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# English

## Instructions

Rearrange the following six sentences (A), (B), (C), (D), (E) and (F) in the proper sequence to form a meaningful paragraph, then answer the given questions.

(A) When these millennium development goals were first formulated in 1990, 53.5 percent of all Indian children were malnourished.

(B) This would still be below that target of reducing malnourishment to 28.6 percent.

(C) India has been moderately successful in reducing poverty.

(D) Since then, progress has been slow.

(E) Today, it is estimated that malnourishment could decline to 40 percent by the end of 2015.

(F) However, eradicating hunger along with malnourishment still remains a key challenge, according to the millennium Development Goals.

## Question 1

Which of the following should be the fourth sentence after rearrangement ?

A A

B B

C C

D E

E D

Answer: E

## Question 2

Which of the following should be the third sentence after rearrangement ?

A A

B B

C F

D D

E E

Answer: A

### Question 3

Which of the following should be the second sentence after rearrangement ?

A A

B B

C C

D D

E F

Answer: E

### Question 4

Which of the following should be the first sentence after rearrangement ?

A A

B B

C C

D D

E E

Answer: C

### Question 5

Which of the following should be the last (sixth) sentence after rearrangement ?

A A

B F

C D

D C

E B

Answer: E

Instructions

Read the following passage carefully and answer the questions given.

Certain words/phrases have been given in bold to help you locate them while answering some of the questions.

From a technical and economic perspective, many assessments have highlighted the presence of cost-effective opportunities to reduce energy use in buildings. However several bodies note the significance of multiple barriers that prevent the take-up of energy efficiency measures in buildings. These include lack of awareness and concern, limited access to reliable information from trusted sources, fear about risk, disruption and other ‘transaction costs’ concerns about up-front costs and inadequate access to suitably priced finance, a lack of confidence in suppliers and technologies and the presence of split incentives between landlords and tenants. The widespread presence of these barriers led experts to predict that without a **concerted** push from policy, two-thirds of the economically viable potential to improve energy efficiency will remain **unexploited** by 2035. These barriers are **albatross around the neck** that represent a classic market failure and a basis for governmental intervention. While these measurements focus on the technical, financial or economic barriers preventing the take-up of energy efficiency options in buildings, others emphasise the significance of the often deeply embedded social practices that shape energy use in buildings. These analyses focus not on the preferences and rationalities that might shape individual behaviours, but on the ‘entangled’ cultural practices, norms, values and routines that **underpin** domestic energy use. Focusing on the practice-related aspects of consumption generates very different conceptual framings and policy prescriptions than those that emerge from more traditional or mainstream perspectives. But the underlying case for government intervention to help to promote retrofit and the diffusion of more energy efficient particles is still apparent, even though the forms of intervention advocated are often very different to those that emerge from a more technical or economic perspective. Based on the recognition of the multiple barriers to change and the social, economic and environmental benefits that could be realised if they were overcome, government support for retrofit (renovating existing infrastructure to make it more energy efficient) has been widespread. Retrofit programmes have been supported and adopted in diverse forms in many setting and their ability to recruit householders and then to impact their energy use has been discussed quite extensively. Frequently, these discussions have criticised the extent to which retrofit schemes rely on incentives and the provision of new technologies to change behaviour whilst ignoring the many other factors that might limit either participation in the schemes or their impact on the behaviours and practices that shape domestic energy use. These factors are obviously central to the success of retrofit schemes, but evaluations of different schemes have found that despite these they can still have significant impacts. Few experts that the best estimate of the gap between the technical potential and the actual in-situ performance of energy efficiency measures is 50%, with 35% coming from performance gaps and 15% coming from ‘comfort taking’ or direct rebound effects. They further suggest that the direct rebound effect of energy efficiency measures related to household heating is likely to be less than 30% while rebound effects for various domestic energy efficiency measures vary from 5 to 15% and arise mostly from indirect effects (i.e., where savings from energy efficiency lead to increased demand for goods and services). Other analyses also note that the gap between technical potential and actual performance is likely to vary by measure, with the range extending from 0% for measures such as solar water heating to 50% for measures such as improved heating controls. And others note that levels of comfort taking are likely to vary according to the levels of consumption and fuel poverty in the sample of homes where insulation is installed, with the range extending from 30% when considering homes across all income groups to around 60% when considering only lower income homes. The scale of these gaps is significant because it materially affects the impacts of retrofit schemes and expectations and perceptions of these impacts go on to influence levels of political, financial and public support for these schemes. The literature on retrofit highlights the presence of multiple barriers to

change and the need for government support, if these are to be overcome. Although much has been written on the extent to which different forms of support enable the wider take-up of domestic energy efficiency measures, behaviours and practices, various areas of contestation remain and there is still an absence of **robust** ex-post evidence on the extent to which these schemes actually do lead to the social, economic and environmental benefits that are widely claimed.

#### Question 6

Which of the following is most nearly the **OPPOSITE** in meaning to the word '**CONCERTED**' as used in the passage ?

- A collaborative
- B piled
- C subtracting
- D necessary
- E weak

**Answer: E**

#### Question 7

Which of the following is most nearly the **OPPOSITE**; in meaning to the word '**ROBUST**' as used in the passage ?

- A manual
- B loose
- C vogue
- D flimsy
- E flexible

**Answer: D**

#### Question 8

Which of the following is most nearly the same in meaning to the word '**UNEXPLOITED**' as used in the passage ?

- A untapped
- B unanswered

- C explored
- D developed
- E vacant

**Answer: A**

#### Question 9

**The title for the given passage could be.....**

- A How to measure the impact of Retrofit programmes of energy conservation.
- B Barriers to effective usages of energy.
- C Views of stalwarts on disadvantages of Retrofit programmes.
- D Existing practices of conserving energy.
- E How much energy is to be consumed.

**Answer: B**

#### Question 10

**According to the author, to make programmes for conserving energy more successful.....**

- (A) only latest technology must be employed.
- (B) the author's country must adhere to norms followed in countries where such programmes have been successful.
- (C) change must be brought in the attitudes of people with respect to efficient usage of energy.

- A Only A
- B Only B
- C Only C
- D Both A and B
- E Both B and C

**Answer: C**

#### Question 11

**Which of the following is most nearly the SAME in meaning to word 'UNDERPIN' as used in the passage ?**

- A undermine

- B determine
- C criticise
- D abandon
- E dispose

**Answer: B**

### Question 12

**Which of the following is TRUE in the context of the passage ?**

- A Employing retrofit programmes is relatively a new concept and is yet to become popular.
- B The Government so far has been least supportive of retrofit programmes.
- C Lack of trust on landlords has been cited as one of the major barriers to employing energy efficiency schemes.
- D Retrofit schemes are dependent on incentives to bring attitudinal change towards energy efficiency schemes.
- E All the given statements are true.

**Answer: D**

### Question 13

**What is the author trying to convey through the phrase 'albatross around the neck' as used in the passage ?**

- A As light as a bird
- B Prevent from achieving success
- C Are worthless
- D Act as controllers
- E Always provide adequate guidance

**Answer: B**

#### Question 14

The author in the given passage is .....

- (A) of the view that no amount of efforts can bring about in employing energy efficiency schemes in his country.
- (B) positive that more evidence on retrofit schemes is essential to make people more aware and sensitive towards them.
- (C) cynical about the present state of energy efficiency measures taken in his country.

- A Only A
- B Only B
- C Only C
- D Both A and B
- E Both B and C

Answer: B

#### Question 15

As mentioned in this passage and according to the experts, in order to exploit potential to better energy efficiency measures

- A availability of sufficient funding is a must.
- B availability of reliable information from dependable source must be ensured.
- C adequate and trustworthy suppliers of energy must be made available.
- D governmental support by implementing adequate policies is essential.
- E All those given as options

Answer: E

#### Instructions

Each of the following questions has two blanks, each blank indicating that something has been omitted. Choose the set of words for each blank that fits the meaning of the sentence as a whole.

#### Question 16

Owners of private hostels located in residential areas are not only..... taxes but are also functioning whimsically in the..... of any regulatory body.

- A avoiding, front



- B paying, presence
- C checking, dearth
- D evading, absence
- E destroying, life

**Answer: D**

#### **Question 17**

**Contractors across the State have .....to stop work on the scheme after the Minister failed to give them concrete.....of timely payment.**

- A thought, prove
- B decided, assurance
- C wished, demand
- D started, guarantee
- E determined, promise

**Answer: B**

#### **Question 18**

**Every third person visiting a doctor happens to..... from a clinical or psychological disorder..... with ternblors.**

- A ail, regarding
- B sick, related
- C suffer, associated
- D agonies, respect
- E experience, connected

**Answer: C**

#### **Question 19**

**.....makes the actress trip to the country different this year is..... that she is to raise funds for the biopic of a literary icon.**

- A It, aiming
- B Which, trying
- C This, attempting
- D What, looking
- E How, waiting

**Answer: D**

#### **Question 20**

.....to out in vehicles while remaining stuck in a traffic snarl for hours, has become a.....  
matter for commuters.

