

## SBI PO Pre 2022 (20th Dec) Shift Wise Previous Year Paper Mock-11

**Directions (1-9) :** Read the given passage and answer the following questions based on that.

Almost 40 years ago — a group of peasants in a remote Himalayan village stopped a group of loggers from felling a patch of trees. Thus was born the Chipko movement, and through it the modern Indian environmental movement itself. The first thing to remember about Chipko is that it was not unique. It was representative of a wide spectrum of natural resource conflicts in the 1970s and 1980s — conflicts over forests, fish, and pasture; conflicts about the siting of large dams; conflicts about the social and environmental impacts of unregulated mining. In all these cases, the pressures of urban and industrial development had denied local communities to access the resources necessary to their own livelihood.

In the West, the environmental movement had arisen chiefly due to the desire to protect endangered animal species and natural habitats. In India, however, it arose out of human survival. This was an environmentalism of the poor, which married the concern of social justice on the one hand with sustainability on the other. It argued that present patterns of resource use disadvantaged local communities and devastated the natural environment.

Back in the 1970s, when the state occupied the commanding heights of the economy, and India was close to the Soviet Union, the activists of Chipko and other such movements were **dismissed** by their critics as agents of Western imperialism. Slowly, however, the sheer persistence of these protests forced the state into making some concessions. In 1980, a Department of Environment was established at the Centre, becoming a full-fledged Ministry a few years later. New laws to control pollution and to protect natural forests were formed. There was even talk of restoring community systems of water and forest management. Meanwhile, journalists and scholars had begun more systematically studying the **residue (I)** of environmental degradation on social life across India. In 1991 the Indian economy started to liberalise. The dismantling of state controls was in part welcome, as it had **stifled** innovation and entrepreneurship. Unfortunately, the votaries of liberalisation mounted an even more savage attack on the environment than did the proponents of state socialism.

**Q1. What was the common reason behind every environmental protest in India?**

- (a) Personification of natural elements as the divine spirits in Indian civilization
- (b) Deprivation of local communities from the basic necessities of livelihood.
- (c) Awareness of environmental consequences on living beings' lives
- (d) The belief that leading a rudimentary lifestyle is the rightful way of living
- (e) None of these

**Q2. What was/were the difference(s) between the western environmental movements and Indian environmental movements?**

- (a) Western movements intended to conserve the ecosystem while Indian movements were for people's livelihood
- (b) West was in favor of development with no concern over environment whereas India was strictly against it
- (c) The western protests were fake pretenses but the concerns of Indians were genuine.
- (d) Only (b) and (c)
- (e) None of these

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**Q3. What was the impact of Indian economic liberalization on the environment?**

- (a) Western technology in India, through liberalisation had helped India to protect environment
- (b) Economic liberalization had no significant impact on the environment whatsoever.
- (c) Economic liberalization further promoted pollution-intensive activities at the cost of environmental damage
- (d) Economic liberalization had put India and its environmental problems on the global forum
- (e) None of these

**Q4. Which of the following is FALSE with context to the passage?**

- (a) The decades of 70's and 80's had seen many conflicts over the environmental damages
- (b) The 90's decade's change in Indian economy had enacted more stiffed policies against pollution.
- (c) Department of Environment came into existence at the Centre in the 1980's.
- (d) Chipko movement led the way for other modern environmental movements.
- (e) None of these

**Q5. Which of the following will be true about the Chipko movement?**

- (a) It was a movement initiated by farmers to protect their livelihoods
- (b) With the advent of the dominancy of the state, the Chipko movement loses its due credit
- (c) Chipko movement shared the agenda with other Indian protests against the exploitation of natural resources
- (d) Only (a) and (c)
- (e) All of these

**Q6. What was/were the effect(s) of Chipko and other environment centric movements in the Indian economy?**

- (a) It formulated a complete ministry concerning environment
- (b) More stringent laws were imposed to preserve the nature and its resources
- (c) The idea of reintroducing community system for water and forest resources had also started surfacing
- (d) Only (a) and (c)
- (e) All of these

**Q7. In the given passage a word is highlighted and marked with (I) , which may or may not be correctly placed. Choose the best alternative that can replace the word without altering the intended meaning of the sentence. If the word does not need any replacement, choose "No replacement needed" as your answer choice.**

- (a) undue
- (b) impact
- (c) stigma
- (d) demand
- (e) No replacement needed

**Q8. Which of the following words is the synonym of “stifled” as highlighted in the passage?**

- (a) uptake
- (b) irrefutable
- (c) relished
- (d) nascent
- (e) encouraged

**Q9. Which of the following words is the antonym of ‘dismissed’ as highlighted in the give passage?**

- (a) recognized
- (b) amalgamated
- (c) seized
- (d) incapacitated
- (e) None of these

**Directions (10-13) :** Each sentence is divided into four parts, which may or may not have any error. Choose the section that has the error, as your answer choice. If all the sections are correct, choose, “No error” as your answer choice.

**Q10. Cavemen are represented as (A) /live a primitive life in caves (B) /and desolate places, and their (C) /character is usually ferocious (D)**

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No Error

**Q11. He fumbled in the darkness (A) / looking for the light switch, (B) /but when he finally found it (C) / there was someone already there (D) .**

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No Error

**Q12. Responding to the pandemic has (A) /led to the creation of the most intrusive (B) / and stringent laws of modern times (C) / affecting every aspects of our lives (D) .**

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No Error

**Q13. Contentious cases are sometimes escalate (A) / to a federal appellate court, which can (B) / issue rulings that set precedents (C) /for other courts within its jurisdiction (D) .**

- (a) A
- (b) B
- (c) C
- (d) D
- (e) No Error

**Directions (14-18) : In each of the questions given below, a statement with a highlighted phrase is given. Choose the most appropriate replacement from the given options which could replace the highlighted phrase to make the statements grammatically and contextually correct. If the highlighted phrase is already correct then choose option “No replacement required” as your response.**

**Q14. You shouldn't allows anyone to disrespect you.**

- (a) shouldn't allowed anyone
- (b) shouldn't allow anyones
- (c) should have not allow
- (d) shouldn't allow anyone
- (e) No replacement required

**Q15. When the king was accompany with his stalwart bodyguards, he felt safe walking among his people.**

- (a) is accompany with his
- (b) were accompanied by his
- (c) was accompanied by their
- (d) was accompanied by his
- (e) No replacement required

**Q16. Since the prisoner couldn't coexist by another convicts, he spent a lot of time in solitary confinement.**

- (a) coexists with other convict, he
- (b) coexisted among other convicts, he
- (c) coexist with other convicts, he
- (d) coexist within other convicts, it
- (e) No replacement required

**Q17. The train leaves every evening at 6 p.m. and reaches its destination the next morning.**

- (a) each evening on 6 p.m.
- (b) every evenings on 6 p.m.
- (c) every evening from 6 p.m.
- (d) every evening in 6 p.m.
- (e) No improvement required

**Q18.** The airline said in a statement that **it will ensure** that requests for refunds are processed within three days.

- (a) they will ensure
- (b) it will insure
- (c) it will have ensure
- (d) it would ensure
- (e) No improvement required

**Directions (19-21) :** In the following question, an idiom has been given. Following idiom four sentences are given. Find out which sentence has the correct usage of given idiom. If none of the given sentence has its correct usage then choose “None of these” as your answer choice.

**Q19. Cut corners**

- (a) To fill out the bill of credit card this month, I must have to **cut corners**.
- (b) An increasing population is **cutting corners** around the world.
- (c) Inflation is rising at a higher pace and **cutting corners** of daily wage earners.
- (d) No candidate was **cutting corners** when the invigilator asked for identification proof.
- (e) None of these

**Q20. A dime a dozen**

- (a) She has left with few days for the examination so she works **a dime a dozen**.
- (b) Remember your storage vendor won't be pushing you towards the less expensive route.
- (c) As smartphones have become cheaper, they are **a dime a dozen** nowadays.
- (d) He studies **a dime a dozen** for his upcoming examinations.
- (e) None of these

**Q21. Wrap your head around something**

- (a) Supply in excess can lead to a price drop and the consumer **wraps its head around** it.
- (b) The workers found it difficult to **wrap their heads around** the supervisor's instructions.
- (c) John **wrapped his head around** for any ideas to renovate the old treehouse.
- (d) So stressed he was about work that he had basically **wrapped his head around**.
- (e) None of these

**Directions (22-26) :** Rearrange the following sentences in a meaningful paragraph and answer the following questions.

- (A) However, the personal care industry remains confident about phthalate safety.
- (B) In recent decades developmental problems have become more prevalent.
- (C) Several reports highlight the presence of low-level concentrations of potential developmental toxicants.
- (D) According to these reports, personal care products such as makeup, soap etc. contain chemicals like phthalates that lack safety data.
- (E) Environmental chemicals are strongly suspected to be one of the contributing factors.

**Q22.** Which of the following should be the **FIRST** sentence after rearrangement?

- (a) A
- (b) C
- (c) D
- (d) B
- (e) E

**Q23.** Which of the following should be the **THIRD** sentence after rearrangement?

- (a) A
- (b) C
- (c) D
- (d) B
- (e) E

**Q24.** Which of the following should be the **LAST** sentence after rearrangement?

- (a) A
- (b) C
- (c) D
- (d) B
- (e) E

**Q25.** Which of the following should be the **FOURTH** sentence after rearrangement?

- (a) A
- (b) C
- (c) D
- (d) B
- (e) E

**Q26.** Which of the following should be the **SECOND** sentence after rearrangement?

- (a) A
- (b) C
- (c) D
- (d) B
- (e) E

**Directions (27-30) :** In each of the questions given below four words are given in bold. These four words may or may not be in their correct position. The sentence is then followed by options with the correct combination of words that should replace each other in order to make the sentence grammatically and contextually correct. Find the correct combination of the words that replace each other. If the sentence is correct as it is then select option 'No correction required' as your choice.

**Q27.** More than two thousand pigs have **span (1)** due to African swine fever in the **died (2)** of two weeks, **prohibitory (3)** the administration to issue **prompting (4)** orders.

- (a) 1-3 and 2-4
- (b) No correction required
- (c) 1-2 and 3-4
- (d) Only 1 - 3
- (e) Only 2 - 4

**Q28.** Coastal erosion is a **reality 1)** and the rate of **erosion 2)** has increased recently, especially after Ockhi and it is not right to **club 3)** the erosion with port **construction 4)** .

- (a) Only 1 - 2
- (b) Only 3 - 4
- (c) 1-3 and 2-4
- (d) 1-2 and 3-4
- (e) No correction required

**Q29.** Today, it refers to **learning (1)** that prioritises an individual student's **instructional (2)** and uses flexible **requirements (3)** practices in terms of content, **pace (4)** and materials.

- (a) Only 2 -3
- (b) 1-2 and 3-4
- (c) 1-3 and 2-4
- (d) Only 1 - 4
- (e) No correction required

**Q30.** With a target of **developing 1)** India into a developed country by 2047, there are some **lessons 2)** we should learn from our **eastern 3)** friend, Japan, the world's fourth **largest 4)** economy.

- (a) 1-3 and 2-4
- (b) Only 2 and 4
- (c) Only 3 and 4
- (d) 1-4 and 2-3
- (e) No correction required

**Q31.** Pipe D and pipe E can fill a tank in 15 hours and 18 hours respectively while pipe F takes 25 hours to empty the tank. Pipe D and pipe E are opened together for 5 hours and then pipe E is closed and pipe F is opened. Find the time taken by pipe D and pipe F together to fill the remaining tank.

- (a)  $14\frac{5}{12}$  hours
- (b)  $14\frac{7}{12}$  hours
- (c)  $14\frac{7}{11}$  hours



- (d)  $11\frac{7}{12}$  hours  
 $12\frac{7}{12}$  hours  
(e)

**Q32.** The ratio of wine and water in vessel A and vessel B is 5:3 and 8:5 respectively. If wine and water in both the vessel are mixed together, it is found that total quantity of wine and water is 80 liters and 49 liters respectively, find the total quantity of mixture vessel B.

- (a) 52 liters  
(b) 39 liters  
(c) 78 liters  
(d) 26 liters  
(e) 65 liters

**Q33.** The diameter of the base of a cylinder is 28 cm and its curved surface area is  $704\text{cm}^2$ . A cone has 25% more height than that of the cylinder and radius of the cylinder is equal to that of cone. Find the volume of the cone.

- (a)  $\frac{6160}{9}\text{ cm}^3$   
(b)  $\frac{6260}{3}\text{ cm}^3$   
(c)  $\frac{6151}{3}\text{ cm}^3$   
(d)  $\frac{6160}{3}\text{ cm}^3$   
(e)  $\frac{6160}{11}\text{ cm}^3$

**Q34.** A and B entered into a business investing Rs. X and Rs. X+1500 respectively. After 4 months A withdrew Rs.1000 and B invested Rs.2000 more. The ratio of their profit at the end of one year is 23:44. Find the initial amount invested by B.

- (a) Rs.4500  
(b) Rs.6000  
(c) Rs.6600  
(d) Rs.4200  
(e) Rs.4000

**Q35.** The cost price of a TV is Rs.1800 more than the cost price of a mixer. TV and mixer are sold at 20% profit and 15% profit respectively. If the difference between the selling price of TV and Mixer is Rs.2860. find the cost price of TV.

- (a) Rs. 12400  
(b) Rs. 11200  
(c) Rs. 17500  
(d) Rs. 15800  
(e) Rs. 18400

**Directions (36-41) :** Read the following table carefully and answer the questions given below.

Following table shows total number of cakes (Biscuit cake and Pan cake) sold by five different shops and ratio distribution of Biscuit cakes and Pan cakes in these shops.

<b>Shops</b>	<b>Total cakes sold</b>	<b>Biscuit cakes : Pan cakes</b>
<b>A</b>	700	5:9
<b>B</b>	850	9:8
<b>C</b>	980	4:3
<b>D</b>	1200	8:7
<b>E</b>	1020	5:7

**Q36. Find the ratio of number of biscuit cakes sold by shop A and D together to number of pan cakes sold by shop B and E together.**

- (a) 175 :199
- (b) 178 :199
- (c) 178 :109
- (d) 179 :194
- (e) 171 :149

**Q37. Find the average number of biscuit cakes sold by all the five shops.**

- (a) 465
- (b) 405
- (c) 415
- (d) 425
- (e) 445

**Q38. In shop B, price of each pan cake and biscuit cake is Rs.45 & Rs.55 respectively. Find the total revenue generated by shop B.**

- (a) Rs.40750
- (b) Rs.26720
- (c) Rs.55750
- (d) Rs.42750
- (e) Rs.40050

**Q39. Find the difference between total number of pan cakes sold by shop E and D together and number of biscuit cakes sold by shop C and A together.**

- (a) 215
- (b) 105
- (c) 555
- (d) 745
- (e) 345

**Q40. Number of biscuit cakes sold by shop E is what % that of shop D?**

- (a) 68%
- (b) 44%
- (c) 51%
- (d) 66%
- (e) 78%

**Q41. Find the total number of pan cakes sold by all the shops together.**

- (a) 2225
- (b) 2425
- (c) 2665
- (d) 2005
- (e) 2125

**Q42. Present age of A is six years more than that of B and nine years less than that of C. If average of present age of A, B and C is 39 years. Then find the ratio of ages of A and C, 7 years hence.**

- (a) 3: 4
- (b) 4: 5
- (c) 5: 6
- (d) 2: 3
- (e) 1: 2

**Q43. Train A whose length is 20% more than that of train B crosses each other in 13.2 sec when moving in opposite direction. Train A crosses train B in 66 sec while moving in the same direction. Find the ratio of speed of train A and speed of train B.**

- (a) 4: 5
- (b) 3: 4
- (c) 5: 7
- (d) 3: 5
- (e) 3: 2

**Q44. Average of five numbers is 82. Average of two smallest numbers is 65 and average of two greatest numbers is 100. Find the middle number, if all these five numbers are arranged in increasing order?**

- (a) 85
- (b) 100
- (c) 70
- (d) 80
- (e) 90

**Q45. A man invested his savings at the rate of 15% p.a. for two years at simple interest(SI) , if the man invests his savings at the rate of 20% p.a. for two years at compound interest (CI) compounding annually then he will receive Rs. 280 more interest. Find saving of man?**

- (a) 1800 Rs.
- (b) 2400 Rs.
- (c) 2000 Rs.
- (d) 1600 Rs.
- (e) 1200 Rs.

