

SSC MOCK TEST - 238 (SOLUTION)

- (A) Synonym of each other
- (B) $763 + 93 = 856$
 $637 + 93 = 730$
- (A)

M	O	U	S	E	:	L	I	G	H	T
-2	+1	-2	+1	-2		-2	+1	-2	+1	-2
K	P	S	T	C		J	J	E	I	R
- (A) Except tellurium all are metals, while tellurium a non-metal.
- (D) In all other numbers, the first three digits are consecutive numbers.
- (D) Except Beans, all others are grains (cereals and coarse cereals.)
- (C) As,

M	I	R	A	C	L	E
+1	+2	+3	+4	+5	+6	+7
N	K	U	E	H	R	L

 Similarly,

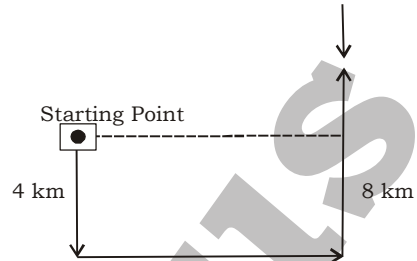
G	A	M	B	L	E
+1	+2	+3	+4	+5	+6
H	C	P	F	Q	K
- (C)

P $\Rightarrow \div$	Q $\Rightarrow \times$
R $\Rightarrow +$	S $\Rightarrow -$

 $16 Q 12 P 6 R 5 S 4$
 $\Rightarrow 16 \times 12 \div 6 + 5 - 4$
 $\Rightarrow 16 \times 2 + 5 - 4$
 $\Rightarrow 32 + 5 - 4$
 $\Rightarrow 37 - 4 = 33$
- (B)

2	1	2	4	4	5	6	7	8	8	10	11	10
- (A) $81 \times 0.5 + 0.5 = 41$, $41 \times 1 + 1 = 42$
 $42 \times 1.5 + 1.5 = 64.5$, $64.5 \times 2 + 2 = 131$
 $131 \times 2.5 + 2.5 = 330$
- (D)
- (B) $4 + (1 \times 2) = 6$
 $1 + (2 \times 2) = 5$
 $2 + (3 \times 2) = 8$
 $3 + (4 \times 2) = 11$
- (B) ncd/dcn/ncd/dcn/ncd/dcn/ncd
- (B)
- (C)

- (D) MANIA
- (A)



- Kate is facing towards North.
- (A)

Pen	Watch
Tyres	Wheel
Bus	
 - (D) Total hours of clock from 10 AM Sunday to 9 PM on following Sunday = 179 hours
 $24 \text{ hour} - 8 \text{ minutes} = 23 \text{ hour } 52 \text{ minutes}$
 $23 + \frac{52}{60} = \frac{345 + 13}{15} = \frac{358}{18} \text{ hr.}$
 $\frac{358}{18} \text{ hour of this clock} = 24 \text{ hour of correct clock}$
1 hour of this clock = $24 \times \frac{15}{358}$ hour of correct clock.
179 hour of this clock
 $= \frac{24 \times 15 \times 179}{358}$
 $= 180 \text{ hour of correct clock.}$
The correct time would be = 9 PM + 1 hour = 10 PM
 - (C) Savita's age = 4 years
then Priyanka's age = $4 \times 10 = 40$ years
3 years earlier,
Priyanka's age = $40 - 3 = 37$ years
 - (C)
 - (B)
 - (D) $(3 \div 3) \times 3 = 3$
 $(48 \div 4) \times 3 = 36$
 $(91 \div 13) \times 2 = 14$
 - (C)
 - (A)

