

S1. Ans.(c)

Sol. Only 173 is a prime number

S2. Ans.(b)

Sol.

Atq,

$$4 + 2(2) = 8$$

$$\text{Now, } 8 + 2(3) = 14$$

S3. Ans.(a)

Sol.

$$\frac{48}{15} = 3 \text{ Remainder}$$

S4. Ans.(b)

Sol.

$$\text{Percentage of oxygen} = \frac{9.4}{20} \times 100\%$$

$$= 47\%$$

$$\text{Percentage of carbon} = 100 - (40 + 47)$$

$$= 13\%$$

S5. Ans.(c)

Sol.

$$\text{Required percentage} = \frac{50}{950} \times 100\%$$

$$= 5\frac{5}{19}\%$$

S6. Ans.(d)

Sol.

$$\frac{\ell+4}{b+4} = \frac{4}{3}$$

$$\Rightarrow 3\ell - 4b = 4 \quad \dots(i)$$

Also,

$$\frac{\ell-4}{b-4} = \frac{2}{1}$$

$$\Rightarrow \ell - 2b = -4 \quad \dots(ii)$$

From (i) and (ii)

$$\ell = 12 \text{ and } b = 8$$



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S7. Ans.(b)**Sol.**

$$\text{Average charge} = \frac{2 \times 150 + 5 \times 75 + 9 \times 25}{16}$$

$$= \text{Rs } 56.25$$

S8. Ans.(c)**Sol.**

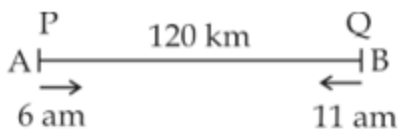
$$\text{remaining days} = 66 - 14 = 52$$

Atq,

$$M_1 D_1 = M_2 D_2$$

$$\Rightarrow 2000 \times 52 = (2000 + x) \times 20$$

$$\Rightarrow x = 3200$$

S9. Ans.(d)**Sol.**

$$\text{B's speed} = x$$

$$\text{Then A's speed} = \frac{3}{2}x$$

They cross at 8 p.m.

So, A travelled for 14 hours

And B travelled for 9 hours

Total distance = 120

$$\text{so, } 14 \times \frac{3x}{2} + 9 \times x = 120$$

$$\Rightarrow x = 4$$

$$\text{A's speed} = 6 \text{ kmph}$$

$$\text{B's speed} = 4 \text{ kmph}$$

$$\text{Now, time taken by A to cover 120 km} = \frac{120}{6} = 20 \text{ hr}$$

i.e. 6 am + 20 hr \Rightarrow 2 am the next day**S10. Ans.(a)****Sol.**

Time Taken by B to cover 120 km

$$\Rightarrow \frac{120}{4} = 30 \text{ hr}$$

$$\text{Difference} = 30 - 20 = 10 \text{ hr}$$

S11. Ans.(b)**Sol.** A's speed = 6 kmph

S12. Ans.(a)**Sol.**

$$\begin{aligned} \text{SI for 1 yr} &= 854 - 815 \\ &= 39 \end{aligned}$$

$$\begin{aligned} \text{Principle amount} &= 815 - 3(39) \\ &= \text{Rs } 698 \end{aligned}$$

S13. Ans.(c)**Sol.**

$$\text{SI} = \frac{\text{PR} \times 2}{100} = \frac{2\text{PR}}{100}$$

$$\text{CI} = P \left(1 + \frac{\text{R}}{100} \right)^2 - P$$

$$= \frac{\text{PR}^2}{100^2} + \frac{2\text{PR}}{100}$$

$$\text{Difference} = \frac{\text{PR}^2}{100^2}$$

S14. Ans.(a)**Sol.**

$$\sqrt{2}a = 20 \text{ cm}$$

$$a = 10\sqrt{2} \text{ cm}$$

$$\text{perimeter} = 4a = 40\sqrt{2}$$

S15. Ans.(b)**Sol.**

Speed of train = 45 kmph

$$\text{Or, } 45 \times \frac{5}{18} = \frac{25}{2} \text{ m/s}$$

$$\text{Distance covered in 60 seconds} = \frac{25}{2} \times 60 = 750 \text{ m}$$

$$\text{Length of train} = 750 - 100 = 650 \text{ m}$$

S16. Ans.(c)**Sol.**

Let the number be 'x' and 'y'

