

**S1. Ans.(a)**

	Hindi	Maths	Biology	Marathi	History
Rahul	1	1	1	×	×
Kusum	1	1	×	1	×
Sameer	1	×	1	×	1
Gita	×	1	1	1	1
Mihir	×	×	1	×	1

1 means person knows the language

× means person does not know the language

Gita is good at both Biology and Marathi

**S2. Ans.(c)**

**Sol.** Kusum is good at Hindi, Marathi & Maths

**S3. Ans.(b)**

**Sol.** Rahul is good at Maths, Biology & Hindi

**S4. Ans.(d)**

**Sol.** Neither of them follows, through statement we cannot conclude any of the conclusions

**S5. Ans.(c)**  $\frac{32}{47} > \frac{20}{47}$

$$\frac{25}{27} > \frac{13}{33}, \frac{25}{27} > \frac{32}{47}, \frac{25}{27} > \frac{20}{47}$$

$$\frac{20}{47} > \frac{13}{33} \text{ as } 20 \times 33 > 13 \times 47$$

combining all the equations we get

$$\frac{13}{33} < \frac{20}{47} < \frac{32}{47} < \frac{25}{27}$$

**S6. Ans.(c)**

**Sol.** The halogens darken in colour as the group is descended: fluorine is a very pale yellow gas, chlorine is greenish-yellow, and bromine is a reddish-brown volatile liquid. Iodine conforms to the prevailing trend, being a shiny black crystalline solid that melts at 114 °C and boils at 183 °C to form a violet gas.

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**S7. Ans.(a)**

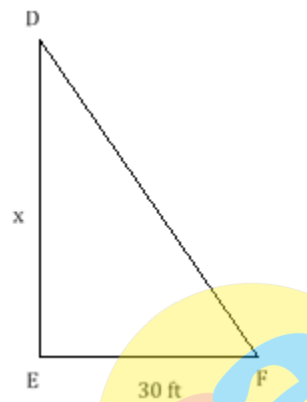
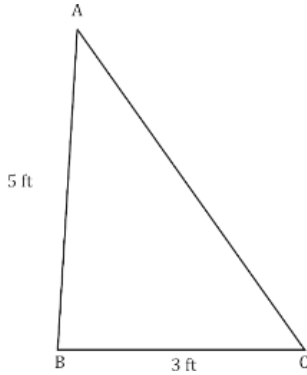
**Sol.** LCM of  $\left[\frac{25}{7}, \frac{15}{28}, \frac{20}{21}\right]$

$$\text{Is } \frac{\text{LCM of } [25,15,20]}{\text{HCF of } [7,28,21]} = \frac{300}{7}$$

**S8. Ans.(c)**

**Sol.** Brihadratha was the last ruler of the Mauryan dynasty. He is assassinated by his commander-in-chief, Pushyamitra Shunga.

**S9. Ans.(a)**



$$\frac{5}{x} = \frac{3}{30}$$

X=50 ft

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**S10. Ans.(c)**

**Sol.**  $3c + 2t = 700$  \_\_\_\_\_(i)

$5c + 3t = 1100$  \_\_\_\_\_(ii)

$1c + 2t = ?$

Multiply (i) by 3 and (ii) by 2 we get.

$9c + 6t = 2100$

$10c + 6t = 2200$

Subtracting both we get

$c = \text{Rs } 100$

And  $t = \text{Rs } 200$

$1c + 2t = \text{Rs } 500$

**S11. Ans.(b)** the two numbers be 105 , y

$$\text{LCM} \times \text{HCF} = 105 \times y$$

$$210 \times 35 = 105 \times y$$

$$y=70$$

**S12. Ans.(b)**

**Sol.**



$$\text{Total work} = 90$$

$$\text{Total efficiency} = 11$$

$$\text{Time} = \frac{90}{11} \text{ days}$$

**S13. Ans.(a)**

**Sol.** Homo Naledi was formally described in September 2015 by a 47-member international team of authors led by South African paleoanthropologist Lee Berger of the University of the Witwatersrand, who proposed that the bones represent a new Homo species.