Tea		Coffee
21	22	9
	5	
18		20
	20	Juice

27. (A) The number of leukocytes in the blood is often an indicator of disease. The normal white blood cell count is 4,000-11,000 per micro litre of blood. They make up approximately 1% of the total blood volume in a healthy adult. An increase in the number of leukocytes over the upper limits is called leukocytosis, and a decrease below the lower limit is called leukopenia.
28. (D) Concave mirror is used in solar cooker, ophthalmoscope and reflector for head light.
29. (B) **William Thomson** also codified the first two laws of thermodynamics. He was awarded by the title of knighthood in 1866 by Queen Victoria.
William Crookes noted for his discovery of the element Thallium and Crookes tube and for his cathode-ray studies.
Luis Alvarez was a Nobel Prize winner, famous for the discovery of the iridium layer and his theory that the mass extinction of dinosaurs was caused by an asteroid or comet colliding with Earth.
Robert Hooke - Hooke's law; Microscopy; Coining the term 'cell'.
30. (A) Alessandro volta is also recognized as inventor of electric battery. He invented the Voltaic pile in 1799.
31. (B) Salinity is the measurement of salt present in the water. Salt with some amount of water is produced when acid and base react. Seawater pH is typically limited to a range between 7.5 and 8.4. The most saline sea in the world is red sea.
32. (C) The Halmidi inscription is the earliest evidence of the usage of Kannada as an administrative language. The inscription was discovered in 1936 by Dr. M. H. Krishna.
33. (D) Calcutta Session, 1920, in which Mahatma Gandhi moved the Non cooperation resolution was presided by Lala Lajpat Rai.
Poona Pact was an agreement between B. R. Ambedkar and Mahatma Gandhi on behalf of depressed classes and upper caste Hindu leaders on the reservation of electoral seats for the depressed classes in the legislature of British India.
35. (B) Yemen Arab Republic introduced coinage system of 1 North Yemeni rial=100 fils in 1974, to replace former system of 1 rial = 40 buqsha = 80 halala = 160 zalat.
36. (B) Article 310 - Tenure of office of persons serving the Union or a State.
Article 312 - All India Services
- Article 317 - Removal and suspension of a member of a Public Service Commission
38. (D) **The Amazon River** in South America is the largest river by discharge volume of water in the world, and the second longest river in the world, after the Nile River. Iguazu Falls is on Amazon River. **The Missouri River** is the longest river in North America.
Saint Lawrence River is in North America. It connects the Great Lakes with the Atlantic Ocean.
41. (A) **Amrita Bazar Patrika** was debuted on 20 February 1868. It was started by Sisir Ghosh and Moti Lal Ghosh. The paper discontinued its publication in 1991.
Dainik Basumati was a Bengali daily published from Kolkata. It was first published on 6 August 1914 and stopped publication in 2003.
Devendra Nath Tagore started the Indian Mirror newspaper in early 1862. This newspaper was published in English.
Anandabazar Patrika is a Bengali-language daily newspaper owned by the ABP Group. Its editor was Anirban Chattopadhyay. It was founded on 13 March 1922.
42. (D) Other three countries are "Bosnia" and Herzegovina", "Kosovo", and "San Marino".
43. (A) West Bengal - 294
Bihar - 243
Madhya Pradesh - 230
Tamil Nadu - 234
44. (B) An atomic clock is a clock device that uses a hyperfine transition frequency in the microwave, or electron transition frequency in the optical or ultraviolet region of the electromagnetic spectrum of atoms as a frequency standard for its timekeeping element.
46. (D) **Jadav Payeng** will be awarded for artificial forest. He was also awarded with Padma Shri 2020. Swami Vivekananda Karmayogi Award started in 2013.
Dr. Niti Kumar received 2020 SERB Women Excellence Award
Gulab Kothari - Raja Ram Mohan Roy Award 2019
Kiran Mazumdar Shaw - Entrepreneur Of The Year 2019
48. (B) Aryabhata - 1975
INSAT IB - 1983
Bhaskara II - 1981
Bhaskara II is not a geostationary satellite.
49. (D) Wimbledon Open is the third annual event.
Australian Open(1st) - 1905
French Open(2nd) - 1891
US Open(4th) - 1881

50. (D) **Charminar** was built in 1591 AD in Hyderabad. It was built by Muhammad Quli Qutb Shahi to celebrate the end of a deadly plague. The Charminar lies near the bank of the river Musi.
Victoria Memorial is a large marble building in Kolkata, which was built between 1906 and 1921. It is dedicated to the memory of Queen Victoria. The memorial lies on the Maidan (grounds) by the bank of the Hooghly River.
Gateway of India is in Mumbai. Its construction was started in 1913 and completed in 1924.
India Gate was established on 10 february 1921.

51. (A) ATQ,
 $a = \frac{4}{3}$
 $\Rightarrow 3a - 4 = 0 \quad \dots(i)$
 Now, $27a^3 - 108a^2 + 144a - 317$
 $= (3a)^3 - 3 \times 3a \times 4(3a - 4) - 64 - 253$
 $= (3a - 4)^3 - 253 \quad \dots(ii)$
 Putting the value of $(3a - 4 = 0)$ in eqⁿ(ii)
 $= 0 - 253$
 $= -253$

