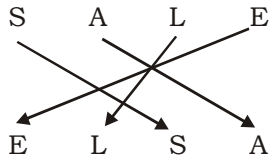
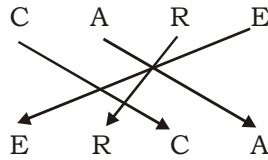


SSC MOCK TEST - 311 (SOLUTION)

1. (B) As,



Similarly,



2. (C) As,

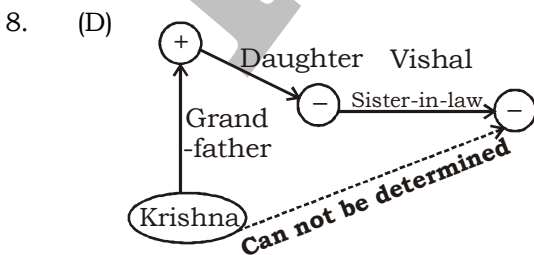
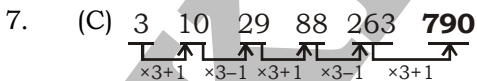
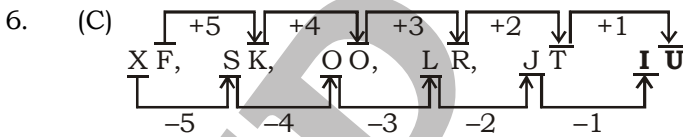
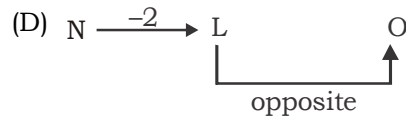
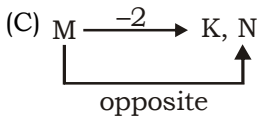
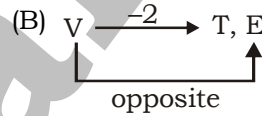
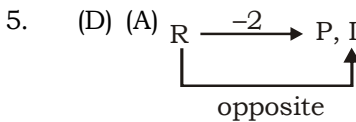
$$1 + 2 + 5 \xrightarrow{8^2} 64$$

Similarly,

$$2 + 5 + 0 \xrightarrow{7^2} 49$$

3. (A) Horse has hoof, while cat has paw.

4. (D) Eye, Nose and skin are sense organs, while heart is not a sense organ.



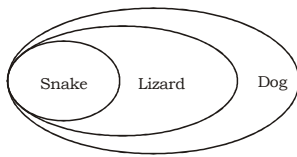
9. (C) As,

S	Y	N	O	N	Y	M	S
↓	↓	↓	↓	↓	↓	↓	↓
19	25	14	15	14	25	13	19

Similarly,

S	A	L	E	S	M	A	N
↓	↓	↓	↓	↓	↓	↓	↓
19	1	12	5	19	13	1	14

10. (C)



I. False II. True III. True

Only Conclusion II and III follow

11. (C) From the given dice, we can conclude that 6, 4, 1 and 2 dots appear adjacent to 3 dots. Clearly, there will be 5 dots on the face opposite the face with 3 dots.

12. (A) $2 \times 9 + 3 \times 17 = 18 + 51 = 69$

$$2 \times 13 + 3 \times 11 = 26 + 33 = 59$$

$$\text{Then, } 2 \times ? + 3 \times 13 = 49$$

$$2 \times ? = 10$$

$$? = 5$$

13. (B) $(7 \times 3) = 21$ and $(9 \times 3) = 27$
and $(4 \times 9) = 36$ and $(2 \times 9) = 18$

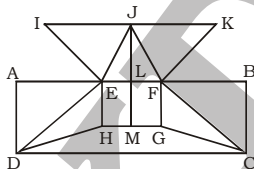
Therefore,

$$(9 \times 6) = 54 \text{ and } (4 \times 6) = 24$$

14. (B) Sachin himself is the only child of his father.

So, Sachin's wife is Priya's mother.

15. (B) The given below figure is:



Horizontal lines are IK, AB, HG and DC i.e. 4 in number.

Vertical lines are AD, EH, JM, FG and BC i.e. 5 in number.

Slanting lines are IE, JE, JF, KF, DE, DH, FC and GC i.e. 8 in number.

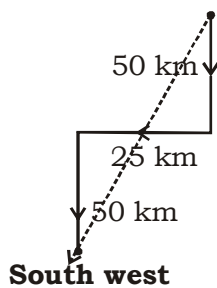
Thus, there are $4 + 5 + 8 = 17$ straight lines in the given figure.