**S14. Ans.(d)**

**Sol.** Neither of them follows,



**S15. Ans.(c)**

**Sol.** Favourite is used to save frequently visited websites in a web browser.

**S16. Ans.(a)**

**Sol.** The Khajuraho Group of Monuments is a group of Hindu temples in Chhatarpur, Madhya Pradesh, India.

**S17. Ans.(b)**

$$\text{Sol. } 45 \div 9 \times 4 + 5 = 25$$

**S18. Ans.(a)**

**Sol.** Shaped as large rectangular tank, Amrit Sarovar makes the perfect hinterland for the holy Golden Temple (Harmandir Sahib Gurudwara) and is one of the most beautiful parts of the city of Amritsar.

**S19. Ans.(c)**

**Sol.**  $1x+3x+5x=10,800$

$x = 1200$

$5x = 6000$

**S20. Ans.(a)**

**Sol.**

$$A = 1; \text{PAT} = 37, \text{PART} = 55$$

$\begin{array}{c} \diagup \quad | \quad \diagdown \\ 16 \quad 1 \quad 20 \end{array} \quad \begin{array}{c} \diagup \quad | \quad | \quad \diagdown \\ 16 \quad 1 \quad 18 \quad 20 \end{array}$

**S21. Ans.(b)**

**Sol.**  $x = \sqrt{x} + 30$  \_\_\_\_\_ (i)

$x - 30 = \sqrt{x}$

Squaring both side we get

$X^2 + 900 - 60x = x$

$X^2 - 61x + 900 = 0$

$X^2 - 36x - 25x + 900 = 0$

$X = 36, 25$

Only  $x = 36$  satisfies (i)

**S22. Ans.(a)**

**Sol.** Let the total distance =  $2D$

$\frac{D}{50} + \frac{D}{60} = \text{Total time}$

Average speed =  $\frac{2D}{\frac{D}{50} + \frac{D}{60}} = \frac{2 \times 50 \times 60}{110}$

$= \frac{600}{11} = 54.54 \text{ km/hr}$

**S23. Ans.(a)**

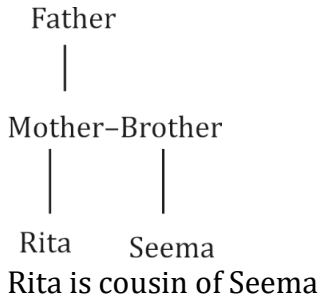
**Sol.** The Delhi Police will start using a 'predictive policing' mechanism in partnership with the Indian Space Research Organisation (ISRO).

**S24. Ans.(b)**

**Sol.** Galileo made his first telescope in 1609. Samuel Morse independently developed and patented a recording electric telegraph in 1837. Alexander Graham Bell was awarded the first U.S. patent for the invention of the telephone in 1876. Teletype machines from the AP, UPI and Reuters, were invented in 1924, and phased out in the 1970s.

**S25. Ans.(a)**

**Sol.**



**S26. Ans.(c)**

**Sol.** Mrinalini Sarabhai was an Indian Classical Bharatnatyam and Kathakali dancer.

**S27. Ans.(b)**

**Sol.** Tiger is national animal of India Similarly bold eagle is national animal of USA

**S28. Ans.(b)**

**Sol.** Surface area of box =

$$2[80 \times 60 + 60 \times 40 + 40 \times 80] = 2[4800 + 2400 + 3200] = [10400]2 = 20800 \text{ cm}^2$$

**S29. Ans.(b)**

**Sol.**  $10x + y - 10y - x = 54$

$$9(x - y) = 54$$

$$x - y = 6$$

$$x + y = 10$$

From this we get  $x = 8, y = 2$

Number = 28

**S30. Ans.(b)**

**Sol.**  $\frac{3x - 14000}{2x - 10000}$

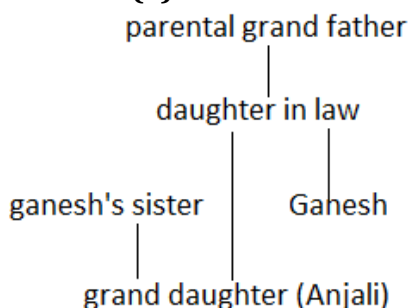
$$3x - 14000 = 4000$$

$$X = \text{Rs } 6000$$

$$\text{B's income} = 2 \times 6000$$

$$\text{Saving of B} = \text{Rs } 2000$$

**S31. Ans.(a)**



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**S32. Ans.(b)**

**Sol.** Fortunately for life on Earth, our atmosphere blocks out harmful high-energy radiation like x-rays, gamma rays and most of the ultraviolet rays. The atmosphere also absorbs most of the infrared radiation which reaches the Earth from space.

