

## Solutions

1. Ans. A.

$$98 = 17 + 81$$

$$26 = 98 - 72$$

$$89 = 26 + 63$$

$$35 = 89 - 54$$

$$? = 35 + 45, \text{ i.e. } ? = 80$$

2. Ans. D.

$$17 = 2 \times 6 + 5$$

$$89 = 17 \times 5 + 4$$

$$359 = 89 \times 4 + 3$$

$$1079 = 359 \times 3 + 2$$

$$? = 1079 \times 2 + 1, \text{ i.e. } ? = 2159$$

3. Ans. B.

$$5 = 3 + (1^3 + 1)$$

$$15 = 5 + (2^3 + 2)$$

$$45 = 15 + (3^3 + 3)$$

$$113 = 45 + (4^3 + 4)$$

$$? = 113 + (5^3 + 5), \text{ i.e. } ? = 243$$

4. Ans. A.

$$4.5 = 7 \times 0.5 + 1$$

$$5.5 = 4.5 \times 1 + 1$$

$$12 = 5.5 \times 2 + 1$$

$$49 = 12 \times 4 + 1$$

$$? = 49 \times 8 + 1, \text{ i.e. } ? = 393$$

5. Ans. C.

$$540 = 3240/6$$

$$108 = 540/5$$

$$27 = 108/4$$

$$? = 27/3, \text{ i.e. } ? = 9$$

$$4.5 = 9/2$$

6. Ans. E.

Approximating the values:

$$(\sqrt{81} - \sqrt{25}) \times (\sqrt{121} + \sqrt{16}) = ?$$

$$(9 - 5) \times (11 + 4) = ?$$

$$4 \times 15 = ?$$

$$? = 60$$

7. Ans. B.

$$53 - 345 \div 23 = 2 \times (?)$$

$$53 - 15 = 2 \times (?)$$

$$38 = 2 \times (?)$$

$$? = 19$$

8. Ans. C.

$$(184 - 6) \times 30 = ?$$

$$178 \times 30 = ?$$

$$? = 5340$$

9. Ans. A.

$$\sqrt{(3100 \div 62 + 14)} = ?$$

$$\sqrt{(50 + 14)} = ?$$

$$\sqrt{64} = ?$$

$$? = 8$$

10. Ans. C.

$$112 \times 5 \div 14 = 11 + ?$$

$$112 \times 5 \div 14 = 11 + ?$$

$$560 \div 14 = 11 + ?$$

$$40 = 11 + ?$$

$$? = 40 - 11 = 29$$

11. Ans. A.

$$25\% \text{ of } 84 \div 7 = ?$$

$$[(25 \times 84)/100] \div 7 = ?$$

$$21 \div 7 = ?$$

$$? = 3$$

12. Ans. B.

Approximate average number of books sold by Shop B during all the days together

$$= (15+10+22+22.5+25+17.5) \times 100 / 6 = 11200/6$$
$$= 1866.66, \text{ i.e. approximately } 1867$$

13. Ans. C.

Books sold by Shop A on all days

$$= (12.5+15+22.5+20+22.5+15) \times 100 = 10750$$

Books sold by Shop B on all days =

$$(15+10+22+22.5+25+17.5) \times 100 = 11200$$

Total number of books sold by both Shop A and B on all the days together = 11200 + 10750 = 21950

Number of books sold by Shop B on Friday = 25 × 100 = 2500

Required percentage = (2500/21950) × 100 = 11% (Approx)

14. Ans. E.

Number of books sold by Shop A on Thursday = 20 × 100 = 2000

number of books sold by Shop B on Monday = 15 × 100 = 1500

Required ratio = 2000 : 1500 = 4 : 3

15. Ans. D.

Total number of books sold on Friday = (22.5 + 25) × 100 = 4750

Total number of books sold on Thursday = (20 + 22.5) × 100 = 4250

Required percentage = 4750 : 4250 = 19 : 17

16. Ans. D.

The total books sold by Shop B on all days

excluding Wednesday = (15 + 10 + 22.5 + 25 + 17.5) = 90

Total number of books sold on Thursday, Friday and Saturday together = 65

Required % = 90/65 × 100 =

138.5%, approximately

17. Ans. B.

Students who take part in group activities from class

$$\text{VII} = (280-210) = 70$$

$$\text{VIII} = (310-220) = 90$$

$$\text{X} = (220 - 160) = 60$$

$$\text{Average} = (70+90+60)/3 = 73.33, \text{ i.e. approximately } 73$$

18. Ans. D.

Students who participate in group singing from class VIII =  $(310-220) \times \frac{4}{5} = 72$

Students who participate in quiz from IX class =  $(185-95) \times \frac{2}{5} = 36$

$$\text{Required Ratio} = 72:36, \text{ i.e. } 2:1$$

19. Ans. A.

Number of students who take part in quiz from VII & VIII classes together =  $(70 \times \frac{2}{7}) + 90 \times \frac{1}{5} = 20 + 18 = 38$

total students who take part in any activity from Class IX =  $185-95 = 90$

$$\text{Required Difference} = 90 - 38 = 52$$

20. Ans. B.

Students who take part in group singing from VIII and X together =  $(90 \times \frac{4}{5}) + (60 \times \frac{7}{10}) = 72 + 42 = 114$

Students who take part in quiz from VII =  $70 \times \frac{2}{7} = 20$

$$\text{Required percent} = \frac{20}{114} \times 100 = 17.54\%, \text{ i.e. approximately } 17\%$$

21. Ans. E.

Total students who take part in quiz from all the classes together =

$$(70 \times \frac{2}{7}) + (90 \times \frac{1}{5}) + (90 \times \frac{2}{5}) + (60 \times \frac{3}{10}) = 20 + 18 + 36 + 18 = 92$$