16. (B)

All the thieves are criminals, while judge is different from these.

17. (C) def/efg/fgh/ghi

18. (A)

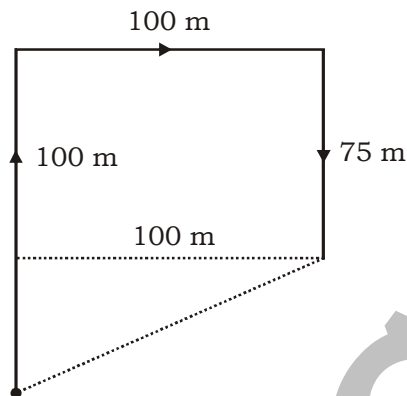


∴ Required direction is south-west.

19. (D) 7 V 42 M 56 L 8 S 5

After putting the value,
 $= 7 - 42 + 56 \div 8 \times 5$
 $= 7 - 42 + 7 \times 5$
 $= 7 - 42 + 35 = 0$

20. (A)



∴ Required distance = $\sqrt{100^2 + 25^2}$
 $= \sqrt{10000 + 625} = \sqrt{10625}$
 $= \sqrt{5 \times 5 \times 5 \times 3 \times 3 \times 3 \times 3} = 45\sqrt{5} \text{ m}$

21. (C) As,

RAM $\rightarrow (18)^2 + (1)^2 + (13)^2 = 494$

Similarly,

SITA $\rightarrow (19)^2 + (9)^2 + (20)^2 + (1)^2 = 843$

22. (A)

23. (B)

24. (A)

25. (A)

26. (A) Buland Darwaza is not a part of the Qutub Complex. The Buland darwaza is situated in Fatehpur Sikri, Agra. It was built to commemorate his victory over Gujarat. It is the world's highest gateway and is a Mughal architecture example.

27. (C) ISO 14001 is an international standard for designing and implementing an environmental management system(EMS). ISO 14001 requirements provide a framework and guidelines for creating your environmental management system so that you do not miss important elements needed for an EMS to be successful.

28. (D) National Bank for Agriculture and Rural Development (NABARD) was established on 12 July 1982 by an Act of the Parliament.

30. (C) Article 368 in Part XX of the Constitution deals with the powers of Parliament to amend the Constitution and its procedure.
31. (D) Oesophagus is the food tube. It is an organ in vertebrates, by which food travels from the pharynx to the stomach, aided by peristaltic contractions.
32. (D) The first South Asian Games were hosted by Kathmandu, Nepal in 1984. From 1984 to 1987 they were held every year except 1986, as it was a year of Commonwealth Games and Asian Games.
33. (D) Hajar Churashir Maa (No. 1084's Mother) is a 1974 Bengali novel written by Ramon Magsaysay Award winner Mahasweta Devi.
35. (A) The Earth rotates through 15° each hour so to rotate through 30° degrees it would take 2 hours.
37. (B) The first electron shell which is the nearest to the nucleus never holds more than 'n' electrons, where 'n' is equal to 2. Electrons are part of the lepton particle family's first generation, and are usually considered to be elementary particles since they have no established components or substructure.
39. (D) Patkai Range is the hills on India's North Eastern border with Burma. Indian states along the Patkai range are Nagaland, Meghalaya, Mizoram and Manipur.
40. (D) When the soluble salts of magnesium and calcium are present in the form of chlorides and sulphides in water, we call it permanent hardness because this hardness cannot be removed by boiling. We can remove this hardness by treating the water with washing soda.
41. (D) 107th Indian Science Congress will be held at University of Agricultural Sciences, GKVK Campus, Bangalore, Karnataka from 3-7th January, 2020.
44. (B) Aphanan is the name of the anti-hijacking exercise conducted by the Indian Navy in collaboration with the Indian Coast Guard. It was conducted by the Indian Navy, Indian Coast Guard, and Cochin Port Trust and other concerned stakeholders in Kerala.
46. (B) The tidal mouth of a river where fresh and saline water gets mixed is known as an Estuary.
47. (A) The Battle of Khanwa was fought near the village of Khanwa, in Bharatpur District of Rajasthan, on March 16, 1527. It was fought between the invading forces of the first Mughal Emperor Babur and the Rajput forces led by Rana Sanga of Mewar, after the Battle of Panipat.
48. (B) Human alphaherpesvirus 3 (HHV-3), usually referred to as the varicella-zoster virus (VZV), is one of nine herpesviruses known to infect humans. It causes chickenpox (varicella), a disease most commonly affecting children, teens, and young adults, and shingles (herpes zoster) in adults; shingles is rare in children.
50. (C) Punjab's Harmilan Kaur Bains stole the thunder from the sprinters by breaking Sunita Rani's long-standing national record in the 1,500 metres on the second day of the 60th National Open Athletics Championships in the Jawaharlal Nehru Stadium in Hanamkonda in Telangana.