**Q46. A boat can travel a distance of 180 km in downstream and 150 km in upstream in 5 hours. Find the time taken by the boat to cover a distance of 315 km in still water if ratio of speed of boat in still water to speed of stream is 7:2 respectively.**

- (a) 5.5 hours
- (b) 2.5 hours
- (c) 1.5 hours
- (d) 4.5 hours
- (e) 6.5 hours

**Directions (47-50) : Read the given information carefully and answer the following questions.**

In a company of 3540 employee, there are 4 different departments (Management, HR, Production and Accounts) . Females in HR department are 87.5% of males of same department. Total males in Production department are 800 which is 25% more than the males in Management. No. of females in Management is same as males in accounts. Females in Accounts are 150 less than Males in same department and 150 more than females in Production department. Ratio of total employee in Production and that in Accounts is 19: 15.

**Q47. What is the difference between the total number of males and females in the company?**

- (a) 1100
- (b) 960
- (c) 1040
- (d) 890
- (e) 1120

**Q48. Total no. of employee in HR department is what percentage more/less than that in Account department.**

- (a) 0%
- (b) 100%
- (c) 50%
- (d) 25%
- (e) 200%

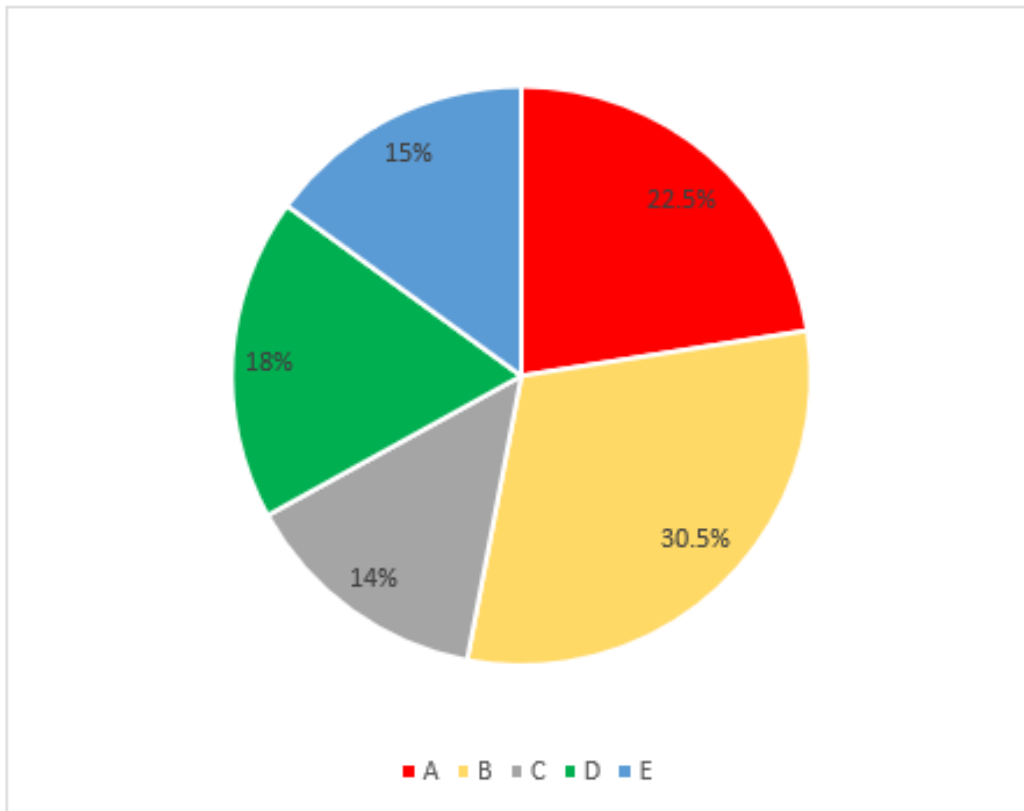
**Q49. If 20% of employee of Management department switched the department to Account department, due to which no. females in Accounts department increased to 373, then find the no. of males in Account department.**

- (a) 465
- (b) 595
- (c) 615
- (d) 580
- (e) 425

**Q50. What is the ratio of the no. of males in HR and Production together to no. of females in Production and Management together?**

- (a) 3: 1
- (b) 3: 2
- (c) 4: 3
- (d) 1: 1
- (e) 2: 1

**Directions (51-55) : Pie chart given below shows the percentage distribution of marks obtained in maths out of total marks obtained by five students (i.e., A, B, C, D and E) of a class in math. There are only three subjects in class i.e. (Hindi, English and Math) .**



**Q51. If marks obtained by B in math is 82.5 more than marks obtained by C in same subject, then find total marks obtained by B, A and C in math?**

- (a) 315
- (b) 305
- (c) 325
- (d) 335
- (e) 275

**Q52. C's score in Hindi and English is  $33\frac{1}{3}\%$  more and 10 more than that of D and E scored in math respectively and total score of C in three subjects is 275, then find marks scored by A in math?**

- (a) 100
- (b) 105
- (c) 112.5
- (d) 75.5
- (e) 97.5

**Q53. What is the ratio of marks obtained by A to D & C together in math out of total marks obtained by five students in math?**

- (a) 45:64
- (b) 45:61
- (c) 61:64
- (d) 15:19
- (e) 15:17

**Q54. If marks obtained by A in math out of total marks obtained by five students in math is 135, then find marks obtained by C in math?**

- (a) 112
- (b) 84
- (c) 98
- (d) 70
- (e) None of these.

**Q55. If total marks obtained by all five students in math is 600, then find marks obtained by B is how much more than that of A in math.**

- (a) 36
- (b) 28
- (c) 54
- (d) 48
- (e) 44

**Directions (56-60) :** In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer.

**Q56.**

I.  $7x^2 + 5x - 18 = 0$

II.  $3y^2 + 4y - 20 = 0$

- (a) If  $x > y$
- (b) If  $x \geq y$
- (c) If  $x < y$
- (d) If  $x \leq y$
- (e) If  $x = y$  or no relation can be established between  $x$  and  $y$

**Q57.**

I.  $12x^2 + 46x + 42 = 0$

II.  $3y^2 - 16y + 21 = 0$

- (a) If  $x > y$
- (b) If  $x \geq y$
- (c) If  $x < y$
- (d) If  $x \leq y$
- (e) If  $x = y$  or no relation can be established between  $x$  and  $y$

**Q58.**

I.  $(x - 4)^2 = 81$

II.  $2y^2 + 17y + 36 = 0$

- (a) If  $x > y$
- (b) If  $x \geq y$
- (c) If  $x < y$
- (d) If  $x \leq y$
- (e) If  $x = y$  or no relation can be established between  $x$  and  $y$

**Q59.**

I.  $x^3 - 119 = 2078$

II.  $y^2 - 169 = 0$

- (a) If  $x > y$
- (b) If  $x \geq y$
- (c) If  $x < y$
- (d) If  $x \leq y$
- (e) If  $x = y$  or no relation can be established between  $x$  and  $y$

**Q60.**

I.  $x^2 + x - 20 = 0$

II.  $y^2 + 11y + 30 = 0$

- (a) If  $x > y$
- (b) If  $x \geq y$
- (c) If  $x < y$
- (d) If  $x \leq y$
- (e) If  $x = y$  or no relation can be established between  $x$  and  $y$

**Directions (61-65) : What will come in the place of question (?) mark in following series.**

**Q61.** 6, 5, 5, 8, 16, 31, ?

- (a) 22
- (b) 11
- (c) 33
- (d) 44
- (e) 55

**Q62.** 125, 343, 1331, 2197, ?, 6859, 12167.

- (a) 1728
- (b) 4096
- (c) 4913
- (d) 5832
- (e) 2744

**Q63.** 0, 1, 9, 18, ?, 107, 323

- (a) 30
- (b) 31
- (c) 82
- (d) 33
- (e) 34

**Q64.** 841, ?, 848, 869, 855, 862, 862

- (a) 987
- (b) 798
- (c) 888
- (d) 876
- (e) 697



**Q65.** 290, 224, 170, 120, 82, 48, ?

- (a) 20
- (b) 21
- (c) 22
- (d) 24
- (e) 26

**Directions (66-70) :** Study the following information carefully and answer the questions given below.

There are eight persons A, B, C, D, E, F, G and H who live in a building having four floors such that the ground floor is numbered as 1 and the floor immediately above the ground floor is numbered as 2 and so on up to the topmost floor is numbered as 4. Each of the floors consists of two types of flats i.e., flat-A and flat -B. Flat-A of floor 2 is immediately above the flat - A of floor 1 and immediately below flat - A of floor 3 and in the same way flat -B of floor 2 is immediately above the flat - B of floor 1 and immediately below the flat-B of floor 3 and so on. Also, flat -A is the west of flat B. Only one person lives in each flat. Each of the flats is of the same dimension.

One floor gap between A and F. H lives to the west of B who lives to the northeast of F. A lives to the southwest of D. C lives to the east of E.

**Q66.** Who among the following lives in Flat A of floor 3?

- (a) E
- (b) A
- (c) G
- (d) F
- (e) None of these

**Q67.** Who lives immediately above G's flat?

- (a) B
- (b) C
- (c) A
- (d) D
- (e) None of these

**Q68.** Who among the following lives in Flat A of floor 2?

- (a) F
- (b) H
- (c) G
- (d) None of these
- (e) E

**Q69. Who lives exactly between H and E in the same named flat?**

- (a) D
- (b) A
- (c) F
- (d) Either F or D
- (e) G

**Q70. Which of the following statements is true?**

- (a) D lives on the floor below F in the same named flat
- (b) A lives on the floor above C
- (c) E and H live on consecutive floors
- (d) G lives north-west of E
- (e) B and G live in the same named flat

**Directions (71-72) :** In the following questions assuming the given statement to be true, find which of the conclusion(s) among the given conclusion(s) is/are definitely true and then give your answers accordingly.

**Q71.**

**Statement:**

$39 > 93 \geq 63, 54 \leq 32 < 93, 63 < 75$

**Conclusions:**

I.  $93 \geq 75$

II.  $39 > 32$

III.  $54 < 75$

- (a) Only conclusion II is true
- (b) Only conclusion III is true
- (c) Either conclusion I or II and III is true
- (d) Both conclusions II and III are true
- (e) Both conclusions I and II are true

**Q72.**

**Statement:**

$\& > \$ = \%, @ < ? \geq \#, \% = ! > \#$

**Conclusions:**

I.  $\& > \#$

II.  $\$ > ?$

III.  $\% \leq ?$

- (a) Only conclusion I is true
- (b) Only conclusion II is true
- (c) Either conclusion II or III is true and I is true
- (d) Either conclusion I or II and III is true
- (e) None is true

**Q73. In which among the following elements,  $K \geq O$  and  $L > Z$  holds definitely true, if the given statements are definitely true?**

- (a)  $N \geq O \geq Z > T$ ;  $K \geq Z > P = L$
- (b)  $N < O \leq Z > T$ ;  $K \geq Z < P \leq L$
- (c)  $N > O \leq Z < T$ ;  $K \geq Z > P > L$
- (d)  $N \geq O \geq Z \geq T$ ;  $K < Z \leq P < L$
- (e)  $N \leq O < Z \leq T$ ;  $K < Z = P > L$

**Directions (74-76) : Study the following information carefully and answer the questions given below.**

Six persons M, N, O, P, Q and R sit around a circular table facing towards the centre but not necessarily in the same order. Each of them is of certain years old. Distance between adjacent persons is equal. The sum of the ages of the persons sitting opposite to each other is 36 years. None of them is less than 13 years old and greater than 23 years old.

P sits opposite to 16 years old person. One person sits between P and the one who is 5 years younger than P. R sits 2<sup>nd</sup> to the right of the youngest person. M is one year younger than R whose age is an even number. Q sits immediately right of N. O's age is an odd number.

**Q74. The person who is 16 years old sits 2<sup>nd</sup> to the right of which of the following persons?**

- (a) R
- (b) P
- (c) O
- (d) Q
- (e) None of these

**Q75. What is the sum of the ages of R and O?**

- (a) 29
- (b) 28
- (c) 27
- (d) 31
- (e) None of these

**Q76. Who sits immediate right of the eldest person?**

- (a) Q
- (b) P
- (c) M
- (d) R
- (e) None of these

**Q77. How many such pairs of letters are there in the word 'STRUGGLING', each of which has as many letters between them in the word as they have in the English alphabet (both in forward and backward directions) ?**

- (a) None
- (b) One
- (c) Two
- (d) More than three
- (e) Three

**Directions (78-82) : Study the following information carefully and answer the questions given below:**

Ten people are sitting in two parallel rows containing five people each, in such a way that there is an equal distance between adjacent persons. In row 1 P, Q, R, S and T are seated and all of them are facing north. G, H, I, J and K are sitting in row 2 and facing south direction.

R is the only immediate neighbour of Q. J faces the one who sits 2<sup>nd</sup> to the right of P. J neither faces R nor Q. H and S sit diagonally opposite to each other. K sits left of I but does not face T.

**Q78. \_\_\_\_ faces the one who sits 3<sup>rd</sup> to the left of S.**

- (a) K
- (b) G
- (c) J
- (d) I
- (e) H

**Q79. How many persons sit between R and the one who faces J?**

- (a) One
- (b) Can't be determined
- (c) Either One or Two
- (d) Two
- (e) More than two

**Q80. Who sits 3<sup>rd</sup> to the left of H?**

- (a) K
- (b) G
- (c) I
- (d) J
- (e) None of these

**Q81. Who among the following is T's immediate neighbour?**

- (a) R
- (b) P
- (c) Q
- (d) Both R and Q
- (e) Both P and R

**Q82. Four of the following five are alike in a certain way and hence form a group. Who among the following does not belong to that group?**

- (a) I
- (b) K
- (c) T
- (d) S
- (e) R

**Q83. In the number '48927269485', how many pairs of digits have the same number between them (both forward and backward direction) as in the number series?**

- (a) Four
- (b) Two
- (c) One
- (d) Three
- (e) More than four

**Directions (84-86) : Study the following information carefully and answer the questions given below:**

Eight persons live in a family in which there are two married couples. F is the grandmother of M. G is the son-in-law of S. A has two children of different genders. K is the only brother of L who is not male. D is the brother-in-law of G. D is the uncle of L. M is the niece of L. L and A are of the same gender.

