

SSC Solution 7 July - 2017

1. (D) As,

CHMR DINS
 +1

Similarly,

AFKP BGLO
 +1

2. (B) As, $\frac{(26)^2}{2} = 338$

Similarly, $\frac{(46)^2}{2} = 1058$

3. (B) An Octagon has double number of sides in comparison to a rectangle. Similarly, Hexagon has double number of sides in comparison to a triangle.

4. (C) A F L C H N
 +5 +6 +5 +6

E I O D I O
 +4 +6 +5 +6

5. (C) Except Cube, others are two dimensional figures.

6. (D) 53 is a prime number.

7. (D) Euphasusid → Euphemism → Euphenics → Euphonic.

8. (B) Imagine → Write → Proofread → Print → Publish
 3 2 5 1 4



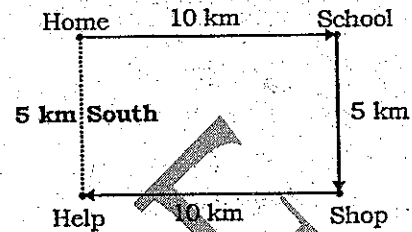
10. (B) Angle = minute $\times \frac{11}{2} - 30 \times$ hour

$$= 30 \times \frac{11}{2} - 30 \times 5 = 15^\circ$$

11. (B) The day = $\frac{61}{7} = 8$ week + 5 days = 5 days

Required day = Monday + 5 = Saturday

12. (C)



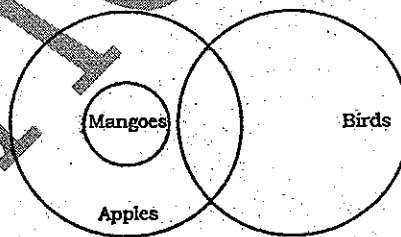
13. (D) MOUTH

14. (D) B I O D K O F M S H O U
 +2 +2 +2 +2

15. (B) 4 23 60 121 212
 ↓ ↓ ↓ ↓ ↓
 $2^3 - 4$ $3^3 - 4$ $4^3 - 4$ $5^3 - 4$ $6^3 - 4$

16. (C) 7 49 343 2401 16807
 ×7 ×7 ×7 ×7

17. (B)



I False

II True

18. (D) $49 = 9 \times 5 + 4$

$$60 = 8 \times 7 + 4$$

$$22 = 2 \times 9 + 4$$

$$28 = 4 \times 6 + 4$$

19. (C) $2184 = (8 + 4 + 1)^3 - (8 + 4 + 1)$

$$2184 = (5 + 6 + 2)^3 - (5 + 6 + 2)$$

$$4896 = (8 + 4 + 5)^3 - (8 + 4 + 5)$$

20. (D)

21. (D)

22. (B)

23. (A)

24. (A) ATQ,

$$P - 20 = Q + 20$$

$$P - Q = 40 \dots\dots\dots (i)$$

and,

$$P + 40 = 2(Q - 40)$$

$$P - 2Q = -120 \dots\dots\dots (ii)$$

From equation (i) and (ii)

$$P = 200 \text{ and } Q = 160$$

25. (C)