**S33. Ans.(a)**

**Sol.**  $\frac{\frac{2}{9} + \frac{3}{5}}{\frac{2}{9} + \frac{3}{5}} = \frac{10+27}{10+18} = \frac{37}{28}$

**S34. Ans.(a)**

**Sol.** First Captain for Indian ODI team is Ajit Wadekar (1974). First Captain for Indian T20 team is Virender Sehwag (2006).

**S35. Ans.(b)**

**Sol.** Cultural relativism is the idea that a person's beliefs, values, and practices should be understood based on that person's own culture, rather than be judged against the criteria of another.

**S36. Ans.(b)**

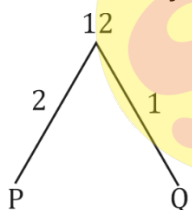
**Sol.** QSPR → "They look for creative solutions to problems that are inhibiting progress rather than the conventional solution of outsourcing."

**S37. Ans.(c)**

**Sol.** P:Q=2:1 [efficiency]

Q takes 12 days

P takes 6 days



Time taken by both =  $\frac{12}{3} = 4$  days

**S38. Ans.(c)**

**Sol.** Indian Defence Minister Manohar Parrikar hoisted the world's largest tri-colour on the tallest flag-post at Ranchi's popular, Pahari Mandir, or 'Fansi Dungri'.

**S39. Ans.(b)**

**Sol.** Median = 1, 3, 5, 6, 9, 11, 19, Median = 6

**S40. Ans.(a)**

Sol. A → 100 – CP for A

B = 115 – CP for B

B sold it to A at a profit of 20%

$$20\% = \frac{1}{5}$$

SP – 6

CP – 5 → 115

$$SP = \frac{6 \times 115}{5} = 138$$

Gain for B = 138 – 115

= 23

23 → 552

1 → 24

100 → Rs 2400

**S41. Ans.(d)**

Sol. Copper dioxide is not a Greenhouse Gas.

**S42. Ans.(a)**

Sol. On the Jallianwala bagh massacre, around 50 troops of the British Indian Army, under the command of Colonel Reginald Dyer, fired rifles into a crowd of Baishakhi pilgrims, who had gathered in Jallianwala Bagh, Amritsar, Punjab.

**S43. Ans.(b)**

Sol. The World Economic Forum Annual Meeting 2016, Mastering the Fourth Industrial Revolution, will be held in Davos-Klosters, Switzerland 20 - 23 January 2016.

**S44. Ans.(d)**

Sol. Among the given options “Don” is not a computer virus.

**S45. Ans.(a)**

Sol. Lieutenant-Governor is the administrative head of a Union Territory.

**S46. Ans.(a)**

Sol. Jayakwadi irrigation project is located on Godavari river at the site of Jayakwadi village in Paithan taluka of Aurangabad district in Maharashtra State of India.

**S47. Ans.(c)**

Sol. Siachen Glacier is the largest glacier in India, located in Jammu and Kashmir. It is also the largest glacier outside the polar and the sub-polar regions.

**S48. Ans.(c)**

Sol. Women participated for the first time at the 1900 Paris Games with the inclusion of women's events in lawn tennis and golf.