**Q84. How many female members live in the family?**

- (a) More than five
- (b) Two
- (c) Five
- (d) Four
- (e) One

**Q85. How S is related to L?**

- (a) Grandson
- (b) Grandmother
- (c) Grandfather
- (d) Granddaughter
- (e) None of these

**Q86. If T is the spouse of K, then how is T related to G?**

- (a) Daughter-in-law
- (b) Mother-in-law
- (c) Son-in-law
- (d) Sister-in-law
- (e) Mother

**Q87. If in the given word "TRANSFORMER" if we remove all the vowels and replace all the consonants with just next letter then find how many vowels are there in the new arrangement?**

- (a) One
- (b) Four
- (c) Two
- (d) Three
- (e) None of these

**Directions (88-92) : Study the following information carefully and answer the questions given below.**

Six persons Y, T, O, V, Q and L were born in six different months i.e. January, March, April, May, June and July of six different years 2002, 2005, 2008, 2009, 2012 and 2013. All the above information (except years) is not necessarily in the same order.

Y was born in an even-numbered year but just after Q. Two persons were born between Y and the one who was born in January. The one who was born in July is 5 years older than L who was born in the month having an odd number of days. No one was born between T and O and they were born before 2008. The number of persons who were born after the one who was born in May is same as the number of persons who were born before V. T was neither born in the month having 31 days nor in June.

**Q88. Who among the following persons was born in April?**

- (a) T
- (b) Y
- (c) Q
- (d) O
- (e) None of these

**Q89. Who among the following was born in 2013?**

- (a) The person who was born in July
- (b) L
- (c) The person who was born in May
- (d) V
- (e) None of these

**Q90. What is the difference between the years in which V was born and the one who was born in June?**

- (a) 6
- (b) 7
- (c) 4
- (d) 5
- (e) Can't be determined

**Q91. Which of the following combination(s) is/are true?**

- (a) Y- June - 2012
- (b) V - April - 2013
- (c) V - July - 2012
- (d) O - January - 2013
- (e) All are true

**Q92. Four of the following five are alike in a certain way and hence form a group. Who among the following doesn't belong to that group?**

- (a) V
- (b) L
- (c) O
- (d) Y
- (e) Q

**Directions (93-97) : Study the following information carefully to answer the questions given below.**

Seven persons i.e., P, Q, R, S, T, U and V sit in a linear row and all of them face to north direction. Each of them visits different cities for a tour i.e., Jaipur, Udaipur, Agra, Ranchi, Bikaner, Indore and Haridwar. All the information is not necessarily in the same order.

One person sits between U and the one who visits Haridwar. U is the only neighbour of the one who visits Jaipur. P sits third to the right of Q. P visits neither Haridwar nor Jaipur. U doesn't sit adjacent to Q. One person sits between P and the one who visits Ranchi. The number of persons sit to the right of U is same as the number of persons sit to the left of V. More than three persons visit between the one who visits Agra and the one who visits Udaipur. S sits to the right of R and sits adjacent to the one who visits Udaipur. No one sits between T and the one who visits Bikaner.

**Q93. T visits which among the following cities?**

- (a) Jaipur
- (b) Ranchi
- (c) Agra
- (d) Udaipur
- (e) None of these

**Q94. How many persons sit between R and P?**

- (a) Three
- (b) Two
- (c) Four
- (d) Five
- (e) None

**Q95. Which among the following combination(s) is/are correct?**

- (a) R-Udaipur
- (b) P-Bikaner
- (c) S-Indore
- (d) T-Jaipur
- (e) None is correct

**Q96. If all the persons sit according to alphabetical order from right to left in the row, then the position of how many persons remains unchanged?**

- (a) Two
- (b) None
- (c) Three
- (d) One
- (e) More than three

**Q97. Which among the following cities has U visited?**

- (a) Bikaner
- (b) Ranchi
- (c) Indore
- (d) Udaipur
- (e) Agra

**Directions (98-100) :** In each of the questions, some statements are given below followed by two conclusions. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

**Q98. Statements:**

- Only a few Perfumes are Shoes
- Some Mirror is Dress
- No Shoes is Dress

**Conclusions:**

- I. Some Perfumes are not Dress
- II. All Perfumes can never be Mirror



- 
- (a) If only conclusion I follow
  - (b) If only conclusion II follow
  - (c) If either conclusion I or II follows
  - (d) If both conclusions I and II follow
  - (e) If neither Conclusion I nor II follow

**Q99. Statements:**

Some Year is not Week

Only Month is Days

Some Month is Year

**Conclusions:**

**I.** No Year is Days

**II.** Some Days are not Week

- (a) If only conclusion I follow
- (b) If only conclusion II follow
- (c) If either conclusion I or II follows
- (d) If both conclusions I and II follow
- (e) If neither Conclusion I nor II follow

**Q100. Statements:**

Only a few States are Country

No Cities is Town

Some Cities is Country

**Conclusions:**

**I.** All Country can be Town

**II.** Some State being not Cities is a possibility

- (a) If only conclusion I follow
- (b) If only conclusion II follow
- (c) If either conclusion I or II follows
- (d) If both conclusions I and II follow
- (e) If neither Conclusion I nor II follow

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## Solutions

### S1. Ans.(b)

**Sol.** To answer the given question, refer to the first paragraph, where it mentions “In all these cases, the pressures of urban and industrial development had denied local communities to access the resources necessary to their own livelihood.”

### S2. Ans.(a)

**Sol.** To answer the given question, refer to the second paragraph, “In the West, the environmental movement had arisen chiefly due to the desire to protect endangered. In India, however, it arose out of human survival.”

### S3. Ans.(c)

**Sol.** Refer to the last paragraph to answer the given question, “In 1991 the Indian economy started to liberalise. The dismantling of state controls was in part welcome, as it had stifled innovation and entrepreneurship. Unfortunately, the votaries of liberalisation mounted an even more savage attack on the environment than did the proponents of state socialism.”

### S4. Ans.(b)

**Sol.** The incorrect answer for the given question is option (b) .

For option (a) : Refer to the first paragraph, “It was representative of a wide spectrum of natural resource conflicts in the 1970s and 1980s — conflicts over forests, fish, and pasture; conflicts about the siting of large dams; conflicts about the social and environmental impacts of unregulated mining.”

For option (b) : Refer to the last paragraph, “In 1991 the Indian economy started to liberalise. The dismantling of state controls was in part welcome, as it had stifled innovation and entrepreneurship. Unfortunately, the votaries of liberalisation mounted an even more savage attack on the environment than did the proponents of state socialism.”

For option (c) : Refer to the third paragraph, “In 1980, a Department of Environment was established at the Centre, becoming a full-fledged Ministry a few years later.”

For option (d) : Refer to the first paragraph “Almost 40 years ago — a group of peasants in a remote Himalayan village stopped a group of loggers from felling a patch of trees. Thus was born the Chipko movement, and through it the modern Indian environmental movement itself.”

### S5. Ans.(e)

**Sol.** For option (a) and (c) : Refer to the first paragraph of the passage, “a group of peasants in a remote Himalayan village stopped a group of loggers from felling a patch of trees..... The first thing to remember about Chipko is that it was not unique. It was representative of a wide spectrum of natural resource conflicts in the 1970s and 1980s — conflicts over forests, fish, and pasture; conflicts about the siting of large dams; conflicts about the social and environmental impacts of unregulated mining.”

For option (b) : refer to the third paragraph, “Back in the 1970s, when the state occupied the commanding heights of the economy, and India was close to the Soviet Union, the activists of Chipko and other such movements were dismissed by their critics as agents of Western imperialism”

**S6. Ans.(e)**

**Sol.** To validate the answer, refer to the third paragraph, “Slowly, however, the sheer persistence of these protests forced the state into making some concessions. In 1980, a Department of Environment was established at the Centre, becoming a full-fledged Ministry a few years later. New laws to control pollution and to protect natural forests were formed. There was even talk of restoring community systems of water and forest management.”

**S7. Ans.(b)**

**Sol.** The correct replacement for the word marked by (I) is ‘impact’.

Undue: unwarranted or inappropriate because excessive or disproportionate.

Impact: the action of one object coming forcibly into contact with another.

Stigma: a mark of disgrace associated with a particular circumstance, quality, or person.

Demand: to ask or call for something as due or as necessary

Residue: a small amount of something that remains after the main part has gone or been taken or used.

**S8. Ans.(e)**

**Sol.** Stifled: make (someone) unable to breathe properly; suffocate.

Uptake: the action of taking up or making use of something that is available

Irrefutable: impossible to deny or disprove.

Relish: enjoy greatly.

Nascent: just coming into existence and beginning to display signs of future potential.

Encouraged: stimulate the development of (an activity, state, or belief) .

**S9. Ans.(a)**

**Sol.** ‘dismissed’ means disperse.

Recognized: acknowledge the existence, validity, or legality of

Amalgamated: combine or unite to form one organization or structure.

Seized: take hold of suddenly and forcibly.

Incapacitated: deprived of strength or power; debilitated

**S10. Ans.(b)**

**Sol.** The error lies in part B. In this, ‘live’ has to be replaced with ‘living’ as the requirement here is verb in present participle.

**S11. Ans.(e)**

**Sol.** The sentence is grammatically correct.

**S12. Ans.(d)**

**Sol.** The error lies in part D. Here, after ‘every’ the correct noun form should be singular, thus ‘aspect’ is the correct form, rather than ‘aspects’.

**S13. Ans.(a)**

**Sol.** The error lies in part A. Here, 'escalate' must be changed to 'escalated'. Here 'Contentious cases are sometimes escalated' is passive, and furthermore it is simple passive. Thus, require structure is 'is/am/are + Past participle(started)' is correct.

**S14. Ans.(d)**

**Sol.** Modal verbs (can/could/ would/ might/ may/should/ shall/ will) always followed by base form of verb. Hence given highlighted phrase is incorrect and should be replaced.

**S15. Ans.(d)**

**Sol.** The correct replacement is option (d) . The given sentence is in simple past tense. Also, 'king' is singular, so singular pronoun 'his' should be used.

**S16. Ans.(c)**

**Sol.** The correct phrase for the highlighted part is option (c) . Here, after 'could/would/should' model verb, base form of the verb is used, hence 'coexist' is correct. 'With' is correct preposition here. "Other" suggests more than one convicts, hence 'convicts' is correct. 'Prisoner' is a person, so 'he' is correct pronoun for it.

**S17. Ans.(e)**

**Sol.** The given phrase is correct as it is hence no improvement required.

**S18. Ans.(d)**

**Sol.** The highlighted phrase is incorrect because will, can, and shall change to would, could, and should when reported. Will is used to make statements about the future. In reporting speech, will becomes would therefore correct choice is option (d) .

**S19. Ans.(a)**

**Sol.** 'Cut the corners' means 'to do something in the easiest, cheapest, or fastest way'. Therefore, its usage is correct in option (a) .

**S20. Ans.(c)**

**Sol.** 'A dime a dozen' means 'to be common and/or of very little value'. Therefore, its usage is correct in option (c) .

**S21. Ans.(b)**

**Sol.** 'Wrap your head around something' means 'To comprehend something that one considers challenging, confusing, or a foreign concept'. Therefore, its usage is correct in option (b) .

**S22. Ans.(d)**

**Sol.** The given passage is discussing the negative effects of chemicals used in body-care products. Here, apart from statement (B) , none of the given statements is independent and will therefore be the first statement in the logical sequence that begins the paragraph and mentions an increase in developmental

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problems. Further, statement (E) , will follow statement (B) which continues the paragraph by mentioning the contributing factor to health complications. The next statement will be statement (C) which mentions several reports which highlight the presence of low-level concentrations of potential developmental toxicants. Further, statement (D) will be the appropriate statement to follow (C) and mentions details given in reports earlier mentioned in statement (C) . Statement (A) will be the last sentence as it mentions the counterstatement issued by the personal care industry. Therefore, the correct sequence of the statements will be BECDA.

**S23. Ans.(b)**

**Sol.** The given passage is discussing the negative effects of chemicals used in body-care products. Here, apart from statement (B) , none of the given statements is independent and will therefore be the first statement in the logical sequence that begins the paragraph and mentions an increase in developmental problems. Further, statement (E) , will follow statement (B) which continues the paragraph by mentioning the contributing factor to health complications. The next statement will be statement (C) which mentions several reports which highlight the presence of low-level concentrations of potential developmental toxicants. Further, statement (D) will be the appropriate statement to follow (C) and mentions details given in reports earlier mentioned in statement (C) . Statement (A) will be the last sentence that mentions the rise of concerns about chemicals that is earlier mentioned in statement (D) . Therefore, the correct sequence of the statements will be BECDA.

**S24. Ans.(a)**

**Sol.** The given passage is discussing the negative effects of chemicals used in body-care products. Here, apart from statement (B) , none of the given statements is independent and will therefore be the first statement in the logical sequence that begins the paragraph and mentions an increase in developmental problems. Further, statement (E) , will follow statement (B) which continues the paragraph by mentioning the contributing factor to health complications. The next statement will be statement (C) which mentions several reports which highlight the presence of low-level concentrations of potential developmental toxicants. Further, statement (D) will be the appropriate statement to follow (C) and mentions details given in reports earlier mentioned in statement (C) . Statement (A) will be the last sentence that mentions the rise of concerns about chemicals that is earlier mentioned in statement (D) . Therefore, the correct sequence of the statements will be BECDA.

**S25. Ans.(c)**

**Sol.** The given passage is discussing the negative effects of chemicals used in body-care products. Here, apart from statement (B) , none of the given statements is independent and will therefore be the first statement in the logical sequence that begins the paragraph and mentions an increase in developmental problems. Further, statement (E) , will follow statement (B) which continues the paragraph by mentioning the contributing factor to health complications. The next statement will be statement (C) which mentions several reports which highlight the presence of low-level concentrations of potential developmental toxicants. Further, statement (D) will be the appropriate statement to follow (C) and mentions details given in reports earlier mentioned in statement (C) . Statement (A) will be the last sentence that mentions the rise of concerns about chemicals that is earlier mentioned in statement (D) . Therefore, the correct sequence of the statements will be BECDA.

**S26. Ans.(e)**

**Sol.** The given passage is discussing the negative effects of chemicals used in body-care products. Here, apart from statement (B) , none of the given statements is independent and will therefore be the first statement in the logical sequence that begins the paragraph and mentions an increase in developmental problems. Further, statement (E) , will follow statement (B) which continues the paragraph by mentioning the contributing factor to health complications. The next statement will be statement (C) which mentions several reports which highlight the presence of low-level concentrations of potential developmental toxicants. Further, statement (D) will be the appropriate statement to follow (C) and mentions details given in reports earlier mentioned in statement (C) . Statement (A) will be the last sentence that mentions the rise of concerns about chemicals that is earlier mentioned in statement (D) . Therefore, the correct sequence of the statements will be BECDA.

**S27. Ans.(c)**

**Sol.** Here, 1-2 i.e., 'span – died 'and 3-4 'prohibitory-prompting' will be replaced to make the sentence grammatically and contextually correct. After interchanges the sentence will be, "More than two thousand pigs have died due to African swine fever city in the span of two weeks, prompting the administration to issue prohibitory orders."

