

**SSC CHSL Tier 1 Previous Year Paper (Solution)****S1. Ans.(c)****Sol.** HCDEPCKE / HCDEPCKF / HCDEPCKF**S2. Ans.(b)****Sol.** Glaucoma is disease of eyes. Arthritis is disease of joints.**S3. Ans.(b)****Sol.** -1, -1, -1 series is followed.**S4. Ans.(a)****Sol.**

$$\begin{array}{l}
 7 \\
 \downarrow \\
 +2 = (9) \\
 \downarrow \\
 \times (9)^3 = 729 \\
 \\
 8 \\
 \downarrow \\
 +2 = (10) \\
 \downarrow \\
 \times (10)^3 = 1000
 \end{array}$$

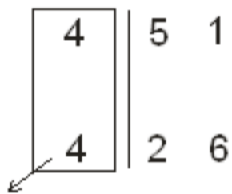
**S5. Ans.(b)****Sol.** 29 triangles**S6. Ans.(d)****Sol.** Fan runs by Electricity. Vehicles runs by Diesel.**S7. Ans.(d)****Sol.** Except (d) all are the type of voices made by animals.

**S8. Ans.(b)**

**Sol.** Age of mother = x Age of Son = y  $x+y=60$   $x-y=30$   $x=45$  years

**S9. Ans.(a)**

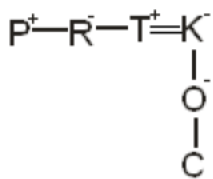
**Sol.**



3 dots are on top when 4 dots are at the bottom.

**S10. Ans.(c)**

**Sol.**



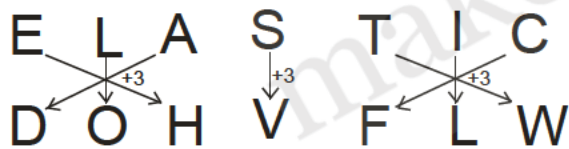
P is paternal uncle of O.

**S11. Ans.(a)**

**Sol.**  $20 \div 5 \times 3 + 3 - 1 \frac{20}{5} \times 3 + 3 - 1 = 14$

**S12. Ans.(d)**

**Sol.**

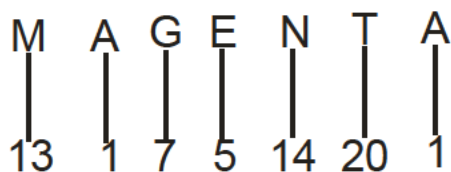


Similarly,

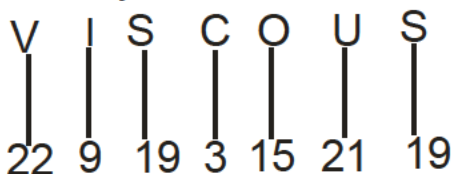
Follow the +3 sequence.

**S13. Ans.(b)**

**Sol.**



Similarly,



**S14. Ans.(b)****Sol.**

C	Q	H	L
+3	+3	-3	-3
F	T	E	I
O	P	A	R
+3	+3	-3	-3
R	S	X	O

**S15. Ans.(a)****Sol.****S16. Ans.(d)****Sol.**

All are prime no. except 183.

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

All follow +1, +2, +3 Combination except (d)

**S18. Ans.(b)****Sol.****S19. Ans.(c)****Sol.****S20. Ans.(c)****Sol.**

13+12+11+10+9+8+7+6+5+4+3+2+1=91 Playing 91 matches in tournament.

Alternate Solution -

$${}^{14}C_2 = 91$$

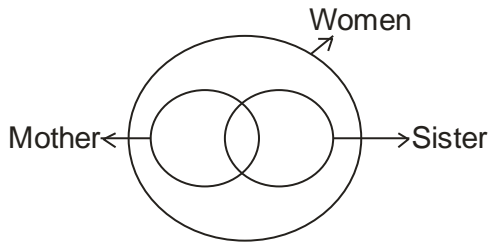
**S21. Ans.(a)****Sol.**

	+2	
DOP	FPN	HQL , JRJ , LSH
	+1	
	-2	

Follow sequence of +2, +1, -2

**S22. Ans.(c)**

**Sol.**

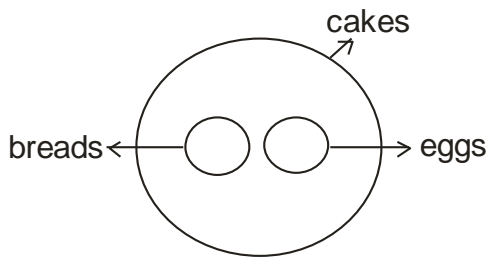


**S23. Ans.(a)**

**S24. Ans.(b)**

**S25. Ans.(b)**

**Sol.**



**S26. Ans.(a)**

**Sol.** Female Omani author Jokha Alharthi is the winner of the 2019 Man Booker International Prize for her novel "Celestial Bodies".