Atq,

$$\frac{80}{100} \times x = \frac{4}{5}y$$

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

S17. Ans.(d)**Sol.**

$$\text{First part} = \frac{4}{7} \times 455 = 260$$

$$\text{Second part} = \frac{3}{7} \times 455 = 195$$

$$\text{Difference} = 260 - 195 = 65$$



S18. Ans.(b)

Sol.

Profit is divided in ratio of their investment

$$\text{Ram : Sheela} = 35000 \times 8 : 42000 \times 10$$

$$= 2 : 3$$

$$\text{Ram's share} = \frac{2}{5} \times 31570$$

$$= \text{Rs } 12628$$

S19. Ans.(c)

Sol.

$$49 \times 6 \frac{1}{2} \times 8 = 196 \times 5 \times x$$

$$x = \frac{13}{5} \text{ or } 2 \frac{3}{5}$$

S20. Ans.(a)

Sol.

$$\text{Circumference} = 2\pi r$$

$$= 2 \times \frac{22}{7} \times 35 = 220 \text{ cm}$$

$$\text{Speed} = \frac{220 \times 10}{5 \times 100} = 4.4 \text{ m/s}$$

S21. Ans.(b)

Sol.

$$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}}$$

$$9 = \frac{9+x}{\frac{9}{6} + 1.5}$$

$$x = 18 \text{ km}$$

$$\text{Speed} = \frac{18}{1.5} = 12 \text{ kmph}$$

S22. Ans.(d)

Sol. ATQ,

$$\frac{26}{10+x} = \frac{14}{10-x}$$

$$x = 3 \text{ km/hr}$$

S23. Ans.(a)

Sol.

$$\text{Train} \rightarrow \frac{12}{20}$$

$$\text{Car} \rightarrow \frac{7}{20}$$

$$\text{Remaining} = 20 - (12 + 7)$$

$$= 1 \text{ unit}$$

$$\therefore 1 \text{ unit} \rightarrow 13 \text{ km}$$

$$\therefore 20 \text{ units} \rightarrow 13 \times 20 = 260 \text{ km}$$



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S24. Ans.(c)**Sol.**

Let MP be 200x

SP after deducing commission = 180x

$$CP = \frac{180x}{120} \times 100 = 150x$$

SP after 15% commission = 170x

$$\text{Gain \%} = \frac{20x}{150x} \times 100\%$$

$$= 13\frac{1}{3}\%$$

S25. Ans.(b)**Sol.** Let number be x

$$\frac{35x}{100} = 280$$

$$\text{Required ratio} = \frac{800}{280} = \frac{20}{7}$$

S26. Ans.(c)**Sol.**

$$\begin{aligned} \sqrt{3 + \sqrt{5}} &= \sqrt{3 + 2\sqrt{\frac{5}{4}}} \\ &= \sqrt{\left(\sqrt{\frac{5}{2}}\right)^2 + \left(\sqrt{\frac{1}{2}}\right)^2 + 2\sqrt{\frac{5}{2}}\sqrt{\frac{1}{2}}} \\ &= \sqrt{\frac{5}{2}} + \sqrt{\frac{1}{2}} \end{aligned}$$

**S27. Ans.(b)****Sol.**

$$2^x = 2^{\frac{5}{3}}$$

$$\Rightarrow x = \frac{5}{3}$$

S28. Ans.(a)**Sol.**

$$a + b = 33$$

$$a - b = 15$$

$$b = \frac{33-15}{2} = 9$$

S29. Ans.(d)**Sol.** Let numbers be 3x and 4x

Atq,

$$3 \times 4 \times x = 120$$

$$x = 10$$

Numbers are 30 and 40

$$\text{Sum} = 30 + 40 = 70$$

S30. Ans.(b)

Sol.

$$8 \times 4 - 16 + 3 \\ = 32 - 16 + 3 = 19$$

S31. Ans.(d)

Sol.