52. (B) ATQ,
 $\tan A = \sqrt{2} - 1$
 $\sin 2A = \frac{2 \tan A}{1 + \tan^2 A}$
 $= \frac{2(\sqrt{2} - 1)}{1 + (\sqrt{2} - 1)^2}$
 $= \frac{2(\sqrt{2} - 1)}{1 + 2 + 1 - 2\sqrt{2}}$
 $= \frac{\sqrt{2} - 1}{2 - \sqrt{2}}$
 $= \frac{\sqrt{2} - 1}{\sqrt{2}(\sqrt{2} - 1)}$
 $= \frac{1}{\sqrt{2}}$

53. (C) $a^3 + b^3 + c^3 - 3abc = (a + b + c) \{(a + b + c)^2 - 3(ab + bc + ca)\}$
 $= 15(225 - 3 \times 83)$
 $= 15(225 - 249)$
 $= 15 \times (-24)$
 $= -360$

54. (D) ATQ,
 $3 \cos \theta = 5 \sin \theta$
 $\Rightarrow \tan \theta = \frac{3}{5}$
 $\Rightarrow \sec \theta = \sqrt{1 + \tan^2 a}$
 $= \sqrt{1 + \frac{9}{25}}$

$$= \frac{\sqrt{34}}{5}$$

$$= \frac{5 \sin \theta - 2 \sec^3 \theta + 2 \cos \theta}{5 \sin \theta + 2 \sec^3 \theta - 2 \cos \theta}$$

$$= \frac{5 \tan \theta - 2 \sec^4 \theta + 2}{5 \tan \theta + 2 \sec^4 \theta - 2}$$

By putting $\tan \theta = \frac{3}{5}$

$$= \frac{5 - 2 \sec^4 \theta + 2}{3 + 2 \sec^4 \theta - 2}$$

$$= \frac{5 - \frac{2 \times 1156}{625}}{1 + \frac{2 \times 1156}{625}}$$

$$= \frac{3125 - 2312}{625 + 2312}$$

$$= \frac{813}{2937}$$

$$= \frac{271}{979}$$

55. (A) ATQ,
 Area = $\frac{1}{2} (3x + 5x) \times 24$
 $\Rightarrow 960 = \frac{8x}{2} \times 24$

$$\Rightarrow x = \frac{960 \times 2}{192}$$

$$\Rightarrow x = 10 \text{ cm}$$

Largest side = $5x$

By putting $x = 10$

$$= 5 \times 10$$

$$= 50 \text{ cm}$$

56. (A) $(k + 1)x + ky = 3$

$$y = \frac{-(k + 1)x}{k} + \frac{3}{k} \quad \dots(i)$$

$$\text{and } y = \frac{5x}{2} + \frac{7}{2} \quad \dots(ii)$$

If two lines are perpendicular to each other than

$$m_1 \times m_2 = -1$$

$$-\left(\frac{k + 1}{k}\right) \times \frac{5}{2} = -1$$

$$\Rightarrow 5k + 5 = 2k$$

$$k = \frac{-5}{3}$$

57. (B) ATQ,

$$\text{Area} = \frac{4}{3} \sqrt{S_m(S_m - m_1)(S_m - m_2)(S_m - m_3)}$$

$$= \frac{4}{3} \times (\text{Area of triangle})$$

$$= \frac{4}{3} \times \frac{1}{2} \times 9 \times 12$$

$$= 72 \text{ cm}^2$$

58. (D) Total lateral surface area = 24 cm²

$$\frac{1}{2} \times \text{Base perimeter} \times \text{slant height} = 24$$

$$\Rightarrow \frac{1}{2} \times 4 \times 9 \times 8 = 24$$

$$\Rightarrow a = \frac{24}{16} = \frac{3}{2}$$

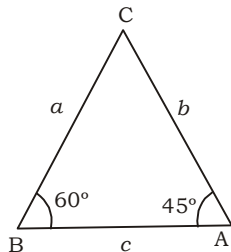
Required ratio

$$= 24 : \left(\frac{3}{2}\right)^2$$

$$= 24 : \frac{9}{4}$$

$$= 32 : 3$$

59. (B) ATQ,



From, Sine Rule

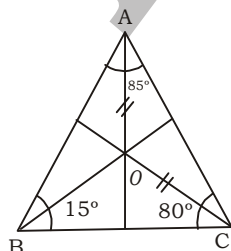
$$\frac{a}{\sin 45^\circ} = \frac{b}{\sin 60^\circ} = \frac{c}{\sin 75^\circ} = k$$

$$a = \frac{k}{\sqrt{2}}, b = \frac{\sqrt{3}}{2} k, c = k \sin 75^\circ = k \left(\frac{\sqrt{3} + 1}{2\sqrt{2}}\right)$$

$$a : b : c = \frac{k}{\sqrt{2}} : \frac{\sqrt{3}}{2} k : \frac{k(\sqrt{3} + 1)}{2\sqrt{2}}$$

$$= 2 : \sqrt{6} : (\sqrt{3} + 1)$$

60. (D)