22. Ans. C.

Total students who take part in any activity from class VII, VIII & IX =  $70 + 90 + 90 = 250$

Total students who do not take part in any activity from class IX = 95

$$\text{Required \%} = \frac{95}{250} \times 100 = 38$$

23. Ans. C.

Given that length of first train + length of second train = 660

$$\text{Speed of first train} : \text{Speed of second train} = 5:8 = 5x : 8x$$

$$\text{Time taken to cross the poll by two trains} = 4:3 = 4y:3y$$

Now ,

$$(5x \times 4y) + (8x \times 3y) = 660$$

$$44xy = 660$$

$$\mathbf{xy = 15}$$

$$L_1 - L_2 = 24xy - 20xy = 4xy = \mathbf{60 \text{ m}}$$

24. Ans. D.

Currently :

$$A+B+C+D = 76$$

According to ques , after 7 years

$$A+B+C+D = 7x+6x+5x+8x = 76+7 \times 4$$

$$26x = 76 + 28$$

$$X = 104/26$$

$$x = 4$$

C's present age

$$= 5x - 7 =$$

$$20 - 7$$

$$= 13$$

25. Ans. C.

Let 4 consecutive even numbers are

$$x, x+2, x+4, x+6$$

According to the question -

$$\frac{1}{x} + \frac{1}{x+2} = \frac{11}{60}$$

$$x+2+x / x(x+2) = \frac{11}{60}$$

$$\frac{2(x+1)}{x^2+2x} + 2x = \frac{11}{60}$$

$$120x + 120 = 11x^2 + 22x$$

$$11x^2 - 98x - 120 = 0$$

So ,

$$X = \frac{-24 \pm \sqrt{22^2 - 4 \times 11 \times (-120)}}{2 \times 11}, 10$$

$$X = \frac{-12 \pm 11}{11}, 10$$

So, the numbers will be 10,12,14,16.

Hence,

Third largest number = 14

Reciprocal of third number =  $\frac{1}{14}$

26. Ans. B.

Let digit = xyz

Given y = 3

According to the question =

$$(100z+10y+x) - (100x+10y+z) = 396x$$

$$99z-99x = 396$$

$$Z-x = 4$$

$$\text{Also, } Z+x = 14$$

Solving (i) & (ii)

$$Z = 9, x = 5$$

The original number is 539

27. Ans. B.

According to the question ,

$$\text{Marked Price} = 1600 + \text{Cost price} - \text{(i)}$$

$$\text{MP} - 500 = \frac{125}{100} \times \text{CP} - \text{(ii)}$$

$$\text{MP} = \frac{5}{4} \text{CP} + 500 - \text{(ii)}$$

$$4\text{MP} = 5\text{CP} + 2000 - \text{(ii)}$$

Solving (i) and (ii)

$$\text{Cost Price} = 4400$$

Now , the selling price

$$= \frac{130}{100} \times 4400$$

$$= 5720$$

28. Ans. D.

Time taken by A to complete a work alone - 24 days

Time taken by A in completing 1/3 of work =  $24 \times \frac{1}{3} = 8$  Days

8 day = time taken by B in completing 1/2 of work  
B alone can complete the work = 16 days

The required time in completing the work if both A & B start working together?

$16 \times 24 / 40$   
= 48/5 Days

29. Ans. C.

**Solution:-**Distance covered by 1st train in 4 hours =  $80 \times 4 = 320$  km

Relative speed of 2nd train =  $120 - 80 = 40$  km

It will overtake another train in  $320/40 = 8$  hours

Distance between overtake point and station A =  $8 \times 120 = 960$  km

30. Ans. A.

Let B's investment = x rs.

$\therefore$  A's investment = (x + 1200) rs.

Ratio of the profits of A and B =

$(x+1200) \times (15+4) : x \times 15$   
= {19(x+1200)} : 15x

Now, let the total profit of A = y

$\therefore$  total profit of B = (y-280)

But total profit = 1240

$\Rightarrow y + (y-280) = 1240$

$\Rightarrow 2y = 1520$

$\Rightarrow y = 760$

$\therefore$  profit of A = 760 rs.

Profit of B =  $760 - 280 = 480$  rs.

Ratio of profits =  $760 : 480 = 19 : 12$

According to the question,

$$\frac{19(x+1200)}{15x} = \frac{19}{12}$$

$$\Rightarrow 12x + 14400 = 15x$$

$$\Rightarrow 3x = 14400$$

$$\Rightarrow x = 4800 \text{ rs.}$$

$$\Rightarrow \text{investment of A} = 4800 + 1200$$

$$= 6000 \text{ rs.}$$

31. Ans. A.

Suppose the two liquids A and B are 7x litres and 5x litres respectively

Now, when 9 litres of mixture are taken out,

$$\text{A remains } 7x - 9 \left( \frac{7}{7+5} \right) = 7x - \frac{9 \times 7}{12} = \left( 7x - \frac{21}{4} \right) \text{ litres}$$

$$\text{B remains } 5x - 9 \left( \frac{5}{7+5} \right) = 5x - \frac{9 \times 5}{12} = \left( 5x - \frac{15}{4} \right) \text{ litres}$$

Now, when 9 liters of liquid B are added

$$\left( 7x - \frac{21}{4} \right) : \left( 5x - \frac{15}{4} \right) = 7 : 9$$

$$\text{or } \frac{7x - \frac{21}{4}}{5x - \frac{15}{4} + 9} = \frac{7}{9}$$

$$\text{or, } 63x - \frac{189}{4} = 35x - \frac{105}{4} + 63$$

$$28x = \frac{189}{4} - \frac{105}{4} + 63 = 21 + 63 = 84$$

$$x = \frac{84}{28} = 3$$

$$\therefore 7x = 7 \times 3 = 21 \text{ litres}$$

32. Ans. B.

Let the principal amount be Rs. x

Calculating SI:

SI for 1 year at 12% rate is Rs  $(12/100) \times x$ . For 3 years it will be Rs  $(36/100) \times x$  ----- (1)

Calculating CI:

For 1<sup>st</sup> year, Interest =  $(12/100) \times x$

For 2<sup>nd</sup> year, interest =  $(12/100) \times x + (12/100) \times x + (144/10000) \times x$

For 3<sup>rd</sup> year, interest =  $(12/100) \times x + (12/100) \times x + (12/100) \times x + (144/10000) \times x + (144/10000) \times x + (1728/1000000) \times x$ . ----- (2)

Subtracting equation 2 and 1 and solving further,  
 $312 \times 144 \times x / 1000000 = 112.32$

X = Rs 2500.