- (a) → MONDAY
- (b) → TUESDAY
- (c) → FRIDAY
- (d) → HOLIDAY

S32. Ans.(c)

Sol. Except option (c), all other belongs to big cat family.

S33. Ans.(a)

Sol.

- I → 9
- C → 3
- E → 5

S34. Ans.(c)

Sol.

(-1, +1, -1, +1) pattern.

S35. Ans.(d)

Sol.

$$8 \times (8 - 1) = 56 \\ \text{Similarly, } 4 \times (4 - 1) = 12$$

S36. Ans.(a)

Sol.

$$8 - 4 \times 3 \div 6 + 4 \\ = 8 - 2 + 4 = 10$$

S37. Ans.(b)

Sol.

N → 4, O → 0, T → 7, I → 8, C → 1, E → 5

S38. Ans.(d)

Sol.

$$2 \times 3 + 2 - 15 \div 3 \\ = 6 + 2 - 5 = 3$$



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S39. Ans.(b)

Sol. Charger is inserted in mobile similarly,
Pencil is inserted in sharpener.

S40. Ans.(c)

Sol. Except option (c) all other are worn by human

S41. Ans.(d)

Sol.

(a) Eleven

(b) Fifteen

(c) Twelve

(d) Pencil

Option (d) is different from all.

S42. Ans.(a)

Sol. Synonyms

S43. Ans.(d)

Sol.

$$13 - 3 + 3 \times 20 \div 5$$

$$\Rightarrow 13 - 3 + 12 = 22$$

S44. Ans.(c)

Sol. Pair of opposite letters.

S45. Ans.(b)

Sol.

$a^2 : a^4$ pattern

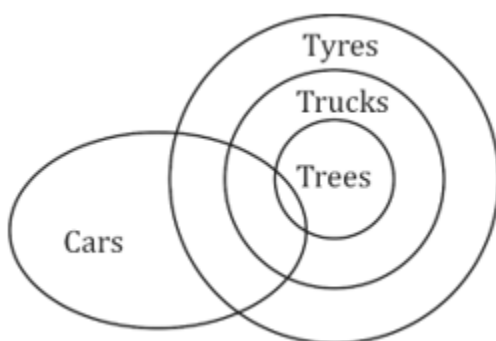
$$2^2 = 4; 2^4 = 16$$

Similarly,

$$7^2 = 49; 7^4 = 2401$$

S46. Ans.(c)

Sol.



S47. Ans.(a)

Sol.

$$30 + 125 \div 25 \times 20 - 80$$

$$30 + 5 \times 20 - 80$$

$$\Rightarrow 50$$

S48. Ans.(b)

Sol.

Man⁺ — Brother⁺ — Sister⁻ — Ishita⁻

S49. Ans.(b)

S50. Ans.(c)

S51. Ans.(a)

S52. Ans.(b)

Sol. The phrase “only book” in the statement makes II implicit. However, nothing about the state of poverty before 1950 can be deduced from the statement. So, I does not follow.

S53. Ans.(b)

Sol. Nothing about the growth of economy is mentioned in the statement. So, I does not follow. Also, it is given that 35% of national income is shared by 10% of households. This indicates unequal distribution. So, II follows.

S54. Ans.(a)

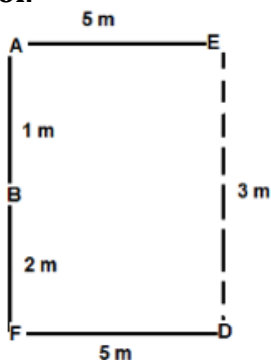
Sol. Since the advertisement wants girls “able to speak fluently in English” it must have assumed that fluency in English is a requirement for a good model. But height as a criteria is not described in the statement so, the only 1st assumption will implicit.