In $\triangle ABC$

$$\angle B = 180^\circ - 85^\circ - 80^\circ = 15^\circ$$

then, $\angle AOC = 30^\circ$

In $\triangle OAC$

$$\therefore OC = OA$$

$$\therefore \angle C = \angle A$$

$$\angle ACO + \angle OAC + 30^\circ = 180^\circ$$

$$2\angle OAC = 150^\circ$$

$$\angle OAC = 75^\circ$$

Hence $\angle OAC = 75^\circ$

61. (B) ATQ,

Boys	: Girls
500	: 100

↓ 80% present	↓ 60% student present
400	60

$$\text{Required percentage} = \frac{600 - 460}{600} \times 100$$

$$= 23\frac{1}{3}\%$$

Hence, 23 $\frac{1}{3}$ % student are absent

62. (C) $\frac{M_1 D_1 H_1 N_1}{W_1} = \frac{M_2 D_2 H_2 N_2}{W_2}$

$$\frac{187 \times 65 \times 15}{\frac{3}{5}} = \frac{(x + 187) \times 10 \times 17}{\frac{2}{5}}$$

$$(x + 187) \times 17 = 187 \times 13 \times 5$$

$$x = 528$$

Hence Additional men employed 528.

63. (D) ATQ,

Let CP is ₹ x

$$MP = ₹ \frac{115x}{100}$$

$$SP = ₹ \frac{75}{100} \times \frac{115x}{100}$$

$$\text{Loss percentage} = \frac{x - \frac{(75 \times 115x)}{100 \times 100}}{x} \times 100$$

$$= \frac{100 - .75 \times 115}{100} \times 100$$

$$= 13.75\%$$

64. (D) ATQ,

Let first train speed V_A and second train is V_B

Varanasi Lucknow

$$V_B \xrightarrow{x = 55\text{km}} V_A$$

11:30am
140km/hr

11:30am
110km/hr

Distance travelled by A in 30 minutes

$$= \frac{30}{60} \times 110$$

$$= 55 \text{ km}$$

Relative velocity = 30 km/hr

$$\text{Time of catch} = \frac{55}{30} = \frac{11}{6} \text{ hr}$$

From they will meet from Varansi

$$= 140 \times \frac{11}{6}$$

$$= 256 \frac{2}{3} \text{ km}$$

65. (B) ATQ, $\frac{A+B}{A-B} = \frac{11}{1}$... (i)

and $\frac{B+C}{B-C} = \frac{11}{1}$... (ii)

From (i) and (ii)

$$A : B : C$$

$$36 : 30 : 25$$

$$91 \text{ units} \rightarrow ₹ 1,82,000$$

$$30 \text{ units} \rightarrow ₹ \frac{1,82,000 \times 30}{91}$$

$$= ₹ 60,000$$

Hence, Total salary of B is ₹ 60,000

66. (C) ATQ,
Income : Expenditure : Saving
100 68 32

$$\downarrow +20\% \quad \downarrow +17\% \quad \downarrow +9\frac{3}{8}\%$$

$$120 \quad 85 \quad 35$$

$$\text{Required percentage} = \frac{17}{68} \times 100$$

$$= 25\%$$

67. (B) ATQ,

	Watch A	Watch B
CP	$\rightarrow 50 \times 39$	50×59
P/L	$\rightarrow +9 \times 39$	-11×59
SP	$\rightarrow 59 \times 39$	39×59

(For equal selling price)
Total cost price = $(50 \times 39 + 50 \times 59)$
 $= 98 \times 59$
 $98 \times 50 \rightarrow ₹ 800$

$$50 \times 39 \rightarrow ₹ \frac{800 \times 50 \times 39}{98 \times 50} = ₹ 318.75$$