**Alternative way:** Using formula for Difference between CI and SI for 3 years

$$\frac{PR^2}{100^2} \left( 3 + \frac{R}{100} \right)$$

we can also use the above formula to find the value of P.

33. Ans. B.

Let radius of the base and height of the cone be 'r' & 'h' respectively.

Then volume of cone =  $\pi r^2 h / 3$

For cylinder, radius is reduced by 4 times = r/4

And, height is increased by 8 folds = 8h

Volume of cylinder =  $\pi R^2 H = \pi (r/4)^2 (8h) = (16/8) \pi r^2 h = \pi r^2 h / 2$

Ratio of volume of cone to volume of cylinder =  $(\pi r^2 h / 3) : (\pi r^2 h / 2)$

Or, Ratio = 2 : 3.

34. Ans. E.

Suppose the speed of boat in still water is  $x$  km/h and speed of stream is  $y$  km/h

Speed of boat in downstream =  $(x + y)$  km/h

$$\therefore x + y = 32 \dots(i)$$

Speed of boat in upstream =  $(x - y)$  km/h

$$\therefore x - y = 28 \dots(ii)$$

Add. Eqs. (i) and (ii), we get

$$2x = 60$$

$$x = 30 \text{ km/h}$$

35. Ans. D.

$$\text{CP of mixture} = \{(40 \times 3 + 60 \times 2) / 2 + 3\} = 48$$

$$\text{SP of the mixture} = 1.1 \times 48 = 52.8$$

36. Ans. D.

In option D, 'apart' is incorrect after 'to drain water'.

37. Ans. C.

In option C, 'has' is incorrectly used since the sentence is in past tense. Moreover, the subject is cities, which is plural.

38. Ans. D.

Option D: 'Documentation of the seasonality in native people' doesn't make sense.

39. Ans. E.

Options A, C and E in the absence of a proper subject add the 'bag' automatically to the verb 'racing for the bus'. So, it does not make any sense as it would mean that the bag is racing for the bus. Option B is incorrect because of the fragment 'making the documents lose'. Option D doesn't convey a proper meaning.

40. Ans. D.

We have to find the incorrect statement. All the sentences except D have been correctly structured. In option D, the phrase 'complied into by' is incorrect. You "comply with" a rule or a law and not by cities.

41. Ans. E.

Option A: 'legally state-issued currencies' is incorrect. The word describes the state-issued currencies; hence it should be an adjective and not an adverb.

Option B: 'state-issues' is incorrect and should be replaced by 'state-issued'.

Option C: 'carry in' is grammatically incorrect.

Option D: 'to carrying out' is grammatically incorrect.

42. Ans. E.

Triptych means a set of three associated artistic, literary, or musical works intended to be appreciated together.

Triptych doesn't make sense, hence options A, B and C can be eliminated.

Sentence D doesn't convey any meaning.

43. Ans. B.

Option B- 'stations of numerical small nations' is incorrect.

The other statements make complete sense, hence are correct.

44. Ans. E.

In the given sentences, boiled down is the phrasal verb that should have been used which means summarizing something, to reduce or simplify (something) to the most basic, essential, or fundamental element(s). In this context it means that the one who had more power, succeeded. 'Boiled down' should be followed by 'to' and not 'for', hence option D is incorrect.

45. Ans. D.

Solution: In the given sentences banking upon is the correct phrasal verb which means basing hopes on someone/something or depending on someone for something.

Option D is incorrect because bank of does not have any relevant meaning in the given context.

46. Ans. A.

The answer is 'give me a ballpark figure of how much this event is going to cost.' A ballpark figure is a rough numerical estimate or approximation.

47. Ans. C.

The statement is in general sense and doesn't talk in past or future context specifically. Therefore one must use the present tense of the verb. Thus, 'provide' is the correct answer.

48. Ans. B.

'to stick to one's guns' means refuse to compromise or change, despite criticism. It is a phrasal verb hence we can't make any changes in the prepositions used. The sentence is in past tense, hence stick should be replaced by stuck.

49. Ans. B.

The correct form of verb to be used after 'will' is 'help.' Verbs are not needed in infinitive or participle form here since the effect of the disposal of assets will be seen in the future. So option B is the correct answer.

50. Ans. B.

The correct preposition here would be 'by'.

By follows 'represented' when something takes the place of and refers to something bigger.

With follows 'represented' when an attribute with which something or someone is depicted.

A contract is not represented in a policy but stated in a policy.

51. Ans. C.

The answer is the 'vilest thing that can be done by a person.' Vile/vilest means extremely unpleasant.

Option A: A singular thing is being talked about (indicated by 'is') hence, things can't be used.

Option B: 'is' indicates singular activity, hence things can't be used.

Option C: It makes the sentence grammatically and structurally correct.

52. Ans. B.

A- The subject is 'trees', which is plural, so the use of 'has' is incorrect as a helping verb.

B- The fragment makes the sentence structurally and grammatically correct.

D- The subject is plural and therefore 'its' can't be used to address the subject.