S55. Ans.(d)

Sol. Since an advertisement offers “best training” in the field of “computers”, it must have been assumed by the advertisers that people want “computer training and that they want the “best training”. So, both assumptions are implicit.

S56. Ans.(b)

Sol.



S57. Ans.(b)

S58. Ans.(a)

Sol. Difference of 1, 4, 9, 16 and 25.

S59. Ans.(b)

Sol. - 4 difference between alternate terms written in reverse order.

S60. Ans.(c)

Sol. Except option (c), all other have a difference of 17.

S61. Ans.(c)

Sol. First modern Olympics is held on April 6, 1896, the first modern Olympic Games are held in Athens.

S62. Ans.(b)

Sol. Deuce is associated with Badminton and Tennis.

S63. Ans.(a)

Sol. The 2022 Commonwealth Games, officially known as the XXII Commonwealth Games and commonly known as Birmingham 2022, is an international multi-sport event for members of the Commonwealth that is scheduled to be held in Birmingham, England.

S64. Ans.(b)

Sol. Minsk is the Capital city of Belarus. Its Currency is Belarusian ruble.

S65. Ans.(a)

Sol. Devaragunda Venkappa Sadananda Gowda is an Indian politician and is currently the Minister of Statistics and Programme Implementation in the Government of India. He is a member of the 16th Lok Sabha representing the Bangalore North constituency.

S66. Ans.(b)

Sol. Kalidas Festival is an important festival of Maharashtra, usually held in Ramtek, Nagpur. It is celebrated in the honour of great Indian poet Kalidas.

S67. Ans.(b)

Sol. Battle of Khanwah in 1527 was the battle between the invading forces of the first Mughal Emperor Babur and the Rajput forces led by Rana Sanga of Mewar in Rajasthan.

S68. Ans.(c)

Sol. Todar Mal was the Finance Minister of the Mughal empire during Akbar's reign. He was one of the Navaratnas in Akbar's durbar.

S69. Ans.(a)

Sol. Brahmi script was used in Ashoka's inscriptions.

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S70. Ans.(d)

Sol. Normal human blood pressure is 120/80.

S71. Ans.(b)

Sol. Onion is a bulb. A bulb is a short stem with fleshy leaves or leaf bases that function as food storage organs during dormancy. Tulip and lilies are also bulb.

S72. Ans.(b)

Sol. Digested food is absorbed by small intestine. There are a large number of villi present in the small intestine. These villi absorb the digested food into the blood.

S73. Ans.(a)

Sol. The Attorney General for India is the Indian government's chief legal advisor. The Attorney General (AG) is appointed by the president. He has the right to speak and to take part in the proceedings of both the Houses of Parliament, but without a right to vote.

S74. Ans.(b)

Sol. The motor vehicles use the convex mirror to see the rearview. This mirror creates the imaginary and erect image of the far object. This convex mirror has largest field-view.

S75. Ans.(d)

Sol. The "Centre of gravity" is the imaginary point where the entire weight of the body can be imagined to be concentrated at.

S76. Ans.(a)

Sol. According to Article 85 of the India Constitution, the President may from time to time – (i) Prorogue the Houses or either House; (ii) dissolve the House of the people. These powers are formal and by convention, the President uses these powers according to the advice of the Council of Ministers headed by the Prime Minister.

S77. Ans.(d)

Sol. To enforce the Fundamental Rights, the Supreme Court is empowered under Article 32, to issue writs of various forms. It includes Habeas Corpus, Certiorari, Quo Warranto, Mandamus and Prohibition.