**S28. Ans.(e)**

**Sol.** The sentence is correct. Hence, option (e) seems to be the correct option choice.

**S29. Ans.(a)**

**Sol.** Here, 2-3 i.e., 'instructional – requirements' will be replaced to make the sentence grammatically and contextually correct. After interchange the sentence will be, "Today, it refers to learning that prioritises an individual student's requirements and uses flexible instructional practices in terms of content, pace and materials."

**S30. Ans.(e)**

**Sol.** The sentence is correct as it is .Hence, option (e) is the correct answer choice.

**S31. Ans.(b)**

**Sol.**

Let the total capacity of tank (15,18 & 25) = 450 units

$$\text{Efficiency of pipe D} = \frac{450}{15} = 30 \text{ unit/day}$$

$$\text{Efficiency of pipe E} = \frac{450}{18} = 25 \text{ unit/day}$$

$$\text{Efficiency of pipe F} = \frac{450}{25} = 18 \text{ unit/day}$$

$$\text{Tank fill by Pipe D and pipe E in 5 hours} = (30 + 25) \times 5 = 275 \text{ units}$$

$$\text{Required time} = \frac{450-275}{30-18} = \frac{175}{12} = 14 \frac{7}{12} \text{ hour}$$

S32. Ans.(e)

Sol.

Vessel A, Let the quantity(in litres) of wine and water be  $5x$  &  $3x$  respectively.

Vessel B, Let the quantity(in litres) of wine and water be  $8y$  &  $5y$  respectively.

ATQ.

$$5x + 8y = 80 \dots (i)$$

$$3x + 5y = 49 \dots (ii)$$

From (i) & (ii)

$$x = 8, y = 5$$

$$\text{Total quantity of vessel B} = 8y + 5y = 13y = 13 \times 5 = 65 \text{ liters}$$

S33. Ans.(d)

Sol.

Let height of the cylinder be 'h' cm

$$\text{Radius of the circle} = \frac{28}{2} = 14 \text{ cm}$$

Curved surface area is  $704 \text{ cm}^2$

$$2 \times \frac{22}{7} \times 14 \times h = 704$$

$$h = 8 \text{ cm}$$

$$\text{height of a cone} = 8 \times \frac{125}{100} = 10 \text{ cm}$$

$$\text{Volume of cone} = \frac{1}{3} \times \frac{22}{7} \times 14 \times 14 \times 10 = \frac{6160}{3} \text{ cm}^3$$

S34. Ans.(b)

Sol.

Profit sharing ratio of A and B =

$$X \times 4 + (X - 1000) \times 8 : (X + 1500) \times 4 + (X + 3500) \times 8$$

$$12X - 8000 : 12X + 34000$$

ATQ,

$$\frac{12X - 8000}{12X + 34000} = \frac{23}{44}$$

$$528X - 352000 = 276X + 782000$$

$$252X = 1134000$$

$$X = \text{Rs. } 4500$$

$$X = \text{Rs. } 4500$$

$$\text{Initial amount invested by B} = \text{Rs. } (4500 + 1500) = \text{Rs. } 6000$$



**S35. Ans.(d)**

**Sol.**

Let the cost price of mixer be Rs. 'x'

And cost price of T.V. = Rs. (x+1800)

Selling price of mixer =  $x \times \frac{115}{100} = \text{Rs. } \frac{115x}{100}$

Selling price of T.V. =  $(x + 1800) \times \frac{120}{100} = \text{Rs. } \frac{120x+216000}{100}$

ATQ.

$$\frac{120x + 216000}{100} - \frac{115x}{100} = 2860$$

$$5x + 216000 = 286000$$

$$5x = 70000$$

$$x = \text{Rs. } 14000$$

$$\text{Cost price of TV} = x = \text{Rs. } (1800 + 14000) = \text{Rs. } 15800$$

**S36. Ans.(b)**

**Sol.**

Number of biscuit cakes sold by shop A and D =  $700 \times \frac{5}{14} + 1200 \times \frac{8}{15} = 250 + 640 = 890$

Number of pan cakes sold by shop B and E =  $850 \times \frac{8}{17} + 1020 \times \frac{7}{12} = 400 + 595 = 995$

Required ratio =  $890 : 995 = 178 : 199$

**S37. Ans.(a)**

**Sol.**

Total number of biscuit cakes =  $700 \times \frac{5}{14} + 850 \times \frac{9}{17} + 980 \times \frac{4}{7} + 1200 \times \frac{8}{15} + 1020 \times \frac{5}{12}$   
 $= 250 + 450 + 560 + 640 + 425 = 2325$

Required average =  $\frac{2325}{5} = 465$

**S38. Ans.(d)**

**Sol.**

Number of biscuit cakes =  $850 \times \frac{9}{17} = 450$

Number of pan cakes =  $850 - 450 = 400$

Total revenue =  $400 \times 45 + 450 \times 55 = \text{Rs. } (18000 + 24750) = \text{Rs. } 42750$

**S39. Ans.(e)**

**Sol.**

$$\text{Total no. of pan cake sold by shop E and D} = 1020 \times \frac{7}{12} + 1200 \times \frac{7}{15} = 595 + 560 = 1155$$

$$\text{Total no. of biscuit cake sold by shop C and A} = 980 \times \frac{4}{7} + 700 \times \frac{5}{14} = 560 + 250 = 810$$

$$\text{Req. difference} = 1155 - 810 = 345$$

**S40. Ans.(d)**

**Sol.**

$$\text{Number of biscuit cakes sold by shop E} = 1020 \times \frac{5}{12} = 425$$

$$\text{Number of biscuit cakes sold by shop D} = 1200 \times \frac{8}{15} = 640$$

$$\text{Required percentage} = \frac{425}{640} \times 100 = 66.4\% \approx 66\%$$

**S41. Ans.(b)**

**Sol.**

$$\begin{aligned} \text{Required sum} &= 700 \times \frac{9}{14} + 850 \times \frac{8}{17} + 980 \times \frac{3}{7} + 1200 \times \frac{7}{15} + 1020 \times \frac{7}{12} \\ &= 450 + 400 + 420 + 560 + 595 = 2425 \end{aligned}$$

**S42. Ans.(c)**

**Sol.**

Let present age of B be  $x$  years.

So, present age of A and C will be  $x + 6$  and  $x + 15$  years respectively.

ATQ,

$$x + x + 6 + x + 15 = 39 \times 3$$

$$3x = 96$$

$$x = 32$$

$$\text{Required ratio} = \frac{38+7}{47+7}$$

$$= \frac{45}{54} = \frac{5}{6}$$

**S43. Ans.(e)**

**Sol.** Let speed of train A and train B be  $x$  and  $y$  respectively and length of train B be  $5a$  respectively.

Length of train A =  $6a$

ATQ

$$\frac{5a+6a}{x+y} = 13.2$$

$$11a = 13.2(x+y) \dots(i)$$

$$\text{And, } \frac{5a+6a}{x-y} = 66$$

$$11a = 66(x-y) \dots(ii)$$

From (i) and (ii)

$$13.2(x+y) = 66(x-y)$$

$$x+y = 5x-5y$$

$$\frac{x}{y} = \frac{3}{2}$$

**S44. Ans.(d)**

**Sol.**

$$\begin{aligned} \text{Required number} &= (82 \times 5) - (65 \times 2) - (100 \times 2) \\ &= 410 - 130 - 200 \\ &= 80 \end{aligned}$$

**S45. Ans.(c)**

**Sol.**

Let the savings of the man = Rs. P

$$\text{SI received by man after two years} = P \times \frac{15 \times 2}{100} = 0.30P$$

$$\text{Equivalent compound interest at 20% for two years} = 20 + 20 + \frac{20 \times 20}{100} = 44\%$$

$$\text{Compound interest received by man after two years} = P \times \frac{44}{100} = 0.44P$$

ATQ -

$$0.44P - 0.30P = 280$$

$$0.14P = 280$$

$$P = 2000 \text{ Rs.}$$

So, savings of man = 2000 Rs.

**S46. Ans.(d)**

**Sol.** Let the speed of boat in still water and speed of current be  $7x$  kmph and  $2x$  kmph respectively.

ATQ.

$$\frac{180}{7x+2x} + \frac{150}{7x-2x} = 5$$

$$\frac{20}{x} + \frac{30}{x} = 5$$

$$x = 10$$

$$\text{Required time} = \frac{315}{7 \times 10} = 4.5 \text{ hours}$$

S47. Ans.(c)

Sol.

Let the number of males in HR department =  $8x$

Females in HR department =  $7x$

No. of males in Management department =  $800 \times \frac{4}{5} = 640$

Let no. of males in Account department =  $y$

No. of females in Management department =  $y$

No. of females in Accounts department =  $y - 150$

No. of females in Production department =  $y - 300$

$$\Rightarrow \frac{800+y-300}{y+y-150} = \frac{19}{15}$$

$$\Rightarrow 7500 + 15y = 38y - 2850$$

$$\Rightarrow 23y = 10350$$

$$y = 450$$

$$\begin{aligned} \text{Total employee in HR} &= 3540 - (y - 300 + 800 + y + 640 + y - 150 + y) \\ &= 3540 - 2790 \end{aligned}$$

$$15x = 750$$

$$x = 50$$

Male employee in HR department =  $8x = 400$

Female employee in HR department =  $750 - 400 = 350$

Department	Males	Females
Management	640	450
HR	400	350
Production	800	150
Accounts	450	300

$$\begin{aligned} \text{Required difference} &= (640 + 400 + 800 + 450) - (450 + 350 + 150 + 300) \\ &= 2290 - 1250 = 1040 \end{aligned}$$

S48. Ans.(a)

Sol.

Let the number of males in HR department =  $8x$

Females in HR department =  $7x$

No. of males in Management department =  $800 \times \frac{4}{5} = 640$

Let no. of males in Account department =  $y$

No. of females in Management department =  $y$

No. of females in Accounts department =  $y - 150$

No. of females in Production department =  $y - 300$

$$\Rightarrow \frac{800+y-300}{y+y-150} = \frac{19}{15}$$

$$\Rightarrow 7500 + 15y = 38y - 2850$$

$$\Rightarrow 23y = 10350$$

$$y = 450$$

$$\begin{aligned} \text{Total employee in HR} &= 3540 - (y - 300 + 800 + y + 640 + y - 150 + y) \\ &= 3540 - 2790 \end{aligned}$$

$$15x = 750$$

$$x = 50$$

$$\text{Male employee in HR department} = 8x = 400$$

$$\text{Female employee in HR department} = 750 - 400 = 350$$

Department	Males	Females
Management	640	450
HR	400	350
Production	800	150
Accounts	450	300

$$\text{Required \%} = \frac{750-750}{750} \times 100 = 0\%$$

S49. Ans.(b)

Sol.

$$\text{Let the number of males in HR department} = 8x$$

$$\text{Females in HR department} = 7x$$

$$\text{No. of males in Management department} = 800 \times \frac{4}{5} = 640$$

$$\text{Let no. of males in Account department} = y$$

$$\text{No. of females in Management department} = y$$

$$\text{No. of females in Accounts department} = y - 150$$

$$\text{No. of females in Production department} = y - 300$$

$$\Rightarrow \frac{800+y-300}{y+y-150} = \frac{19}{15}$$

$$\Rightarrow 7500 + 15y = 38y - 2850$$

$$\Rightarrow 23y = 10350$$

$$y = 450$$

$$\begin{aligned} \text{Total employee in HR} &= 3540 - (y - 300 + 800 + y + 640 + y - 150 + y) \\ &= 3540 - 2790 \end{aligned}$$

$$15x = 750$$

$$x = 50$$

$$\text{Male employee in HR department} = 8x = 400$$

$$\text{Female employee in HR department} = 750 - 400 = 350$$

Department	Males	Females
Management	640	450
HR	400	350
Production	800	150
Accounts	450	300

$$\text{No. of employee who switched the department} = \frac{20}{100} \times 1090 = 218$$

$$\text{No. of females who join the Account department} = 373 - 300 = 73$$

$$\text{No. of males who join Account department} = 218 - 73 = 145$$

$$\text{So, total males in Account department} = 145 + 450 = 595$$

### S50. Ans.(e)

**Sol.**

$$\text{Let the number of males in HR department} = 8x$$

$$\text{Females in HR department} = 7x$$

$$\text{No. of males in Management department} = 800 \times \frac{4}{5} = 640$$

$$\text{Let no. of males in Account department} = y$$

$$\text{No. of females in Management department} = y$$

$$\text{No. of females in Accounts department} = y - 150$$

$$\text{No. of females in Production department} = y - 300$$

$$\Rightarrow \frac{800+y-300}{y+y-150} = \frac{19}{15}$$

$$\Rightarrow 7500 + 15y = 38y - 2850$$

$$\Rightarrow 23y = 10350$$

$$y = 450$$

$$\text{Total employee in HR} = 3540 - (y - 300 + 800 + y + 640 + y - 150 + y)$$

$$= 3540 - 2790$$

$$15x = 750$$

$$x = 50$$

$$\text{Male employee in HR department} = 8x = 400$$

$$\text{Female employee in HR department} = 750 - 400 = 350$$

Department	Males	Females
Management	640	450
HR	400	350
Production	800	150
Accounts	450	300

$$\text{Required ratio} = \frac{400+800}{150+450}$$

$$= \frac{1200}{600} = \frac{2}{1}$$

### S51. Ans.(d)

**Sol.**

$$\text{Let total marks obtained by five students in math} = 100a$$

ATQ

$$30.5a - 14a = 82.5$$

$$16.5a = 82.5$$

$$a = 5$$

$$\begin{aligned} \text{Required marks} &= 100a \times \frac{30.5+22.5+14}{100} \\ &= 67a = 335 \end{aligned}$$

**S52. Ans.(c)**

**Sol.**

Let total marks obtained by five students in math =  $100a$

ATQ

$$100a \times \frac{14}{100} + 100a \times \frac{18}{100} \times \frac{4}{3} + 100a \times \frac{15}{100} + 10 = 275$$

$$14a + 24a + 15a = 265$$

$$53a = 265$$

$$a = 5$$

$$\text{Marks scored by A in math} = 100 \times 5 \times \frac{22.5}{100} = 112.5$$

**S53. Ans.(a)**

**Sol.**

Let total marks obtained by five students in math =  $100a$

$$\text{Required ratio} = \left(100a \times \frac{22.5}{100}\right) : \left(100a \times \frac{18+14}{100}\right)$$

$$= 22.5 : 32$$

$$= 45 : 64$$

**S54. Ans.(b)**

**Sol.**

$$\text{Required marks} = \frac{135}{22.5} \times 14 = 84$$

**S55. Ans.(d)**

**Sol.**

$$\text{Required difference} = \frac{30.5 - 22.5}{100} \times 600$$

$$= 8 \times 6 = 48$$

**S56. Ans.(e)**

**Sol.**

$$I. \quad 7x^2 + 5x - 18 = 0$$

$$7x^2 - 9x + 14x - 18 = 0$$

$$x(7x - 9) + 2(7x - 9) = 0$$

$$x = \frac{9}{7}, -2$$

$$II. \quad 3y^2 + 4y - 20 = 0$$

$$3y^2 + 10y - 6y - 20 = 0$$

$$y(3y + 10) - 2(3y + 10) = 0$$

$$y = 2, -\frac{10}{3}$$

$\therefore$  No relation

**S57. Ans.(c)**

**Sol.**

$$\begin{aligned}
 I. \quad & 12x^2 + 46x + 42 = 0 \\
 & 12x^2 + 18x + 28x + 42 = 0 \\
 & 6x(2x + 3) + 14(2x + 3) = 0 \\
 & x = \frac{-3}{2} \text{ or } \frac{-14}{6} \\
 II. \quad & 3y^2 - 16y + 21 = 0 \\
 & 3y^2 - 9y - 7y + 21 = 0 \\
 & 3y(y - 3) - 7(y - 3) = 0 \\
 & y = 3 \text{ or } \frac{7}{3} \\
 & y > x
 \end{aligned}$$