- A Sweating, routine
- B Waiting, everyday
- C Thinking, regular
- D Harrowing, habitual
- E Fretting, practice

**Answer: A**

#### **Instructions**

Read each sentence to find out whether there is any grammatical mistake/ error in it. The error, if any, will be in one part of the sentence. Select the part with the error as your answer. If there is no error, select 'No error' as your answer. (Ignore the errors of punctuation, if any)

#### **Question 21**

**He identified the most important machines required (a)/ for modern life and worked in making a prototype (b)/ 'do it yourself version of each because he believed that if people (c)/ could build these themselves, it would improve their way of life (d)/ No error (e).**

- A He identified the most important machines required
- B for modern life and worked in making a prototype
- C 'do it yourself version of each because he believed that if people
- D could build these themselves, it would improve their way of life

**E** No Error

**Answer: B**

**Question 22**

**Natural disasters will not turn into a catastrophe (a)/ if we invest in building infrastructure that (b)/ can withstand the devastating impacts of storm (c)/ which have become more severe (d)/ No error (e).**

**A** Natural disasters will not turn into a catastrophe

**B** if we invest in building infrastructure that

**C** can withstand the devastating impacts of storm

**D** which have become more severe

**E** No Error

**Answer: D**

**Question 23**

**Many goods are being manufactured quickly without (a)/ any regard for quality and as consumers we must be (b)/ aware of our rights and the government (c)/ should penalise them who indulge in unscrupulous business practices (d)/ No error (e).**

**A** Many goods are being manufactured quickly without

**B** any regard for quality and as consumers we must be

**C** aware of our rights and the government

**D** should penalise them who indulge in unscrupulous business practices

**E** No Error

**Answer: E**

**Question 24**

**The European Central Bank has said that if all (a)/ Eurozone nation continue to carry out (b)/ economic reforms as Portugal and Ireland have (c)/ Central Bank will guarantee future bailouts (d)/ No error (e).**

**A** The European Central Bank has said that if all

**B** Eurozone nation continue to carry out

**C** economic reforms as Portugal and Ireland have

D Central Bank will guarantee future bailouts

E No Error

**Answer: B**

### Question 25

While farmers are struggling (a)/ to cope with severe drought (b)/ crop companies are researched (c)/ ways to breed crops that thrive in drought (d)/ No error (e).

A While farmers are struggling

B to cope with severe drought

C crop companies are researched

D ways to breed crops that thrive in drought

E No Error

**Answer: C**

### Instructions

In the given passage there are blanks, each of which has been numbered. Against each five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

One World Trade Centre is viewed as a statement of hope, a marvel of persistence and a miracle of logistics. As years passed after the tragedy at the site at which it was since constructed and the delays kept mounting. Americans began to \_\_\_\_1\_\_\_\_ what's taking so long ? Have we lost the capacity to rebuild ? The answer in part was the sheer \_\_\_\_2\_\_\_\_ of the project – 10000 workers at-tempting one of the most difficult construction projects ever in one of the most densely populated cities on Earth \_\_\_\_3\_\_\_\_ the funds allotted for the project were estimated as \$ 1.5 billion when he design was unveiled but the price tag just kept going up. Other \_\_\_\_4\_\_\_\_ included the weather in the harsh sun of summer the steel beams could reach temperatures that were not enough to singe skin added to which a hurricane \_\_\_\_5\_\_\_\_ the construction site. The monument may not be all things to all people, but its completion signifies that ambition coupled with determination of people in the face of odds is intact and will always win the day.

### Question 26

(1)

A understand

B anger

C wonder

D sense

**E** questions

**Answer:** C

**Question 27**

**(2)**

**A** complexity

**B** delight

**C** knowing

**D** drop

**E** obsession

**Answer:** A

**Question 28**

**(3)**

**A** When

**B** Despite

**C** Instead

**D** Exclusive

**E** Moreover

**Answer:** E

**Question 29**

**(4)**

**A** advantages

**B** information

**C** challenges

**D** attempts

**E** crisis

Answer: C

### Question 30

(5)

- A formed
- B affected
- C predicted
- D hazard
- E flooded

Answer: E

## Quant

### Instructions

Refer to the graph and answer the given questions.

Data related to number of books purchased for two libraries (A and B) during 6 years



### Question 31

What is the respective ratio between total number of books purchased for libraries A and B together in 2003 and total number of books purchased for the same libraries together in 2007 ?

A 22 : 31

B 24 : 31

C 11 : 17

D 11 : 19

E 22 : 35

Answer: A

Explanation:

Year	A	B
2003	640	240
2004	160	360
2005	380	600
2006	800	680
2007	760	480
2008	520	840

Total number of books purchased for libraries A and B together in 2003 = 640+240.  
=880.

Total number of books purchased for the same libraries together in 2007 = 760+480.  
1240.

Hence, Ratio =  $\frac{880}{1240}$ .  
 $=\frac{22}{31}$ .

Hence, Option A is correct.

### Question 32

What is the average number of books purchased for library A during 2004, 2005, 2007 and 2008 ?

A 465

B 455

C 460

D 445

E 450

Answer: B

**Explanation:**

Year	A	B
2003	640	240
2004	160	360
2005	380	600
2006	800	680
2007	760	480
2008	520	840

Average number of books purchased for library A during 2004, 2005, 2007 and 2008 =

$$\frac{160+380+760+520}{4} = 455.$$

Therefore, Option B is correct.

### Question 33

Out of the total number of books purchased by libraries A and B together in 2008, only 20% are graphic novels. What is the total number of graphic novels purchased for libraries A and B together in 2008 ?

A 324

B 312

C 272

D 336

E 288

**Answer: C**

**Explanation:**

Year	A	B
2003	640	240
2004	160	360
2005	380	600
2006	800	680
2007	760	480
2008	520	840

Total number of books purchased by libraries A and B together in 2008 = 520+840.  
= 1360.

It is given that graphic novels are 20% of total number of books purchased by libraries A and B together in 2008.

Hence, total no. of graphic novels =  $1360 \times 0.2$  .  
= 272.

Hence, Option C is correct.



### Question 34

The number of books purchased for library B increased by what percent from 2003 to 2006 ?

- A  $175\frac{1}{3}$
- B  $172\frac{1}{3}$
- C  $196\frac{2}{3}$
- D  $183\frac{1}{3}$
- E  $194\frac{2}{3}$

Answer: D

Explanation:

Year	A	B
2003	640	240
2004	160	360
2005	380	600
2006	800	680
2007	760	480
2008	520	840

Number of books purchased for library B in 2003 = 240.

Number of books purchased for library B in 2006 = 680

Percentage increase =  $\frac{680-240}{240} \times 100$ .

$= \frac{550}{3} \%$ .

$= 183\frac{1}{3} \%$ .

Hence, Option D is correct.

### Question 35

The number of books purchased for library B in 2003 is what percent of the number of books purchased for library A in 2006 ?

- A 30
- B 35
- C 55
- D 40
- E 45

Answer: A

**Explanation:**

Year	A	B
2003	640	240
2004	160	360
2005	380	600
2006	800	680
2007	760	480
2008	520	840

Number of books purchased for library B in 2003=240.

Number of books purchased for library A in 2006=800.

$$\text{Percentage} = \frac{240}{800} \times 100.$$

=30 %.

Hence, Option A is correct.

**Instructions**

In these questions two equations numbered I and II are given. You have to solve both the equations and give answer

a: if  $x < y$

b: if  $x > y$

c: if  $x = y$

d: if  $x = y$

e: if  $x = y$  or relationship between  $x$  and  $y$  cannot be established

**Question 36**

**I.**  $2x^2 + 23x + 63 = 0$

**II.**  $4y^2 + 19y + 21 = 0$

**A** if  $x < y$

**B** if  $x > y$

**C** if  $x = y$

**D** if  $x \leq y$

**E** if  $x = y$  or relationship between  $x$  and  $y$  cannot be established

**Answer: A**

**Explanation:**

$$2x^2 + 23x + 63 = 0$$

$$x = \frac{-23 \pm \sqrt{23^2 - 4 \times 63 \times 2}}{2 \times 2}$$

$$x = \frac{-23 \pm 5}{4}$$

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

$$4y^2 + 19y + 21 = 0$$

$$y = \frac{-19 \pm \sqrt{19^2 - 4 \times 21 \times 4}}{2 \times 4}.$$

$$y = \frac{-19 \pm 5}{8}.$$

$$y = -3, \quad \frac{(-7)}{4}.$$

Clearly,

$$x < y$$

Hence, Option A is correct.

### Question 37

I.  $3x^2 + 29x + 56 = 0$

II.  $2y^2 + 15y + 25 = 0$

A if  $x < y$

B if  $x > y$

C if  $x = y$

D if  $x \leq y$

E if  $x = y$  or relationship between  $x$  and  $y$  cannot be established

**Answer: A**

### Explanation:

$$3x^2 + 29x + 56 = 0.$$

$$x = \frac{-29 \pm \sqrt{29^2 - 4 \times 56 \times 3}}{2 \times 3}$$

$$x = \frac{-29 \pm 13}{6}.$$

$$x = \frac{-8}{3}, -7.$$

$$2y^2 + 15y + 25 = 0.$$

$$y = \frac{-15 \pm \sqrt{15^2 - 4 \times 25 \times 2}}{2 \times 2}.$$

$$y = \frac{-15 \pm 5}{4}.$$

$$y = -5, \quad \frac{(-5)}{2}.$$

Clearly,

$$x < y$$

Hence, Option A is correct.

### Question 38

I.  $3x^2 + 23x + 44 = 0$

II.  $3y^2 + 20y + 33 = 0$

A if  $x < y$

B if  $x > y$

C if  $x = y$

D if  $x \leq y$

E if  $x = y$  or relationship between  $x$  and  $y$  cannot be established

**Answer: D**

**Explanation:**

$$3x^2 - 23x + 44 = 0$$

$$x = \frac{-23 \pm \sqrt{23^2 - 4 \times 44 \times 3}}{2 \times 3}$$

$$x = \frac{-23 \pm 1}{6}$$

$$x = \frac{-11}{3}, -4$$

$$3y^2 + 20y + 33 = 0$$

$$y = \frac{-20 \pm \sqrt{20^2 - 4 \times 33 \times 3}}{2 \times 3}$$

$$y = \frac{-20 \pm 2}{6}$$

$$y = -3, \frac{(-11)}{3}$$

Clearly,

$$x \leq y$$

Hence, Option D is correct.

**Question 39**

I.  $4x^2 - 29x + 45 = 0$

II.  $3y^2 - 19y + 28 = 0$

A if  $x < y$

B if  $x > y$

C if  $x = y$

D if  $x \leq y$

E if  $x = y$  or relationship between  $x$  and  $y$  cannot be established

**Answer: E**

**Explanation:**

$$4x^2 - 29x + 45 = 0$$

$$x = \frac{29 \pm \sqrt{29^2 - 4 \times 45 \times 4}}{2 \times 4}$$

$$x = \frac{29 \pm 3}{8}$$

$$x = \frac{13}{4}, 4$$

$$3y^2 - 19y + 28 = 0$$

$$y = \frac{19 \pm \sqrt{19^2 - 4 \times 28 \times 3}}{2 \times 3}$$

$$y = \frac{19 \pm 5}{6}$$

$$y = 4, \frac{7}{3}$$

Clearly,

if  $x = y$  or relationship between  $x$  and  $y$  cannot be established

Hence, Option E is correct.