S78. Ans.(b)

Sol. Established in the year 1976 and located in the Anaimalai Hills of Western Ghats in Coimbatore District, the Anaimalai Wildlife Sanctuary is one of the most beautiful wildlife sanctuaries of Southern India and is spread across 958 sq. km.

S79. Ans.(b)

Sol. Korba Super Thermal Power Plant located in the Korba district of Chhattisgarh, with 2600MW of installed capacity, also ranks as the seventh largest thermal power plant in India. It is a coal-fired power plant owned and operated by NTPC.

S80. Ans.(a)

Sol. The Ramon Magsaysay award was established in April, 1957. This award was created to commemorate Ramon Magsaysay, the late president of Philippines. The Ramon Magsaysay Award, Asia's premier prize and highest honour, celebrates greatness of spirit and transformative leadership in Asia.

S81. Ans.(c)

Sol. Pure water has a neutral pH of 7. PH values lower than 7 are Acidic, and pH values higher than 7 are alkaline (basic).

S82. Ans.(c)

Sol. A neutralization reaction is when an acid and a base react to form water and a salt and involves the combination of H⁺ ions and OH⁻ ions to generate water. The neutralization of a strong acid and strong base has a pH equal to 7.

S83. Ans.(a)

Sol. The charge on positron is equal to the charge on proton.

S84. Ans.(a)

Sol. The d-block elements are found in the middle of the period table. The d-block elements are called transition metals and have valence electrons in d orbitals.

S85. Ans.(c)

Sol. Planet Mars looks reddish in the sky..It is due to the ferric oxide(Rusted iron) on the martian surface.

S86. Ans.(b)

Sol. RLV-TD is the first unmanned flying testbed developed for the Indian Space Research Organisation (ISRO)'s Reusable Launch Vehicle Technology Demonstration Programme.

S87. Ans.(a)

Sol. Bug is an error, flaw, failure or fault in a computer program or system that causes it to produce an incorrect or unexpected result, or to behave in unintended ways.

S88. Ans.(d)

Sol. The Internet is the global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide.

S89. Ans.(c)

Sol. An English chemist, Joseph Priestly, independently, discovered oxygen in 1774 and published his findings the same year, three years before Scheele published.

S90. Ans.(d)

Sol. All the above

S91. Ans.(a)

Sol. Estrogen, or oestrogen, is the primary female sex hormone. It is responsible for the development and regulation of the female reproductive system and secondary sex characteristics.

S92. Ans.(b)

Sol. Gymnosperms does not bear flower but have seed.

S93. Ans.(c)

Sol. Renewable energy is energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat.

S94. Ans.(d)

Sol. Ascorbic acid, better known as vitamin C, is a multifunctional nutrient. It protects your body from chemical damage, promotes healthy immune system function and supports production of collagen and brain-signaling chemicals called neurotransmitters. Guava is a good source of Abscorbic acid.

S95. Ans.(c)

Sol. The Ministry of Drinking Water and Sanitation has launched a Nation -wide campaign titled 'Darwaza Band' to promote toilet use and freedom from open defecation across the villages of the country.

S96. Ans.(a)

Sol. the central government had announced the PM-KISAN scheme under which Rs 6,000 per year will be given in three Installments to 12 crore small and marginal farmers holding cultivable land up to two hectares.

S97. Ans.(c)

Sol. Union Minister for Railways, Coal and Corporate Affairs Piyush Goyal will, receive the prestigious Carnot prize for his contribution towards sustainable energy solutions,

S98. Ans.(c)

Sol. India rank 78th in the Corruption perception Index 2018.

S99. Ans.(a)

Sol. The government of Uttarakhand has obtained the permission to develop the tulip garden over 50 hectares of forest land in Pithoragarh district at a cost of Rs 50 crore. It will be the second Tulip garden in the country after the one located in Srinagar of Jammu and Kashmir.

S100. Ans.(b)

Sol. In order to encourage more young voters to take part in the political process, Government of India has decided to celebrate January 25 every year as "National Voters' Day".

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