**S58. Ans.(e)**

**Sol.**

$$\begin{aligned}
 I. \quad & (x - 4)^2 = 81 \\
 & x - 4 = \pm 9 \\
 & x - 4 = +9, x - 4 = -9 \\
 & x = 13, \quad x = -5 \\
 II. \quad & 2y^2 + 17y + 36 = 0 \\
 & 2y^2 + 8y + 9y + 36 = 0 \\
 & 2y(y + 4) + 9(y + 4) = 0 \\
 & y = -4 \text{ or } \frac{-9}{2} \\
 & \text{No relation can be established between } x \text{ and } y.
 \end{aligned}$$

**S59. Ans.(b)**

**Sol.**

$$\begin{aligned}
 I. \quad & x^3 - 119 = 2078 \\
 & x^3 = 2197 \\
 & x = 13 \\
 II. \quad & y^2 - 169 = 0 \\
 & y = -13, 13 \\
 & x \geq y
 \end{aligned}$$

**S60. Ans.(b)**

**Sol.**

$$\begin{aligned}
 I. \quad & x^2 + x - 20 = 0 \\
 & x^2 + 5x - 4x - 20 = 0 \\
 & x(x+5) - 4(x+5) = 0 \\
 & (x+5)(x-4) = 0 \\
 & x = -5, 4
 \end{aligned}$$



$$\begin{aligned} \text{II. } y^2 + 11y + 30 &= 0 \\ y^2 + 6y + 5y + 30 &= 0 \\ y(y+6) + 5(y+6) &= 0 \\ (y+6)(y+5) &= 0 \\ y &= -6 \text{ or } -5 \\ x &\geq y \end{aligned}$$

**S61. Ans.(e)**

**Sol.**

The pattern of the series is -

$$\begin{aligned} 6 + (0^2 - 1) &= 5 \\ 5 + (1^2 - 1) &= 5 \\ 5 + (2^2 - 1) &= 8 \\ 8 + (3^2 - 1) &= 16 \\ 16 + (4^2 - 1) &= 31 \\ 31 + (5^2 - 1) &= 55 \end{aligned}$$

**S62. Ans.(c)**

**Sol.**

The pattern of the series is -

$$\begin{aligned} 5^3 &= 125 \\ 7^3 &= 343 \\ 11^3 &= 1331 \\ 13^3 &= 2197 \\ 17^3 &= 4913 \\ 19^3 &= 6859 \\ 23^3 &= 12167 \end{aligned}$$

**S63. Ans.(c)**

**Sol.**

The pattern of the series is -

$$\begin{aligned} 0+1^2 &= 1 \\ 1+2^3 &= 9 \\ 9+3^2 &= 18 \\ 18+4^3 &= 82 \\ 82+5^2 &= 107 \\ 107+6^3 &= 323 \end{aligned}$$



S64. Ans.(d)

Sol.

The pattern of the series is -

$$841 + (7 \times 5) = 876$$

$$876 - (7 \times 4) = 848$$

$$848 + (7 \times 3) = 869$$

$$869 - (7 \times 2) = 855$$

$$855 + (7 \times 1) = 862$$

$$862 - (7 \times 0) = 862$$

S65. Ans.(e)

Sol.

The pattern of the series is -

$$17^2 + 1 = 290$$

$$15^2 - 1 = 224$$

$$13^2 + 1 = 170$$

$$11^2 - 1 = 120$$

$$9^2 + 1 = 82$$

$$7^2 - 1 = 48$$

$$5^2 + 1 = 26$$

S66. Ans.(d)

Sol. H lives to the west of B who lives to the north-east of F. One floor gap between A and F. A lives to the south-west of D. There are three possible cases: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case 1		Case 2		Case 3	
4	H	B	H	B		D
3	F		F	D	A	
2		D			H	B
1	A		A		F	

C lives to the east of E, so case 1 and case 3 are ruled out here: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case 1		Case 2		Case 3	
4	H	B	H	B		D
3	F		F	D	A	
2		D	E	C	H	B
1	A		A		F	

We know, G is one of the persons thus the final arrangement is: -

Floors	Flat A	Flat B
4	H	B
3	F	D
2	E	C
1	A	G

F lives in Flat A of floor 3.

**S67. Ans.(b)**

**Sol.** H lives to the west of B who lives to the north-east of F. One floor gap between A and F. A lives to the south-west of D. There are three possible cases: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case 1		Case 2		Case 3	
4	H	B	H	B		D
3	F		F	D	A	
2		D			H	B
1	A		A		F	

C lives to the east of E, so case 1 and case 3 are ruled out here: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case-1		Case 2		Case-3	
4	H	B	H	B		D
3	F		F	D	A	
2		D	E	C	H	B
1	A		A		F	

We know, G is one of the persons thus the final arrangement is: -

Floors	Flat A	Flat B
4	H	B
3	F	D
2	E	C
1	A	G

C lives immediately above G's flat.

**S68. Ans.(e)**

**Sol.** H lives to the west of B who lives to the north-east of F. One floor gap between A and F. A lives to the south-west of D. There are three possible cases: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case 1		Case 2		Case 3	
4	H	B	H	B		D
3	F		F	D	A	
2		D			H	B
1	A		A		F	

C lives to the east of E, so case 1 and case 3 are ruled out here: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case 1		Case 2		Case 3	
4	H	B	H	B		D
3	F		F	D	A	
2		D	E	C	H	B
1	A		A		F	

We know, G is one of the persons thus the final arrangement is: -

Floors	Flat A	Flat B
4	H	B
3	F	D
2	E	C
1	A	G

E lives in Flat A of floor 2.

### S69. Ans.(c)

**Sol.** H lives to the west of B who lives to the north-east of F. One floor gap between A and F. A lives to the south-west of D. There are three possible cases: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case 1		Case 2		Case 3	
4	H	B	H	B		D
3	F		F	D	A	
2		D			H	B
1	A		A		F	

C lives to the east of E, so case 1 and case 3 are ruled out here: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case 1		Case 2		Case 3	
4	H	B	H	B		D
3	F		F	D	A	
2		D	E	C	H	B
1	A		A		F	

We know, G is one of the persons thus the final arrangement is: -

Floors	Flat A	Flat B
4	H	B
3	F	D
2	E	C
1	A	G

F lives exactly between H and E in the same named flat.

### S70. Ans.(e)

**Sol.** H lives to the west of B who lives to the north-east of F. One floor gap between A and F. A lives to the south-west of D. There are three possible cases: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case 1		Case 2		Case 3	
4	H	B	H	B		D
3	F		F	D	A	
2		D			H	B
1	A		A		F	

C lives to the east of E, so case 1 and case 3 are ruled out here: -

Floors	Flat A	Flat B	Flat A	Flat B	Flat A	Flat B
	Case-1		Case 2		Case-3	
4	H	B	H	B		D
3	F		F	D	A	
2		D	E	C	H	B
1	A		A		F	

We know, G is one of the persons thus the final arrangement is: -

Floors	Flat A	Flat B
4	H	B
3	F	D
2	E	C
1	A	G

The statement in option (e) is true.

**S71. Ans.(a)**

**Sol.**

- I.  $93 \geq 75$  (False)      II.  $39 > 32$  (True)      III.  $54 < 75$  (False)

**S72. Ans.(a)**

**Sol.**

- I.  $\& > \#$  (True)      II.  $\$ > ?$  (False)      III.  $\% \leq ?$  (False)

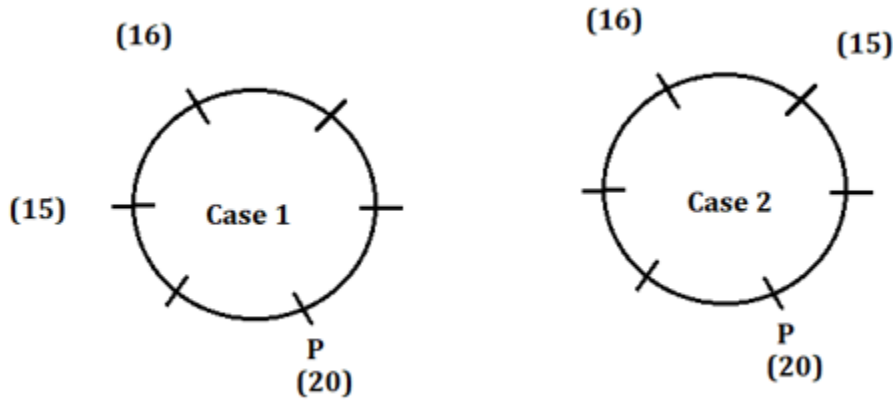
**S73. Ans.(b)**

**Sol.**

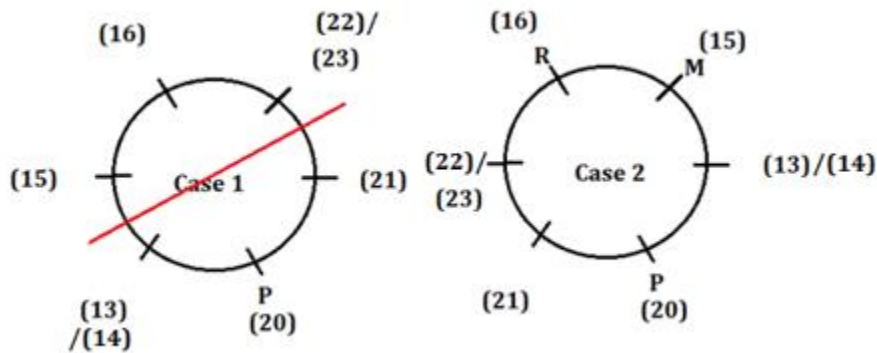
In Option (b),  $K \geq 0$  and  $L > Z$  holds definitely true.

**S74. Ans.(c)**

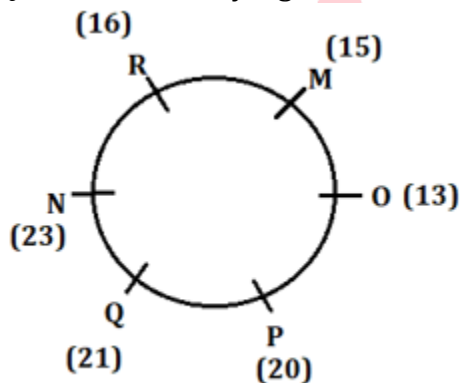
**Sol.** P sits opposite to 16 years old person, So P's age will be 20 years as it is given that the Sum of ages of the persons sitting opposite to each other is 36 years. One person sits between P and the one who is 5 years younger than P. There are two possible cases: -



R sits 2<sup>nd</sup> to the right of the youngest person. M is one year younger than R whose age is an even number, so case 1 will be eliminated here because the age of the persons will be calculated as per the given condition i.e., the Sum of ages of the persons sitting opposite to each other is 36 years.



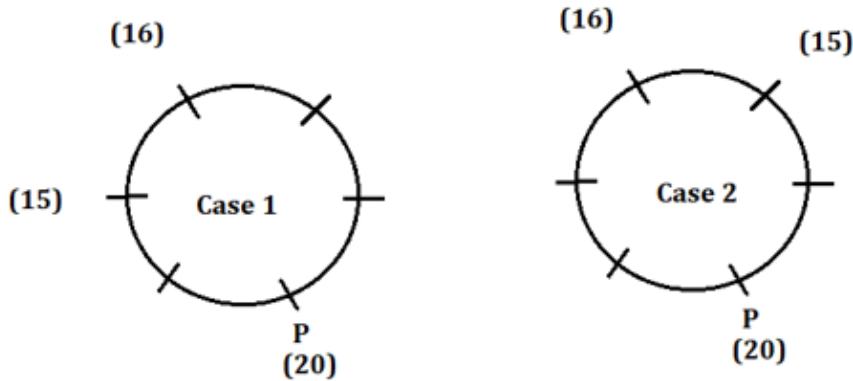
Q sits immediately right of N. O's age is an odd number thus the final arrangement is: -



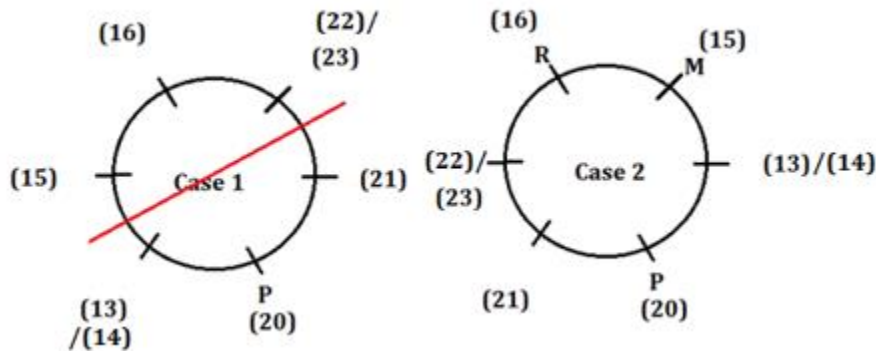
The person who is 16 years old i.e., R sits 2<sup>nd</sup> to the right of O.

**S75. Ans.(a)**

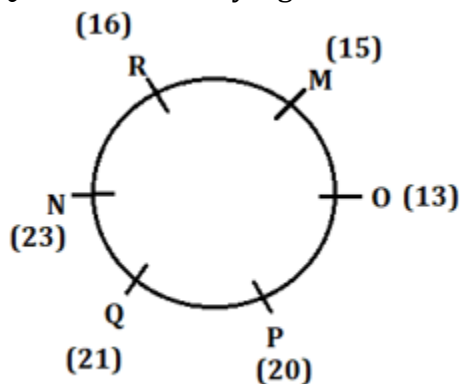
**Sol.** P sits opposite to 16 years old person, So P's age will be 20 years as it is given that the Sum of ages of the persons sitting opposite to each other is 36 years. One person sits between P and the one who is 5 years younger than P. There are two possible cases: -



R sits 2<sup>nd</sup> to the right of the youngest person. M is one year younger than R whose age is an even number, so case 1 will be eliminated here because the age of the persons will be calculated as per the given condition i.e., the Sum of ages of the persons sitting opposite to each other is 36 years.