**Question 40**

**I.**  $2x^2 - 13x + 21 = 0$

**II.**  $5y^2 - 22y + 21 = 0$

- A** if  $x < y$
- B** if  $x > y$
- C** if  $x \Rightarrow y$
- D** if  $x \leq y$
- E** if  $x = y$  or relationship between  $x$  and  $y$  cannot be established

**Answer: C**

**Explanation:**

$$2x^2 - 13x + 21 = 0$$

$$x = \frac{13 \pm \sqrt{13^2 - 4 \times 21 \times 2}}{2 \times 2}$$

$$x = \frac{13 \pm 1}{4}$$

$$x = \frac{7}{2}, 3$$

$$5y^2 - 22y + 21 = 0$$

$$y = \frac{22 \pm \sqrt{22^2 - 4 \times 21 \times 5}}{2 \times 5}$$

$$y = \frac{22 \pm 8}{10}$$

$$y = 3, \frac{7}{5}$$

Clearly,

$$x \Rightarrow y$$

Hence, Option C is correct.

**Instructions**

For the following questions answer them individually

**Question 41**

A, B and C start a small business. A contributes 1/5th of the total capital invested in the business. B contributes as much as A and C together. Total profit at the end of the year was Rs. 5,200. What was C's profit share ? (in Rupees)

**A** 1510

**B** 2510

**C** 1500

**D** 2560

**E** 1560

**Answer: E**

**Explanation:**

Let total contribution by A,B and C be '5x'.

$$\text{A's contribution} = \frac{1}{5} \times 5x.$$

$$=x.$$

Let B's contribution be 'y'

$$\text{A's contribution} + \text{B's contribution} + \text{C's contribution} = 5x.$$

$$x + y + \text{C's contribution} = 5x.$$

$$\text{C's contribution} = 4x - y.$$

It is given that,

$$\text{A's contribution} + \text{C's contribution} = \text{B's contribution}.$$

$$x + 4x - y = y.$$

$$5x = 2y.$$

$$\text{A's contribution} = x.$$

$$\text{B's contribution} = 5x/2.$$

$$\text{C's contribution} = 4x - 5x/2 = 3x/2.$$

$$\text{A's contribution} : \text{B's contribution} : \text{C's contribution} = 1 : \frac{5}{2} : \frac{3}{2}$$

$$= 2:5:3.$$

Since time for contribution is same, therefore, their profit share must be in ratio of their contribution.

$$\text{Total profit} = 5200.$$

$$\text{C's profit} = \frac{3}{10} \times 5200.$$

$$= 1560.$$

Hence, Option E is correct.

**Instructions**

What will come in place of the question mark (?) in the given number series ?

**Question 42**

17, 19, 25, 37, ?, 87

A 63

B 52

C 55

D 67

E 57

**Answer: E**

**Explanation:**

The pattern in the series is,

$$17 + 1 \times 2 = 19$$

$$19 + 2 \times 3 = 25$$

$$25 + 3 \times 4 = 37$$

$$37 + 4 \times 5 = 57 \quad .$$

$$57 + 5 \times 6 = 87 \quad .$$

Hence, Option E is the correct answer.

#### Question 43

61, 82, 124, 187, ?, 376

A 271

B 263

C 257

D 287

E 249

**Answer: A**

#### Explanation:

The pattern in the series is,

$$61 + 21 = 82 \quad .$$

$$82 + (21 \times 2) = 82 + 42 = 124 \quad .$$

$$124 + (21 \times 3) = 124 + 63 = 187 \quad .$$

$$187 + (21 \times 4) = 187 + 84 = 271 \quad .$$

$$271 + (21 \times 5) = 271 + 105 = 376 \quad .$$

Hence, Option A is the correct answer.

#### Question 44

23, 30, 46, 80, 141, ?

A 244

B 212

C 226

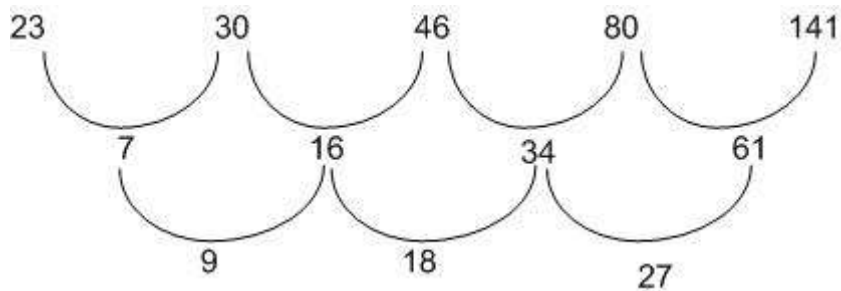
D 220

E 238

**Answer: E**

#### Explanation:

The pattern followed by series is,



Hence the next term will be =  $61 + 36 + 141$ .  
 $= 238$ .

Therefore, Option E is correct.

#### Question 45

179, 180, 172, 199, 135, ?

A 236

B 272

C 240

D 256

E 260

**Answer: E**

#### Explanation:

The series follows a pattern:

$$179 + 1^3 = 180.$$

$$180 - 2^3 = 172.$$

$$172 + 3^3 = 199.$$

$$199 - 4^3 = 135.$$

$$\text{Hence, Next term in the series will be} = 135 + 5^3 = 260.$$

Therefore, Option E is correct.

#### Question 46

14, 6, 5, 6.5, 12, ?

A 29

B 27

C 23

D 33

E 35



**Answer: A**

**Explanation:**

14, 6, 5, 6.5, 12, ?

Let unknown quantity be 'x'.

The series is  $(14 \times 0.5 - 1), (6 \times 1 - 1), (5 \times 1.5 - 1), (6.5 \times 2 - 1), \dots$

Hence,  $x = 12 \times 2.5 - 1$

$x = 29$

Hence, Option A is correct.

**Instructions**

For the following questions answer them individually

**Question 47**

A project manager hired 16 men to complete a project in 38 days. However, after 30 days, he realized that only 5/9th of the work is complete. How many more men does he need to hire to complete the project on time ?

A 48

B 24

C 32

D 16

E 36

**Answer: C**

**Explanation:**

It is clear from the question,

16 men do 5/9th of work in 30 days.

Let 'n' no. of more men are required to complete the remaining work.

Hence,  $(n+16)$  men do 4/9th of work in 8 days.

We know that,

$$\frac{\text{Amount of work}}{\text{No. of men} \times \text{No. of days}} = \text{Constant}$$

Hence,

$$\frac{5/9}{16 \times 30} = \frac{4/9}{(n+16) \times 8}$$

$n = 32$

Hence, Option C is correct.

**Question 48**

A took a certain sum as loan from bank at a rate of 8% simple interest per annum. A lends the same amount to B at 12% simple interest per annum. If at the end of five years, A made profit of Rs. 800 from the deal, how much was the original sum ?

A Rs. 6,500

B Rs. 4,000

C Rs. 6,200

D Rs. 6,000

E Rs. 4,500

**Answer: B**

**Explanation:**

Let the original sum be Rs.  $x$ .

Interest A paid to bank =  $\frac{x \times 8 \times 5}{100}$ .

Interest B paid to A =  $\frac{x \times 12 \times 5}{100}$ .

Therefore, profit made by A = Interest B paid to A - Interest A paid to bank.

$$800 = \frac{20x}{100}$$

$$800 = \frac{x}{5}$$

$$x = 4000$$

Hence, Option B is correct.

**Question 49**

A wholesaler blends two varieties of tea, one costing Rs. 60 per kilogram and another costing Rs. 105 per kilogram. The respective ratio of quantities they were mixed in was 7 : 2. If he sold the mixed variety at Rs. 100 per kilogram, how much was his profit percentage ?

A  $34\frac{2}{7}$

B  $38\frac{2}{5}$

C  $32\frac{2}{5}$

D  $42\frac{6}{7}$

E  $48\frac{6}{7}$

**Answer: D**

**Explanation:**

Let wholesaler mixed 7 kg and 2 kg of tea of variety 60 Rs/kg and 105 Rs/kg respectively.

Cost of tea of variety 60 Rs/kg =  $60 \times 7$ .

=Rs. 420.

Cost of tea of variety 105 Rs/kg =  $105 \times 2$ .

=Rs. 210.

Total cost =  $420 + 210$ .

=630.

Selling price =  $9 \times 100$ .

= 900.

Profit percentage =  $\frac{900-630}{630} \times 100$ .

=  $\frac{300}{630}$ .

=  $42\frac{6}{7}$ .

Hence, Option D is correct.

#### Question 50

Joe's present age is  $\frac{2}{7}$  th of his father's present age. Joe's brother is 3 years older than Joe. The respective ratio between present ages of Joe's father and Joe's brother is 14 : 5. What is Joe's present age ?

A 6 years

B 15 years

C 12 years

D 18 years

E 20 years

**Answer: C**

#### Explanation:

Let Joe's father's age be  $7x$  years.

Joe's age =  $\frac{2}{7} \times 7x = 2x$  years.

Joe's brother's age =  $2x + 3$  years.

$\frac{\text{Joe's father's age}}{\text{Joe's brother's age}} = \frac{14}{5}$ .

$\frac{7x}{2x+3} = \frac{14}{5}$ .

$x = 6$ .

Hence, Joe's age = 12 years.

Therefore, Option C is correct.

#### Question 51

In a 90 litres mixture of milk and water, percentage of water is only 30%. The milkman gave 18 litres of this mixture to a customer and then added 18 litres of water to the remaining mixture. What is the percentage of milk in the final mixture ?

A 64

B 48

C 52

D 68

E 56

Answer: E

**Explanation:**

In 90 liters of mixture,

$$\text{Amount of water} = \frac{90 \times 30}{100}.$$

=27 liters.

$$\text{Amount of milk} = \frac{90 \times 70}{100}.$$

=63 liters.

Similarly, in 18 liters of mixture,

$$\text{Amount of water} = \frac{18 \times 30}{100}.$$

=5.4 liters.

$$\text{Amount of milk} = \frac{18 \times 70}{100}.$$

=12.6 liters.