**S49. Ans.(b)**

**Sol.** Area of square = 484 sq cm

Side = 22 cm

Perimeter = 88 cm

$2\pi r = 88$

$R = 14$  cm

Area =  $\pi \times 14^2$

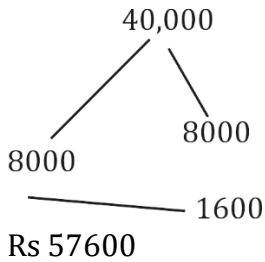
$= \frac{22}{7} \times 14 \times 14$

$= 22 \times 28$

$= 616$  sq.cm

**S50. Ans.(c)**

**Sol.**



**S51. Ans.(c)**

**Sol.**  $x = \frac{xRT}{100}$

$R = 9.09\%$

$\frac{100}{9.09} = T$

$T = 11$  years

**S52. Ans.(d)**

**Sol.** The Hundred Years' War was fought between France and England during the late Middle Ages.

**S53. Ans.(b)**

**Sol.** Length of train =  $10 \times 25 = 250$  m

**S54. Ans.(b)**

**Sol.** Google introduced first free WiFi service at Mumbai Central station in January 2016.

**S55. Ans.(c)**

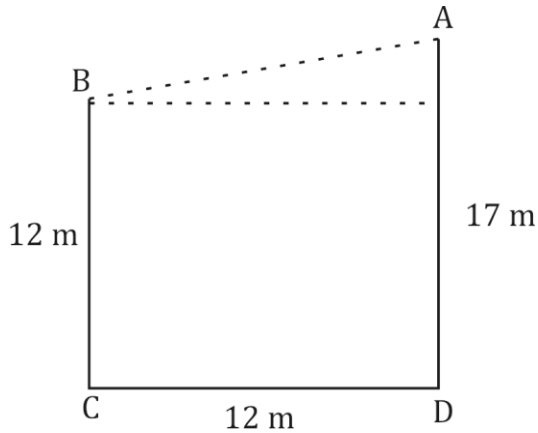
**Sol.** A pH of 7 is neutral. A pH less than 7 is acidic. A pH greater than 7 is basic.

**S56. Ans.(a)**

**Sol.** Tiny functioning human livers have been grown from stem cells in the laboratory by scientists in Japan.



S57. Ans.(c)



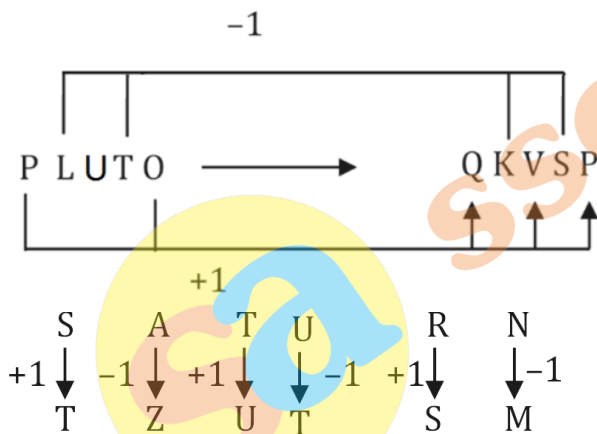
$$AB = \sqrt{12^2 + 5^2}$$

$$= 13 \text{ m}$$

S58. Ans.(a)

Sol. The Basilica of Bom Jesus or Borea Jezuchi Bajilika is located in Goa, India, and is part of the Churches and convents of Goa UNESCO World Heritage Site.

S59. Ans.(a)



S60. Ans.(d)

Sol. 9713 is divisible by 11

S61. Ans.(a)

Sol.  $15 \times 9 + 10 - 5 = 140$

S62. Ans.(d)

Sol. Carrots are rich in beta-carotene, which is converted to vitamin A in the body. Except Carrot all mentioned are rich source of Calcium.

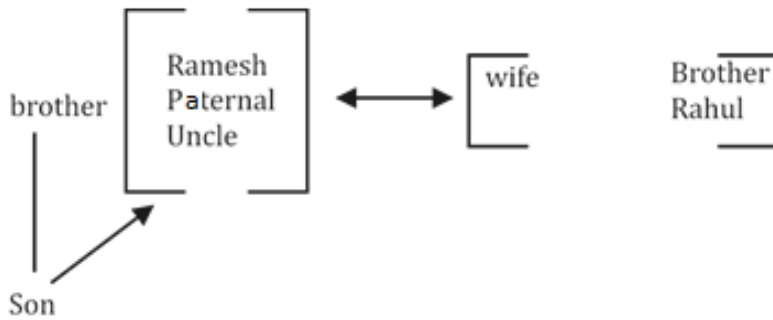
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**S63. Ans.(a)**

**Sol.**



Rahul is Brother in law to Ramesh

**S64. Ans.(a)**

**Sol.** Rabindranath Tagore was the first person of Indian origin and also first Asian to be awarded with the Nobel Prize. He received the prize for Literature in 1913.

