

SSC Solution

1. (B)
$$\begin{array}{cccccc} P & A & N & D & O & G \\ +2 & +4 & -2 & +2 & +4 & -2 \\ \hline R & E & L & F & S & E \end{array}$$

2. (A) $76 \Rightarrow 7 \times \frac{6}{2} = 21, 48 \Rightarrow 4 \times \frac{8}{2} = 16$

3. (C) $482 \Rightarrow 4 + 8 + 2 = 14 \Rightarrow \frac{14}{2} = 7$

$543 \Rightarrow 5 + 3 + 4 = 12 \Rightarrow \frac{12}{2} = 6$

4. (B) Snake is a reptile and Duck is an Aquatic animal.

5. (A) Only April month is of 30 days.

6. (D) Except Charminar, all are in Maharashtra state.

7. (D) $123 \Rightarrow 1 + 2 + 3 = 6, 233 \Rightarrow 2 + 3 + 3 = 8$

$142 \Rightarrow 1 + 4 + 2 = 7, 235 \Rightarrow 2 + 3 + 5 = 10 \neq 9$

8. (A) Except Ashoka, all are Mughal Emperor.

9. (B) O R A N G E

10. (A) Neither conclusion I nor II follows.

11. (C) $7 \times 8 = 56 \Rightarrow \frac{56}{2} = 28, 9 \times 10 = 90 \Rightarrow \frac{90}{2} = 45$

$12 \times 6 = 72 \Rightarrow \frac{72}{2} = 36$

12. (B) $8 + 6 = 14 \Rightarrow \frac{14}{2} = 7, 9 + 13 = 22 \Rightarrow \frac{22}{2} = 11$

and $3 + 5 = 8 \Rightarrow \frac{8}{2} = 4$

13. (B)
$$\begin{array}{r} 638 \\ -279 \\ \hline 359 \end{array}$$

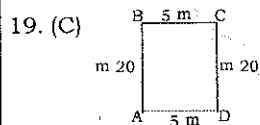
14. (B)

15. (A) After changing the signs,
 $20 \div 4 \times 6 - 9 + 4 = 5 \times 6 - 9 + 4$
 $= 30 - 9 + 4 = 34 - 9 = 25$

16. (B)
$$\begin{array}{cccccc} 0 & 1 & 4 & 15 & 64 & 325 & 1956 \\ \times 1+1 & \times 2+2 & \times 3+3 & \times 4+4 & \times 5+5 & \times 6+6 \end{array}$$

17. (C)
$$\begin{array}{cccccc} 63 & 72 & 90 & 117 & 153 & 198 \\ +9 & +18 & +27 & +36 & +45 \\ \hline +9 & +9 & +9 & +9 \end{array}$$

18. (B) Apple, Approach, **Appropriate**, Approval, Approve



\therefore Required distance (AD) = 5 m

20. (D) $3+2+5 \Rightarrow 3 \times 2 \times 5 = 30, 2+4+6 \Rightarrow 2 \times 4 \times 6 = 48$
 $7+3+2 \Rightarrow 7 \times 3 \times 2 = 42, 5+6+4 \Rightarrow 5 \times 6 \times 4 = 120$

21. (C) S O C I A L
4 5 3 2 6 1

22. (B) Digit '2' represents the teachers who are social workers.

23. (D) $8 a 3 c 24 b 12 d 19$
 $8 \times 3 + 24 \div 12 - 19$
 $= 24 + 2 - 19$
 $= 7$

24. (A)

25. (C) Total number of triangles = 21

26. (C) In 1018, Rajendra conquered Ceylon (Sri Lanka). Earlier Rajaraja I conquered only half of it.

27. (A) The Nile River begins at the equator and ends at the Mediterranean Sea. It flows through Egypt, Sudan, Uganda, Ethiopia, Zaire, the Sahara Desert, Kenya, Tanzania, Eritrea, Burundi and Rwanda. The Nile River is the longest river in the world. It is often associated with Egypt. It has two tributaries. The White Nile starts at Lake Victoria, and the Blue Nile starts at Lake Tana. The two tributaries merge in Sudan.

29. (B) In 1881 the first entirely Indian joint stock bank was the Oudh Commercial Bank, established in Faizabad. It collapsed in 1958. The next i.e the Punjab National Bank was established in Lahore in 1895, which has survived to the present and is now one of the largest bank in India.