53. Ans. A.

'in to' is the wrong usage of preposition.

ii- 'onto' is the wrong usage of preposition.

iii- 'Who' is a redundant word and distorts the meaning of the statement. .

'puts at' makes the sentence correct.

54. Ans. E.

i. is incorrect because of the incorrect use of open".

ii. is incorrect because of the incorrect use of "opened" hopefully represents future while opened represents past. This makes the sentence structurally incorrect.

C is correct because of the correct use of "would open" and delivers correct meaning to the sentence. 'would' is used to refer to the possibility in the future which is supported by the use of the word 'hopefully'.

iii. is incorrect because of the incorrect use of "is opening".

55. Ans. E.

i- 'that things' is incorrect.

ii- This is wrong because it is not unprofitable for the professionals but the political masters of health care.

iii-It is structurally incorrect. It should be has not been.

56. Ans. D.

This can be interpreted from these lines, "Second, reforms to the tax system were carried out, giving the central government an increasing share of the total fiscal revenue and thereby enhancing its dominance over the allocation of resources. This has seriously threatened marketization reform and, arguably, has even damaged the market mechanism and competition." Hence, option D is the correct answer.

57. Ans. D.

In the given passage, the author has explained all the factors that contributed to the imbalance in the Chinese economy. Further, the implications of such factors on the trade, finance and economy have also been dealt with. Hence, the correct answer is option D.

58. Ans. D.

Statement (i) can be interpreted from these lines, "... the government retained its monopoly of lucrative services such as telecommunication and financial services while discarding the burden of some public services." Statement (ii) can be interpreted from these lines, "The early 1990s marked a turning point in the Chinese economy, which had been gradually evolving since the late 1970s when the policy of reform and opening was adopted." Statement (iii) is incorrect, rather the policy of reforms exacerbated the unbalanced situation which can be interpreted from these lines, "As the significant changes got underway in the early 1990s, they had the effect of enhancing, or of continuously exacerbating, an already unbalanced situation."

59. Ans. B.

The government expenditure and government investment policies proved detrimental to investment and household expenditure which can be interpreted from these lines, "The third and fourth developments since the early 1990s (outlined above) mean that, in effect, government expenditure is squeezing out household expenditure, and government investment policies (via SOEs and SOBs) are discouraging and even forcing out private investment." Hence, option B is the correct answer.

60. Ans. A.

Sluggish means dull or slow moving, torpid means the same.

Torpid - mentally or physically inactive; lethargic.  
Active - engaging or ready to engage in physically energetic pursuits.

Spirited - full of energy, enthusiasm, and determination.

Squally - related to weather

61. Ans. A.

Exacerbate means to make worse. Contrary to it, 'aid' which means to help is the most suitable response.

62. Ans. C.

This can be interpreted from these lines, "If they do what they should do (i.e., provide public services), the opportunities for 'benefit' are very limited." Hence, option C is the correct answer.

63. Ans. D.

The passage revolves completely around the Chinese economy and the various reasons, implications and other aspects of the reforms that have been done by the Chinese government. Option D is the closest to that theme and thus is the most appropriate response.

64. Ans. E.

Feasible = possible and practical to do easily or conveniently.

Persuasion = the action or process of persuading someone or of being persuaded to do or believe something.

Duress = threats, violence, constraints, or other action used to coerce someone into doing something against their will or better judgement.

Cinch = an extremely easy task.

Impediment = a hindrance or obstruction in doing something.

65. Ans. C.

Ostentatious = intended to attract notice and impress others in an extreme and unnecessary way.

Illumination = radiance

Cohort = a group of people with a shared characteristic.

Surcease = ending; cessation.

Pretentious = attempting to impress by affecting greater importance or merit than is actually possessed.

66. Ans. E.

R(Red)	T(Blue)	Q(Yellow)	P(Orange)	S(Green)
K(White)	J(Black)	N(Pink)	M(Grey)	L(Violet)

67. Ans. D.

R(Red)	T(Blue)	Q(Yellow)	P(Orange)	S(Green)
K(White)	J(Black)	N(Pink)	M(Grey)	L(Violet)

68. Ans. A.

R(Red)	T(Blue)	Q(Yellow)	P(Orange)	S(Green)
K(White)	J(Black)	N(Pink)	M(Grey)	L(Violet)

69. Ans. B.

R(Red)	T(Blue)	Q(Yellow)	P(Orange)	S(Green)
K(White)	J(Black)	N(Pink)	M(Grey)	L(Violet)

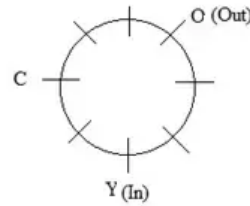
70. Ans. C.

R(Red)	T(Blue)	Q(Yellow)	P(Orange)	S(Green)
K(White)	J(Black)	N(Pink)	M(Grey)	L(Violet)

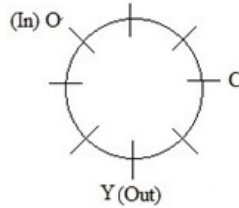
71. Ans. C.

Using the statements, C sits second to the left of Y. G and C are the immediate neighbours. Y sits third to the right of O, who is not sitting immediate to C. We get two scenarios:

Scenario I



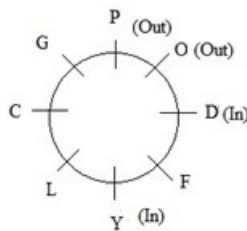
Scenario II



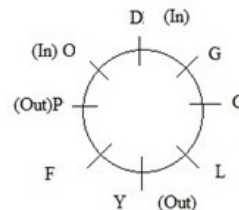
• Using the statements, C sits second to the left of Y. G and C are the immediate neighbours. D, G and L are facing in the same direction. P and C face in the same direction which is opposite to that of G.