After removing 18 liters of solution,

$$\text{Amount of water} = 27 - 5.4 = 21.6 \text{ liters.}$$

$$\text{Amount of milk} = 63 - 12.6 = 50.4 \text{ liters.}$$

After adding 18 liters of water,

$$\text{Amount of water in the solution} = 21.6 + 18 = 39.6 \text{ liters.}$$

$$\text{Hence, Percentage of milk in solution} = \frac{50.4}{50.4 + 39.6} \times 100.$$

=56%.

Hence, Option E is correct.

**Question 52**

A bag contains 4 red balls, 6 green balls and 5 blue balls. If three balls are picked at random, what is the probability that two of them are green and one of them is blue in colour ?

A  $\frac{20}{91}$

B  $\frac{10}{91}$

C  $\frac{15}{91}$

D  $\frac{5}{91}$

E  $\frac{25}{91}$

Answer: C

**Explanation:**

Probability of drawing blue ball in first attempt =  $5/15$

Probability of drawing two green balls in the next two attempts =  $(6/14)(5/13)$

Probability of drawing 2 green and 1 blue ball =  $(5/15)(6/14)(5/13) = 150/2730$

Probability of drawing green ball in first attempt =  $6/15$

Probability of drawing blue ball in the next attempt =  $(5/14)$

Probability of drawing green ball in the next attempt =  $(5/13)$

Probability of drawing 2 red and 1 green ball =  $(6/15)(5/14)(5/13) = 150/2730$

Probability of drawing two green balls in first two attempts =  $(6/15)(5/14)$

Probability of drawing blue ball in the next attempt =  $(5/13)$

Probability of drawing 2 red and 1 green ball =  $(6/15)(5/14)(5/13) = 150/2730$

Probability of drawing 2 red balls and 1 green ball =  $150/2730 + 150/2730 + 150/2730 = 3(150/2730) = 150/910 = 15/91$

Option C is the correct answer

### Question 53

A rectangular plot 55 m long and 45 m broad, has two concrete crossroads (of equal width) running in the middle of it - one parallel to the length and the other parallel to the breadth. The rest of the plot is used as a lawn. If the area of the lawn is 1911 m<sup>2</sup>, what is the width of each of the crossroads ? (in m)

A 5

B 5.5

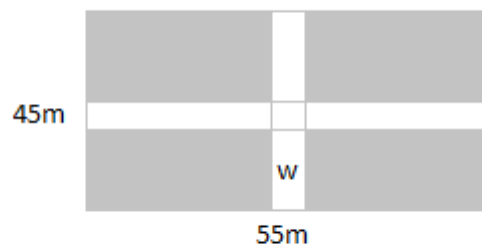
C 6

D 4

E 4.5

Answer: C

Explanation:



Let  $w$  be the width of the crossroads.

Area of the one shaded portion =  $[(55-w)/2][(45-w)/2]$

Area of the entire shaded portion =  $4 \times$  Area of the one shaded portion =  $(55-w)(45-w) = 2475 - 55w - 45w + w^2$

Given Area of lawn (shaded portion) = 1911 m<sup>2</sup>

$$2475 - 55w - 45w + w^2 = 1911$$

$$w^2 - 100w + 564 = 0$$

Solving for  $w$ , we get  $w=6$  and  $w=94$ .

$w=6$  is the only possible answer.

Hence Option C is the correct answer.

#### Question 54

Two stations, A and B are 850 km apart from each other. One train starts from station A at 5 am and travels towards station B at 62 kmph. Another train starts from station B at 7 am and travels towards station A at 59 kmph. At what time will they meet

- A 1 pm
- B 11 : 45 am
- C 12 : 30 pm
- D 1 : 30 pm
- E None of these

**Answer:** A

#### Explanation:

At 7am the distance between the two trains will be 726kms.

Since the trains are moving in opposite directions, the relative speed is the sum of individual speeds.

The relative speed is 121kmph. and the distance is 726 kms.

The time taken to cover 726kms at a speed of 121kmph is nothing but the time taken by the two trains to meet each other.

Time taken to meet =  $726/121 = 6$  hours

Hence the trains would meet at 1:00 pm.

Hence Option A is the correct answer.

#### Question 55

Abhay gave 30% of his money to Vijay. Vijay gave  $\frac{2}{3}$ rd of what he received to his mother. Vijay's mother gave  $\frac{5}{8}$ th of the money she received from Vijay, to the grocer. Vijay's mother is now left with Rs. 600. How much money did Abhay have initially ?

- A Rs: 6,200
- B Rs. 8,000
- C Rs. 6,000
- D Rs. 8,200
- E Rs 10,200

**Answer:** B

#### Explanation:

Let the amount with Abhay, Vinay, Vinay's mother and grocer be  $A, V, V_m$  and  $G$  respectively  
From the data given in question

$$V = \frac{3}{10}A$$

$$V_m = \frac{2}{3}V = \frac{2}{3} \times \frac{3}{10}A$$

$$C = \frac{5}{8}V_m$$

Vinay's mother has 600 left after giving money to the grocer.

$$\frac{3}{8}V_m = 600$$

$$\frac{3}{8} \times \frac{2}{3} \times \frac{3}{10}A = 600$$

$$A = 8000$$

Option B is the correct answer.

### Instructions

Study the following table carefully to answer the given questions.

Data regarding number of candidates appearing for Civil Services (CS) and Engineering Services (ES)

Examinations in the years 2007, 2008, 2009, 2010 in the country XYZ

Year	Civil Services		Engineering Services	
	Total no of candidates Appeared	Graduates out of the total candidates appeared ( in % )	Total no of candidates Appeared	Graduates out of the total candidates appeared ( in % )
2007	58	75	30	52
2008	60	60	36	50
2009	70	65	52	40
2010	76	50	40	60

### Question 56

Total number of candidates who appeared for CS and ES together in 2011 was 25% more than the total number of candidates who appeared for the same together in 2010. How many female candidates appeared for both the exams together in 2011 if they formed  $\frac{2}{5}$ th of the total number of candidates appearing for both CS and ES exam that year ?

- A 52,000
- B 58,000
- C 60,000
- D 62,000
- E 64,000

**Answer: B**

### Explanation:

Total number of candidates appeared for CS and ES Exam in 2010 =  $76,000 + 40,000 = 1,16,000$

Total number of candidates appeared for CS and ES Exam in 2011 =  $1.25 \times$  Total number of candidates appeared for CS and ES Exam in 2010

$$= 1.25 \times 1,16,000 = \frac{5 \times 1,16,000}{4}$$

Total number of female candidates appeared for CS and ES Exam in 2011 =  $\left(\frac{2}{5}\right)$ th of Total number of candidates appeared for CS and ES Exam in 2011

$$= \frac{2}{5} \times \frac{5 \times 1,16,000}{4}$$

$$= \frac{1,16,000}{2} = 58,000$$

Option B is the correct answer.

#### Question 57

What is the respective ratio between the number of graduates who had appeared for ES in 2010 and the number of graduates who appeared for CS in 2010?

A 13 : 21

B 12 : 17

C 12 : 19

D 11 : 17

E 11 : 19

**Answer: C**

#### Explanation:

number of graduates who appeared for CS in 2010 = 50 % of 76,000 = 38,000

number of graduates who appeared for ES in 2010 = 60 % of 40,000 = 24,000

Ratio of number of graduates who appeared for ES in 2010 to of number of graduates who appeared for CS in 2010 = 24000 : 38000 = 12 : 19.

Hence Option C is the correct answer.

#### Question 58

Total number of graduates who appeared for ES in 2008 is what percent of the total number of graduates who appeared for CS in the same year ?

A 75

B 40

C 55

D 60

E 50

**Answer: E**

#### Explanation:

number of graduates who appeared for CS in 2008 = 60 % of 60,000 = 36,000

number of graduates who appeared for ES in 2008 = 50 % of 36,000 = 18,000

It is clear that number of graduates who appeared for ES in 2008 is 50% of number of graduates who appeared for CS in 2008.

Hence Option E is the correct answer.



### Question 59

What is the difference between the average number of candidates who appeared for CS in the year 2007 and 2008 together and average number of candidates who appeared for ES in the same years together ?

- A 38,400
- B 24,400
- C 26,000
- D 26,400
- E 24,000

**Answer:** C

#### Explanation:

the average number of candidates who appeared for CS in the year 2007 and 2008 =  $(58,000 + 60,000) / 2 = 1,18,000 / 2 = 59$

the average number of candidates who appeared for ES in the year 2007 and 2008 =  $(30,000 + 36,000) / 2 = 66,000 / 2 = 33$

Difference =  $59,000 - 33,000 = 26,000$

Option C is the correct answer.

### Question 60

What is the total number of graduates who appeared for both CS and ES together in the year 2009 ?

- A 66,300
- B 64,200
- C 60,800
- D 62,800
- E 66,800

**Answer:** A

#### Explanation:

The total number of graduates who appeared for both CS and ES together in the year 2009 = 65% of 70,000 and 40% of 52,000

=  $45,500 + 20,800 = 66,300$

Option A is the correct answer

### Instructions

What approximate value will come in place of the question mark (?) in the given questions ? (You are not expected to calculate the exact value)

**Question 61**

$$1439 \div 16 \times 14.99 + \sqrt{(288)} = ?$$

A 1315

B 1365

C 1215

D 1465

E 1265

**Answer: B**

**Explanation:**

$\sqrt{288}$  lies between 16 and 17.

While calculating, other numbers can be rounded off to the nearest multiple of 10 or the whole number.

Hence 1440 divided by 16 is 90 and 90 times 15 is 1350.

$$1350 + \sqrt{288} \approx 1367.$$

The nearest value in the option is Option B.

**Question 62**

$$11.92^2 + 16.01^2 = ?^2 \times 3.85^2$$

A 15

B 2

C 4

D 5

E 12

**Answer: D**

**Explanation:**

Rounding off the decimals to the nearest whole number and calculating the result would give an answer close to the actual answer.

$$12^2 = 144$$

$$16^2 = 256$$

$$12^2 + 16^2 = 144 + 256 = 390$$

Let the unknown term be x.

$$x^2 \times 4^2 = 390$$

$$x^2 = \frac{390}{16}$$

$$x \approx 24$$

$$x \approx 5$$

Hence Option D is the correct answer.