26. (C) A Western Disturbance is an extra tropical storm originating in the Mediterranean region that brings sudden winter rain to the northwestern parts of the Indian subcontinent. It is a non-monsoonal precipitation pattern driven by the westerlies. The moisture in these storms usually originates over the Mediterranean Sea and the Atlantic Ocean.
27. (A) As per recently released 2017 Brand Finance India 100 report, Tata Group is the most valuable brand in India with an estimated brand value of \$13.1 billion. Airtel has acquired 2nd position followed by LIC, Infosys, SBI and Reliance Industries Ltd. The Brand Finance is a global brand valuation and strategy consultancy firm. It advises branded organizations, or those with valuable intangible assets, on how to maximise their value through effective management of their brand and other intangible assets.
28. (A) "The Department of Atomic Energy" (DAE) directly under the Prime Minister of India with the headquarters in Mumbai. The department is responsible for nuclear technology, including nuclear power and research.
29. (C) The Indian Councils Act 1909, commonly known as the Morley-Minto Reforms was an Act of the Parliament of the United Kingdom that brought about a limited increase in the involvement of Indians in the governance of British India.
30. (C) India's first Aquatic Rainbow Technology Park (ARTP) will be set up in Chennai, Tamil Nadu. The park will have an ultra-modern exclusive facility for ornamental fish equipped with multi-species hatchery and live feed culture units. The facility is being developed by Fisheries College and Research Institute (FCRI), Ponneri in Tamil Nadu. The ARTP will have an advanced infrastructure and technical expertise to boost production of high value ornamental fish species for both indigenous and exotic type. It will also develop breeding technologies for high value indigenous ornamental fish species and ensure quality fish seeds in bulk quantities.
31. (D) The Madhav Chitale committee on de-siltation of River Ganga has recommended a slew of measures which includes study to guide de-silting activities, sand registry for de-silting and a technical institute to conduct the sediment budget, flood routing studies and confirm the necessity of the de-silting of section of the river.
34. (D) The **visible spectrum** is the portion of the electromagnetic spectrum that is visible to the human eye. Electromagnetic radiation in this range of wavelengths is called visible light or simply light. A typical human eye will respond to wavelengths from about 390 nm to 700 nm.
- **Microwaves** are a form of electromagnetic radiation with wavelengths ranging from one meter to one millimeter.
 - **Infrared** radiation, is electromagnetic radiation (EMR) with longer wavelengths than those of visible spectrum at 700 nanometers (frequency 430 THz), to 1000000 nm (300 GHz)
 - **Ultraviolet (UV)** is an electromagnetic radiation with wavelength from 10 nm to 400 nm, shorter than that of visible light but longer than X-rays.
37. (A) State of Bolivia is a landlocked country located in western-central South America.
38. (C) Decreasing the money circulation decreases the demand of goods and services. This helps in controlling the inflation. It is mainly effective for demand pull inflation.
39. (D) Oxytocin is a human peptide hormone and neuropeptide that is used as a medication to facilitate childbirth.
40. (C) The tallest tree in the world is a coast redwood (*sequoia sempervirens*), named Hyperion after a person in Greek mythology. The tree is no less than 115.72 m (379.7 feet) tall. This enormous tree was discovered only in August 2006 in a remote part of Redwood National Park, California by naturalists Chris Atkins and Michael Taylor. Their first preliminary measurements were done with professional laser measurement equipment based on goniometry.
41. (C) When a running car stops suddenly, the passengers tend to lean forward due to inertia of motion. Inertia is that property of a body due to which it resists a change in its state of rest or of uniform motion.
42. (A) In consumer theory, substitute goods are products that a consumer perceives as similar or comparable, so that having

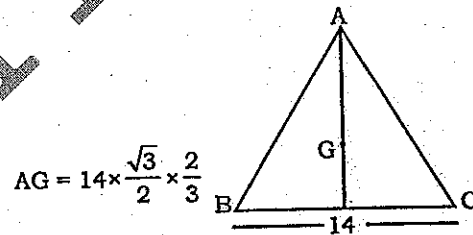
more of one product makes them desire less of the other product. Formally X and Y are substitutes if, when the price of X rises, the demand for Y rises.