30. (A) Stars twinkle because they are point light sources. Passing through the atmosphere, the small beam of light constantly shifts by bouncing off particles in the air. Planets are closer, so they appear as discs, with the shifting of light from one side cancelling out the other. The atmosphere of the Earth is a turbulent medium, with streams and columns of air churning around and dispersing all the time. These disturbances act like lenses and prisms that shift the light from side to side by small amounts several times a second. Since they are so far away and the beam of light is so thin, the stars appear to twinkle.

31. (C) There are 118 known elements on the periodic table. The most recently discovered element, Ununoctium, was first reported by Russian scientists from Dubna in 2002. Russian scientist Dmitri Mendeleev is usually credited with the first known publication of a periodic table of elements, in 1869. He created the table by arranging known elements into rows and columns based on atomic weight and the similarity between elements. Using this method, he was also able to predict the existence of unknown elements, such as Gallium and Germanium. The standard periodic table style in use today is attributed to Horace Deming, an American scientist.
32. (A) Ergotism is the effect of long term ergot poisoning, due to ingestion of alkaloids produced by fungus *Claviceps purpurea* which is found in infected cereals and ryes.
33. (B) PROLOG is a general purpose logic programming language associated with artificial intelligence and computational linguistics.
34. (B) The Sessa Orchid Sanctuary is located in the Himalayan foothills in Bhalukpong Forest Division of West Kameng District, Arunachal Pradesh. It conjoins Eaglenest Wildlife Sanctuary to the southwest. It is a part of the Kameng Protected Area Complex (KPAC), which is an Elephant Reserve. The sanctuary is unique in having 7 endemic species of saprotrophic orchids.
35. (C) The 2017 BRICS Film Festival will be held in Chengdu, southwest China's Sichuan Province from June 23 to 27. During the festival, 30 films from BRICS countries (Brazil, Russia, India, China and South Africa) will be screened, including an anthology by five directors from the aforementioned countries, "Where has the time gone". The feature film consisting of five 18-minute shorts on the same theme is a joint work by Walter Salles from Brazil, Aleksey Fedorchenko from Russia, Madhur Bhandarkar from India, Jahmil X. T. Qubeka from South Africa, and Jia Zhangke from China. The first BRICS Film Festival was held in New Delhi, India in September 2016.
36. (B) States such as Champaka (Chamba), Durgara (Jammu), Trigarta (Jalandhar), Kuluta (Kulu), Kumaon and Garhwal managed to remain outside the main areas of conflict in the northern plains.

37. (C) Diamantine Trench is situated in south-east part of Indian Ocean. The depth of Diamantine Trench is 8047 m.

Name	Deepest point (km)	Ocean
1 Mariana Trench	11.0 km	Pacific Ocean (near Japan)
2 Philippine Trench	10.4 km	Pacific Ocean (near the Philippine islands)
3 Bonin Trench	9.99 km	Pacific Ocean (near Japan)
4 New Britain Trench	9.94 km	Pacific Ocean (near New Guinea)
5 Kuril Trench	9.75 km	Pacific Ocean (near Russia)

40. (D) It is just because woolen clothes have fibres and between those fibres air is trapped which reduces heat loss. Air reduces heat loss because it is an insulator i.e. poor conductor of heat. Hence, all the heat from our body gets trapped inside the clothes which makes us feel warmer with the clothes.
41. (A) **Friedrich Wohler** is widely considered the father of organic chemistry. He was a German chemist who lived in the 1800s and is well-known for synthesizing urea in 1828. Brass is a bright gold metal that is more malleable than zinc or bronze. It is often used in musical instruments because of its acoustic properties.
42. (D) Saffron is a spice derived from the flower of *Crocus sativus*, commonly known as the "saffron crocus". Saffron is a spice obtained from the stigma of the flower of *Crocus sativus* Linnalus.
43. (C) The National Safety Council (NSC) is a self-supporting non-profit autonomous society, set up by the Ministry of Labour and Employment, Govt. of India (GoI) on 4th March 1966. Its aim is to strengthen a national movement on Safety, Health & Environment (SHE) to prevent and mitigate loss of life, human suffering & economic losses and provide support services. It is in news because the 2016 NSCI Safety Awards will be presented by the Minister of State (Independent Charge), Labour & Employment Bandaru Dattatreya on April 20, 2017 in New Delhi. The NSCI Safety Awards are coveted national level awards in the field of Workplace Safety, Health and Environment. The headquarters of the NSC is located in Mumbai, Maharashtra.
44. (C) Cabinet mission proposed a rejection of the demand for a full-fledged Pakistan because the Pakistan so formed would include large Non-Muslim population - 38% in the N-W and 48% in the N-E.
45. (D) Venus can be seen with the unaided eye from Earth. It is the brightest planet in our Solar System. Venus was given the nickname evening star and morning star because of its bright consistent presence.