**S27. Ans.(d)**

**Sol.** The historic Battle of Haldighati, took place in the year 1576 AD between Rana Pratap Singh, the great Hindu Rajput ruler of Mewar in Rajasthan and Raja Man Singh of Amber, the great general of the Mughal Emperor Akbar.

**S28. Ans.(b)**

**Sol.** India ranks 130 on 2018 Human Development Index. New Delhi, 14 September 2018. In recent report of 2019 India climbed one spot to 129 among 189 countries in the 2019 human development index (HDI).

**S29. Ans.(a)**

**Sol.** COBOL was designed in 1959 by CODASYL and was partly based on previous programming language design work by Grace Hopper, commonly referred to as "the (grand)mother of COBOL".

**S30. Ans.(b)**

**Sol.** The records of population density 2011 of India state that the density 2011 has increased from a figure of 324 to that of 382 per square kilometer. Bihar is the most thickly populated state (1106 persons/sq km.) followed by west bengal-1028 and Kerala 860.

**S31. Ans.(a)**

**Sol.** Gneiss is a metamorphic rock form characterized by banding caused by segregation of different types of rock, typically light and dark silicates.

**S32. Ans.(d)**

**Sol.** Order of precedence of the gallantry awards is the Param Vir Chakra, the Ashoka Chakra, the Mahavir Chakra, the Kirti Chakra, the Vir Chakra and the Shaurya Chakra.

**S33. Ans.(b)**

**Sol.** India has lifted South Asian Football Federation SAFF Women's Championship fifth time in a row. Keeping its winning streak India defeated host Nepal in the final by 3-1 in Biratnagar. It was the 5th edition of the SAFF Women's Championship.

**S34. Ans.(d)**

**Sol.** Article 243B {Constitution of Panchayats}

- 1) There shall be constituted in every State, Panchayats at the village, intermediate and district levels in accordance with the provisions of this Part.
- 2) Notwithstanding anything in Clause (1), Panchayats at the intermediate level may not be constituted in a State having a population not exceeding twenty lakhs.

**S35. Ans.(d)**

**Sol.** In economics, Gresham's law is a monetary principle stating that "bad money drives out good". For example, if there are two forms of commodity money in circulation, which are accepted by law as having similar face value, the more valuable commodity will gradually disappear from circulation.

**S36. Ans.(b)**

**Sol.** Gotipua is a traditional dance form in the state of Odisha, India, and the precursor of Odissi classical dance. It has been performed in Orissa for centuries by young boys, who dress as women to praise Jagannath and Krishna. In the Odia language Gotipua, means "single boy" (goti-pua).

**S37. Ans.(b)**

**Sol.** Kolleru Lake is one of the largest freshwater lakes in India located in state of Andhra Pradesh and forms the largest shallow freshwater lake in Asia.

**S38. Ans.(c)**

**Sol.** Supreme court shall inquire and decide regarding all doubts and disputes arising out of or in connection with the election of a president as per Article 71(1) of the constitution.

**S39. Ans.(d)**

**Sol.** The most common cause of goiters worldwide is a lack of iodine in the diet.

**S40. Ans.(d)**

**Sol.** The second generation, introduced in 1960, used transistors and were the first successful commercial computers. Third generation computers (late 1960s and 1970s) were characterized by miniaturization of components and use of integrated circuits.

**S41. Ans.(d)**

**Sol.** The Rohilla War took place in the year 1774 AD and was considered a major conflict in the history of India between the Shuja-ud-Daula, Nawab of Awadh and the Rohillas. In the war, the Rohillas were defeated.

**S42. Ans.(c)**

**Sol.** Buoyancy is the force exerted by a liquid or fluids that opposes an object's weight. Buoyancy is the upward force that acts on the swimmer while they are in the water. The pressure from beneath the swimmer is much greater than the pressure above them, allowing for the swimmer to float.