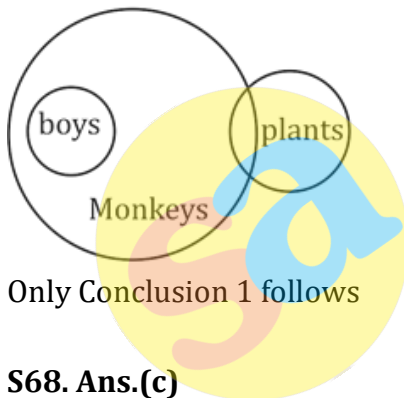
**S65. Ans.(c)**

**Sol.** Ophthalmologist is related to Eye similarly Nephrologist is related to kidney

**S66. Ans.(a)**

**Sol.** Shiva Ayyadurai is associated with the invention of Email.

**S67. Ans.(a)**



Only Conclusion 1 follows

**S68. Ans.(c)**

**Sol.** Sum of all =  $50 \times 11$

Sum of first 6 =  $49 \times 6$

Sum of last 6 =  $52 \times 6$

6<sup>th</sup> term =  $49 \times 6 + 52 \times 6 - 50 \times 11$

=  $294 + 312 - 550$

=  $606 - 550$

= 56

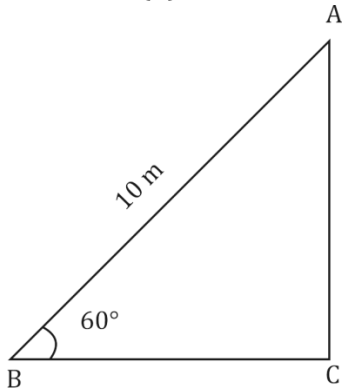
**S69. Ans.(a)**

**Sol.**  $5.36 \times 3.6 = 19.296$

**S70. Ans.(c)**

$$\begin{aligned}\text{Sol. } \frac{18+2 \times 3.3}{0.003} &= \frac{18+6.6}{0.003} \\ &= \frac{24.6 \times 1000}{3} \\ &= 8200\end{aligned}$$

**S71. Ans.(a)**



Distance between B and C =  $10 \cos 60 = 5$  m

**S72. Ans.(d)**

**Sol.** We cannot predict future from the past.

Through statement we get to know only about Indian cricket not of the world.

**S73. Ans.(d)**

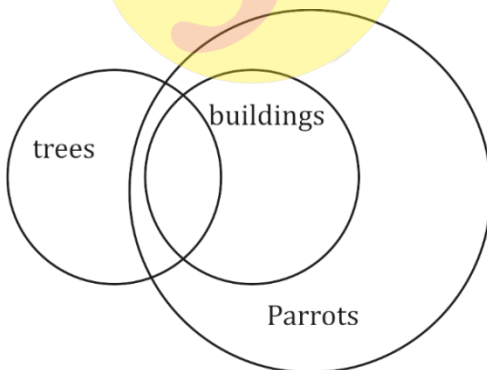
**Sol.** The revised Tariff Policy was notified by Ministry of Power on 28.01.2016 with a focus on '4 Es' i.e. Electricity for all, Efficiency to ensure affordable tariffs, Environment for a sustainable future, Ease of doing business to attract investments and ensure financial viability.

**S74. Ans.(a)**

**Sol.** Cricket is played on pitch similarly skating is played on Rink

**S75. Ans.(c)**

**Sol.**



A ×

B ×

C ✓

D ×

**S76. Ans.(a)**

**Sol.** Ex situ conservation literally means, "off-site conservation". It is the process of protecting an endangered species, variety or breed, of plant or animal outside its natural habitat.

**S77. Ans.(c)**

**Sol.** Fundamental duties are borrowed from Soviet Constitution (USSR, now Russia).

**S78. Ans.(a)**

**Sol.** Located at an altitude of 7,500 feet above sea-level, the Chail cricket ground in Himachal Pradesh is described to be the highest cricket ground in the world.