50. (B) The Civil Services Day (CSD) is organized every year on April 21 in India by civil servants to rededicate and recommit themselves to the cause of the people. This day gives civil servants the opportunity for introspection and thinking about future strategies to deal with the challenges being posed by the changing times. On this occasion, all officers of Central and State Governments are honoured for excellence in public administration by the Prime Minister of India. The Prime Minister Narendra Modi will confer PM's awards for Excellence in Public Administration to Districts/Implementing units and other Central/State organisations on April 21, 2017 for effective implementation of Identified Priority Programmes and Innovation.

51. (A) $(l-b) = 23$ and $2(l+b) = 206$ or $(l+b) = 103$.
we get: $l = 63$ and $b = 40$.

\therefore Required Area = $(l \times b) = (63 \times 40) \text{m}^2 = 2520 \text{m}^2$

52. (B) S.I. = Rs. $(15500 - 12500) = ₹3000$.

\therefore Required Rate = $\left[\frac{100 \times 3000}{12500 \times 4} \right] \% = 6\%$

53. (D) L.C.M of 6, 9, 15 and 18 is 90.

Let required number be $90k + 4$, which is multiple of 7.

Least value of k for which $(90k+4)$ is divisible by 7 is $k = 4$

\therefore Required number = $(90 \times 4) + 4 = 364$

54. (C) C.P. of 1 Orange = Rs. $\left[\frac{350}{100} \right] = \text{Rs } 3.50$

S.P. of 1 Orange = Rs. $\left[\frac{48}{12} \right] = \text{Rs. } 4$

\therefore Required profit% = $\left[\frac{0.50}{3.50} \times 100 \right] \%$

$= \frac{100}{7} \% = 14\frac{2}{7} \%$

55. (B) $\left[\sqrt{x} - \frac{1}{\sqrt{x}} \right]^2 = x + \frac{1}{x} - 2$

$= (3 + 2\sqrt{2}) + \frac{1}{(3+2\sqrt{2})} - 2$

$= (3 + 2\sqrt{2}) + \frac{1}{(3+2\sqrt{2})} \times \frac{(3-2\sqrt{2})}{(3+2\sqrt{2})} - 2 = 4$

$\therefore \left(\sqrt{x} - \frac{1}{\sqrt{x}} \right) = 2$

56. (C) Let C.P. = Rs 100 then, profit = Rs 320,
S.P. = Rs 420

New C.P. = 125% of Rs. 100 = Rs. 125

New S.P. = Rs 420

Profit = Rs. $(420 - 125) = \text{Rs } 295$

\therefore Required percentage = $\left[\frac{295}{420} \times 100\% \right]$

$= \frac{1475}{21} \% = 70\%$

57. (A) P can complete the work in (12×8) hrs. = 96 hrs.

Q can complete the work in (8×10) hrs. = 80 hrs

\therefore P's 1 hour's work = $\frac{1}{96}$ and Q's 1 hour's work = $\frac{1}{80}$

(P + Q)'s 1 hour's work = $\left[\frac{1}{96} + \frac{1}{80} \right] = \frac{11}{480}$

So, both P and Q will finish the work in $\left[\frac{480}{11} \right]$ hrs

\therefore Number of days of 8 hours each = $\left[\frac{480}{11} \times \frac{1}{8} \right]$

$= \frac{60}{11} \text{ days} = 5\frac{5}{11} \text{ days}$

58. (C) Ratio of times taken by A and B = 125 : 100 = 5 : 4
Suppose B takes x days to do the work.

$5 : 4 :: 20 : x \Rightarrow x = \left[\frac{4 \times 20}{5} \right] = 16$

Hence, B takes **16 days** to complete the work.