**S43. Ans.(c)**

**Sol.** Rose-ringed parakeet will be the **state bird** while jasmine will be the **state's flower** of Andhra Pradesh

**S44. Ans.(c)**

**Sol.** The Polavaram irrigation project is located in West Godavari district of Andhra Pradesh.

**S45. Ans.(a)**

**Sol.** South Korea won the '2019 Sultan Azlan Shah Cup Hockey' title

**S46. Ans.(c)**

**Sol.** Bollywood superstar Amitabh Bachchan was awarded the third Sayaji Ratna Award, established in the memory of erstwhile Baroda ruler Sayajirao Gaekwad III.

**S47. Ans.(d)**

**Sol.** Lucknow is the centre of chikankari embroidery. It was earlier done with a white thread on a white cloth, hence the name 'white embroidery'. Now, it is done on a variety of fabrics and in a spectrum of colours.

**S48. Ans.(c)**

**Sol.** Sachin Tendulkar has scored the most international runs in the world in all the three formats (Test Match, ODI Match and T-20 Match) of cricket combined.

**S49. Ans.(d)**

**Sol.** Indonesia's Joko Widodo has been re-elected as president of the country, beating rival Prabowo Subianto, a retired general.

**S50. Ans.(d)**

**Sol.** The United Nations proclaimed May 22 as the International Day for Biological Diversity (IDB) to increase understanding and awareness of biodiversity issues.

**S51. Ans.(a)****Sol.** Let the length of each train = L meter

$$2L = (72 + 108) \times \frac{5}{18} \times 10$$

$$2L = 500$$

$$L = 250\text{m}$$

$$\text{Req. time} = \frac{250+350}{72 \times \frac{5}{18}} = 30 \text{ seconds}$$

**S52. Ans.(a)**

$$\begin{aligned} \text{Sol. } x^3 + y^3 + z^3 - 3xyz &= (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx) \\ &= 19 [133 - (xy + yz + zx)] \end{aligned}$$

We know

$$(x + y + z)^2 = x^2 + y^2 + z^2 + 2(xy + yz + zx)$$

$$xy + yz + zx = \frac{361-133}{2}$$

$$xy + yz + zx = 114$$

$$= 19 \times 19$$

$$= 361$$

**S53. Ans.(a)****Sol.** We Know,

$$a^3 - b^3 = (a - b)(a^2 + b^2 + ab)$$

$$(2x + 2y)^3 - (x - y)^3 = (2x + 2y - x + y)[(2x + 2y)^2 + (x - y)^2 + (2x + 2y)(x - y)]$$

$$= (x + 3y)[4x^2 + 4y^2 + 8xy + x^2 + y^2 - 2xy + 2x^2 - 2y^2]$$

$$= (x + 3y)(7x^2 + 3y^2 + 6xy)$$

by comparing,

$$A = 7$$

$$B = 6$$

$$C = 3$$

$$A - B - C = 7 - 6 - 3 = -2$$

**S54. Ans.(a)**

$$\text{Sol. loss}\% = \frac{CP - SP}{CP} \times 100$$

$$\frac{20}{100} = \frac{CP - \frac{x}{3}}{CP}$$

$$\frac{5x}{3} = 4CP$$

$$\frac{CP}{x} = \frac{5}{12}$$

When  $x$  = selling price

$$\frac{CP}{SP} = \frac{5}{12} > 7 \longrightarrow \text{Profit}$$

$$\text{Profit \%} = \frac{7}{5} \times 100 = 140\%$$

**S55. Ans.(a)**

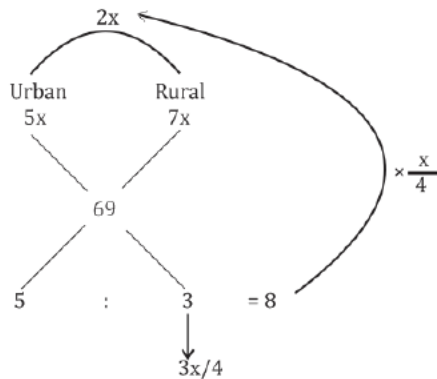
$$\text{Sol.} = 5 \div 100 \times 4 + 4 \div 16 \times 10 - 6 \div 16 \times 4$$