We get the following combinations:

Scenario I



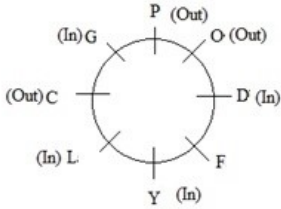
Scenario II





- Using the statements P, who faces outside sits second to the right of D who is facing inside. F and G are sitting opposite to each other. At least two persons sit between F and P. F and P can't be neighbours.

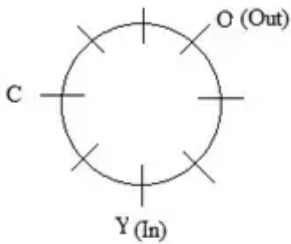
- Thus, Scenario II is not possible. Filling the remaining details in scenario, we get the correct sequence as follows.



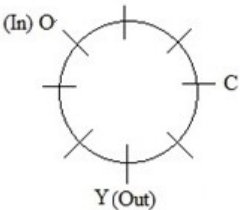
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Using the statements, C sits second to the left of Y. G and C are the immediate neighbours. Y sits third to the right of O, who is not sitting immediate to C. We get two scenarios:

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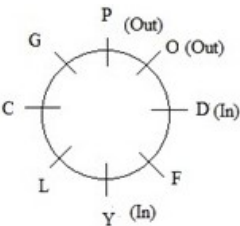
**Scenario II**



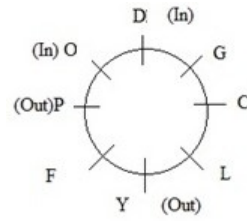
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Scenario I

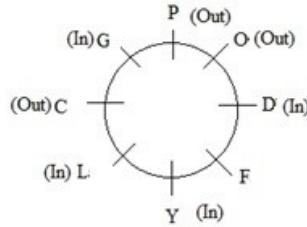


Scenario II



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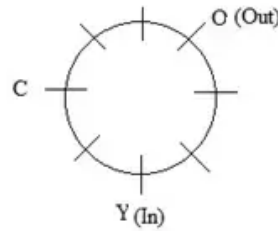
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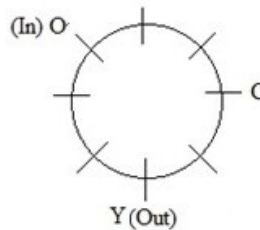
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Scenario I



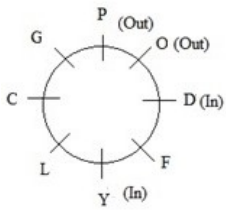
**Scenario II**



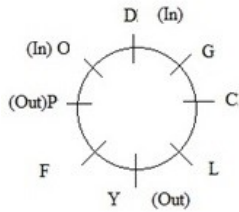
- Using the statements, C sits second to the left of Y. G and C are the immediate neighbours. D, G and L are facing in the same direction. P and C face in the same direction which is opposite to that of G.

We get the following combinations:

Scenario I

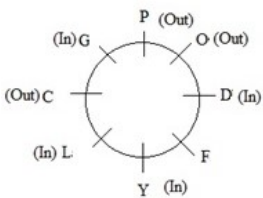


**Scenario II**



• Using the statements P, who faces outside sits second to the right of D who is facing inside. F and G are sitting opposite to each other. At least two persons sit between F and P. F and P can't be neighbours.

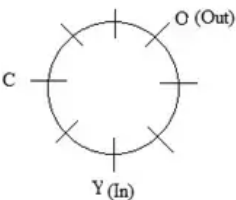
• Thus, Scenario II is not possible. Filling the remaining details in scenario, we get the correct sequence as follows.



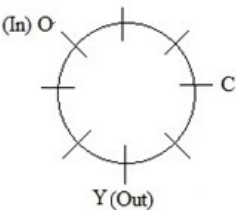
74. Ans. D.

Using the statements, C sits second to the left of Y. G and C are the immediate neighbours. Y sits third to the right of O, who is not sitting immediate to C. We get two scenarios:

**Scenario I**

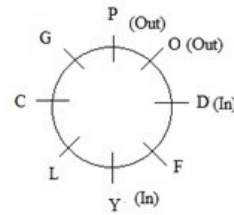


**Scenario II**

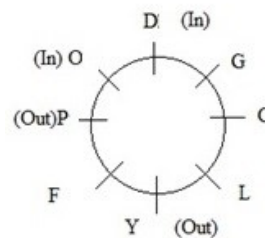


• Using the statements, C sits second to the left of Y. G and C are the immediate neighbours. D, G and L are facing in the same direction. P and C face in the same direction which is opposite to that of G. We get the following combinations:

**Scenario I**

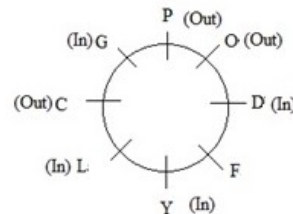


**Scenario II**



• Using the statements P, who faces outside sits second to the right of D who is facing inside. F and G are sitting opposite to each other. At least two persons sit between F and P. F and P can't be neighbours.

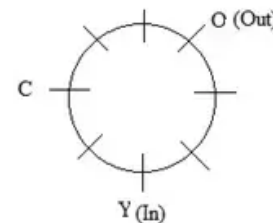
• Thus, Scenario II is not possible. Filling the remaining details in scenario, we get the correct sequence as follows.



