Q.1)
Ans) c
Exp) Option c is correct.
Statement 1 is correct: The statement:
"This was not known from the beginning: it took some experimenting and theorizing to suggest this hypothesis, but now it is accepted, and it is the most useful theory for producing new ideas in the field of biology." Indicates that experimentation and theory precede hypothesis
Statement 2 and 3 are correct. It can be verified by the sentence- " If instead of arranging the atoms in some definite pattern, again and again repeated, on and on, or even forming little lumps of complexity like the odor of violets, we make an arrangement which is always different from place to place, with different kinds of atoms arranged in many ways, continually changing, not repeating, how much more marvelously is it possible that this thing might behave?"
Statement 4 is incorrect as the sentence "In other words, there is nothing that living things do that cannot be understood from the point of view that they are made of atoms acting according to the laws of physics." Only means that atoms can help us understand the living world,

Q.2)
Ans) b
Exp) Option b is correct.
The author is substantiating the view that atoms are the fundamental unit of the world with various examples.

Q.3)
Ans) a
Exp) Option a is correct.
Since the author says that ". This was not known from the beginning: it took some experimenting and theorizing to suggest this hypothesis, but now it is accepted, and it is the most useful theory for producing new ideas in the field of biology." Thus (a) can be safely inferred

Q.4)
Ans) c
Exp) Option c is correct.
The passage does not simplify the atomic hypothesis, neither does it offer applications of atoms. Further, there is no proposal of a new theory.
The passage does help the reader imagine various scenarios in which atoms as a constituent of matter would be interesting and engaging. Thus, (c) is the correct option

Q.5)
Ans) c
Exp) Option c is correct.
The passage talks about the contribution of Gandhi in several fields be it literature, political and social life not just in India but around the world as well. Thus the central idea of the passage would be that the enduring significance of Gandhi is due to his multifarious contributions to India and the World.

Q.6)
Ans) b
Exp) Option b is correct.
The passage talks about the role of migrants in the politics of Northeastern India. It also gives several examples with respect to persistent clashes. Thus "the historical baggage of migration fuels the persistence of clashes in the region" would be the best logical corollary of the passage.

Q.7)
Ans) c
Exp) A didn't fell ill, so we can say that illness is not due to either Sprite or Sting and among the beverages B and C drank Cola is common in both.
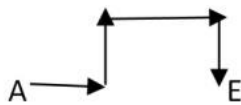
Q.8)
Ans) d
Exp) The statement asserts that a good dancer always has long legs and only good dancers are invited to the conference. This implies that all those invited to the conference have long legs and those who do not have long legs are not invited. So, both 1 and 2 follow.

Q.9)
Ans) a
Exp)

She started in the east from A and then turned left toward the north. Again, after some time she turned right toward the east. Finally, she turned right and moving in South direction.

Q.10)
Ans) d
Exp) Gauhar is older than her cousin Muskaan. G > M
Muskaan's brother Viplow is older than Gauhar. V > G
Combining two statements, V > G > M. Muskaan is the youngest of the three.
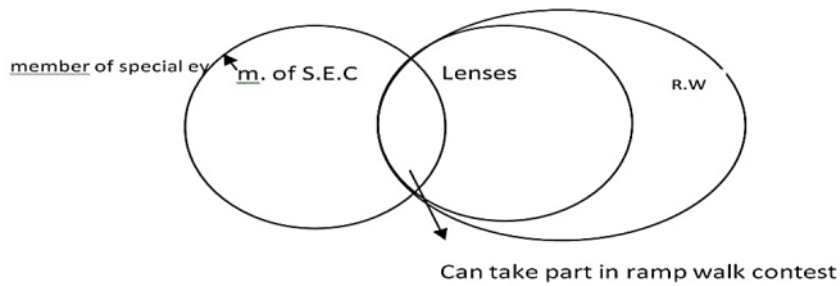
Q.11)
Ans) a
Exp)

Q.12)
Ans) b
Exp) Clearly, the required number would be such that it leaves a remainder of 1 when divided by 2 or 4 and no remainder when divided by 3. Such a number is 09.