$$= \frac{1}{5} + \frac{5}{2} - \frac{3}{2}$$

$$= \frac{2+25-15}{10}$$

$$= \frac{12}{10}$$

$$= 1.2$$

**S56. Ans.(d)****Sol.**

$$5x + \frac{3x}{4} = 69$$

$$\frac{23x}{4} = 69$$

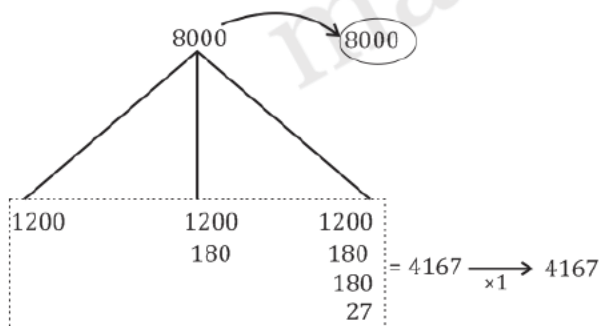
$$x = 12$$

$$\text{Avg. of Rural students} = 7 \times 12 = 84$$

**S57. Ans.(d)**

$$\text{Sol. } 15\% = \frac{3}{20}$$

$$\text{let } P = 8000$$



$$SI = 8000 \times \frac{15}{100} \times \frac{24}{5}$$

$$= 5760 \text{ Rs.}$$

**S58. Ans.(d)**

$$\text{Sol. Avg income} = \frac{225+280+325+350+350}{5}$$

$$= \frac{1530}{5}$$

$$= 306$$

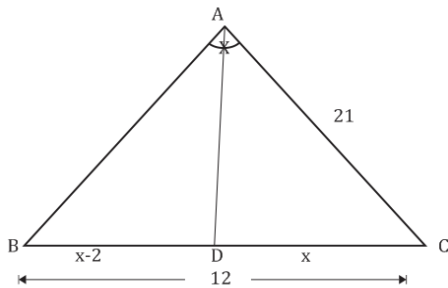
$$\text{expenditure in 2015} = 250$$

$$\text{Req. \%} = \frac{56}{250} \% = 22.4 \%$$



S59. Ans.(b)

Sol.



$$x + x - 2 = 12$$

$$x = 7$$

We know Angle bisector divides opposite side, in the ratio of Adjacent side.

$$\frac{AB}{AC} = \frac{BD}{DC}$$

$$\frac{AB}{21} = \frac{5}{7}$$

$$AB = 15 \text{ cm.}$$

S60. Ans.(d)

$$\text{Sol.} = \frac{4 \times \frac{1}{3} + \frac{1}{4} \times 1 + \frac{1}{8} \times \frac{1}{3} + \frac{1}{4} \times \frac{1}{2}}{\frac{1}{2}}$$

$$= 2 \left( \frac{4}{3} + \frac{1}{4} + \frac{1}{24} + \frac{1}{8} \right)$$

$$= 2 \left( \frac{32+6+1+3}{24} \right)$$

$$= \frac{7}{2}$$

$$= 3 \frac{1}{2}$$

S61. Ans.(c)

$$\text{Sol.} \frac{[1 - \operatorname{cosec} \theta - 1 - \operatorname{cosec} \theta]}{(1 + \operatorname{cosec} \theta)(1 - \operatorname{cosec} \theta)} \times \cos \theta = 2$$

$$\frac{-2 \operatorname{cosec} \theta \cdot \cos \theta}{1 - \operatorname{cosec}^2 \theta} = 2$$

$$\frac{-\cot \theta}{-\cot^2 \theta} = 1$$

$$\cot \theta = 1$$

$$\theta = 45^\circ$$

Now,

$$= \sin^2 45^\circ + \cot^2 45^\circ + \sec^2 45^\circ$$

$$= \frac{1}{2} + 1 + 2$$

$$= 3 \frac{1}{2}$$

S62. Ans.(a)

$$\text{Sol. total income in 2015, 2017 and 2018} = 280 + 350 + 350$$

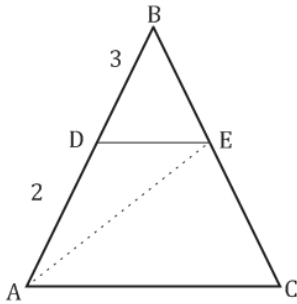
$$= 980$$

$$\text{total expenditure in five years} = 175 + 250 + 275 + 300 + 325$$

$$= 1325$$

$$\text{Req. \%} = \frac{345}{1325} \times 100$$

$$\simeq 26\%$$

**S63. Ans.(b)****Sol.**

$$\frac{\text{Area of BDE}}{\text{Area of ABC}} = \left(\frac{3}{5}\right)^2 = \frac{9}{25}$$

