

SSC solution on 15 Sept - 017

1. (D) Fail and Pass are opposite to each other and, Disease and **Healthy** are opposite to each other.

2. (C) As, $95 \times 11 = 1045$.
Similarly, $85 \times 11 = 935$

3. (C) As, A F J Similarly, D J N
 $\begin{array}{ccc} | +5 & | +5 & | +5 \\ \hline F & K & O \end{array}$
 $\begin{array}{ccc} \downarrow +5 & \downarrow +5 & \downarrow +5 \\ \hline I & O & S \end{array}$

4. (C) As, INDIA is a country of ASIA. Similarly, **BRAZIL** is a country of SOUTH AMERICA.

5. (D) **Physics** is different from others.

6. (C) $\begin{array}{cccc} A & B & C & D \\ \hline +1 & +1 & +1 & +1 \end{array}$ $\begin{array}{cccc} P & Q & R & S \\ \hline +1 & +1 & +1 & +1 \end{array}$
 $\begin{array}{cccc} W & X & Y & Z \\ \hline +1 & +1 & +1 & +1 \end{array}$ $\begin{array}{cccc} I & J & K & M \\ \hline +1 & +1 & +1 & +2 \end{array}$

7. (D) **126** is not multiple of 13.

8. (C) The sum of **97998** is not equal to 44.

9. (A) Adminiculum \rightarrow Administer \rightarrow Administration \rightarrow Administrate.

10. (A) $\frac{(32 \div 8) - 5 + 10}{9 + 2 + 2}$

Change the sign as per the given details,

$$\frac{(32 + 8) + 5 \times 10}{9 \times 2 + 2} = 4$$

11. (B) $150 - 30 = 120$
 $120 - 29 = 91$
 $91 - 28 = 63$
 $63 - 27 = 36$

12. (C) $(99/9)^2 = 121$

$$(95/5)^2 = 361$$

$$(105/3)^2 = 1225$$

13. (A) $9 \times 9 - 5 \times 5 = 56$
 $8 \times 8 - 4 \times 4 = 48$
 $5 \times 5 - 2 \times 2 = 21$

14. (D) From fig. (ii) and (iii),
 $\begin{array}{ccc} 5 & 1 & 3 \\ 5 & 6 & 4 \end{array}$

\therefore "3" is opposite to the "4"

15. (A) As in INTERNET, all letters are arranged in alphabetical order i.e. EEIINNRT. Similarly, in NATIONAL, **AAILNNO** is the correct answer.

16. (D) **NOTION**

17. (B) $105 + 100 = 205$
 $205 + 90 = 295$
 $295 + 80 = 375$
 $375 + 70 = 445$

18. (A) $1 \times 2 = 2$
 $2 \times 2 = 4$
 $4 \times 2 = 8$
 $8 \times 4 = 32$

19. (A) $\begin{array}{ccc} & \text{West} & \\ & \leftarrow & A \\ B & & \uparrow \text{North} \\ \text{South} \downarrow & & \\ & D & \leftarrow \text{West} & C \end{array}$

20. (D) $\begin{array}{c} \text{Girl} \rightarrow \text{uncle} \rightarrow \text{father} \\ \text{uncle} \rightarrow \text{Brother} \rightarrow \text{Daughter} \\ \text{father} \rightarrow \text{Daughter} \\ \text{Daughter} \rightarrow \text{Son} \end{array}$

21. (C) A B C D E F

22. (C) $\begin{array}{c} \text{N} \\ \text{F} \text{---} \text{D} \end{array}$

F = Fruit

N = Night

D = Days

I. **False**

II. **True**

23. (D)

24. (A) $\begin{array}{c} \text{Lawyer} \text{---} \text{Women} \text{---} \text{Doctor} \end{array}$

25. (D)

26. (B) The geostationary satellite is a satellite having a time-period of 24 hours. Using this time-period, the height of the satellite comes out to be approximately 35,800 km. FM broadcasting is a broadcast technology pioneered by Edwin Howard Armstrong that uses frequency modulation (FM) to provide high-fidelity sound over broadcast radio. FM transmission is quite immune to noise as compared to AM transmission. Noise is a form of amplitude variations in the transmitted signal due to atmosphere, industries, etc.