**S79. Ans.(a)**

**Sol.** Average Bonus =  $\frac{15+16.5+17.3+17.9+18.5}{5}$   
 $=\frac{85.2}{5} = 17.04$

**S80. Ans.(c)**

**Sol.** Total expenditure in 2011 = 885.4 lakhs

**S81. Ans.(a)**

**Sol.** In 2012 = fuel and Transport = 233 lakhs

Salary in 2012 = 557 lakhs

$\% = \frac{233}{557} \times 100 = 41.8\%$

**S82. Ans.(c)**

**Sol.**  $2p+4pe+8e=12$  \_\_\_\_\_ (1)

$8p+10pe+14e=36$  \_\_\_\_\_ (2)

$3p+3pe+3e = ?$

Subtracting (1) from (2)

$8p + 10pe+14e=36$

$2p+4pe+8e=12$

- - - - -

$6p + 6pe+6e=24$

$3p+3pe+3e=12$

**S83. Ans.(b)**

**Sol.** A B C D E F G H I J K L M

Z Y X W V U T S R Q P O N

BEAR → YVZI

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**S84. Ans.(a)**

**Sol.** Geotropism is the growth of the parts of plants in response to the force of gravity. The upward growth of plant shoots is an instance of negative geotropism ; the downward growth of roots is positive geotropism.

**S85. Ans.(c)**

**Sol.** Quantity

CP 120

SP 80

Ratio = 3:2

Amount = 2:3

Profit = 50%

**S86. Ans.(b)**

**Sol.** The first trial run for developing a satellite-based system to warn train drivers of unmanned railway crossings was conducted by ISRO scientists in Ahmedabad.

**S87. Ans.(c)**

**Sol.** The word "dynamo" was coined in 1831 by Michael Faraday, who utilized his invention toward making many discoveries in electricity (Faraday discovered electrical induction) and magnetism.

**S88. Ans.(b)**

**Sol.** R \_\_\_\_\_ 24 = 18+6

A \_\_\_\_\_ 7 = 1+6

I \_\_\_\_\_ 15 = 9+6

L \_\_\_\_\_ 18 = 12+6

W \_\_\_\_\_ 29 = 23+6

A \_\_\_\_\_ 7 = 1+6

Y \_\_\_\_\_ 31 = 25+6

S = 19+6 = 25

T = 20+6 = 26

A = 1+6 = 7

T = 20+6 = 26

I = 9+6 = 15

O = 15+6 = 21

N = 14+6 = 20

**S89. Ans.(d)**

**Sol.**  $64 \div 4 \times 5 + 8 = 88$

**S90. Ans.(a)**

**Sol.**  $62 + 44 + 12 + 23 = 141$

**S91. Ans.(b)**

**Sol.** 44

**S92. Ans.(a)**

**S93. Ans.(b)**

**Sol.** When an object thrown straight upwards gets to the top of its path, its Velocity is zero and its acceleration is about  $10 \text{ m/s}^2$ .

**S94. Ans.(d)**

**Sol.**  $21 \times 9 + 13 - 7 = 195$

**S95. Ans.(a)**

**Sol.** Brass gets discolored in air because of the presence of Hydrogen sulphide.

**S96. Ans.(b)**

**Sol.** The Sambhar Salt Lake, India's largest inland salt lake, is located 80 km southwest of the city of Jaipur and 64 km northeast of Ajmer, Rajasthan. All other are freshwater lakes.

**S97. Ans.(c)**

**Sol.** 1, 2, 3, 3, 4, 4, 5, 5, 5, 6, 7

Mode = highest frequency = 5

**S98. Ans.(b)**

**Sol.** "Satyameva Jayate" is a mantra from the ancient Indian scripture Mundaka Upanishad.

**S99. Ans.(a)**

**Sol.** CP for P = Rs 400

Profit = 10%

SP = Rs 440

If sold at Rs 460

$$\text{New profit} = \frac{460 - 400}{400} \times 100$$

$$= \frac{60}{4} = 15\%$$

$$\text{Increase in profit \%} = (15 - 10) = 5\%$$

**S100. Ans.(b)**

**Sol.** ISRO's Polar Satellite Launch Vehicle, PSLV-C31, successfully launched the 1425 kg IRNSS-1E, the fifth satellite in the Indian Regional Navigation Satellite System (IRNSS).

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