### Question 63

$$(19.97\% \text{ of } 781) + ? + (30\% \text{ of } 87) = 252$$

A 40

B 50

C 25

D 70

E 80

**Answer: D**

### Explanation:

Approximation of decimal values and solving the problem would give an answer which is close to the actual answer.

$$20\% \text{ of } 780 = 156$$

$$30\% \text{ of } 87 \approx 26$$

Let the unknown term be  $x$

$$x = 252 - 156 - 26 = 70$$

Option D is the correct answer.

### Question 64

$$820.01 - 21 \times 32.99 + ? = 240$$

A 105

B 173

C 113

D 234

E 143

**Answer: C**

### Explanation:

Let the unknown term be  $x$

Approximation of decimal values to the nearest whole number gives an answer close to the actual answer.

$$820 - 21 \times 33 + x = 240$$

$$820 - 693 + x = 240$$

$$127 + x = 240$$

$$x = 113$$

Option C is the correct answer

#### Question 65

$$299 \div 12 \times 13.95 + ? = 24.02 \quad ^2$$

A 285

B 226

C 325

D 150

E 185

**Answer:** B

#### Explanation:

Let the unknown term be  $x$ .

Approximating the values and solving the problem would give an answer close to the actual answer.

$$300 \div 12 \times 14 + x = 24 \quad ^2$$

$$25 \times 14 + x = 576$$

$$350 + x = 576$$

$$x = 576 - 350$$

$$x = 226$$

Option B is the correct answer.

## Reasoning

#### Instructions

In each of the following questions, two/ three statements followed by two conclusions numbered I and II have been given. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

Give answer (a) if only Conclusion I follows

Give answer (b) if neither Conclusion I nor Conclusion II follows

Give answer (c) if only Conclusion II follows

Give answer (d) if both Conclusion I and Conclusion II follow

Give answer (e) if either Conclusion I or Conclusion II follows

**Question 66**

**Statements**

**No factory is an industry.**

**All workshops are industries.**

**Some plants are workshops.**

**Conclusions**

**I. No workshop is a factory.**

**II. Atleast some plants are industries.**

- A if only Conclusion I follows
- B if neither Conclusion I nor Conclusion II follows
- C if only Conclusion II follows
- D if both Conclusion I and Conclusion II follow
- E if either Conclusion I or Conclusion II follows

**Answer: D**

**Question 67**

**Statements**

**Some sands are particles.**

**Some particles are glasses.**

**Conclusions**

**I. Some glasses are definitely not particles.**

**II. Some glasses being sands is a possibility.**

- A if only Conclusion I follows
- B if neither Conclusion I nor Conclusion II follows
- C if only Conclusion II follows
- D if both Conclusion I and Conclusion II follow
- E if either Conclusion I or Conclusion II follows

**Answer: C**

### Question 68

#### Statements

Some movies are films.

No film is a show.

All shows are pictures.

#### Conclusions

I. Atleast some pictures are films.

II. No show is a movie.

- A if only Conclusion I follows
- B if neither Conclusion I nor Conclusion II follows
- C if only Conclusion II follows
- D if both Conclusion I and Conclusion II follow
- E if either Conclusion I or Conclusion II follows

Answer: B

### Question 69

#### Statements:

Some actors are singers.

All singers are dancers.

Some dancers are players.

#### Conclusions

I. All actors being dancers is a possibility.

II. All dancers are singers.

- A if only Conclusion I follows
- B if neither Conclusion I nor Conclusion II follows
- C if only Conclusion II follows
- D if both Conclusion I and Conclusion II follow
- E if either Conclusion I or Conclusion II follows

Answer: A

### Question 70

#### Statements:

Some actors are singers.

All singers are dancers.

Some dancers are players.

#### Conclusions

I. Atleast some dancers are actors.

II. No player is an actor.

- A if only Conclusion I follows
- B if neither Conclusion I nor Conclusion II follows
- C if only Conclusion II follows
- D if both Conclusion I and Conclusion II follow
- E if either Conclusion I or Conclusion II follows

**Answer: A**

#### Instructions

Study the following information carefully to answer the given questions.

Eight friends G, H, I, J, N, O, P and Q are seated in a straight line facing north, but not necessarily in the same order.

- H sits second to right of O. O sits at one of the extreme ends of the line.
- Only three people sit between H and N.
- I sits third to the left of J. Only two people sit between J and G.
- P is not an immediate neighbour of N.

### Question 71

Who amongst the following represents the person seated at the extreme right end of the line ?

- A P
- B Q
- C O
- D I
- E G

**Answer: E**

#### Explanation:

H sits second to right of O and O sits at one of the extreme ends of the line, => O sits at the extreme left end.

Only three people sit between H and N, => N sits 2nd from right end of the row.

I sits third to the left of J and only two people sit between J and G, => I sits between O and H, while J sits 2nd to the right of H and G sits at extreme right end.

P is not an immediate neighbour of N, => P sits between H and J, thus Q sits to the immediate left of N.

O	I	H	P	J	Q	N	G
---	---	---	---	---	---	---	---

G is seated at the extreme right end of the line.

=> Ans - (E)

### Question 72

Who amongst the following sit exactly between J and G ?

A O, Q

B H, O

C O, P

D N, Q

E H, N

**Answer: D**

### Explanation:

H sits second to right of O and O sits at one of the extreme ends of the line, => O sits at the extreme left end.

Only three people sit between H and N, => N sits 2nd from right end of the row.

I sits third to the left of J and only two people sit between J and G, => I sits between O and H, while J sits 2nd to the right of H and G sits at extreme right end.

P is not an immediate neighbour of N, => P sits between H and J, thus Q sits to the immediate left of N.

O	I	H	P	J	Q	N	G
---	---	---	---	---	---	---	---

N and Q sit exactly between J and G.

=> Ans - (D)

### Question 73

What is the position of P with respect to N ?

A Third to the left

B Second to the right



C Fourth to the right

D Third to the right

E Second to the left

**Answer: A**

**Explanation:**

H sits second to right of O and O sits at one of the extreme ends of the line,  $\Rightarrow$  O sits at the extreme left end.

Only three people sit between H and N,  $\Rightarrow$  N sits 2nd from right end of the row.

I sits third to the left of J and only two people sit between J and G,  $\Rightarrow$  I sits between O and H, while J sits 2nd to the right of H and G sits at extreme right end.

P is not an immediate neighbour of N,  $\Rightarrow$  P sits between H and J, thus Q sits to the immediate left of N.

O	I	H	P	J	Q	N	G
---	---	---	---	---	---	---	---

P sits 3rd to the left of N.

$\Rightarrow$  Ans - (A)

**Question 74**

**Based on the given arrangement, which of the following is true with respect to Q ?**

A Only two persons sit between Q and N.

B Only two persons sit to the right of Q.

C None of the given options is true.

D Both I and G are immediate neighbours of Q.

E P sits to immediate right of Q.

**Answer: B**

**Explanation:**

H sits second to right of O and O sits at one of the extreme ends of the line,  $\Rightarrow$  O sits at the extreme left end.

Only three people sit between H and N,  $\Rightarrow$  N sits 2nd from right end of the row.

I sits third to the left of J and only two people sit between J and G,  $\Rightarrow$  I sits between O and H, while J sits 2nd to the right of H and G sits at extreme right end.

P is not an immediate neighbour of N,  $\Rightarrow$  P sits between H and J, thus Q sits to the immediate left of N.

O	I	H	P	J	Q	N	G
---	---	---	---	---	---	---	---

The only true statement is that only two persons sit to the right of Q.

$\Rightarrow$  Ans - (B)

### Question 75

How many persons are seated between P and G ?

A None

B One

C Three

D Four

E Two

**Answer: C**

#### Explanation:

H sits second to right of O and O sits at one of the extreme ends of the line,  $\Rightarrow$  O sits at the extreme left end.

Only three people sit between H and N,  $\Rightarrow$  N sits 2nd from right end of the row.

I sits third to the left of J and only two people sit between J and G,  $\Rightarrow$  I sits between O and H, while J sits 2nd to the right of H and G sits at extreme right end.

P is not an immediate neighbour of N,  $\Rightarrow$  P sits between H and J, thus Q sits to the immediate left of N.

O	I	H	P	J	Q	N	G
---	---	---	---	---	---	---	---

3 persons are seated between P and G.

$\Rightarrow$  Ans - (C)

#### Instructions

Study the following information carefully and answer the questions given below :

Eight persons N, O, P, Q, R, S, T and U are sitting around a circular area at equal distances between each other, but not necessarily in the same order. Some of the people are facing the centre while some face outside (i.e. in a direction opposite to the centre).

(NOTE : Same direction means that if one person is facing the centre then the other person also faces the centre and vice-versa. Opposite direction means that if one person is facing the centre then the other person faces outside and vice-versa.)

R sits second to the right of T. T face the centre. O sits third to the left of R. R and O face opposite directions. Immediate neighbours of O face the centre. P sits second to the right of O. U sits to the immediate left of P. N sits second to the left of Q. Q faces the same direction as O. Q is not an immediate neighbour of T. Immediate neighbours of R face opposite directions. (i.e. if one neighbour faces the centre the other neighbour faces outside and vice-versa.)

### Question 76

Four of the following five are alike in a certain way based on the given seating arrangement and so form a group. Which is the one that does not belong to that group ?

A U

B S

C P

D N

E Q

Answer: D

#### Explanation:

R sits second to the right of T and T faces the centre.

O sits third to the left of R. R and O face opposite directions, => Let R faces outside, and thus O faces the centre.

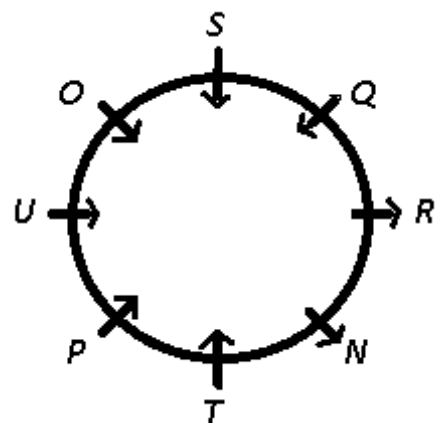
P sits second to the right of O, => P sits to the immediate left of T.