Hence, cost price of watch A is ₹ 318.75

Now, Cost Price of watch B

$$98 \times 50 \rightarrow ₹ 800$$

$$50 \times 59 \rightarrow ₹ \frac{800 \times 50 \times 59}{98 \times 50}$$

$$= ₹ 481.63$$

Hence, cost Price of watch B is ₹ 481.63

68. (B) ATQ,

$$\sqrt[3]{-2197} \times \sqrt[3]{-125} \div \sqrt[3]{\frac{27}{512}}$$

$$= (-13 \times -5) \div \frac{3}{8}$$

$$= \frac{520}{3}$$

69. (D) ATQ,

$$A \rightarrow \text{Cu} : \text{Zn} = 4 : 3 = 7$$

$$B \rightarrow \text{Cu} : \text{Zn} = 5 : 2 = 7$$

A and B are taken in ratio of 5 : 6

$$A \rightarrow \text{Cu} : \text{Zn} = 20 : 15$$

$$B \rightarrow \text{Cu} : \text{Zn} = 30 : 12$$

Total quantity = 77 units

Total quantity of Zn = 27 units

$$\text{Required percentage} = \frac{27}{77} \times 100$$

$$= 35\%$$

70. (B) LCM of (4 and 6) = 12

First we find 1 to 900

$$= \frac{900}{12} = 75 \text{ numbers}$$

and From 1 to 200

$$= \frac{200}{12} = 16 \text{ number}$$

Now, from (201 to 900)

$$= 75 - 16$$

$$= 59$$

But we cannot include 900 which are divisible by 4 and 6 because number are required between 200 to 900.

$$= 59 - 1$$

$$= 58$$

Hence,

58 numbers are divisible by 4 and 6 both.

71. (C) Area of shaded part = Area of square - area of semicircle

$$= (12)^2 - \pi \left(\frac{12}{2} \right)^2$$

$$= 144 - \frac{22}{7} \times 36$$

$$= 1008 - \frac{792}{7}$$

$$= \frac{216}{7} \text{ cm}^2$$

72. (B) Total number of candidates appearing in all states in the year 1997
= 5200 + 7500 + 6400 + 8100
= 27,200

$$= \frac{4290}{4390} \times 100$$

$$= 97.72\%$$

73. (B) ATQ,
Qualified candidates in year 1998
= 980 + 1050 + 1020 + 1240
= 4290
Qualified candidates in year 2001
= 1125 + 1020 + 1250 + 995
= 4390
Required percentage

74. (B) Difference between qualified candidates in states M and P in year 1998
= 1020 - 980
= 40

75. (C) ATQ,
Average = $\frac{8100 + 9500 + 8700 + 9700 + 8950}{5}$
= 8,990

SSC MOCK TEST - 238 (ANSWER KEY)

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

76. (B) Plogging is a combination of jogging with picking up litter.
Use 'picks' in place of 'picking'. It is general truth.
77. (C) Replace 'his' with 'its'. Subject is 'Government'.
78. (D) Present Conditional Sentence V₂ will be used.
79. (B) Intentional - done on purpose (deliberate)
Integral - essential
Intensive - highly concentrated
Intuitive - readily learned
86. (A) For measuring use 'by the'.
87. (B) 'are used to' means 'accustomed to', so should be followed by a Gerund.

MEANINGS IN ALPHABETICAL ORDER

Brisk	active and energetic	फुर्तिला
Conducive	making a certain situation possible	अनुकूल
Corroborate	confirm or give support to a theory	पुष्टि करना
Cower	crouch down in fear	डर से झुकना
Crepuscular	occurring or active during twilight	सांय के समय होने वाला (सांध्यकालीन)
Elaborate	planned or carried out with great care	विस्तृत
Estuary	the tidal mouth of a large river, where the tide meets the stream	मुहाना
Fancy	imagine	कल्पना करना
Flicker	(source of light) shine unsteadily	अस्थिरता से चमकना
Frail	physically weak	कमजोर (शारारिक)
Gauche	lacking social experience	सामाजिक अनुभव की कमी
Hindrance	a thing that provides resistance or obstruction to something	रूकावट
Implement	put a decision, plan into effect	लागू करना
Lagoon	a stretch of salt water separated from the sea by a low sandbank or coral reef	खाड़ी, कच्छ
Louche	not reputable or decent	असम्मानित
Maritime	bordering on the sea	समुद्री सीमा से संबंधित
Matutinal	occurring in the morning , early	सुबह के समय होने वाला (प्रातः कालीन)
Mutter	say something in a low or barely audible voice	धीमी आवाज में कुछ कहना
Orientation	a person's basic attitude towards a particular subject	किसी विशेष विषय के प्रति किसी व्यक्ति का मूल दृष्टिकोण
Paraphernalia	miscellaneous articles	विविध वस्तुएँ
Paternal	relating to a father	पिता से संबंधित
Robust	having or exhibiting strength	मजबूत
Sting	to cause to suffer acutely	तीव्र पीड़ा (चुभन/डंक)
Strait	a narrow passage of water connecting two seas or two other large areas of water	जलसंधि
Stricture	a restriction on a person or activity	व्यक्ति या गतिविधि पर प्रतिबंध