51. (D) ATQ,

Spirit	:	Water
Initial ratio	7×3	6×3
Final ratio	3×7	2×7

Spirit is added not Water. So Water will be equal.

Spirit : Water = Total

Initial ratio	7	:	6)	4	= 13
Final ratio	9	:	6			

13 unit = 91 litre

1 unit = 7 litres

2 unit = $7 \times 2 = 14$ litres

52. (B) $\frac{8 \text{ person} \times 8 \text{ hour}}{9600} = \frac{16 \text{ person} \times 5 \text{ hour}}{\text{Amount}}$

$$\text{Amount} = \frac{16 \text{ person} \times 5 \text{ hour} \times 9600}{8 \text{ person} \times 8 \text{ hour}} = ₹ 12000$$

53. (A)

	Let total capacity	efficiency
A = 10	30	3
B = 15		2

A fills 3 unit in first minute and B empties 2 unit in second minute.

(A - B)'s efficiency = (3 - 2) in 2 minutes

= 1 unit in 2 minutes

Efficiency Minute

1 unit 2

27 unit = 27 × 2 = 54 minutes

Next 3 unit, only A can fill in 1 minute

27 + 3 unit = 54 + 1

30 unit = 55 minutes

54. (B) Speed of man in still water, $x = 2.75 \text{ km/hr}$

Speed of the stream, $y = 1.25 \text{ km/hr}$

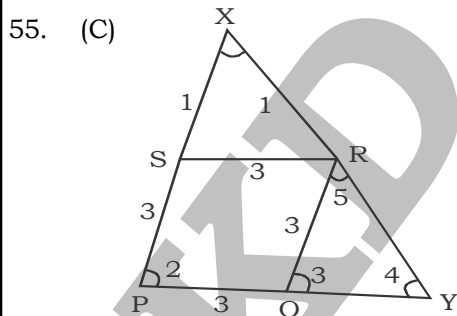
Upstream speed = $(x - y) = (2.75 - 1.25) \text{ km/hr} = 1.5 \text{ km/hr}$

$$\text{Upstream time} = \frac{\text{Distance}}{\text{Upstream speed}} = \frac{18 \text{ km}}{1.5 \text{ km/hr}} = 12 \text{ hr}$$

Downstream speed = $x + y = (2.75 + 1.25) \text{ km/hr} = 4 \text{ km/hr}$

$$\text{Downstream time} = \frac{\text{Distance}}{\text{Downstream speed}} = \frac{18 \text{ km}}{4 \text{ km/hr}} = 4.5 \text{ hr}$$

Total time = $(12 + 4.5) = 16.5 \text{ hrs}$



PQRS is a rhombus

$PQ = QR = RS = SP$

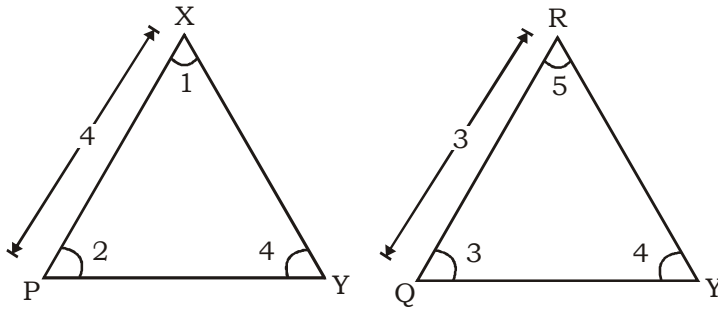
$$SX = \frac{1}{3}PQ \quad (\text{Given})$$

$$\frac{SX}{PQ} = \frac{1}{3}$$

In a rhombus $\angle 2 = \angle 3$

$$\Delta PXY \sim QRY$$

$\angle Y$ is common and $\angle 2 = \angle 3$



$$\frac{PX}{QR} = \frac{PY}{QY}$$

$$\frac{PX}{QR} = \frac{4}{3}$$

$$\frac{PQ + QY}{QY} = \frac{4}{3}$$

$$\frac{PQ}{QY} + 1 = \frac{4}{3}$$

$$\frac{PQ}{QY} = \frac{4}{3} - 1$$

$$\frac{PQ}{QY} = \frac{1}{3}$$

$$PQ : QY = 1 : 3$$

56. (B) $S = 1 - \frac{1}{10} + \frac{1}{10^2} - \frac{1}{10^3} + \dots \infty$

It is Geometric series to infinity

$$a = 1 \text{ and common ratio } (r) = \frac{-1}{10}$$

$$S_{\infty} = \frac{a}{1-r} = \frac{1}{1 - \left(\frac{-1}{10}\right)} = \frac{10}{11} = 0.\overline{90}$$