U sits to the immediate left of P, => P faces the centre and U sits between O and P.

N sits second to the left of Q. Q faces the same direction as O. Q is not an immediate neighbour of T, => Q faces the centre and sits to the immediate left of R and N sits between T and R.

Immediate neighbours of R face opposite directions, => N faces outside.

Immediate neighbours of O face the centre, => U and S faces the centre.



Among the given options, only N faces outside.

=> Ans - (D)

### Question 77

Who sits second to the left of U?

A T

B O

C Q

D Other than those given as options

E S

**Answer:** E

**Explanation:**

R sits second to the right of T and T faces the centre.

O sits third to the left of R. R and O face opposite directions,  $\Rightarrow$  Let R faces outside, and thus O faces the centre.

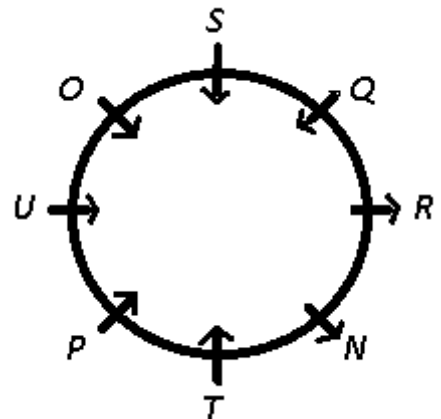
P sits second to the right of O,  $\Rightarrow$  P sits to the immediate left of T.

U sits to the immediate left of P,  $\Rightarrow$  P faces the centre and U sits between O and P.

N sits second to the left of Q. Q faces the same direction as O. Q is not an immediate neighbour of T,  $\Rightarrow$  Q faces the centre and sits to the immediate left of R and N sits between T and R.

Immediate neighbours of R face opposite directions,  $\Rightarrow$  N faces outside.

Immediate neighbours of O face the centre,  $\Rightarrow$  U and S faces the centre.



S sits second to the left of U.

$\Rightarrow$  Ans - (E)

**Question 78**

Which of the following is true regarding S as per the given seating arrangement ?

A U is one of the immediate neighbours of S.

B S sits third to the right of R.

- C** S faces the centre.
- D** Only two persons sit between S and T.
- E** Only one person sits between S and N.

**Answer: C**

**Explanation:**

R sits second to the right of T and T faces the centre.

O sits third to the left of R. R and O face opposite directions, => Let R faces outside, and thus O faces the centre.

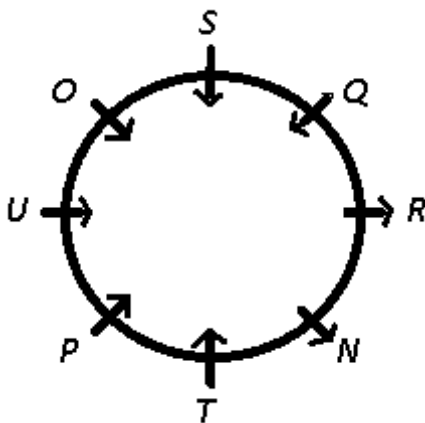
P sits second to the right of O, => P sits to the immediate left of T.

U sits to the immediate left of P, => P faces the centre and U sits between O and P.

N sits second to the left of Q. Q faces the same direction as O. Q is not an immediate neighbour of T, => Q faces the centre and sits to the immediate left of R and N sits between T and R.

Immediate neighbours of R face opposite directions, => N faces outside.

Immediate neighbours of O face the centre, => U and S faces the centre.



The only true statement is that S faces the centre.

=> Ans - (C)

**Question 79**

**What is P's position with respect to N ?**

- A** Second to the left
- B** Second to the right
- C** Third to the right
- D** Third to the left
- E** Fourth to the left

**Answer: B**

**Explanation:**

R sits second to the right of T and T faces the centre.

O sits third to the left of R. R and O face opposite directions, => Let R faces outside, and thus O faces the centre.

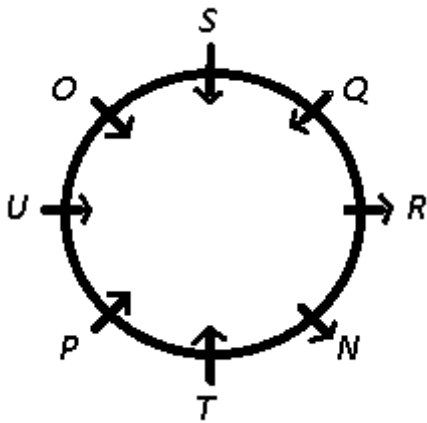
P sits second to the right of O, => P sits to the immediate left of T.

U sits to the immediate left of P, => P faces the centre and U sits between O and P.

N sits second to the left of Q. Q faces the same direction as O. Q is not an immediate neighbour of T, => Q faces the centre and sits to the immediate left of R and N sits between T and R.

Immediate neighbours of R face opposite directions, => N faces outside.

Immediate neighbours of O face the centre, => U and S faces the centre.



P is sitting 2nd to the right of N.

=> Ans - (B)

**Question 80**

**How many persons in the given arrangement face outside ?**

- A Two
- B Three
- C Four
- D Five
- E One

**Answer: A**

**Explanation:**

R sits second to the right of T and T faces the centre.

O sits third to the left of R. R and O face opposite directions, => Let R faces outside, and thus O faces the centre.

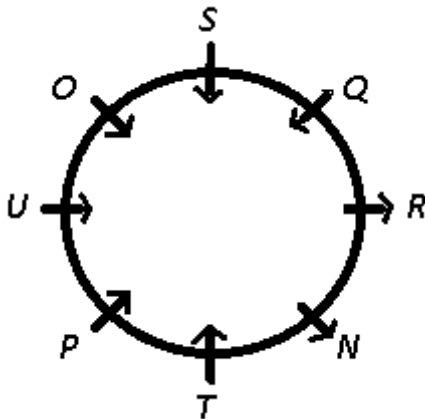
P sits second to the right of O, => P sits to the immediate left of T.

U sits to the immediate left of P, => P faces the centre and U sits between O and P.

N sits second to the left of Q. Q faces the same direction as O. Q is not an immediate neighbour of T, => Q faces the centre and sits to the immediate left of R and N sits between T and R.

Immediate neighbours of R face opposite directions, => N faces outside.

Immediate neighbours of O face the centre, => U and S faces the centre.



Only 2 persons (N,R) in the given arrangement face outside.

=> Ans - (A)

### Instructions

Study the following information carefully and answer the questions given below:

Seven persons J, K, L, M, N, O and P live on seven different floors of a building but not necessarily in the same order. The lower most floor of the building is numbered 1, the one above that is numbered 2 and so on till the topmost floor is numbered 7. Each one of them also likes a different subject namely-English, History, Commerce, Biology, Accounts, Geography and Computer (but not necessarily in the same order.)

- J lives on an odd numbered floor but not on the floor numbered 3. The one who likes Accounts lives immediately above J. Only two persons live between M and the one who likes Accounts.
- The one who likes History lives on one of the odd numbered floors above M. Only three persons live between L and the one who likes History. The one who likes Commerce lives immediately above L.
- The one who likes English lives immediately above the one who likes Computer. P lives on an odd numbered floor.
- Only one person lives between K and N. K lives on one of the floors above N. Neither L nor J likes Biology. N does not like Commerce.

### Question 81

Which of the following subjects does J like ?

- A Geography
- B Computer

C Commerce

D History

E English

**Answer: D**

**Explanation:**

J lives on an odd numbered floor but not on the floor numbered 3 and the one who likes Accounts lives immediately above J, => J lives either on floor 1 or 5, let he lives on floor 5 (case 1). Thus, the one who likes Accounts lives on 6th floor.

Only two persons live between M and the one who likes Accounts, => M lives on 3rd floor

The one who likes History lives on one of the odd numbered floors above M, => He lives on 5th floor.

Only three persons live between L and the one who likes History, => L lives on 1st floor.

The one who likes Commerce lives immediately above L, => He lives on 2nd floor.

The one who likes English lives immediately above the one who likes Computer, => The one who likes English lives on 4th floor.

P lives on an odd numbered floor, => P lives on 7th floor.

Only one person lives between K and N and K lives on one of the floors above N. Also, N does not like Commerce, => K and N lives on 6th and 4th floors respectively.

Neither L nor J likes Biology, => P likes Biology.

Floor	Person	Subject
7	P	Biology
6	K	Accounts
5	J	History
4	N	English
3	M	Computer
2	O	Commerce
1	L	Geography

J likes History.

=> Ans - (D)

**Question 82**

**Which of the following combinations is true with respect to the given arrangement ?**

A Geography - L



**B** History - O

**C** Computer - P

**D** Accounts - M

**E** Biology - K

**Answer: A**

**Explanation:**

J lives on an odd numbered floor but not on the floor numbered 3 and the one who likes Accounts lives immediately above J, => J lives either on floor 1 or 5, let he lives on floor 5 (case 1). Thus, the one who likes Accounts lives on 6th floor.

Only two persons live between M and the one who likes Accounts, => M lives on 3rd floor

The one who likes History lives on one of the odd numbered floors above M, => He lives on 5th floor.

Only three persons live between L and the one who likes History, => L lives on 1st floor.

The one who likes Commerce lives immediately above L, => He lives on 2nd floor.

The one who likes English lives immediately above the one who likes Computer, => The one who likes English lives on 4th floor.

P lives on an odd numbered floor, => P lives on 7th floor.

Only one person lives between K and N and K lives on one of the floors above N. Also, N does not like Commerce, => K and N lives on 6th and 4th floors respectively.

Neither L nor J likes Biology, => P likes Biology.

Floor	Person	Subject
7	P	Biology
6	K	Accounts
5	J	History
4	N	English
3	M	Computer
2	O	Commerce
1	L	Geography

L likes geography.