75. Ans. C.

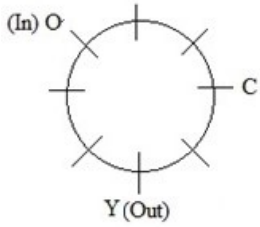
Using the statements, C sits second to the left of Y. G and C are the immediate neighbours. Y sits third to the right of O, who is not sitting immediate to C. We get two scenarios:

**Scenario I**



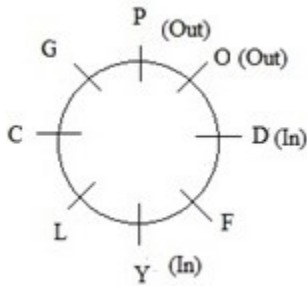


**Scenario II**

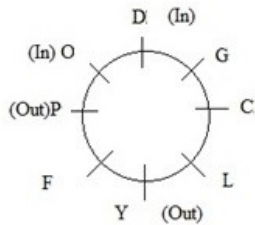


- Using the statements, C sits second to the left of Y. G and C are the immediate neighbours. D, G and L are facing in the same direction. P and C face in the same direction which is opposite to that of G. We get the following combinations:

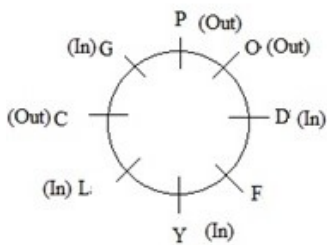
Scenario I



Scenario II



- Using the statements P, who faces outside sits second to the right of D who is facing inside. F and G are sitting opposite to each other. At least two persons sit between F and P. F and P can't be neighbours.
- Thus, Scenario II is not possible. Filling the remaining details in scenario, we get the correct sequence as follows.



76. Ans. C.

Green box is kept at top position.

- Blue box is placed at even number position but not at 8<sup>th</sup> position. So Blue box can be at 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> position.
- One box is between Blue and White box. White box is above the Blue box. So Blue box cannot be at 2<sup>nd</sup> position now either it is at 4<sup>th</sup> or 6<sup>th</sup> position.

**Case 1: If Blue box at 4<sup>th</sup> –**

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. One box is above White box so Pink box must be at 7<sup>th</sup> position.
- Two boxes are between Black and Pink boxes. So Black box must be at 4<sup>th</sup> position but Blue box is already so this case gets rejected.

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	Pink
8	

**Case 2: If Blue box at 6<sup>th</sup> –**

Box number	Color
1	
2	
3	
4	White
5	
6	Blue
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. Three boxes are above White box so Pink box must be at 5<sup>th</sup> position.

- Two boxes are between Black and Pink boxes. So Black box either at 8<sup>th</sup> or 2<sup>nd</sup> position.

**Case 2A: If Black box is at 8<sup>th</sup> position-**

Box number	Color
1	
2	
3	
4	White
5	Pink
6	Blue
7	
8	Black

- There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	
3	Red
4	White
5	Pink
6	Blue
7	
8	Black

- The number of boxes is between Yellow and Pink box is same as Brown and Blue box. From this that cannot be possible so this case gets rejected.

**Case 2A: If Black box is at 2<sup>nd</sup> position-**

Box number	Color
1	
2	Black
3	
4	White
5	Pink
6	Blue
7	
8	

- There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	
8	

- The number of boxes is between Yellow and Pink box is same as Brown and Blue box. So Yellow box must be at 7<sup>th</sup> and Brown box must be at 8<sup>th</sup> position.

**Here is the final table:**

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	Yellow
8	Brown

77. Ans. D.

3 boxes are kept between Red and Yellow boxes.

- Blue box is placed at even number position but not at 8<sup>th</sup> position. So Blue box can be at 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> position.

- One box is between Blue and White box. White box is above the Blue box. So Blue box cannot be at 2<sup>nd</sup> position now either it is at 4<sup>th</sup> or 6<sup>th</sup> position.

**Case 1: If Blue box at 4<sup>th</sup> -**

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. One box is above White box so Pink box must be at 7<sup>th</sup> position.

- Two boxes are between Black and Pink boxes. So Black box must be at 4<sup>th</sup> position but Blue box is already so this case gets rejected.

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	Pink
8	

**Case 2: If Blue box at 6<sup>th</sup> –**

Box number	Color
1	
2	
3	
4	White
5	
6	Blue
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. Three boxes are above White box so Pink box must be at 5<sup>th</sup> position.
- Two boxes are between Black and Pink boxes. So Black box either at 8<sup>th</sup> or 2<sup>nd</sup> position.

**Case 2A: If Black box is at 8<sup>th</sup> position-**

Box number	Color
1	
2	
3	
4	White
5	Pink
6	Blue
7	
8	Black

- There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	
3	Red
4	White
5	Pink
6	Blue
7	
8	Black

- The number of boxes is between Yellow and Pink box is same as Brown and Blue box. From this that cannot be possible so this case gets rejected.

**Case 2A: If Black box is at 2<sup>nd</sup> position-**

Box number	Color
1	
2	Black
3	
4	White
5	Pink
6	Blue
7	
8	

- There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	
8	

- The number of boxes is between Yellow and Pink box is same as Brown and Blue box. So Yellow box must be at 7<sup>th</sup> and Brown box must be at 8<sup>th</sup> position.

Here is the final table:

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	Yellow
8	Brown

78. Ans. E.

Brown box is kept at 8<sup>th</sup> position.

- Blue box is placed at even number position but not at 8<sup>th</sup> position. So Blue box can be at 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> position.
- One box is between Blue and White box. White box is above the Blue box. So Blue box cannot be at 2<sup>nd</sup> position now either it is at 4<sup>th</sup> or 6<sup>th</sup> position.

**Case 1: If Blue box at 4<sup>th</sup> –**

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. One box is above White box so Pink box must be at 7<sup>th</sup> position.
- Two boxes are between Black and Pink boxes. So Black box must be at 4<sup>th</sup> position but Blue box is already so this case gets rejected.