43. (D) Anshu Jamsenpa, the Indian mountaineer from Arunachal Pradesh, has set the world record by becoming the world's first woman to conquer Mount Everest twice within five days. Jamsenpa along with Nepali climber Furi Sherpa scaled the peak at 8:00 am on May 21, 2017. Earlier, she stood a top of world's highest mountain on May 16, 2017. With this, Jamsenpa has also become the first Indian woman to scale Mt Everest for the fifth time. Beside this, Indian climbers Dhankude Kishor Dattatraya and Brij Mohan Sharma also scaled Mt. Everest on May 20, 2017. Brij Mohan Sharma, popularly known as Breeze Sharma has become the first civilian from the Indian Navy to summit Mount Everest. Earlier, Chhuring Sherpa (a Nepali mountaineer) had scaled Mt Everest twice within a week, reaching the roof of the world first on May 12, 2012, then again on May 19.
44. (D) The Article 20 is one of the pillars of fundamental rights guaranteed by the Constitution of India. It mainly deals with protection of certain rights in case of conviction for offences. When an individual as well as corporations are accused of crimes, the provisions of Article 20 safeguard their rights. The striking feature of the Article 20 is that it can't be suspended during an emergency period. Protection of Life and Personal Liberty: No person shall be deprived of his life or personal liberty except according to procedure established by law. Article 21 of the Constitution of India.
45. (C) The River Luni is the only natural water source that drains inside a lake in the desert. It originates in the Pushkar valley of the Aravalli Range, near Ajmer and ends in the marshy lands of Rann of Kutch in Gujarat, after travelling a distance of 530 km.
46. (A) Amniocentesis (also referred to as amniotic fluid test or AFT) is a medical procedure used in prenatal diagnosis of chromosomal abnormalities and fetal

infections, and also for sex determination, in which a small amount of amniotic fluid, which contains fetal tissues, is sampled from the amniotic sac surrounding a developing fetus, and then the fetal DNA is examined for genetic abnormalities.

47. (A) An average adult man weighing 160 pounds contains one and a quarter gallons of blood, or 10 pints. Estimation of blood volume is based on gender, age, weight, amount of lean body mass and even altitude: people who live at higher altitudes possess more blood to provide extra oxygen. People who weigh less generally carry less blood. Body fat percentage is a major factor in blood volume, as fat contains less blood than muscle; thus, if two people have the same weight, the person who has more fat would actually have a lower blood volume even if he appears to be larger.

51. (B) ATO.



$$= \frac{14}{\sqrt{3}} \text{ cm}$$

52. (A) Time taken by them to reach M

$$= \frac{850}{50+35} = 10$$

Then, $PM : MQ = 35 \times 10 : 50 \times 10 = 7 : 10$

53. (B) $31.5 \times 3 + 25.5 \times 3 + x + x + 4 + x + 5 = 30 \times 9$

$$\Rightarrow 3x + 9 = 270 - 171$$

$$\Rightarrow x = 30$$

Hence, 9th number = $x + 5 = 35$

54. (B) $14 \quad 8 \quad 9 \quad 14.5 \quad 30 \quad 76$
 $\uparrow \quad \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$
 $\times \frac{1}{2} + 1 \quad \times 1 + 1 \quad \times \frac{3}{2} + 1 \quad \times 2 + 1 \quad \times \frac{5}{2} + 1$

55. (D) $m + n = a \cos^3 \theta + 3a \cos \theta \sin^2 \theta + a \sin^3 \theta + 3a \cos^2 \theta \sin \theta$

$$= a (\cos \theta + \sin \theta)^3$$

Also,

$$m - n = a \cos^3 \theta + 3a \cos \theta \sin^2 \theta - a \sin^3 \theta - 3a \cos^2 \theta \sin \theta$$

$$= a (\cos \theta - \sin \theta)^3$$

Then, $(m+n)^{2/3} + (m-n)^{2/3} = [a(\cos\theta + \sin\theta)]^{2/3} + [a(\cos\theta - \sin\theta)]^{2/3}$
 $= a^{2/3} [(\cos\theta + \sin\theta)^2 + (\cos\theta - \sin\theta)^2]$
 $= a^{2/3} [2(\cos^2\theta + \sin^2\theta)]$
 $= 2a^{2/3}$

56.(B) $P = \frac{22464}{100} \times \frac{10000}{144} \times \frac{100}{312} = ₹ 5000$

57.(A) $\frac{4}{11}$ and $\frac{2}{7}$ are connected to $\frac{1}{2}$
 $\frac{3}{14}$ and $\frac{3}{22}$ are connected to $\frac{1}{2}$
 11 and 7 are connected to 2

Hence, Required ratio = 11 : 7

58.(C) $x(x^2 - 3x + 3)$
 $= x^3 - 3x^2 + 3x - 1 + 1$
 $= (x-1)^3 + 1$
 $= (101-1)^3 + 1 = 1000001$

59.(D) Exterior angle = $180^\circ - 123 \frac{4^\circ}{7} = \frac{360^\circ}{7}$

Then, Number of sides = $\frac{360^\circ}{360^\circ/7} = 7$

∴ Required polygon is a Heptagon.