27. (D) Anthony Lianzuala, a 1982-batch Indian Civil Accounts Service (ICAS) Officer, took over as the new Controller General of Accounts (CGA) in New Delhi on May 1, 2017. With this, he became the first person from the North-Eastern Region to hold this position. The CGA is the apex Accounting Authority of the Central Government and exercises the powers of the President under Article 150 of the constitution for prescribing the forms of Accounts of the Union and State Governments on the advice of the Comptroller & Auditor General of India.

29. (A) According to the Swachh Bharat survey 2017, Indore city of Madhya Pradesh has bagged the first position in the top ten clean cities of the country. Bhopal has acquired second position, followed by Visakhapatnam, Surat, Mysuru, Tiruchirapally, New Delhi Municipal Council, Navi Mumbai, Vadodara and Chandigarh. The survey was carried out by the Quality Council of India (QCI), which had deployed 421 assessors for on the spot assessment of 17,500 locations in 434 cities and towns.

30. (D) The world's highest railway bridge will come up over Chenab River in Jammu and Kashmir (J& K), which is expected to be completed in 2019. The bridge will form a crucial link in the 111-km stretch between Katra and Banihal, which is part of the Udhampur- Srinagar-Baramu rail link project. Once completed, it will surpass the record of the Beipan river Shuibai railway bridge (275 m) in China.

31. (C) Salmon is a large fish with silver skin and pink flesh that is used for food. Salmon live in the sea but swims up rivers to lay their eggs. A fish with reddish or pinkish flesh that is often caught for sport or food and lives most of its life in the ocean but swims up rivers or streams as an adult to deposit or fertilize eggs.

32. (C) A hydrogen vehicle is an alternative fuel vehicle that uses hydrogen as its onboard fuel for motive power. The hydrogen vehicle use hydrogen fuel cell for generation of motive power. These fuel cell in which hydrogen serves as a fuel and oxygen as an oxidant emits exhaust of water.

33. (B) Henry Cavendish is credited with discovering hydrogen in 1766 in London, though alchemist Paracelsus in the 1500s and Robert Boyle in 1671 did preliminary work on the subject. However, Cavendish identified hydrogen gas as a discrete substance. In 1783 Antoine Lavoisier provided the name hydrogen, Greek for water former. Hydrogen's atomic number is 1, and its chemical symbol is H. Of all elements on the periodic table, hydrogen is the lightest.

34. (B) The Sualgiri and Swalgiri communities of Odisha have been notified as Scheduled Castes (SC) after President Pranab Mukherjee gave the nod to the Constitution (Scheduled Castes) Order (Amendment) Act, 2017. Now, the SC category status will entitle these communities to reservation in government jobs and admission in educational institutions, besides some other financial benefits. As per the modified list for Odisha, the "Sabakhia, Sualgiri, Swalgiri" are notified Scheduled Castes. The

Constitution empowers the president to specify the scheduled castes in states and union territories in a list of notified scheduled castes. It also allows the list to be modified by Parliament. The new law has also replaced the term Union Territory of Pondicherry to Puducherry in the Constitution (Pondicherry) Scheduled Castes Order, 1964.

36. (C) According to the definition adopted by the IAU in 2006, a dwarf planet is, "a celestial body orbiting a star that is massive enough to be rounded by its own gravity but has not cleared its neighbouring region of planetesimals and is not a satellite. It is estimated that there may be 200 dwarf planets in the Kuiper belt of the outer Solar System and possibly more than 10,000 in the region beyond. The International Astronomical Union (IAU) has accepted four: Pluto, Eris, Haumea, and Makemake, as well as Ceres in the inner Solar System.