59. (C) Let ten's and unit's digits be $2x$ and x respectively

Then, $(10 \times 2x + x) - (10x + 2x) = 36$

$\Rightarrow 9x = 36$

$\Rightarrow x = 4$

\therefore Required difference = $(2x + x) - (2x - x) = 2x = 8$

60. (D) $\frac{4}{15} A = \frac{2}{5} B$

$\Rightarrow A = \left[\frac{2}{5} \times \frac{15}{4} \right] B$

$\Rightarrow A = \frac{3}{2} B$

$\Rightarrow \frac{A}{B} = \frac{3}{2}$

$\Rightarrow A : B = 3 : 2$

\therefore B's share = Rs = $\left[1210 \times \frac{2}{5} \right] = ₹484$

61. (D) Required average = $\left[\frac{510 \times 5 + 240 \times 25}{30} \right]$

$= \frac{8550}{30} = 285$

62. (C) Decrease %

$$= -20 - 10 + \frac{(-20)(-10)}{100} = -28\%$$

So, the required percentage decrease = **28%**

63. (A) Speed of the train relative to man

$$= \left[\frac{125}{10} \right] \text{m/sec} = \left[\frac{25}{2} \right] \text{m/sec}$$

$$= \left[\frac{25}{2} \times \frac{18}{5} \right] = 45 \text{km/hr}$$

Let the speed of the train be x km/hr. then
relative speed = $(x - 5)$ km/hr

$$\therefore x - 5 = 45 \Rightarrow x = 50$$

\therefore Speed of the train = **50 km/hr**

64. (C) Let man's rate upstream be x km/ph

Then, his rate downstream = $2x$ km/ph

\therefore (Speed in still water):

$$(\text{Speed of stream}) = \left[\frac{2x+x}{2} \right] : \left[\frac{2x-x}{2} \right]$$

$$= \frac{3x}{2} : \frac{x}{2} = \mathbf{3 : 1}$$

65. (D) Let the present ages of son and father be x and $(60 - x)$ years respectively

Then, $(60 - x) - 6 = 5(x - 6)$

$$\Rightarrow 54 - x = 5x - 30$$

$$\Rightarrow 6x = 84$$

$$\Rightarrow x = 14$$

\therefore Son's age after 6 years = $(x + 6) = \mathbf{20 \text{ years}}$.

66. (D) Let the numbers be x and y .

Then, $x + y = 25$ and $x - y = 13$

$$4xy = (x + y)^2 - (x - y)^2$$

$$= (25)^2 - (13)^2$$

$$= 625 - 169$$

$$= 456$$

$$\therefore xy = 114$$

\therefore Required product = **114**

67. (B) Let P, Q and R represent their respective monthly income. Then, we have:

$$P + Q = (5050 \times 2) = 10100 \dots (i)$$

$$Q + R = (6250 \times 2) = 12500 \dots (ii)$$

$$P + R = (5200 \times 2) = 10400 \dots (iii)$$

Adding (i), (ii) and (iii),

$$\text{we get: } 2(P + Q + R) = 33000$$

$$\Rightarrow P + Q + R = 16500 \dots (iv)$$

Subtracting (ii) from (iv), we get $P = 4000$

\therefore P's monthly income = Rs = **4000**

68. (B) Let $(17)^{3.5} \times (17)^{\sqrt{x}} = 17^8$

$$\text{Then, } (17)^{3.5 + \sqrt{x}} = 17^8$$

$$\therefore 3.5 + \sqrt{x} = 8$$

$$\Rightarrow \sqrt{x} = (8 - 3.5)$$

$$\Rightarrow \sqrt{x} = 4.5$$

$$\Rightarrow x = \mathbf{20.25}$$

69. (C) Then, $y + 120\%$ of $y = 550$

ATQ,

$$y + x = 550$$

$$\Rightarrow y + \frac{120}{100}y = 550$$

$$\Rightarrow \frac{11}{5}y = 550$$

$$\Rightarrow y = \left[\frac{550 \times 5}{11} \right] = 250$$

\therefore Y was paid ₹ **250 per week**

$$70. (B) \text{ C.P.} = \text{Rs} \left[\frac{100}{122.5} \times 392 \right] = \text{Rs} \left[\frac{1000}{1225} \times 392 \right]$$

$$= \text{Rs. } 320$$

\therefore Required Profit = Rs $(392 - 320) = \mathbf{₹72}$

71. (C) Dividing the terms by $\sin \theta$

$$\Rightarrow \frac{15 + 3 \cot \theta}{15 - 3 \cot \theta} = \frac{15 + 3 \times 4}{15 - 3 \times 4} = \frac{27}{3} = \mathbf{9}$$

72. (D) $\angle A = 115^\circ - 45^\circ = 70^\circ$ and

$$\angle C = 180^\circ - 115^\circ = 65^\circ$$

\therefore Required difference = $70^\circ - 65^\circ = \mathbf{5^\circ}$

73. (D) Total exports of the three companies X,

Y and Z together, during various years are:

In 1993 = Rs $(30 + 80 + 60)$ crores = Rs 170 Cr

In 1994 = Rs $(60 + 40 + 90)$ crores = Rs 190 Cr

In 1995 = Rs $(40 + 60 + 120)$ crores = Rs 220 Cr

In 1996 = Rs $(70 + 60 + 90)$ crores = Rs 220 Cr

In 1997 = Rs $(100 + 80 + 60)$ crores = Rs 240 Cr

In 1998 = Rs $(50 + 100 + 80)$ crores = Rs 230 Cr

In 1999 = Rs $(120 + 140 + 100)$ crores = Rs 360 Cr

Clearly, the total exports of the three companies X, Y and Z together are same during the years **1995 and 1996**

74. (C) The difference between the exports from the companies X and Y during the various years are:

In 1993 = Rs $(80 - 30)$ crores = Rs 50 Crores

In 1994 = Rs $(60 - 40)$ crores = Rs 20 Crores

In 1995 = Rs $(60 - 40)$ crores = Rs 20 Crores

In 1996 = Rs $(70 - 60)$ crores = Rs 10 Crores

In 1997 = Rs $(100 - 80)$ crores = Rs 20 Crores

In 1998 = Rs $(100 - 50)$ crores = Rs 50 Crores

In 1999 = Rs $(140 - 120)$ crores = Rs 20 Crores

Clearly, the difference is minimum in the **year 1996**

75. (A) Average annual exports of company Z during the given period

$$= \frac{1}{7} \times (60 + 90 + 120 + 90 + 60 + 80 + 100)$$

$$= \text{Rs.} \left[\frac{600}{7} \right] \text{crores}$$

$$= \text{Rs. } 85.71 \text{crores}$$

So, In **4 years** which is 1994 (90 cr), 1995 (120 cr), 1996 (90 cr) and 1999 (100 cr), it is more than average.

MEANINGS IN ALPHABETICAL ORDER

Words	Meaning in English	Meaning in Hindi
Cacography	bad handwriting or spelling	बुरी लिखावट
Calligraphist	someone skilled in handwriting	सुलेखक
Chipmunk	a small North American animal that is related to the squirrel	गिलहरी जैसा प्राणी
Complicity	the act of helping to commit a crime	सहापराध
Costotome	a surgical instrument for cutting the ribs and opening the thoracic cavity	एक प्रकार का सर्जिकल उपकरण
Cremate	to reduce (as a dead body) to ashes by burning	दाह-संस्कार करना
Cul-de-sac	a street or passage closed at one end.	ऐसा रास्ता जो दूसरी ओर से बन्द हो
Cygnets	a young swan	एक जवान हंस
Forelock	a lock of hair growing just above the forehead	माथे पर की लट
Get one's way	get or do what one wants in spite of opposition	विरोध के बावजूद अपने मन की करना
Gnaws	to bite or chew on with the teeth	कुतरना
Horrendous	greatly unpleasant	विकट, भयावह
Linguist	a person accomplished in languages	भाषा-प्रवीण
Manoeuvre	a clever or skillful action or movement	युक्ति
Pedant	one who makes a show of knowledge	विद्या आडम्बरी
Probity	the quality of having strong moral principles, honesty and decency.	सत्यनिष्ठा
Raccoon	a greyish-brown American mammal which has a fox like face with a black mask, a ringed tail	एक तरह का जानवर
Stratagem	a cleverly contrived trick or scheme for gaining an end	छल/धोखा
Subterfuge	deceit used in order to achieve one's goal	छल
Take time by the forelock	seize an opportunity	किसी अवसर का लाभ उठाना
Timidity	lack of courage or confidence	कायरता
Treachery	Betrayal of trust	धोखा

SSC Answer Key (5-May-17)

1. (B)
2. (A)
3. (C)
4. (B)
5. (A)
6. (D)
7. (D)
8. (A)
9. (B)
10. (A)
11. (C)
12. (B)
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14. (B)
15. (A)
16. (B)
17. (C)
18. (B)
19. (C)
20. (D)
21. (C)
22. (B)
23. (B)
24. (A)
25. (C)

26. (C)
27. (A)
28. (D)
29. (B)
30. (A)
31. (C)
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35. (C)
36. (B)
37. (C)
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42. (D)
43. (C)
44. (C)
45. (D)
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69. (C)
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71. (C)
72. (D)
73. (D)
74. (C)
75. (A)

76. (A)
77. (B)
78. (A)
79. (D)
80. (D)
81. (C)
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83. (B)
84. (A)
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95. (A)
96. (C)
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99. (A)
100. (B)