60.(B) Profit percent = $\frac{(250 - \frac{304 \times 100}{152}) \times 100}{\frac{304 \times 100}{152}}$
 $= 25$

61.(B) Central angle = $\frac{360^\circ}{100} \times \frac{125}{10} = 45^\circ$

$(25 - 12 \frac{1}{2}) \times 15000000$

62.(B) Difference = $\frac{100}{100}$
 $= ₹ 1875000$

63.(A) Expenditure on Basketball
 $= \frac{12.5 \times 12000000}{100}$
 $= ₹ 1500000$

64.(A) Average speed = $\frac{180}{\frac{120}{80} + \frac{60}{40}} = 60 \text{ km/h}$

65.(B) Jitender : Khusiram : Anuj
 $55000 \times 12 : 65000 \times 10 : 40000 \times 5$
 $66 : 65 : 20$

Anuj's share = $\frac{151000 \times 20}{151} = ₹ 20000$

66.(C) $A + B \rightarrow 15$
 $B + C \rightarrow 12$
 $C + A \rightarrow 10$
 All three equations are connected to 60

Time taken by B = $\frac{60}{4+5+6} - 6$

$= \frac{60}{3} \times 2 = 40 \text{ days}$

67.(A) ATQ,
 $\Rightarrow 450 + x = 900 - 2x$
 $\Rightarrow 3x = 450$
 $\Rightarrow x = ₹ 150$

Hence, C.P = ₹ 600

New S.P. = $\frac{600 \times 125}{100} = ₹ 750$

68.(B) ATQ,

$\frac{x}{\sin\theta} = \frac{y}{\cos\theta}$

$\tan\theta = \frac{x}{y} = \frac{\text{Perpendicular}}{\text{Base}}$

Then, $\sin\theta - \cos\theta = \frac{x}{\sqrt{x^2 + y^2}} - \frac{y}{\sqrt{x^2 + y^2}}$

$= \frac{x-y}{\sqrt{x^2 + y^2}}$

69.(B) ATQ,

$\frac{a}{b} = \frac{4}{5}$

$\Rightarrow \frac{a^3}{b^3} = \frac{64}{125}$

and, $\frac{b}{c} = \frac{7}{6}$

$\frac{b^3}{c^3} = \frac{343}{216}$

So, $a^3 : b^3 : c^3$

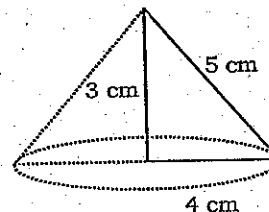
$64 : \frac{125 \times 343}{216} : 216$
 $21952 : 42875 : 27000$

Alternate:-

$a : b : c$
 $4 : \frac{5}{7} : 6$
 $28 : 35 : 30$

Then, $a^3 : b^3 : c^3$
 $21952 : 42875 : 27000$

70.(A)



$$\text{Volume of cone} = \frac{1}{3} \times \pi \times 4 \times 4 \times 3$$

$$= 16\pi \text{ cm}^3$$

71.(B) Sine rule of triangle

$$= \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} = K$$

Then, $a = K \sin A$, $b = K \sin B$, $c = K \sin C$

$$\text{So, } \frac{\cos A}{K \sin A} = \frac{\cos B}{K \sin B} = \frac{\cos C}{K \sin C}$$