$$\text{Area of ADEC} = 25 - 9 = 16 \text{ unit}$$

$$\text{Area of ADE} = \frac{3}{8} (\text{Area of ADEC}) = \frac{3}{8} \times 16 = 6 \text{ unit}$$

$$\text{Value of 6 unit} = 18 \text{ cm}^2$$

$$\text{Value of 1 unit} = 3 \text{ cm}^2$$

$$\text{Area of } \Delta ABC = 25 \text{ unit} = 25 \times 3 = 75 \text{ cm}^2$$

**S64. Ans.(a)****Sol.** to be divisible by, 72 the Number also should be divisible by 8 and 9

to be divisible by 8, last 3 digit should be divisible by 8

$$\Rightarrow \frac{31y}{8}$$

$$\Rightarrow y = 2$$

Now,

to be divisible by 9, the sum of digits of Number should be divisible by 9.

$$\Rightarrow \frac{4+6+7+8+9+x+5+3+1+2}{9}$$

$$\Rightarrow x = 0, 9$$

$$\text{Req. value} \Rightarrow 2x + 5y$$

$$= 2 \times 9 + 5 \times 2$$

$$= 28$$

**S65. Ans.(b)****Sol.** in 2015

$$= \frac{75}{175} \times 100 = 42\frac{6}{7}\%$$

**S66. Ans.(a)**

$$\text{Sol. total discount} = 30 + 20 - \frac{30 \times 20}{100}$$

$$= 44\%$$

$$100\% \rightarrow 1250$$

$$56\% \rightarrow \frac{1250}{100} \times 56 = 700 \text{ Rs.}$$

**S67. Ans.(a)**

$$\text{Sol. } \frac{M_1 D_1}{W_1} = \frac{M_2 D_2}{W_2}$$

$$18 \times 4 = 24 \times ?$$

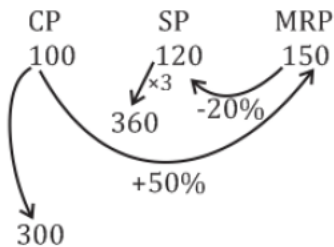
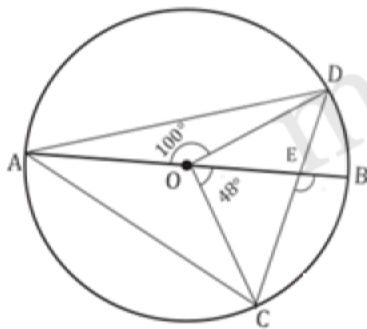
$$? = \frac{18 \times 4}{24} = 3 \text{ days.}$$