\therefore The value correct up to 6 places of decimal = 0.909090

57. (C) Distance = $\frac{7 \times 8}{8-7} \times \frac{6}{60} = \frac{56}{10} = 5.6 \text{ km}$

Shortcut:-

<u>Speed</u>	<u>Time</u>	<u>Actual Time</u>
7	8	+6 min late
8	7	0 min
	1 hour	6 min
	or 60 min	

\therefore Actual distance = $\frac{6}{60} \times 56 = 5.6 \text{ km}$

58. (A) Volume of original cone (V_1) = $\frac{1}{3} \pi r^2 h$

Radius of new cone (r_1) = $\frac{r}{2}$

Height (h_1) = h

Volume (V_2) = $\frac{1}{3} \pi r_1^2 h_1 = \frac{1}{3} \pi \times \frac{r^2}{4} \times h = \frac{\pi}{12} r^2 h$

\therefore Required ratio $\left(\frac{V_2}{V_1}\right) = \frac{\pi r^2 h \times 3}{12 \times \pi r^2 h} = \frac{1}{4} = 1 : 4$

59. (A) Let sides be $15x$, $20x$ and $25x$ respectively.
 $(15x)^2 + (20x)^2 = (25x)^2$ (Pythagoras theorem)

Δ is a right angle triangle.

Area = $\frac{1}{2} \times 15x \times 20x = 15000$

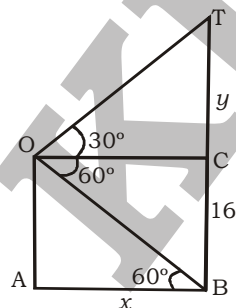
$150x^2 = 15000$

$x^2 = 100$

$x = 10$

\therefore Perimeter of triangle = $(15 + 20 + 25) \times 10 = (60) \times 10 = 600 \text{ cm}$

60. (B)



In ΔTOC ,

$\tan 30^\circ = \frac{y}{x}$

$$\frac{1}{\sqrt{3}} = \frac{y}{x}$$

$$x = \sqrt{3}y$$

In $\triangle AOB$,

$$\frac{16}{x} = \tan 60^\circ$$

$$\sqrt{3} = \frac{16}{x}$$

$$16 = \sqrt{3}x$$

$$16 = \sqrt{3} \times \sqrt{3}y \quad (\because x = \sqrt{3}y)$$

$$\frac{16}{3} = y$$

$$y = 5.33$$

So, height of tower = $(16 + 5.33) = 21.33$ m

61. (C) Total pupils wearing spectacles = $\frac{45}{100} \times \frac{20}{100} \times 600 + \frac{55}{100} \times \frac{30}{100} \times 600$
 $= 54 + 99 = 153$

$$\therefore \text{Required percentage} = \left(\frac{153}{600} \times 100 \right) \% = 25.5\%$$

62. (B) $A = P \left(1 + \frac{r}{100} \right)^T$

$$1102.5 = 1000 \left(1 + \frac{5}{100} \right)^T$$

$$\left(\frac{21}{20} \right)^T = \frac{1102.50}{1000}$$

$$\left(\frac{21}{20} \right)^T = \left(\frac{21}{20} \right)^2$$

$$T = 2 \text{ years}$$

63. (A) Side of a cube = HCF of 6, 42, 45 = 3 cm

$$\text{So, least possible number of cubes} = \frac{6 \times 42 \times 45}{3 \times 3 \times 3} = 420$$

64. (C) Filling Pipe $\frac{6}{42} \times 7$
 Filling Pipe + leakage $\frac{6}{1}$

$$\therefore \text{Time taken by leakage to empty the tank} = \frac{42}{1} = 42 \text{ hours}$$

