly on an activity	मिलकर काम करना
Equestrian	a rider or performer on horseback	घुड़सवार
Havoc	widespread destruction	सर्वनाश
Jubilation	a feeling of great happiness and triumph	आनंदोत्सव
Lapidist	a person connected with stones and the work of cutting and polishing them	पत्थर को तराशने वाला
Mayhem	violent or damaging disorder	अशांति, हलचल
Novice	beginner or learner	नौसिखिया
Pseudo name	a fictitious name	छद्म नाम
Sacrosanct	regarded as too important or valuable	पवित्र

SSC MOCK TEST - 86 (ANSWER KEY)

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

76. (C) Change 'done' into 'doing'. This is a phrase which means that if you decide to do something, do it as well as you possibly can.
77. (A) Remove 'about'.
78. (C) Remove 'like' , 'raining cats and dogs' is a phrase, which means to rain heavily.
79. (B) Put 'was' after 'he', as the sentence is not interrogative.
81. (C) If 'know, learn, wonder, teach and discover' are followed by 'to+V_1', we must have a 'wh' family preceding 'to+V_1'.
89. (C) If two actions happened in past after one another, the 1st action shall be in Simple past tense and the 2nd action shall be in Past perfect tense.
90. (B) The subject of the sentence 'The chairman' is singular.
91. (B) 'Accustom' will take 'to' and it doesn't take a reflexive pronoun.

Mock 85 correction

58 (*)

CP_1 (x) — 20% (+) → $SP_1 = \frac{6x}{5}$

CP_2 ($1500 - x$) — 50% (–) → $SP_2 = \frac{1500 - x}{2}$

ATQ,

$$x = \frac{1500 - x}{2} \Rightarrow 3x = 1500$$

$$\Rightarrow x = 500$$

$CP_1 = 500$ $\quad CP_2 = 1000$

$SP_1 = \frac{6}{5} \times 500$ $\quad SP_2 = 500$

$= 600$

Net loss = (500 +1000) – (600 + 500)

= 1500 – 1100 = ₹400

Note:- Whatsapp with Mock Test No. and Question No. at 9560866063 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