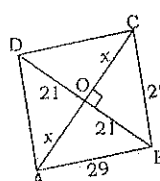
37. (A) Repo rate also known as the benchmark interest rate is the rate at which the RBI lends money to the banks for a short term. When the repo rate increases, borrowing from RBI becomes more expensive. If RBI wants to make it more expensive for the banks to borrow money, it increases the repo rate. Similarly, if it wants to make it cheaper for banks to borrow money it reduces the repo rate. Current repo rate is 6.25%

Latest RBI Bank Rates in Indian Banking - 2017

SLR	20.5%
CRR	4%
MSF	6.75%
Repo Rate	6.25%
Reverse Repo Rate	5.75%
Base Rate	9.3% - 9.7%

39. (C) • Iron deficiency is the most common nutritional deficiency in the world. Untreated iron deficiency can lead to iron deficiency Anemia. Anemia is a condition characterized by inadequate red blood cells or hemoglobin.

- Vitamin A is important for Eyesight because it is needed to form the pigment rhodopsin. Cells in the retina, known as the rods and cones, need rhodopsin in order to absorb light rays. Rhodopsin is important for all kinds of vision, including "night vision," which allows you to see in low light conditions.
- Vitamin C cannot be made by the human body and so is an essential component of the diet, It is needed for the health and repair of various tissues in your body, including skin bone, teeth and cartilage.

- Calcium deficiency occurs when your body is not receiving enough minerals such as calcium and goes through a process called demineralization. Without this vital alkaline mineral, your body relies on the existing calcium in your bones, teeth, and organs, which leads to calcium deficiency. As we age, our bone density decreases naturally; and since most of our calcium is stored in our bones, our daily requirement for calcium increases.
40. (C) Water hardness can be easily measured using a simple soap test kit that will measure in "grains of hardness" (a little bottle with a line marked on it which you fill to the line with water, add a drop of soap, and shake to look for suds. More drops of soap- more degrees of hardness).
42. (D) Kinetic energy is dependent on the object's mass and velocity. Since kinetic energy is the energy of motion, all objects that have motion have potential kinetic energy. This energy is determined by the size of the object, where the object is and the speed or velocity it is moving at. Kinetic energy is directly proportional to the square of its velocity or speed.
44. (C) The President of India, Pranab Mukherjee has recently attended the 8th Convocation of the Lovely Professional University (LPU) at Phagwara, Punjab on May 2, 2017. The LPU is a semi-residential university college in North India created under the Punjab State Private University Act 2005 and recognized by UGC under Section 2(f) of UGC Act 1956. LPU offers around 200 programmes and courses at diploma, undergraduate, graduate, postgraduate, and doctoral levels. The university has more than 30,000 students graduating every year.
45. (D) The Siachen glacier's melting waters are the main source of the Nubra River in the Indian region of Ladakh, which drains into the Shyok River. The Shyok in turn joins the 3000 kilometre-long Indus River which flows through Pakistan. Thus, the glacier is a major source of the Indus and feeds the largest irrigation system in the world.
46. (D) The projection of a line of force of the geomagnetic field on the earth's surface. All the magnetic meridians are complicated curves that converge at the north and south magnetic poles of the earth. The vertical plane that passes through the point at which the observer (instrument) is situated and that contains the vector of the geomagnetic field intensity at this point is called the plane of the magnetic meridian.
48. (D) Since 1957, the Reserve Bank of India is required to maintain gold and foreign exchange reserves of 200 crore, of which at least 115 crore should be in gold and 85 crore in the form of Government Securities. The system as it exists today is known as the minimum reserve system.
50. (A) The implementation of Factory Legislation in India in the 19th century was a result of the trade unions in India that created the pressure on the government of India.
51. (C) Nitin : Neetu
 150000×24 : 50000×18
 4 : 1
 So, the ratio in profit = 4 : 1
 Hence, Neetu's share in Profit = $\frac{1 \times 100000}{5}$
 = ₹20000
52. (A) Let $2x$ be the other diagonal
- 
- In $\triangle BOC$,
 $x^2 = (29)^2 - (21)^2$
 $\Rightarrow x = 20\text{m}$
 Diagonal = $2 \times 20 = 40\text{m}$
 \therefore Area of rhombus = $\frac{1}{2} \times 40 \times 42$
 = 840m^2
53. (B) ATQ, .
 $\frac{a}{b} = \frac{15}{23}$
 $\Rightarrow a = \frac{15b}{23}$ -----(i)
 Put in equation i.e. given in question.
 $5a + 4b = 167$