=> Ans - (A)

**Question 83**

If all the persons are made to sit in alphabetical order from top to bottom, the positions of how many persons will remain unchanged ?

- A Four
- B Two
- C None
- D One
- E Three

**Answer: B**

**Explanation:**

J lives on an odd numbered floor but not on the floor numbered 3 and the one who likes Accounts lives immediately above J, => J lives either on floor 1 or 5, let he lives on floor 5 (case 1). Thus, the one who likes Accounts lives on 6th floor.

Only two persons live between M and the one who likes Accounts, => M lives on 3rd floor

The one who likes History lives on one of the odd numbered floors above M, => He lives on 5th floor.

Only three persons live between L and the one who likes History, => L lives on 1st floor.

The one who likes Commerce lives immediately above L, => He lives on 2nd floor.

The one who likes English lives immediately above the one who likes Computer, => The one who likes English lives on 4th floor.

P lives on an odd numbered floor, => P lives on 7th floor.

Only one person lives between K and N and K lives on one of the floors above N. Also, N does not like Commerce, => K and N lives on 6th and 4th floors respectively.

Neither L nor J likes Biology, => P likes Biology.

Floor	Person	Subject
7	P	Biology
6	K	Accounts
5	J	History
4	N	English
3	M	Computer
2	O	Commerce
1	L	Geography

If all the persons are made to sit in alphabetical order from top to bottom, positions of only 2 persons i.e., K and O will remain unchanged.

=> Ans - (B)

### Question 84

Which of the following statements is true with respect to the given arrangement ?

- A The one who likes Computer lives immediately below J.
- B O likes History.
- C None of the given options is true.
- D Only four persons live between M and P.
- E P lives immediately below

**Answer: C**

#### Explanation:

J lives on an odd numbered floor but not on the floor numbered 3 and the one who likes Accounts lives immediately above J,  $\Rightarrow$  J lives either on floor 1 or 5, let he lives on floor 5 (case 1). Thus, the one who likes Accounts lives on 6th floor.

Only two persons live between M and the one who likes Accounts,  $\Rightarrow$  M lives on 3rd floor

The one who likes History lives on one of the odd numbered floors above M,  $\Rightarrow$  He lives on 5th floor.

Only three persons live between L and the one who likes History,  $\Rightarrow$  L lives on 1st floor.

The one who likes Commerce lives immediately above L,  $\Rightarrow$  He lives on 2nd floor.

The one who likes English lives immediately above the one who likes Computer,  $\Rightarrow$  The one who likes English lives on 4th floor.

P lives on an odd numbered floor,  $\Rightarrow$  P lives on 7th floor.

Only one person lives between K and N and K lives on one of the floors above N. Also, N does not like Commerce,  $\Rightarrow$  K and N lives on 6th and 4th floors respectively.

Neither L nor J likes Biology,  $\Rightarrow$  P likes Biology.

Floor	Person	Subject
7	P	Biology
6	K	Accounts
5	J	History
4	N	English
3	M	Computer
2	O	Commerce
1	L	Geography

Clearly, none of the options is true.

=> Ans - (C)

### Question 85

Who amongst the following lives on the floor numbered 2?

A K

B The one who likes English

C The one who likes Computer

D M

E O

Answer: E

#### Explanation:

J lives on an odd numbered floor but not on the floor numbered 3 and the one who likes Accounts lives immediately above J, => J lives either on floor 1 or 5, let he lives on floor 5 (case 1). Thus, the one who likes Accounts lives on 6th floor.

Only two persons live between M and the one who likes Accounts, => M lives on 3rd floor

The one who likes History lives on one of the odd numbered floors above M, => He lives on 5th floor.

Only three persons live between L and the one who likes History, => L lives on 1st floor.

The one who likes Commerce lives immediately above L, => He lives on 2nd floor.

The one who likes English lives immediately above the one who likes Computer, => The one who likes English lives on 4th floor.

P lives on an odd numbered floor, => P lives on 7th floor.

Only one person lives between K and N and K lives on one of the floors above N. Also, N does not like Commerce, => K and N lives on 6th and 4th floors respectively.

Neither L nor J likes Biology, => P likes Biology.

Floor	Person	Subject
7	P	Biology
6	K	Accounts
5	J	History
4	N	English
3	M	Computer
2	O	Commerce
1	L	Geography

O who likes commerce lives on 2nd floor.

=> Ans - (E)

### Instructions

For the following questions answer them individually

### Question 86

Point A is 30m to the South of point B. Point C is 20 m to the East of point A. Point D is 15m to the south of point C. Point D is exactly midway between points E and F in such a manner that point E, D and F form a horizontal straight line of 40m. Point E is to west of point D. How far and in which direction is point E from point B ?

- A 45m towards South
- B 25 m towards south
- C 3ern towards west
- D 35m towards north
- E 45 m towards north

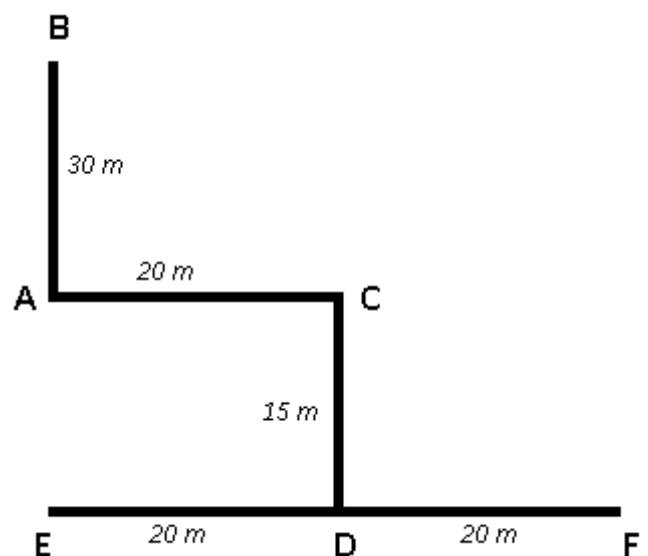
**Answer: A**

### Explanation:

Point A is 30 m to the South of point B and Point C is 20 m to the East of point A. Point D is 15m to the south of point C.

Point D is exactly midway between points E and F and distance of the line is 40 m.

Point E is to west of point D, => F is to the east of D and distance between ED and DF is 20 m.



Point E is in south direction from point B. Distance  $BE = 30 + 15 = 45$  m

=> Ans - (A)

### Instructions

Study the following information carefully and answer the questions given below :

- T is the sister of D. D is married to P. P is the son of M.
- T is the mother of J. Y is the father of U.
- Y has only one son and only one daughter.
- U is the daughter of T. Q is the son of D.

### Question 87

How is P related to T ?

- A Brother
- B Cannot be determined
- C Brother-in-law
- D Cousin brother
- E Uncle

**Answer: C**

### Explanation:

T is the sister of D. D is married to P. P is the son of M.

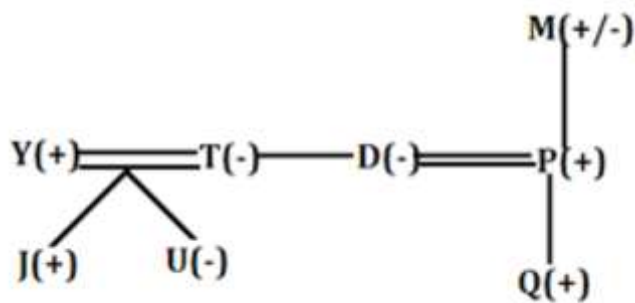
=> P is the husband of D.

T is the mother of J and U is the daughter of T. Y is the father of U. Also, Y has only one son and only one daughter.

=> J is brother of U (female). and T is wife of Y.

Q is the son of D.

(+) represents male and (-) represents female



P is brother-in-law of T.

=> Ans - (C)

### Question 88

How is J related to D ?

- A Son

- B Niece
- C Son-in-law
- D Nephew
- E Daughter

**Answer: D**

**Explanation:**

T is the sister of D. D is married to P. P is the son of M.

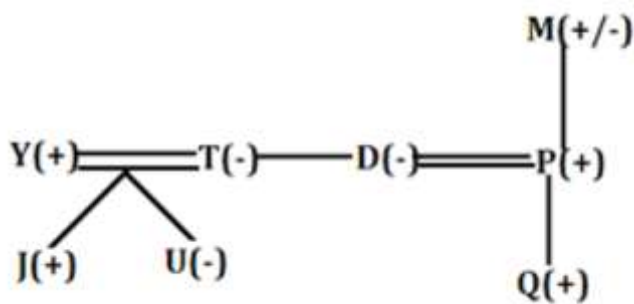
=> P is the husband of D.

T is the mother of J and U is the daughter of T. Y is the father of U. Also, Y has only one son and only one daughter.

=> J is brother of U (female). and T is wife of Y.

Q is the son of D.

(+) represents male and (-) represents female



J is the nephew of D.

=> Ans - (D)

**Question 89**

**How is Q related to M ?**

- A Son-in-law
- B Grandson**
- C Nephew
- D Son
- E Cannot be determined

**Answer: B**

**Explanation:**

T is the sister of D. D is married to P. P is the son of M.

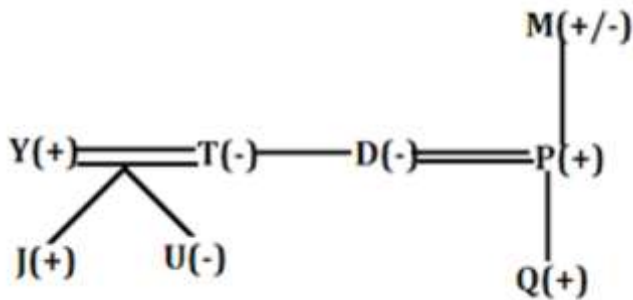
=> P is the husband of D.

T is the mother of J and U is the daughter of T. Y is the father of U. Also, Y has only one son and only one daughter.

=> J is brother of U (female). and T is wife of Y.

Q is the son of D.

(+) represents male and (-) represents female



Q is the grandson of M.