**S68. Ans.(d)****Sol.** Expenditure : Income

$$(175 + 275 + 300) : (225 + 325 + 350)$$

$$750 : 900$$

$$5 : 6$$

**S69. Ans.(b)****Sol.****S70. Ans.(b)****Sol.**

$$\angle ACD = \frac{1}{2} \angle AOD = 50^\circ$$

$$\angle BAC = \frac{1}{2} \angle BOC = 24^\circ = \angle ACO$$

$$\angle OCE = \angle ACD - \angle ACO = 50^\circ - 24^\circ = 26^\circ$$

$$\angle CEB = \angle BOC + \angle OCE = 48^\circ + 26^\circ = 74^\circ$$

**S71. Ans.(b)**

$$\text{Sol. } x + 60^\circ + 6x = 90^\circ$$

$$7x = 30^\circ$$

$$x = \frac{30^\circ}{7}$$

**S72. Ans.(c)**

**Sol.**  $9a^2 + 16b^2 + c^2 + 25 = 24a + 24b$

We get

$$a = \frac{4}{3}, b = \frac{3}{4} \text{ \& } c = 0$$

$$3a + 4b + 5c = 3 \times \frac{4}{3} + 4 \times \frac{3}{4} + 5 \times 0$$

$$= 7$$

**S73. Ans.(d)**

**Sol.** let breath of Park = b meter

$$\text{Perimeter} = 2(l + b) = 2(2b + 20)$$

$$2(2b + 20) = \frac{21200}{53} = 400$$

$$2b + 20 = 200$$

$$b = 90$$

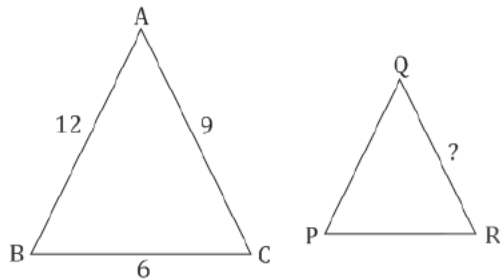
$$\text{Length} = 90 + 20 = 110$$

$$\text{Area} = 110 \times 90$$

$$= 9900$$

**S74. Ans.(c)**

**Sol.**



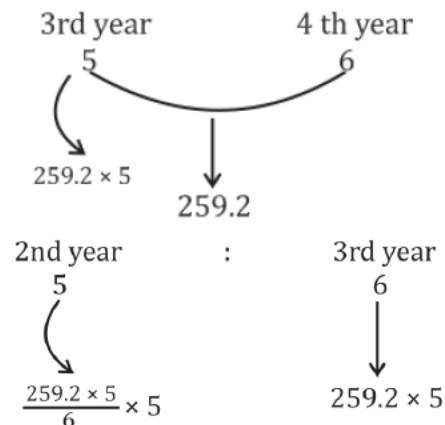
$$\frac{\text{Area of } \triangle ABC}{\text{Area of } \triangle PQR} = \left(\frac{AC}{QR}\right)^2$$

$$\frac{9}{4} = \left(\frac{9}{QR}\right)^2$$

$$QR = 9 \times \frac{2}{3} = 6 \text{ cm}$$

**S75. Ans.(b)**

**Sol.**



Now,

$$= \frac{259.2 \times 5}{6} \times 5 \times \frac{40}{100}$$

$$= 432 \text{ Ans.}$$

**S76. Ans.(d)**

**Sol.** Since the given sentence is in present tense hence, instead of using past participle (violated) we have to use present participle i.e. violating. Also, the article “a” used in the sentence should be replaced with “the” as the sentence talks about a particular law related to coaching centres.

**S77. Ans.(b)**

**Sol.** Going over one’s head: When someone can’t understand something we say it’s going over his head.

**S78. Ans.(d)**

**Sol.** BDAC is the correct order.

**S79. Ans.(d)**

**Sol.** A **voltmeter** is an instrument used for measuring electrical potential difference between two points in an electric circuit.

An **altimeter** or an altitude meter is an instrument used to measure the altitude of an object above a fixed level.

**S80. Ans.(d)**

**Sol. Forgo:** go without (something desirable). He didn’t want to go too far off place. So he had to forgo his promotion.

**S81. Ans.(d)**

**Sol.** The sentence is in passive voice. Use ‘be + 3<sup>rd</sup>’ form of verb here.

**S82. Ans.(c)**

**Sol.** One of is followed by plural subject. Use “one of favorite teachers” instead of “one of favorite teacher”.

**S83. Ans.(b)**

**Sol. Gesture:** a movement of part of the body, especially a hand or the head, to express an idea or meaning.

**S84. Ans.(c)**

**S85. Ans.(b)**

**Sol.** During about is the incorrect part here use “in about” instead of it.

**S86. Ans.(c)**

**S87. Ans.(a)**

**S88. Ans.(a)**

**S89. Ans.(a)**

**S90. Ans.(b)**

**S91. Ans.(d)**

**Sol.** Nervous is the correct spelling.  
Nervous: easily agitated or alarmed.

**S92. Ans.(a)**

**Sol. Thwart:** prevent (someone) from accomplishing something.  
**Impede:** delay or prevent (someone or something) by obstructing them; hinder.

**S93. Ans.(d)**

**S94. Ans.(a)**

**Sol. Psephology:** the statistical study of elections and trends in voting.  
**Anthropology:** the study of human societies and cultures and their development.  
**Geology** is the study of the Earth, the materials of which it is made, the structure of those materials, and the processes acting upon them.

**S95. Ans.(d)**

**Sol. Instant:** happening or coming immediately.  
Its antonym is delayed.

**S96. Ans.(b)**

**Sol. Handy:** convenient to handle or use; useful.

**S97. Ans.(d)**

**Sol. 'Resemble'** is the correct spelling.

**S98. Ans.(b)**

**Sol. Reserved** are people who do not often talk about or show their feelings or thoughts.  
**Communicative** is the correct antonym.

**S99. Ans.(c)**

**S100. Ans.(c)**

**Sol. Mad as a hatter** means crazy or deranged; particularly eccentric.