$$\Rightarrow \cot A = \cot B = \cot C$$

$$\Rightarrow A = B = C$$

Hence, the triangle is an equilateral triangle

$$72.(A) \frac{(0.57)^3 + (0.43)^3}{(0.57)^3 + (0.43)^3 - (0.57)(0.43)}$$

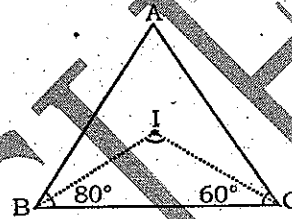
$$= \frac{(0.57 + 0.43)[(0.57)^2 + (0.43)^2 - (0.57)(0.43)]}{(0.57)^3 + (0.43)^3 - (0.57)(0.43)}$$

$$= 1 \quad [\because a^3 - b^3 = (a-b)(a^2 + b^2 + ab)]$$

$$73.(A) \begin{array}{l} A + B \rightarrow 15 \\ B + C \rightarrow 20 \\ C \rightarrow 30 \end{array} \rightarrow 60 \begin{array}{l} \leftarrow 4 \\ \leftarrow 3 \\ \leftarrow 2 \end{array}$$

$$\text{Hence, Time taken by A} = \frac{60}{4 - (3 - 2)} = 20 \text{ days}$$

74.(D)



$$\angle BIC = 180^\circ - \frac{\angle ABC}{2} - \frac{\angle BCA}{2}$$

$$= 180^\circ - 40^\circ - 30^\circ = 110^\circ$$

$$75.(C) \text{ Difference} = 2 \times \frac{22}{7} \times 14 - 14 \times 2 = 88 - 28 = 60 \text{ cm}$$

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MEANINGS IN ALPHABETICAL ORDER

Word	Meaning in English	Meaning in Hindi
Cataclysm	a momentous and violent event marked by overwhelming upheaval and demolition	प्रलय
Catacomb	an underground place where people are buried	कब्रों का तहरखाना
Catalysis	A change in the rate of a chemical reaction induced by a catalyst	उत्प्रेरण
Catechism	a series of questions and answers used in giving religious instruction	धार्मिक उपदेश देने में उपयोग किए गये प्रश्नोत्तरी
Clandestine	secret	गुप्त
Compensation	something that is given to make up for damage	सुआवजा, क्षतिपूर्ति
Conceal	to keep secret	गुप्त रखना
Coup d'etat	a sudden, violent and illegal seizure of power from a government	आकस्मिक शासन परिवर्तन
Eliminate	completely remove or get rid of something	हटाना, दूर करना
Emphatically	expressing something forcibly and clearly	सुस्पष्ट तथा प्रभावशाली रूप से
Fait accompli	something that has been done and cannot be changed	निर्विवादित कार्य
Forcefully	in a strong and assertive manner	बलपूर्वक
Joie de vivre	keen or buoyant enjoyment of life	जीवन का आनन्द
Mimic	to imitate closely	नकल करना
Nutjob	a mentally unbalanced person	विक्षिप्त
Penalty	punishment for breaking a rule	जुर्माना
Predominantly	for the most part, mainly	प्रधान रूप से, मुख्यतः
Profound	too much	अत्याधिक
Pungent	having a strong, sharp taste or smell	तीक्ष्ण
Pusillanious	lacking courage and determination	कायर, कमजोर दिलवाला
Ransom	money that is paid in order to free someone who has been captured	फिरौती
Recalcitrant	obstinately defiant of authority	हठी, आज्ञा न मानने वाला
Rejection	the act of not accepting, or considering something	अस्वीकरण
Revelation	a secret fact that is made known	प्रकटीकरण
Sarcophagus	a stone coffin	पत्थर की बनी हुई कब्र
Scold	rebuke someone angrily	डांटना
Scald	to burn with hot water	गरम पानी से जलाना
Sepulchre	a place of burial	कब्र
Sine qua non	something absolutely essential	अनिवार्य
Tribute	something said to show respect or gratitude	श्रद्धांजलि
Vitriolic	filled with bitter criticism or malice.	कटु आलोचना से भरा
Wanton	hard to control, undisciplined	अनियंत्रित
Wounded	injured or hurt by a wound	घायल

Answer key on 7 July - 2017

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

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