=> Ans - (B)

### Instructions

For the following questions answer them individually

### Question 90

A person starts walking from his home towards his friend's place. He walks for 25m towards West. He takes a 90° right turn and walks for 20m. He again takes a 90° right turn, and walks for 10m. He then walks for another 10m after taking a 90° left turn. Turning 90° towards his right, he walks for 15m to reach his friend's place. How far and in which direction is the friend's place from his home ?

- A 30m towards East
- B 30m towards North
- C 40m towards South
- D 30m towards South
- E 40m towards North

**Answer: B**

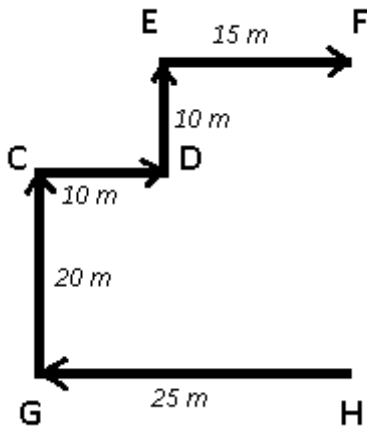
### Explanation:

He starts from point H and walks for 25m towards West and reaches G. He takes a 90° right turn and walks for 20m to reach C.

He again takes a 90° right turn, and walks for 10m and reaches point D. He then walks for another 10m after taking a 90° left turn towards North to reach point E.

Finally turning 90° towards his right, he walks for 15m to reach his friend's place F.





His friend's house is in the north direction from his house. Distance =  $20 + 10 = 30$  m

=> Ans - (B)

### Instructions

In each of the following questions, relationship between different elements is shown in the statements. The statements are followed by two conclusions numbered I and II. Study the conclusions based on the given statements and select the appropriate answer.

Give answer (a) if only Conclusion I is true

Give answer (b) if neither Conclusion I nor Conclusion II is true

Give answer (c) if only Conclusion II is true

Give answer (d) if both Conclusion I and Conclusion II are true

Give answer (e) if either Conclusion I or Conclusion II is true

### Question 91

#### Statements

$M > A \geq B = Q \leq P < J \leq Y = Z \geq A > X$

#### Conclusions:

I.  $B < Y$

II.  $X \geq J$

A if only Conclusion I is true

B if neither Conclusion I nor Conclusion II is true

C if only Conclusion II is true

D if both Conclusion I and Conclusion II are true

E if either Conclusion I or Conclusion II is true

**Answer: A**

#### Explanation:

Statement :  $M > A \geq B = Q \leq P < J \leq Y = Z \geq A > X$

Conclusions:

- I.  $B < Y$  : true  
II.  $X \geq J$  : false

Thus, only Conclusion I is true.

=> Ans - (A)

### Question 92

#### Statements

$$M > A \geq B = Q \leq P < J \leq Y = Z \geq A > X$$

#### Conclusions

- I.  $Z = Q$   
II.  $Z > Q$

- A if only Conclusion I is true  
B if neither Conclusion I nor Conclusion II is true  
C if only Conclusion II is true  
D if both Conclusion I and Conclusion II are true  
E if either Conclusion I or Conclusion II is true

**Answer: C**

#### Explanation:

Statement :  $M > A \geq B = Q \leq P < J \leq Y = Z \geq A > X$

Conclusions :

- I.  $Z = Q$  : It cannot be true as  $J > P$   
II.  $Z > Q$  : It is true

Thus, only conclusion II is true.

Hence, option C is the correct answer.

### Question 93

#### Statements

$$G < R = A \leq S ; T < R$$

#### Conclusions

- I.  $G < S$   
II.  $S > T$

- A if only Conclusion I is true  
B if neither Conclusion I nor Conclusion II is true  
C if only Conclusion II is true

**D** if both Conclusion I and Conclusion II are true

**E** if either Conclusion I or Conclusion II is true

**Answer: D**

**Explanation:**

Statements :  $G < R = A \leq S$  ;  $T < R$

$\Rightarrow S \geq R > G$  and  $R > T$

Conclusions :

I.  $G < S$  = true

II.  $S > T$  = true

Thus, both Conclusion I and Conclusion II are true.

$\Rightarrow$  Ans - (D)

**Question 94**

**Statements**

$P = U < M < K \leq I > N$  ;  $D \geq P$  ;  $I \geq C$

**Conclusions**

I.  $M < C$

II.  $N > U$

**A** if only Conclusion I is true

**B** if neither Conclusion I nor Conclusion II is true

**C** if only Conclusion II is true

**D** if both Conclusion I and Conclusion II are true

**E** if either Conclusion I or Conclusion II is true

**Answer: B**

**Explanation:**

Statements :  $P = U < M < K \leq I > N$  ;  $D \geq P$  ;  $I \geq C$

Conclusions :

I.  $M < C$  = false

II.  $N > U$  = false

Thus, neither Conclusion I nor Conclusion II is true.

$\Rightarrow$  Ans - (B)

### Question 95

#### Statements

$P = U < M < K \leq I > N ; D \geq P ; I \geq C$

#### Conclusions

I.  $D \geq K$

II.  $I > P$

- A if only Conclusion I is true
- B if neither Conclusion I nor Conclusion II is true
- C if only Conclusion II is true
- D if both Conclusion I and Conclusion II are true
- E if either Conclusion I or Conclusion II is true

**Answer: C**

#### Explanation:

Statements :  $P = U < M < K \leq I > N ; D \geq P ; I \geq C$

Conclusions :

I.  $D \geq K = \text{false}$

II.  $I > P = \text{true}$

Thus, only Conclusion II is true

=> Ans - (C)

#### Instructions

Study the following information carefully and answer the questions given below:

In a certain code language, 'Cinderella shouted for rescue' is written as 'pr co ly bu'

'rescue all the bugs' is written as 'ke mt co rx'

'bugs ate all carrots' is written as 'vg rx ke sh'

'carrots for pretty Cinderella' is written as 'ly pr vg as'

(All codes are two letter codes only)

### Question 96

In the given code language, what does the code 'pr' stand for ?

- A either 'bugs' or 'shouted'
- B rescue
- C either 'Cinderella' or 'for'

**D** for

**E** pretty

**Answer: C**

**Explanation:**

The common word in the first two statements is 'rescue' coded as = 'co'

The common word in first and last statements are 'for' and 'Cinderella' coded as = 'pr' or 'ly'

=> Only word left in first statement is 'shouted' coded as = 'bu'

The common words in second and third statements are 'bugs' and 'all' coded as = 'ke' or 'rx'

=> Only word left in second statement is 'the' coded as = 'mt'

The common word in last two statements is 'carrots' coded as = 'vg'

=> Only word left in third statement is 'ate' coded as = 'sh'

Similarly, Only word left in last statement is 'pretty' coded as = 'as'

Thus, code 'pr' stands for = **either 'Cinderella' or 'for'**

=> Ans - (C)

**Question 97**

**What will be the code for 'the pretty' in the given code language ?**

**A** bu rx

**B** as mt

**C** Other than those given as options

**D** mt bu

**E** as ke

**Answer: B**

**Explanation:**

The common word in the first two statements is 'rescue' coded as = 'co'

The common word in first and last statements are 'for' and 'Cinderella' coded as = 'pr' or 'ly'

=> Only word left in first statement is 'shouted' coded as = 'bu'

The common words in second and third statements are 'bugs' and 'all' coded as = 'ke' or 'rx'

=> Only word left in second statement is 'the' coded as = 'mt'

The common word in last two statements is 'carrots' coded as = 'vg'

=> Only word left in third statement is 'ate' coded as = 'sh'

Similarly, Only word left in last statement is 'pretty' coded as = 'as'

Thus, the code for 'the pretty' = **as mt**

=> Ans - (B)

#### Question 98

**What is the code for 'bugs' in the given code language ?**

A Other than those given as options

B co

C sh

D either 'co' or 'vg'

E either 'ke' or 'rx'

**Answer: E**

#### Explanation:

The common word in the first two statements is 'rescue' coded as = 'co'

The common word in first and last statements are 'for' and 'Cinderella' coded as = 'pr' or 'ly'

=> Only word left in first statement is 'shouted' coded as = 'bu'

The common words in second and third statements are 'bugs' and 'all' coded as = 'ke' or 'rx'

=> Only word left in second statement is 'the' coded as = 'mt'

The common word in last two statements is 'carrots' coded as = 'vg'

=> Only word left in third statement is 'ate' coded as = 'sh'

Similarly, Only word left in last statement is 'pretty' coded as = 'as'

Thus, the code for 'bugs' = **either 'ke' or 'rx'**

=> Ans - (E)

#### Question 99

**What may be the possible code for 'shouted and ate' in the given code language ?**

A bu sh mt

B rx co gy

C gy sh as

D sh gy bu

E ly rx vg

**Answer: D**

**Explanation:**

The common word in the first two statements is 'rescue' coded as = 'co'

The common word in first and last statements are 'for' and 'Cinderella' coded as = 'pr' or 'ly'

=> Only word left in first statement is 'shouted' coded as = 'bu'

The common words in second and third statements are 'bugs' and 'all' coded as = 'ke' or 'rx'

=> Only word left in second statement is 'the' coded as = 'mt'

The common word in last two statements is 'carrots' coded as = 'vg'

=> Only word left in third statement is 'ate' coded as = 'sh'

Similarly, Only word left in last statement is 'pretty' coded as = 'as'

Thus, the possible code for 'shouted and ate' = **sh gy bu**

=> Ans - (D)

**Question 100**

**What is the code for 'carrots' in the given code language ?**

A vg

B sh

C rx

D ke

E ly

**Answer: A**

**Explanation:**

The common word in the first two statements is 'rescue' coded as = 'co'

The common word in first and last statements are 'for' and 'Cinderella' coded as = 'pr' or 'ly'

=> Only word left in first statement is 'shouted' coded as = 'bu'

The common words in second and third statements are 'bugs' and 'all' coded as = 'ke' or 'rx'

=> Only word left in second statement is 'the' coded as = 'mt'

The common word in last two statements is 'carrots' coded as = 'vg'

=> Only word left in third statement is 'ate' coded as = 'sh'

Similarly, Only word left in last statement is 'pretty' coded as = 'as'

Thus, the code for 'carrots' = **vg**

=> Ans - (A)

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