$$\Rightarrow 5 \times \frac{15b}{23} + 4b = 167$$

$$\Rightarrow b = 23$$

Put the value of (b) in equation (i)
then, a = 15

So, the difference between them
= b - a = 23 - 15 = 8

$$54. (C) \text{ Required average} = \frac{(81 \times 9) - (93 + 72)}{9 - 2}$$

$$= \frac{564}{7} = 80.57$$

$$55. (C) \text{ Volume of wood used in box}$$

$$= 15 \times 14 \times 13 - (15 - 2)(14 - 2)(13 - 2)$$

$$= 2730 - 1716 = 1014 \text{ cm}^3$$

$$56. (D) \tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \tan 45^\circ \dots \tan 89^\circ$$

$$= \cot 89^\circ \cot 88^\circ \dots \cot 47^\circ \cot 46^\circ \tan 45^\circ$$

$$= \tan 46^\circ \tan 47^\circ \dots \tan 89^\circ$$

$$= 1 \quad [\because \cot \theta \tan \theta = 1]$$

$$57. (B) \text{ C.P. of one Pen} = \frac{700}{100} = ₹7$$

$$\text{Profit on one Pen} = 8 - 7 = ₹1$$

$$\text{and, Profit} = \frac{1}{7} \times 100 = 14 \frac{2}{7} \%$$

58. (B) Let r be the rate of interest
ATQ,

$$P \left(1 + \frac{r}{100}\right)^n = \text{Amount}$$

$$\Rightarrow 2000 \left(1 + \frac{r}{100}\right)^3 = 2662$$

$$\Rightarrow \left(1 + \frac{r}{100}\right)^3 = \frac{2662}{2000} = \frac{1331}{1000} = \left(\frac{11}{10}\right)^3$$

$$\Rightarrow 1 + \frac{r}{100} = \frac{11}{10}$$

$$\Rightarrow r = 10\%$$

59. (C) According to 1st condition,

$$\text{The quantity of water in mixture} = \frac{100 \times 60}{100} =$$

60 litres

According to 2nd condition,
60 litres quantity of water remains as 40%

$$\text{So, total quantity of mixture} = \frac{100 \times 60}{40}$$

$$= 150 \text{ litres.}$$

$$\text{The quantity of milk in mixture}$$

$$= 150 - 60 = 90 \text{ litres}$$

$$\text{Required quantity of milk in mixture}$$

$$= 90 - (100 - 60)$$

$$= 50 \text{ litres}$$

60. (B) Central Angle for Royalty

$$= \frac{14 \times 360^\circ}{100} = 50.4^\circ$$

61. (B) Cost of printing i.e. 30% = ₹1440

$$1\% = \frac{1440}{30}$$

$$100\% = \frac{1440}{30} \times 100 = ₹4800$$

$$\therefore \text{Cost price for 1000 copies} = 4800 \times 1000$$

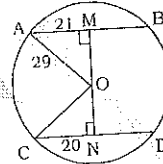
$$= ₹4800000$$

62. (D) 20% i.e. binders charge = ₹1400

$$14\% \text{ i.e. the cost of Royalty} = \frac{1400}{20} \times 14$$

$$= ₹980$$

63. (D)