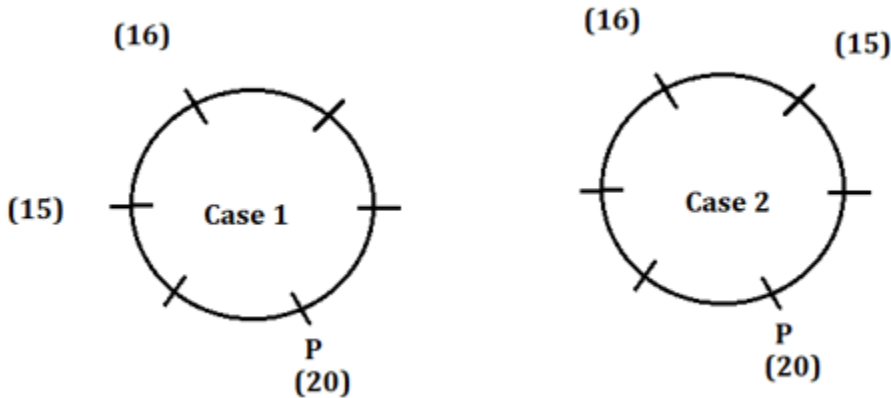
Q sits immediately right of N. O's age is an odd number thus the final arrangement is: -



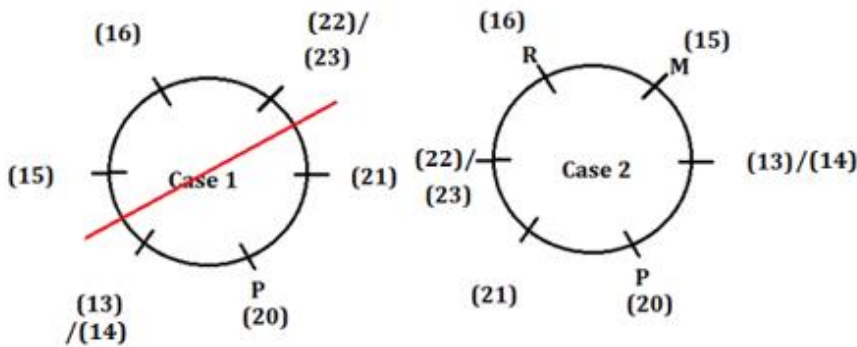
R's age = 16, O's age = 13  
Thus, the required sum = 29

**S76. Ans.(a)**

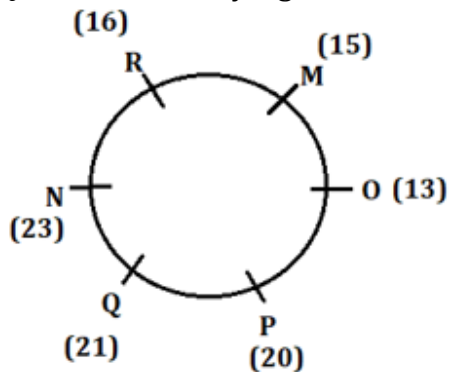
**Sol.** P sits opposite to 16 years old person, So P's age will be 20 years as it is given that the Sum of ages of the persons sitting opposite to each other is 36 years. One person sits between P and the one who is 5 years younger than P. There are two possible cases: -



R sits 2<sup>nd</sup> to the right of the youngest person. M is one year younger than R whose age is an even number, so case 1 will be eliminated here because the age of the persons will be calculated as per the given condition i.e., the Sum of ages of the persons sitting opposite to each other is 36 years.



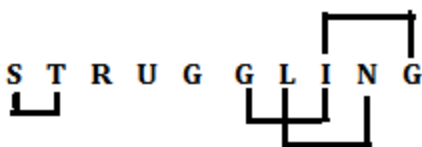
Q sits immediately right of N. O's age is an odd number thus the final arrangement is: -



The eldest person is N so Q sits immediately right of N.

**S77. Ans.(d)**

**Sol.** Four pairs.



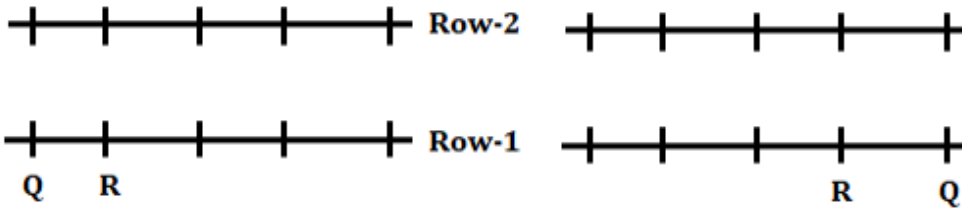


S78. Ans.(d)

Sol. From the given statements, R is the only immediate neighbour of Q. Here we have 2 possible cases.

Case 1

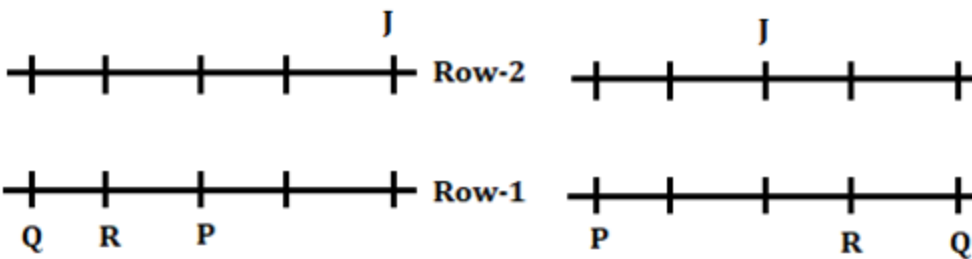
Case 2



J faces the one who sits 2<sup>nd</sup> to the right of P. J neither faces R nor Q.

Case 1

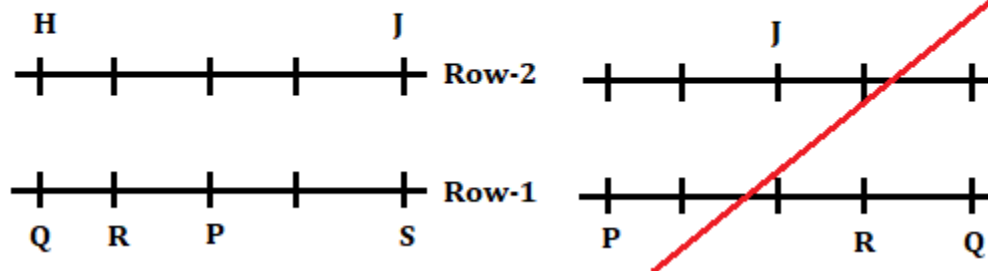
Case 2



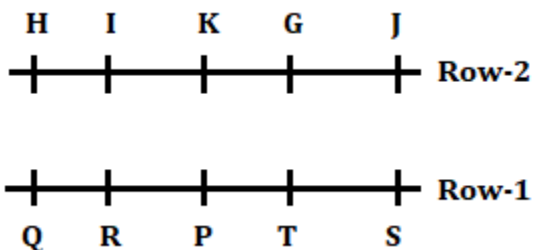
H and S sit diagonally opposite to each other. Here case 2 is ruled out now.

Case 1

Case 2



K sits left of I but does not face T. So, the final arrangement is-



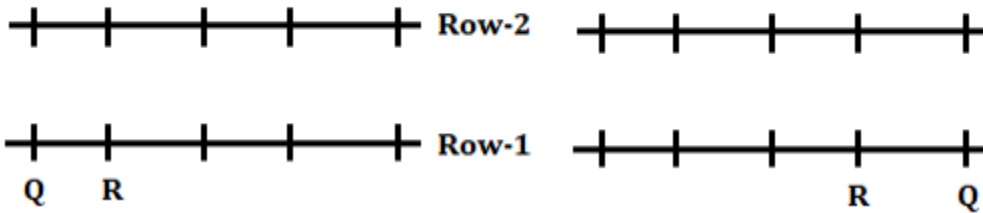
I face the one who sits 3<sup>rd</sup> to the left of S.

S79. Ans.(d)

Sol. From the given statements, R is the only immediate neighbour of Q. Here we have 2 possible cases.

Case 1

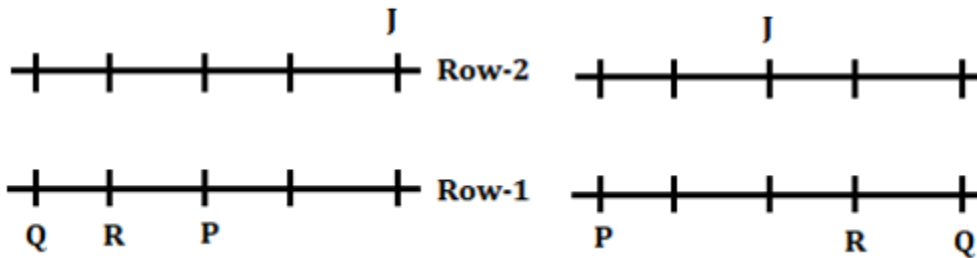
Case 2



J faces the one who sits 2<sup>nd</sup> to the right of P. J neither faces R nor Q.

Case 1

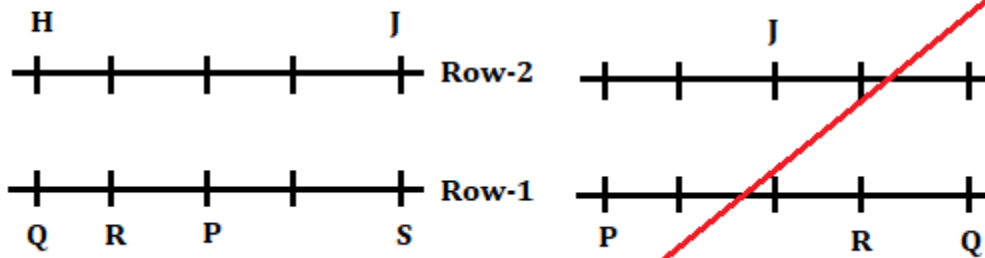
Case 2



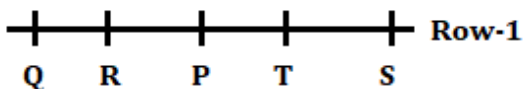
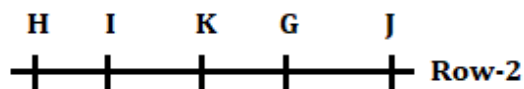
H and S sit diagonally opposite to each other. Here case 2 is ruled out now.

Case 1

Case 2



K sits left of I but does not face T. So, the final arrangement is-



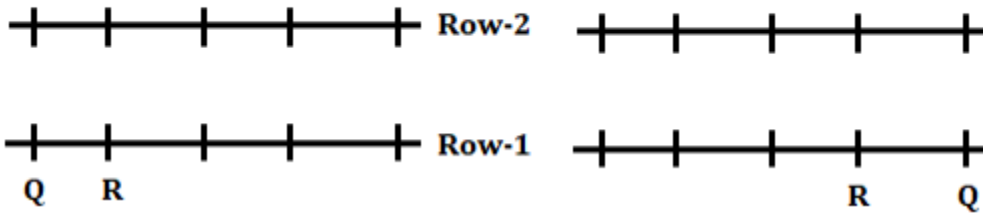
Two persons sit between R and the one who faces J

S80. Ans.(b)

Sol. From the given statements, R is the only immediate neighbour of Q. Here we have 2 possible cases.

Case 1

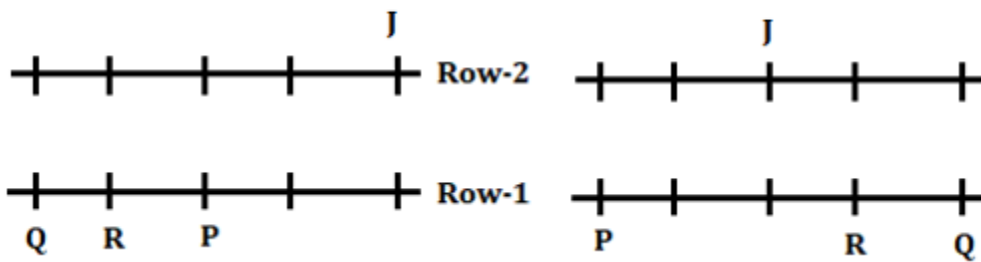
Case 2



J faces the one who sits 2<sup>nd</sup> to the right of P. J neither faces R nor Q.

Case 1

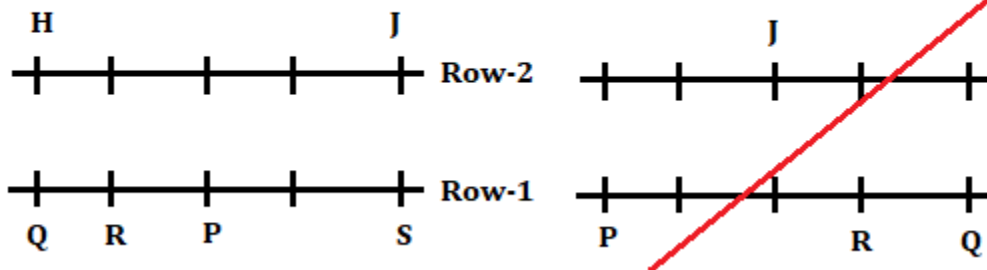
Case 2



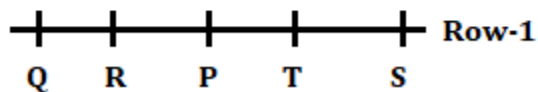
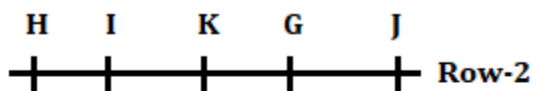
H and S sit diagonally opposite to each other. Here case 2 is ruled out now.

Case 1

Case 2



K sits left of I but does not face T. So, the final arrangement is-



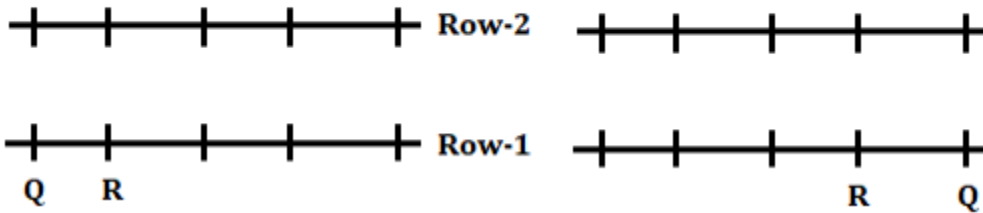
G sits 3<sup>rd</sup> to the left of H

S81. Ans.(b)

Sol. From the given statements, R is the only immediate neighbour of Q. Here we have 2 possible cases.

Case 1

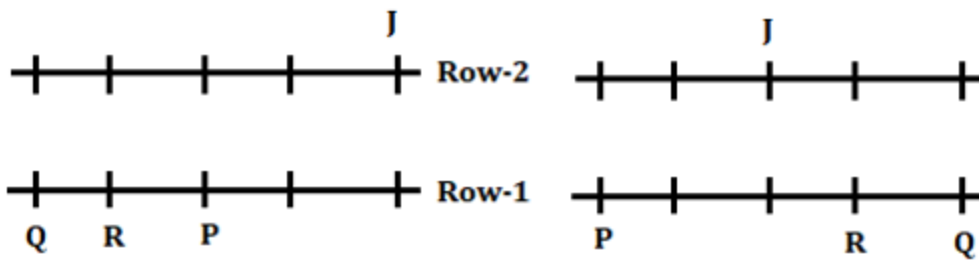
Case 2



J faces the one who sits 2<sup>nd</sup> to the right of P. J neither faces R nor Q.