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	Pink
8	

**Case 2: If Blue box at 6<sup>th</sup> –**

Box number	Color
1	
2	
3	
4	White
5	
6	Blue
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. Three boxes are above White box so Pink box must be at 5<sup>th</sup> position.
- Two boxes are between Black and Pink boxes. So Black box either at 8<sup>th</sup> or 2<sup>nd</sup> position.

**Case 2A: If Black box is at 8<sup>th</sup> position-**

Box number	Color
1	
2	
3	
4	White
5	Pink
6	Blue
7	
8	Black

- There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	
3	Red
4	White
5	Pink
6	Blue
7	
8	Black

- The number of boxes is between Yellow and Pink box is same as Brown and Blue box. From this that cannot be possible so this case gets rejected.

**Case 2A: If Black box is at 2<sup>nd</sup> position-**

Box number	Color
1	
2	Black
3	
4	White
5	Pink
6	Blue
7	
8	

- There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	
8	

- The number of boxes is between Yellow and Pink box is same as Brown and Blue box. So Yellow box must be at 7<sup>th</sup> and Brown box must be at 8<sup>th</sup> position.

**Here is the final table:**

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	Yellow
8	Brown

79. Ans. B.

Yellow box is kept at 7<sup>th</sup> position.

- Blue box is placed at even number position but not at 8<sup>th</sup> position. So Blue box can be at 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> position.
- One box is between Blue and White box. White box is above the Blue box. So Blue box cannot be at 2<sup>nd</sup> position now either it is at 4<sup>th</sup> or 6<sup>th</sup> position.

**Case 1: If Blue box at 4<sup>th</sup> –**

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. One box is above White box so Pink box must be at 7<sup>th</sup> position.
- Two boxes are between Black and Pink boxes. So Black box must be at 4<sup>th</sup> position but Blue box is already so this case gets rejected.

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	Pink
8	

**Case 2: If Blue box at 6<sup>th</sup> –**

Box number	Color
1	
2	
3	
4	White
5	
6	Blue
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. Three boxes are above White box so Pink box must be at 5<sup>th</sup> position.
- Two boxes are between Black and Pink boxes. So Black box either at 8<sup>th</sup> or 2<sup>nd</sup> position.

**Case 2A: If Black box is at 8<sup>th</sup> position-**

Box number	Color
1	
2	
3	
4	White
5	Pink
6	Blue
7	
8	Black

• There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	
3	Red
4	White
5	Pink
6	Blue
7	
8	Black

• The number of boxes is between Yellow and Pink box is same as Brown and Blue box. From this that cannot be possible so this case gets rejected.

**Case 2A: If Black box is at 2<sup>nd</sup> position-**

Box number	Color
1	
2	Black
3	
4	White
5	Pink
6	Blue
7	
8	

• There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	
8	

• The number of boxes is between Yellow and Pink box is same as Brown and Blue box. So Yellow box must be at 7<sup>th</sup> and Brown box must be at 8<sup>th</sup> position.

**Here is the final table:**

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	Yellow
8	Brown

80. Ans. D.

Blue box is not kept above the Pink box.

• Blue box is placed at even number position but not at 8<sup>th</sup> position. So Blue box can be at 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> position.

• One box is between Blue and White box. White box is above the Blue box. So Blue box cannot be at 2<sup>nd</sup> position now either it is at 4<sup>th</sup> or 6<sup>th</sup> position.

**Case 1: If Blue box at 4<sup>th</sup> -**

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	
8	

• The number of boxes above White box is same as the number of boxes below Pink box. One box is above White box so Pink box must be at 7<sup>th</sup> position.

• Two boxes are between Black and Pink boxes. So Black box must be at 4<sup>th</sup> position but Blue box is already so this case gets rejected.

Box number	Color
1	
2	White
3	
4	Blue
5	
6	
7	Pink
8	



**Case 2: If Blue box at 6<sup>th</sup> –**

Box number	Color
1	
2	
3	
4	White
5	
6	Blue
7	
8	

- The number of boxes above White box is same as the number of boxes below Pink box. Three boxes are above White box so Pink box must be at 5<sup>th</sup> position.
- Two boxes are between Black and Pink boxes. So Black box either at 8<sup>th</sup> or 2<sup>nd</sup> position.

**Case 2A: If Black box is at 8<sup>th</sup> position-**

Box number	Color
1	
2	
3	
4	White
5	Pink
6	Blue
7	
8	Black

- There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	
3	Red
4	White
5	Pink
6	Blue
7	
8	Black

- The number of boxes is between Yellow and Pink box is same as Brown and Blue box. From this that cannot be possible so this case gets rejected.

**Case 2A: If Black box is at 2<sup>nd</sup> position-**

Box number	Color
1	
2	Black
3	
4	White
5	Pink
6	Blue
7	
8	

- There is one box between green and red box. The green box is placed above red box. Green box must be at 1<sup>st</sup> and Red box must be at 3<sup>rd</sup> position.

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	
8	

- The number of boxes is between Yellow and Pink box is same as Brown and Blue box. So Yellow box must be at 7<sup>th</sup> and Brown box must be at 8<sup>th</sup> position.

**Here is the final table:**

Box number	Color
1	Green
2	Black
3	Red
4	White
5	Pink
6	Blue
7	Yellow
8	Brown

81. Ans. C.

$$K > R = L, P > L, R \geq S$$

$$L = R \geq S$$

**Conclusions:**

**I.**  $S < L$

**II.**  $L = S$

This forms a complementary pair - S is either smaller or equal to L. Hence, the correct option is Either conclusion I or conclusion II follows.

82. Ans. A.

$$Z < L < W = N = K \leq A$$

For conclusion I -

$$L < W = N = K \leq A -$$

$$L < K \leq A$$

I.  $A > L$  (true) - It is clear that A is greater than L.

**For conclusion II -**

II.  $Z = A$  (false)  $Z = A$  is not confirm, so this is false.

Hence, only conclusion I follow.