As, we know that OM bisects AB. Similarly,
ON bisects CD

In ΔAMO ,

$$OM = \sqrt{(29)^2 - (21)^2} = 20 \text{ cm}$$

In ΔCNO ,

$$ON = \sqrt{(29)^2 - 20^2} = 21 \text{ cm}$$

$$\text{Hence, the difference between them} = OM + ON$$

$$= 21 + 20$$

$$= 41 \text{ cm.}$$

64. (B) ATQ,

$$\frac{1}{\sqrt{11} + \sqrt{5}} + \frac{1}{\sqrt{11} - \sqrt{5}}$$

$$= \frac{\sqrt{11} - \sqrt{5} + \sqrt{11} + \sqrt{5}}{(\sqrt{11})^2 - (\sqrt{5})^2} = \frac{2\sqrt{11}}{11 - 5} = \frac{\sqrt{11}}{3}$$

$$65. (D) \begin{array}{cccc} 2^{16} & 3^{12} & 4^7 & 6^8 \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 2^{16} & 3^{12} & 2^{14} & 6^8 \\ \downarrow & \downarrow & \downarrow & \downarrow \\ (2^4)^4 & (3^3)^4 & (2^{3.5})^4 & (6^2)^4 \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 16^4 & 27^4 & (2^{3.5})^4 & 36^4 \end{array}$$

$\therefore 6^8$ is the largest among them

$$66. (B) \text{ Speed of train} = \frac{180}{9} \times \frac{18}{5} = 72 \text{ kmph}$$

67. (A)

$$\begin{array}{c} \text{Total Work} \\ \downarrow \\ \begin{array}{ccc} A \rightarrow 30 & \searrow & 120 \\ & & \swarrow \\ B \rightarrow 40 & \nearrow & 120 \end{array} \end{array}$$

Total work is done by A in 15 days

$$= 4 \times 15 = 60 \text{ units}$$

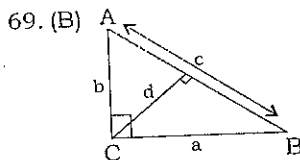
$$\text{Remaining work} = 120 - 60 = 60 \text{ units}$$

$$\therefore \text{Required number of days} = \frac{60}{3} = 20 \text{ days}$$

68. (B) ATQ,

$$\frac{a^6 - 1}{a^2 + 1} = \frac{(a^3 - 1)(a^3 + 1)}{a^2 + 1}$$

$$= \frac{(a - 1)(a^2 + a + 1)(a^3 + 1)}{a^2 + 1} = 0 \quad [\because a^2 + a + 1 = 0]$$



ATQ,

$$\frac{1}{2} a \times b = \frac{1}{2} \times d \times c$$

$$\Rightarrow d = \frac{ab}{c}$$

$$\Rightarrow d = \frac{ab}{\sqrt{a^2 + b^2}} \quad [\because c^2 = a^2 + b^2]$$

Squaring both sides,

$$\Rightarrow d^2 = \frac{a^2 b^2}{a^2 + b^2}$$

$$\Rightarrow \frac{1}{d^2} = \frac{a^2 + b^2}{a^2 b^2}$$

$$\Rightarrow \frac{1}{d^2} = \frac{1}{a^2} + \frac{1}{b^2}$$

70. (B) Net successive discount

$$= 25 + 20 + 10 - \frac{25 \times 20}{100} - \frac{10 \times 20}{100} - \frac{10 \times 25}{100}$$

$$+ \frac{20 \times 25 \times 10}{10000} = 46\%$$

71. (B) 72999999137

$$\begin{array}{r} 729 \\ 2709 \\ 2187 \\ 5229 \\ 5103 \\ 126 \end{array}$$

$$\therefore \text{Required number} = 99999 - 126 = 99873$$

72. (A) Total population after two years =

$$5000 \times \left(1 + \frac{10}{100}\right)^2 = 5000 \times \frac{11}{10} \times \frac{11}{10} = 6050$$