65. (D) Percentage discount = $\left(\frac{MP - SP}{MP} \times 100\right)\%$

$$= \left(\frac{700 - 625}{700} \times 100\right)\% = 10.71\%$$

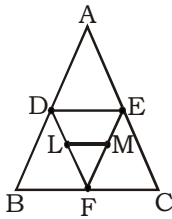
66. (A) $\frac{a + 2\sqrt{ab} + b}{\sqrt{a} + \sqrt{b}} + \frac{a - 2\sqrt{ab} + b}{\sqrt{a} - \sqrt{b}}$

$$= \frac{(\sqrt{a} + \sqrt{b})^2}{\sqrt{a} + \sqrt{b}} + \frac{(\sqrt{a} - \sqrt{b})^2}{\sqrt{a} - \sqrt{b}}$$

$$= \sqrt{a} + \sqrt{b} + \sqrt{a} - \sqrt{b}$$

$$= 2\sqrt{a} = 2\sqrt{9} = 6$$

67. (A)



$$\frac{AB}{AD} = \frac{BC}{DE}$$

[By Similar triangles]

$$\frac{2}{1} = \frac{BC}{DE}$$

$$BC = 2DE$$

$$\frac{LM}{DE} = \frac{LF}{DF}$$

[By Similar triangles]

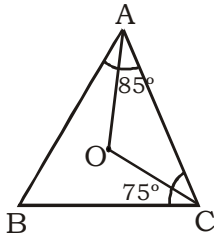
$$\frac{LM}{DE} = \frac{1}{2}$$

$$DE = 2LM$$

$$2 \times 2 LM = BC$$

$$LM : BC = 1 : 4$$

68. (D)



In $\triangle ABC$,

$$\angle ABC = 180^\circ - 85^\circ - 75^\circ = 20^\circ$$

$$\angle AOC = 2 \times \angle ABC = 2 \times 20^\circ = 40^\circ$$

$$\angle OAC = \frac{1}{2}(180^\circ - \angle AOC)$$

$$= \frac{1}{2}(180^\circ - 40^\circ) = 70^\circ$$

69. (C) Length of tree having 80 m shadow = $\frac{24}{18} \times 60 = 80$ m

70. (A) Fourth proportional = $\frac{9}{16} \times 8 = 4.5$

71. (A) Number of students qualified = $45 + 50 + 40 + 35 + 10 = 180$

72. (A) Number of students whose marks are more than 40 and less than or equal to 50 = 45

73. (D)

74. (B) Required % = $\left(\frac{45 + 50}{200} \times 100 \right) \% = 47.5\%$

75. (C) Required ratio = $85 : 20 = 17 : 4$

MEANINGS IN ALPHABETICAL ORDER

Abridgement	a shortened version	संक्षेपण
Almanac	an annual calendar containing important dates and statistical information	पंचांग
Anachronism	something that belongs to another time	अलग समय काल का
Consensus	a general agreement	आमराय
Contagious	(of a disease) spread from one person or organism to another by direct or indirect contact	संक्रामक
Council	an advisory, deliberative, or legislative body of people formally constituted	परिषद्
Councilor	a member of a council	पार्षद
Counsel	advice	सलाह
Counselor	a person trained to give guidance on personal, social, or psychological problems	परामर्श देने वाला
Efficacy	the ability to produce a desired or intended result	प्रभाव
Envisaged	something conceived of as a possibility or a desirable future event	परिकल्पित
Fortify	strengthen (a place) with defensive works	मजबूत करना
Gravity	seriousness	गंभीरता
Hanker	feel a strong desire for or to do something	लालसा करना
Levity	a manner lacking seriousness	ओछापन
Linguistics	the scientific study of language and its structure	भाषा विज्ञान
Nadir	the lowest point	निम्नतम बिंदु
Nauseous	affected with nausea; inclined to vomit	घिनौना
Outrageous	shockingly bad or excessive	अपमानजनक
Pacification	the act of appeasing someone	शांत करना
Provocation	action that makes someone annoyed or angry	उकसावा
Semantics	the branch of linguistics and logic concerned with meaning	शब्दों के अर्थ की विद्या
Status quo	the existing state of affairs	वर्तमान स्थिति
Substance	the quality of being important, valid, or significant	महत्तता
Substantive	having a firm basis in reality and therefore important, meaningful, or considerable	मौलिक
Worrisome	causing anxiety or concern	चिंताप्रद
Zenith	the highest point	शीर्ष बिंदु

SSC MOCK TEST - 311 (ANSWER KEY)

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

76. (C) Replace 'with' by 'of/about'.
77. (B) Change 'theft' into 'thefts', as 'innumerable' will be followed by a plural noun.
90. (D) The correct spelling is 'Millennium'.
91. (A) The correct spelling is 'Questionnaire'.