83. Ans. A.

$$Y > A < N, Y = B < P$$

$$P > B = Y > A < N$$

For conclusion I -

$$P > B = Y > A$$

$$P > Y > A$$

I.  $P > A$  (True) P is greater than A is true.

For conclusion II -

$$B = Y > A < N$$

II.  $N > B$  (false) There is no relation between N and B.

Hence, only conclusion I follow.

84. Ans. B.

$$X = M < A < S = T < R$$

**Conclusions:**

For conclusion I -  $M < A < S = T$  - There is no relation between M and T.

I.  $M = T$  (false)

For conclusion II -

$$A < S = T < R$$

II.  $R > A$  (True) - R is greater than A.

Hence, only conclusion II follow.

85. Ans. D.

$$A = M > P, N > R, A > T$$

I.  $T = P$  (false) There is no relation between T and P.

For conclusion II -

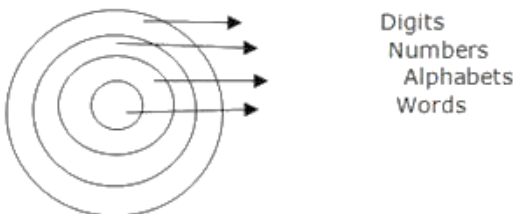
$$A = M > P, N > R$$

II.  $R < A$  (false) - there is no relation between R and A.

Hence, neither conclusion I nor II follows.

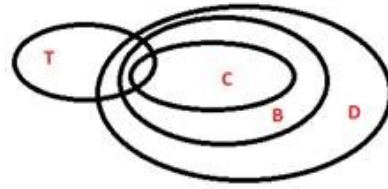
86. Ans. A.

The Venn Diagram for the above relation is:



When all the statements are positive, negative statement does not follow.

87. Ans. E.

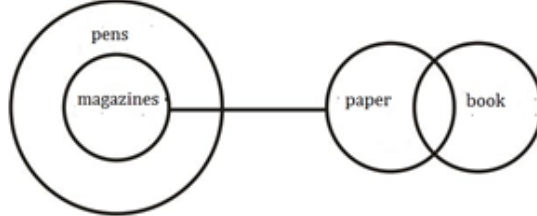


88. Ans. E.



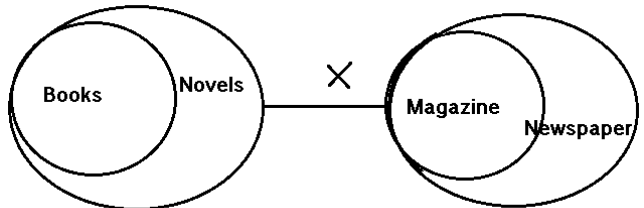
From the above diagram, Either II or III and I follow.

89. Ans. A.



Some books (common part of paper and magazines) are definitely not magazines.

90. Ans. A.



All book are novels and no novel is magazine. So, no book is magazine follows.

Some newspapers are novels does not follow, as all magazine are newspapers and no magazine is novel.

91. Ans. A.

A	Tuesday	Red
B	Wed	Black
C	Sunday	Pink
D	Wed	Green
E	Tuesday	Orange
F	Sunday	Blue
G	Sunday	Brown

B likes Black

92. Ans. B.

A	Tuesday	Red
B	Wed	Black
C	Sunday	Pink
D	Wed	Green
E	Tuesday	Orange
F	Sunday	Blue
G	Sunday	Brown

G-Sunday-Brown

93. Ans. B.

A	Tuesday	Red
B	Wed	Black
C	Sunday	Pink
D	Wed	Green
E	Tuesday	Orange
F	Sunday	Blue
G	Sunday	Brown

C,F,G

94. Ans. E.

A	Tuesday	Red
B	Wed	Black
C	Sunday	Pink
D	Wed	Green
E	Tuesday	Orange
F	Sunday	Blue
G	Sunday	Brown

E likes Orange color.

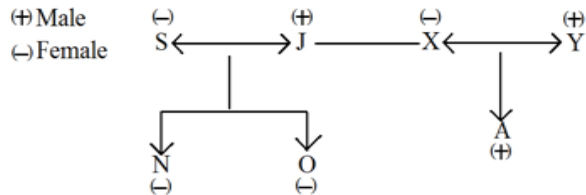
95. Ans. B.

A	Tuesday	Red
B	Wed	Black
C	Sunday	Pink
D	Wed	Green
E	Tuesday	Orange
F	Sunday	Blue
G	Sunday	Brown

B goes to picnic on Wednesday.

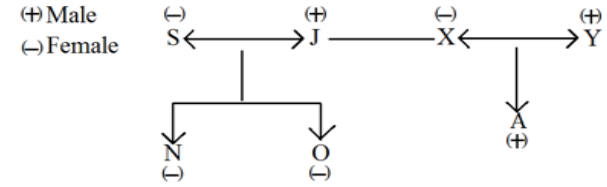
96. Ans. B.

as seen from the diagram, O is the niece of X.

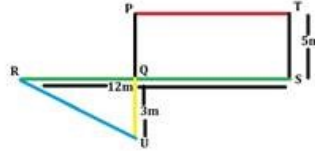


97. Ans. B.

as seen from the diagram A is the cousin of N.



98. Ans. D.



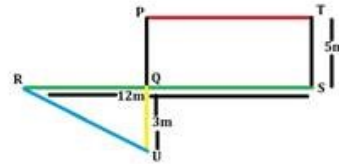
$PQ = TS = 5m$

So,

$PU = PQ + QU$

$PU = 5m + 3m = 8m$

99. Ans. C.



**Point R is in south west direction with respect to point T.**

100. Ans. E.



There are four pairs (or,no,nr,,hn)

\*\*\*