73. (A) $\tan 75^\circ = \tan (45^\circ + 30^\circ) = \frac{\tan 45^\circ + \tan 30^\circ}{1 - \tan 45^\circ \tan 30^\circ}$

$$= \frac{1 + \frac{1}{\sqrt{3}}}{1 - \frac{1}{\sqrt{3}} \times 1} = \frac{\sqrt{3} + 1}{\sqrt{3} - 1}$$

74. (C) + shows efficiency of filling pipe
- shows efficiency of draining pipe

$$\begin{array}{l} +A \rightarrow 12 \\ -B \rightarrow 8 \end{array} \left. \begin{array}{l} \\ \end{array} \right\} 24 \left. \begin{array}{l} \\ \end{array} \right\} \begin{array}{l} 2 \\ 3 \end{array}$$

$$\therefore \text{Required time} = \frac{24}{3 - 2} = 24 \text{ hours}$$

75. (A) $a = 10 + 20 + 25 - \frac{10 \times 20}{100} - \frac{20 \times 25}{100} - \frac{10 \times 25}{100} +$

$$\frac{10 \times 25 \times 20}{10000} = 46\%$$

$$b = 30 + 10 + 10 - \frac{10 \times 10}{100} - \frac{10 \times 30}{100} - \frac{30 \times 10}{100} +$$

$$\frac{10 \times 10 \times 30}{10000} = 43.3\%$$

Hence, discount (a) is better for customer.

MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Abundance	ample quantity	प्रचुरता
Acarophobia	an abnormal dread of skin infestation with small crawling organisms	त्वचा रोग होने का डर
Acerophobia	fear of sourness or anything that tastes sour	खट्टे से डर
Acrophobia	fear of heights	ऊँचाई का डर
Agoraphobia	a fear of being in open or public places	खुले या भीड़ से डर
Albizia	any plant of the genus Albizia (family Fabaceae Leguminosae)	एक प्रकार का पौधा
Aphasia	inability (or impaired ability) to understand or produce speech	बोल नहीं पाना
Aphrodisiac	a food, drink, or other thing that stimulates sexual desire.	कामोत्तेजक
Asphyxia	a condition arising when the body is deprived of oxygen, causing unconsciousness or death	श्वासरोध, दम घुटना
Autopsy	an examination of a dead body to find out the cause of death	मृत शरीर का चीर-फाड़ करना
Bewilderment	the quality or state of being lost, perplexed.	हैरानी, ताज्जुब
Biopsy	the removal and examination of tissue, cells, or fluids from the living body	जीवित कोशिका की जाँच
Diplomacy	skill in handling affairs without arousing hostility	कूटनीति
Disputants	one that is engaged in a dispute	विवादी
Dropsy	old-fashioned or less technical term for oedema	सूजन
Growling	(of a dog) make a low guttural sound of hostility in the throat.	गुर्राना
Hierarchy	a system in which members of an organization are ranked according to the relative authority	अनुक्रम
Kindle	to stir up, arouse	उत्तेजित करना
Limpsy	limp especially from lack of physical strength	शारीरिक कमजोरी के कारण लँगड़ाना
Penury	the state of being very poor, extreme poverty	गरीबी
Perilous	full of danger or risk	खतरनाक
Prompt	perform readily or immediately	तुरन्त
Protocol	code of diplomatic etiquette and precedence	राजनायिक शिष्टाचार
Sepulchral	very sad and serious	बहुत उदास तथा गंभीर
Statesmanship	skill in managing public affairs	राजनीतिज्ञता
Teeming	be full of or swarming with.	किसी चीज का झुंड
Temptation	a strong urge or desire to have or do something	लुभाव
Wealth	a large amount of money and possessions	संपन्नता

SSC Answer Key on 15 Sept -2017

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



Pinnacle Learning Destination

Plot No.3 Third Floor Main Road
Raghunathpur, Sector 22 -Noida,
Uttar Pradesh
Pin-201301Ph-+91-9555662244

PINNACLE