Case 1

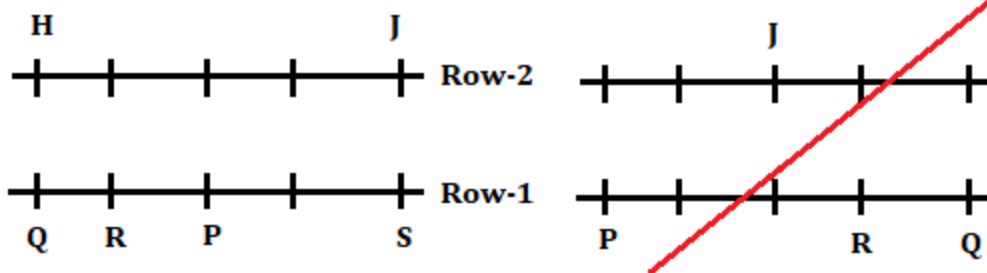
Case 2



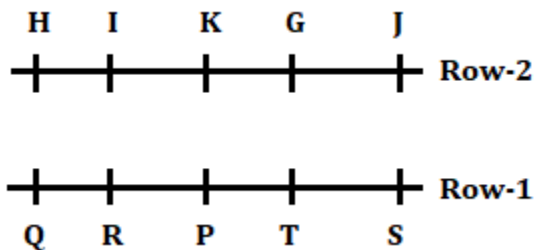
H and S sit diagonally opposite to each other. Here case 2 is ruled out now.

Case 1

Case 2



K sits left of I but does not face T. So, the final arrangement is-



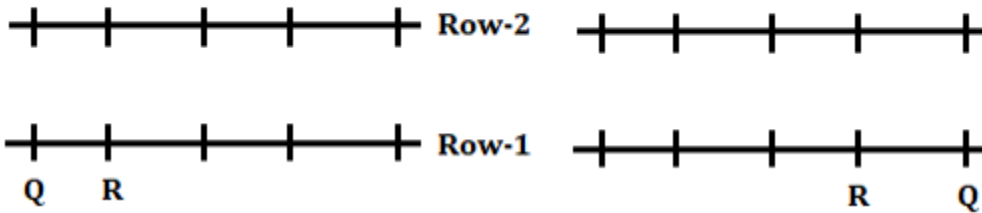
According to the given option, only P is T's immediate neighbour

S82. Ans.(d)

Sol. From the given statements, R is the only immediate neighbour of Q. Here we have 2 possible cases.

Case 1

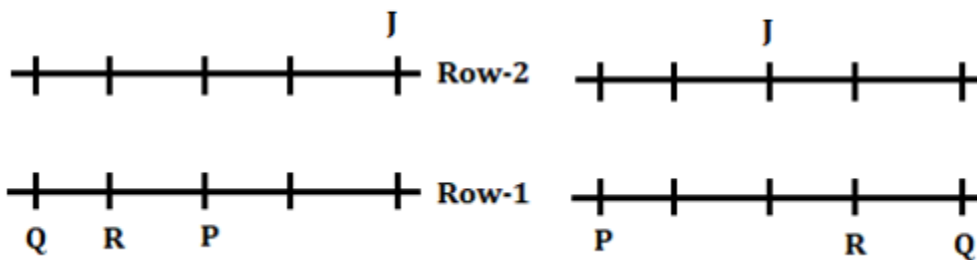
Case 2



J faces the one who sits 2<sup>nd</sup> to the right of P. J neither faces R nor Q.

Case 1

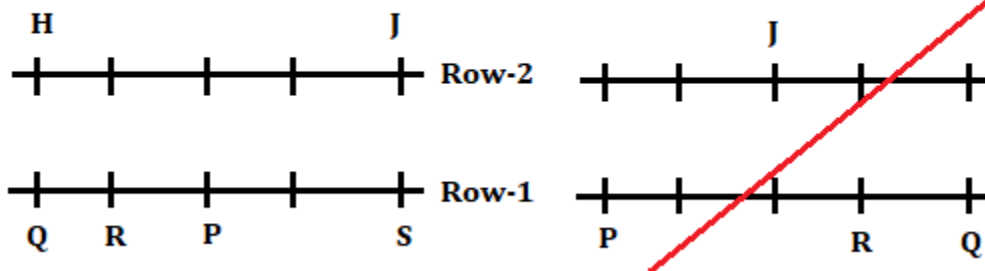
Case 2



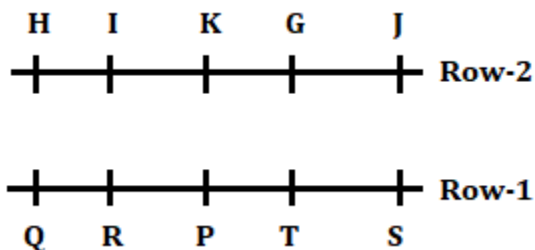
H and S sit diagonally opposite to each other. Here case 2 is ruled out now.

Case 1

Case 2



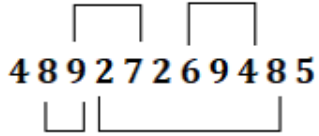
K sits left of I but does not face T. So, the final arrangement is-



All of them sit in the middle of the row except S

S83. Ans.(a)

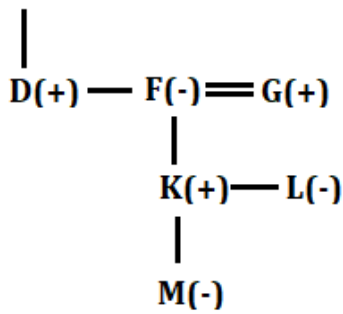
Sol.



S84. Ans.(d)

Sol. Four female members live in the family

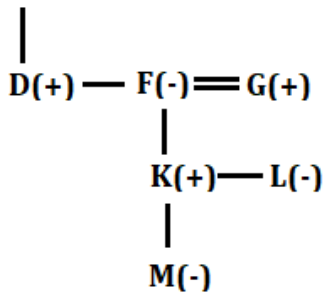
A(-) = S(+)



S85. Ans.(c)

Sol. S is the grandfather of L

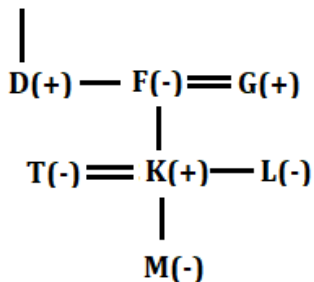
A(-) = S(+)



S86. Ans.(a)

Sol. After applied the condition, T is the daughter-in-law of G

A(-) = S(+)



**S87. Ans.(c)**

**Sol.** TRANSFORMER

USOTGSNS

**S88. Ans.(a)**

**Sol.** Y was born in an even-numbered year but just after Q. Two persons were born between Y and the one who was born in January. There are two possible cases: -

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002				
2005	Q			January
2008	Y			
2009			Q	
2012			Y	
2013		January		

No one was born between T and O and they were born before 2008, so case 1 is cancelled here. The one who was born in July is 5 years older than L who was born in the month having an odd number of days.

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002			T/O	
2005	Q		T/O	January
2008	Y			July
2009			Q	
2012			Y	
2013		January	L	March/May

The number of persons who were born after the one who was born in May is same as the number of persons who were born before V. T was neither born in the month having 31 days nor in June, so Y was born in June and the final arrangement is: -

Years	Persons	Months
2002	T	April
2005	O	January
2008	V	July
2009	Q	May
2012	Y	June
2013	L	March

T was born in April.

**S89. Ans.(b)**

**Sol.** Y was born in an even-numbered year but just after Q. Two persons were born between Y and the one who was born in January. There are two possible cases: -

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002				
2005	Q			January
2008	Y			
2009			Q	
2012			Y	
2013		January		

No one was born between T and O and they were born before 2008, so case 1 is cancelled here. The one who was born in July is 5 years older than L who was born in the month having an odd number of days.

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002			T/O	
2005	Q		T/O	January
2008	Y			July
2009			Q	
2012			Y	
2013		January	L	March/May

The number of persons who were born after the one who was born in May is same as the number of persons who were born before V. T was neither born in the month having 31 days nor in June, so Y was born in June and the final arrangement is: -

Years	Persons	Months
2002	T	April
2005	O	January
2008	V	July
2009	Q	May
2012	Y	June
2013	L	March

L was born in 2013.

### S90. Ans.(c)

**Sol.** Y was born in an even-numbered year but just after Q. Two persons were born between Y and the one who was born in January. There are two possible cases: -

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002				
2005	Q			January
2008	Y			
2009			Q	
2012			Y	
2013		January		

No one was born between T and O and they were born before 2008, so case 1 is cancelled here. The one who was born in July is 5 years older than L who was born in the month having an odd number of days.



Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002			T/O	
2005	Q		T/O	January
2008	Y			July
2009			Q	
2012			Y	
2013		January	L	March/May

The number of persons who were born after the one who was born in May is same as the number of persons who were born before V. T was neither born in the month having 31 days nor in June, so Y was born in June and the final arrangement is: -

Years	Persons	Months
2002	T	April
2005	O	January
2008	V	July
2009	Q	May
2012	Y	June
2013	L	March

V was born in 2008 and Y was born in June in 2012  
Thus, the required difference is 4.

### S91. Ans.(a)

**Sol.** Y was born in an even-numbered year but just after Q. Two persons were born between Y and the one who was born in January. There are two possible cases: -

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002				
2005	Q			January
2008	Y			
2009			Q	
2012			Y	
2013		January		

No one was born between T and O and they were born before 2008, so case 1 is cancelled here. The one who was born in July is 5 years older than L who was born in the month having an odd number of days.

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002			T/O	
2005	Q		T/O	January
2008	Y			July
2009			Q	
2012			Y	
2013		January	L	March/May

The number of persons who were born after the one who was born in May is same as the number of persons who were born before V. T was neither born in the month having 31 days nor in June, so Y was born in June and the final arrangement is: -

Years	Persons	Months
2002	T	April
2005	O	January
2008	V	July
2009	Q	May
2012	Y	June
2013	L	March

The combination in option (a) is true.

### S92. Ans.(d)

**Sol.** Y was born in an even-numbered year but just after Q. Two persons were born between Y and the one who was born in January. There are two possible cases: -

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002				
2005	Q			January
2008	Y			
2009			Q	
2012			Y	
2013		January		

No one was born between T and O and they were born before 2008, so case 1 is cancelled here. The one who was born in July is 5 years older than L who was born in the month having an odd number of days.

Years	Persons	Months	Persons	Months
	Case 1		Case 2	
2002			T/O	
2005	Q		T/O	January
2008	Y			July
2009			Q	
2012			Y	
2013		January	L	March/May



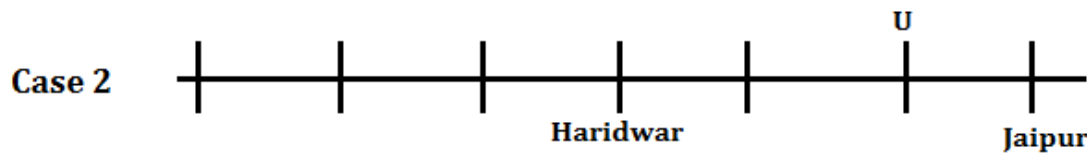
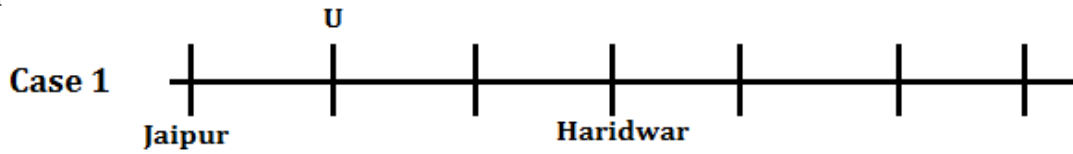
The number of persons who were born after the one who was born in May is same as the number of persons who were born before V. T was neither born in the month having 31 days nor in June, so Y was born in June and the final arrangement is: -

Years	Persons	Months
2002	T	April
2005	O	January
2008	V	July
2009	Q	May
2012	Y	June
2013	L	March

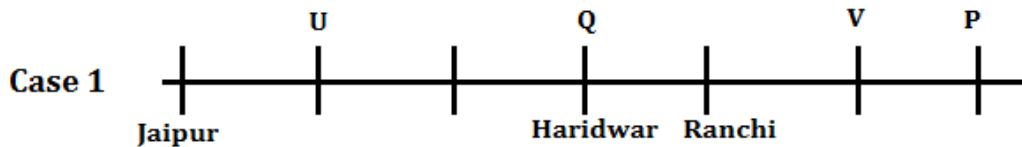
Except for Y, all of the persons were born in the month having 31 days.

**S93. Ans.(b)**

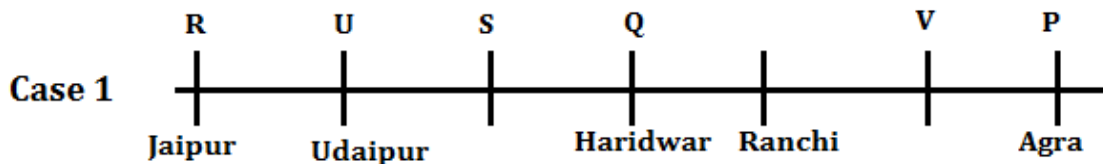
**Sol.** One person sits between U and the one who visits Haridwar. U is the only neighbour of the one who visits Jaipur which means that one who visits Jaipur sits at one of the extreme ends. So, here we have two possible cases:



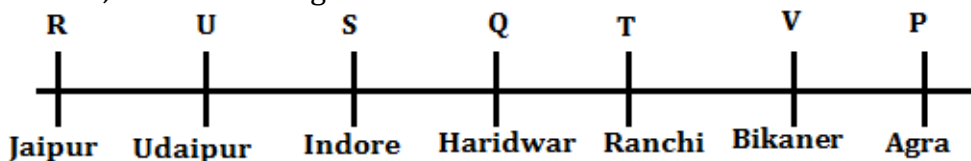
P sits third to the right of Q. P visits neither Haridwar nor Jaipur. U doesn't sit adjacent to Q. One person sits between P and the one who visits Ranchi. The number of persons sit to the right of U is same as the number of persons sit to the left of V. So case 2 gets eliminated here.



More than three persons visit between the one who visits Agra and the one who visits Udaipur. S sits to the right of R and sits adjacent to the one who visits Udaipur.



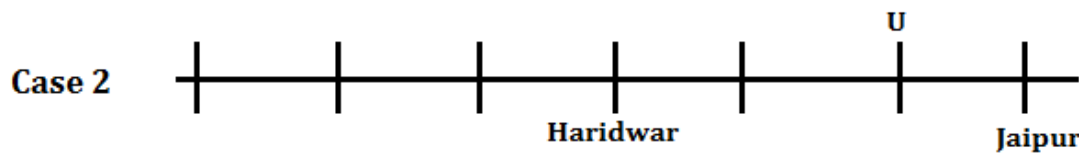
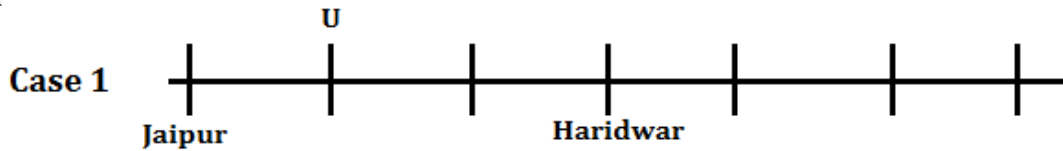
No one sits between T and the one who visits Bikaner. So only one place is left i.e., Indore which is visited by S. Thus, the final arrangement is:



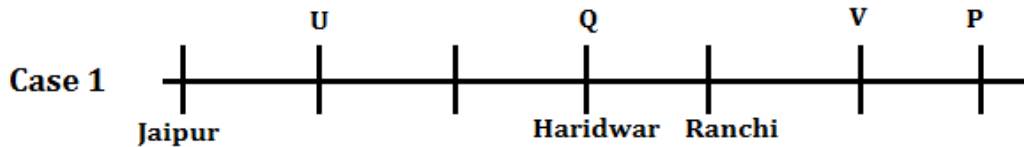
T visits Ranchi

**S94. Ans.(d)**

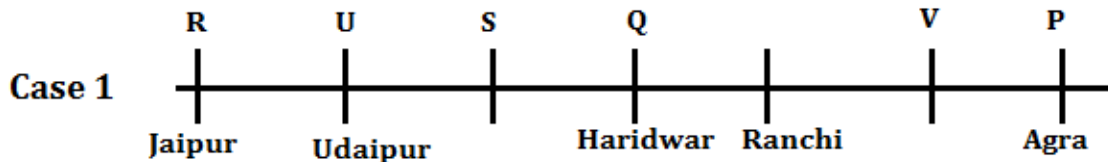
**Sol.** One person sits between U and the one who visits Haridwar. U is the only neighbour of the one who visits Jaipur which means that one who visits Jaipur sits at one of the extreme ends. So, here we have two possible cases:



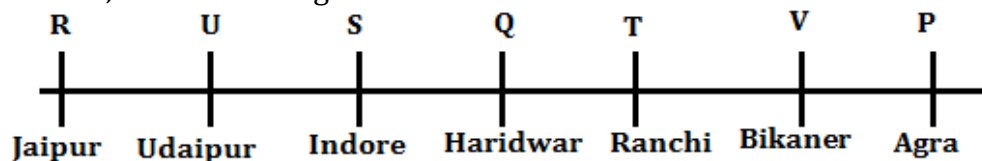
P sits third to the right of Q. P visits neither Haridwar nor Jaipur. U doesn't sit adjacent to Q. One person sits between P and the one who visits Ranchi. The number of persons sit to the right of U is same as the number of persons sit to the left of V. So case 2 gets eliminated here.



More than three persons visit between the one who visits Agra and the one who visits Udaipur. S sits to the right of R and sits adjacent to the one who visits Udaipur.



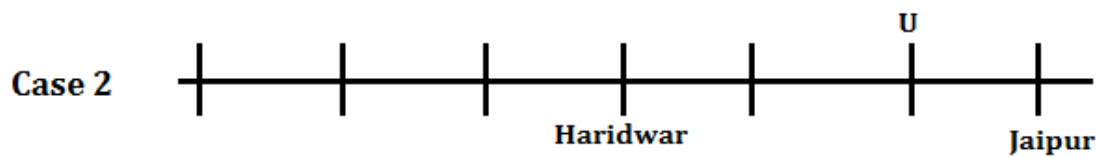
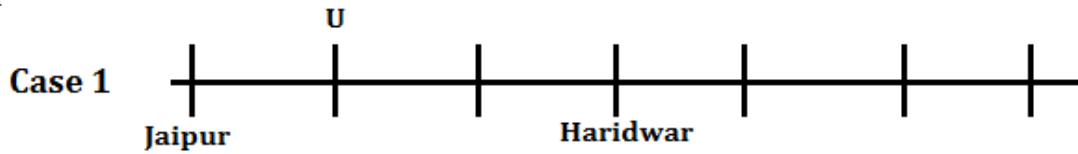
No one sits between T and the one who visits Bikaner. So only one place is left i.e., Indore which is visited by S. Thus, the final arrangement is:



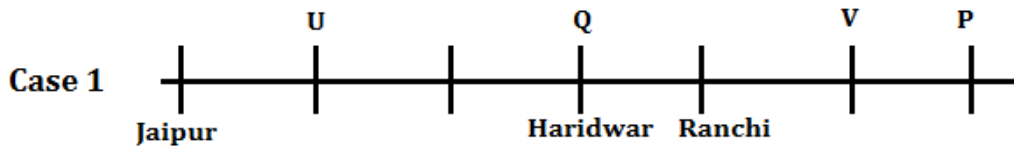
Five persons sit between R and P

**S95. Ans.(c)**

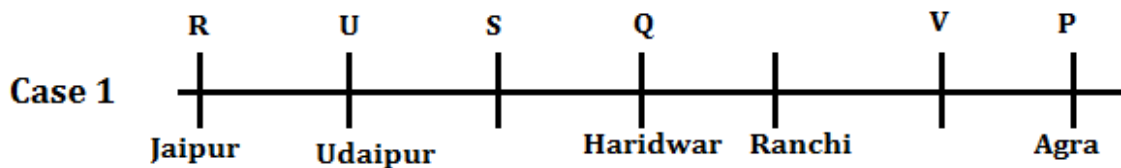
**Sol.** One person sits between U and the one who visits Haridwar. U is the only neighbour of the one who visits Jaipur which means that one who visits Jaipur sits at one of the extreme ends. So, here we have two possible cases:



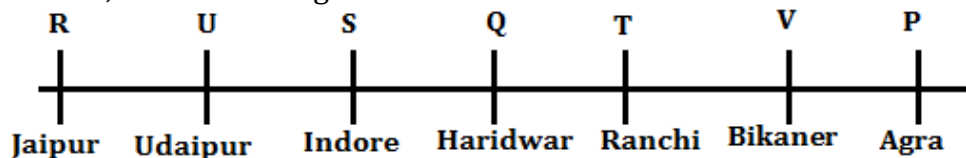
P sits third to the right of Q. P visits neither Haridwar nor Jaipur. U doesn't sit adjacent to Q. One person sits between P and the one who visits Ranchi. The number of persons sit to the right of U is same as the number of persons sit to the left of V. So case 2 gets eliminated here.



More than three persons visit between the one who visits Agra and the one who visits Udaipur. S sits to the right of R and sits adjacent to the one who visits Udaipur.



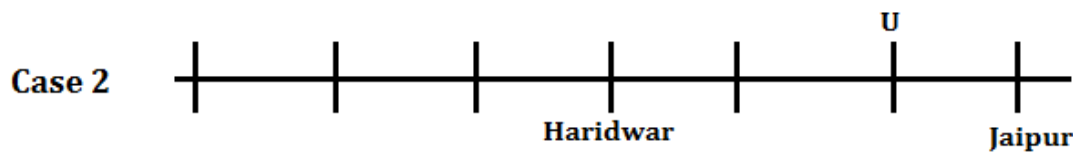
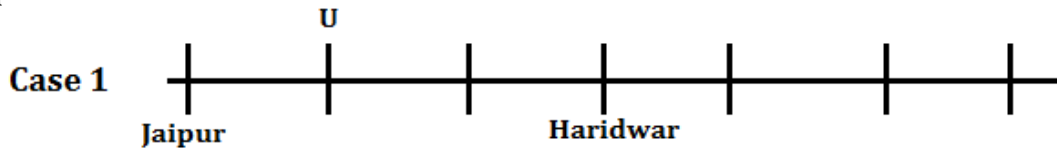
No one sits between T and the one who visits Bikaner. So only one place is left i.e., Indore which is visited by S. Thus, the final arrangement is:



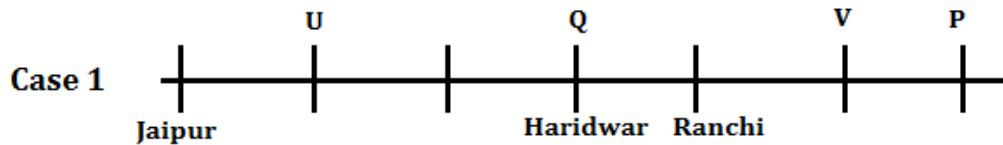
S-Indore is the correct combination

**S96. Ans.(a)**

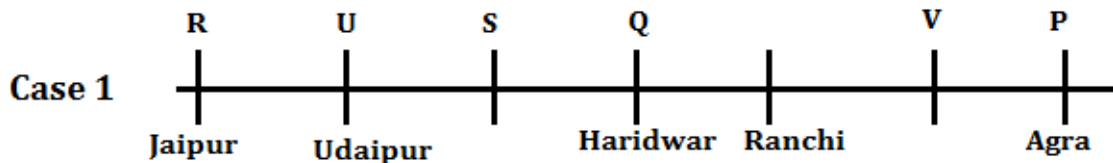
**Sol.** One person sits between U and the one who visits Haridwar. U is the only neighbour of the one who visits Jaipur which means that one who visits Jaipur sits at one of the extreme ends. So, here we have two possible cases:



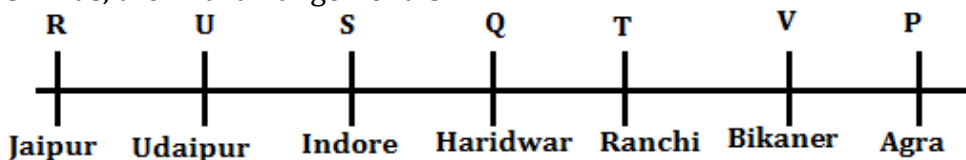
P sits third to the right of Q. P visits neither Haridwar nor Jaipur. U doesn't sit adjacent to Q. One person sits between P and the one who visits Ranchi. The number of persons sit to the right of U is same as the number of persons sit to the left of V. So case 2 gets eliminated here.



More than three persons visit between the one who visits Agra and the one who visits Udaipur. S sits to the right of R and sits adjacent to the one who visits Udaipur.



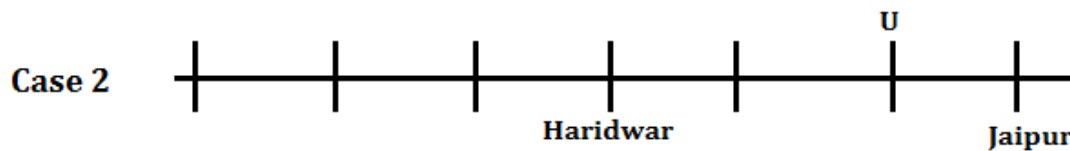
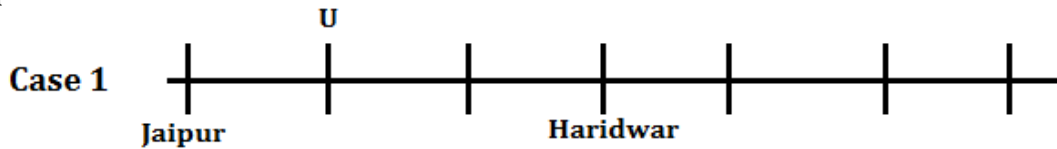
No one sits between T and the one who visits Bikaner. So only one place is left i.e., Indore which is visited by S. Thus, the final arrangement is:



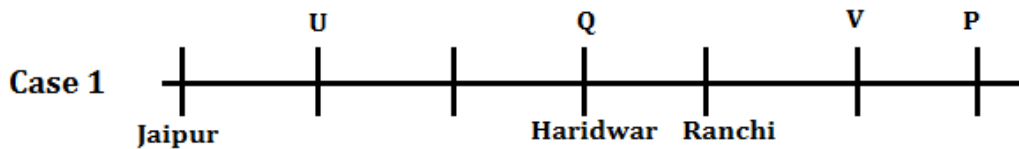
The position of P and U remains unchanged after the rearrangement

**S97. Ans.(d)**

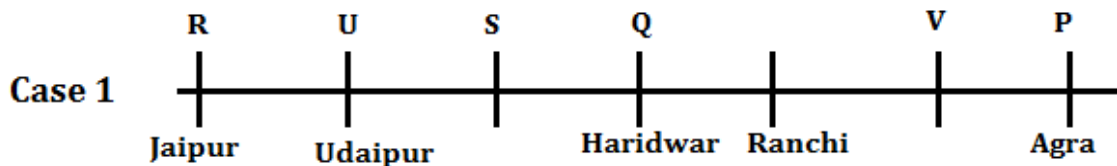
**Sol.** One person sits between U and the one who visits Haridwar. U is the only neighbour of the one who visits Jaipur which means that one who visits Jaipur sits at one of the extreme ends. So, here we have two possible cases:



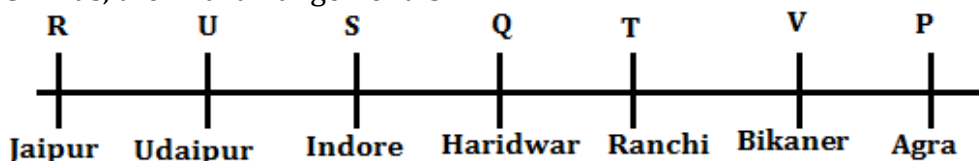
P sits third to the right of Q. P visits neither Haridwar nor Jaipur. U doesn't sit adjacent to Q. One person sits between P and the one who visits Ranchi. The number of persons sit to the right of U is same as the number of persons sit to the left of V. So case 2 gets eliminated here.



More than three persons visit between the one who visits Agra and the one who visits Udaipur. S sits to the right of R and sits adjacent to the one who visits Udaipur.



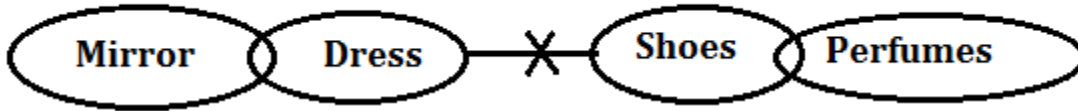
No one sits between T and the one who visits Bikaner. So only one place is left i.e., Indore which is visited by S. Thus, the final arrangement is:



U visits Udaipur

**S98. Ans.(a)**

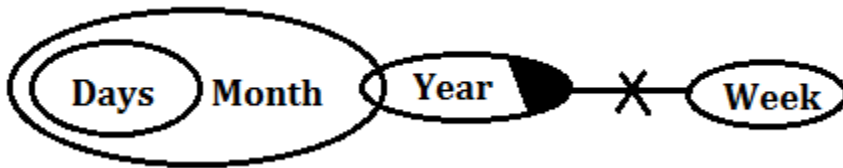
**Sol.** I follow: The part of Perfumes which is shoes is definitely not Dress as it is given that no Shoes is Dress.  
 II doesn't follow: There is no direct relation between Perfumes and Mirror. So, II doesn't follow.



**S99. Ans.(d)**

**Sol.** I follow: Days are only related to Month and with other elements, it has a negative relation even in case of possibility.

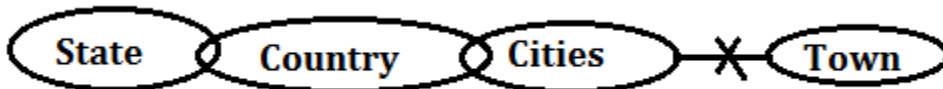
II follow: Days are only related to Month and with other elements, it has a negative relation even in case of possibility.



**S100. Ans.(b)**

**Sol.** I doesn't follow: Some part of the Country which is Cities can never be Town so, it doesn't follow even in possibility also.

II follow: There is no direct relation between State and Cities. So, relation between them exist in case of possibility.





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