Q.13)
Ans) b
Exp) Having a pair of spectacles and be a member of the special eye's club

Can take part in ramp walk contest

Q.14)
Ans) a
Exp) The pattern is

$$\left\{12\left[\left(\frac{6}{2}\right)\times 2\right]^2\right\} = 432$$

$$\left\{9\left[\left(\frac{4}{2}\right)\times 2\right]^2\right\} = 144$$

By the same pattern,

$$\left\{11\left[\left(\frac{?}{2}\right)\times 2\right]^2\right\} = 704$$

$(?)^2 = 64$

$? = 8 \ or \ -8$

Q.15)
Ans) b
Exp) In the given question $\frac{4\times 9}{2} = 18$ and $\frac{5\times 6}{2} = 15$

So, we can easily notice the pattern that the numbers are multiplied and then divided by 2

So, $\frac{(8\times 112)}{2} = 448$

Q.16)
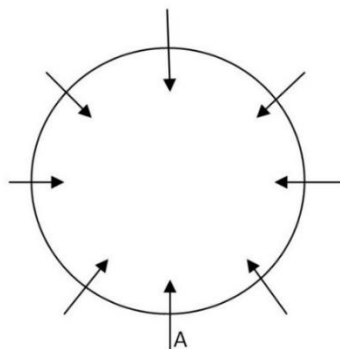**Ans) b**
Exp) First of all, we note down about whom it's given about the cars they like or dislike
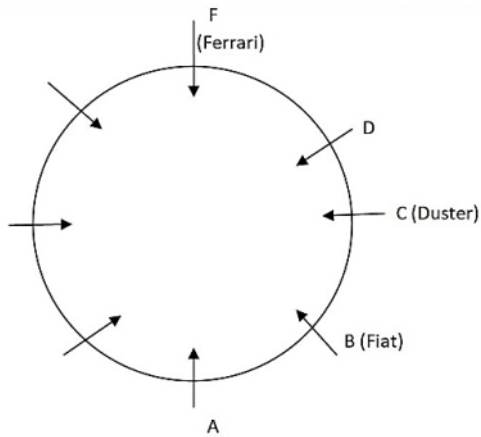
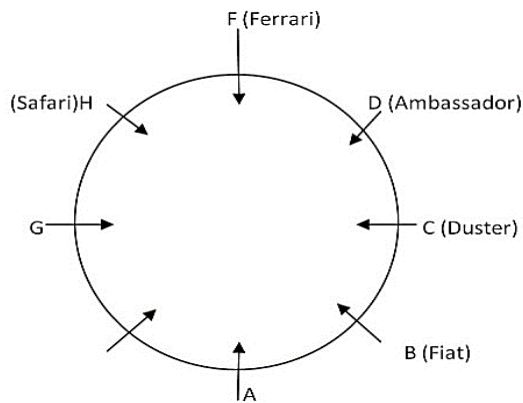| A	B	C	D	E	F	G	H
	Fiat	Duster		~~Scorpio~~	Ferrari	~~Mercedes~~ ~~Scorpio~~	Safari

Fix any spot for A.

Then, using statement 2 (C sits second to the right of A and he likes Duster. There are only two persons between A and D). Spot for B is fixed and there are two possibilities for D but using statement 3 (E and G are immediate neighbours, while D and F are also immediate neighbours. B, who likes Fiat,
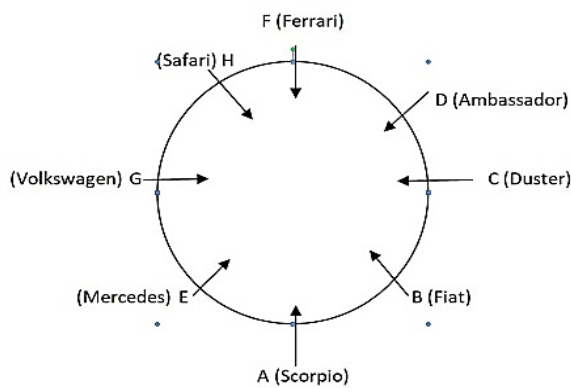
sits third to the left of F) there is only one possibility for D because third to the left of F is not vacant in one possibility. So, the arrangement will be;

F
(Ferrari)

D

C (Duster)

B (Fiat)

A

Using, statement 4 (G does not like Mercedes or Scorpio. D sits third to the left of G) spot for G is fixed and using statement 5 (The person who likes Ambassador is sitting between the person who likes Fiat and Duster. H likes Safari and is on the immediate right of the person who likes Ferrari) Spot for H is fixed and its clear D likes Ambassador.

F (Ferrari)

(Safari)H

D (Ambassador)

G

C (Duster)

B (Fiat)

A

Now, there is only one vacant seat so, E sits at that spot. G does not like Scorpio or Mercedes. So, he must like Volkswagen while E does not like Scorpio so he likes Mercedes and A likes the remaining one namely Scorpio. Now, the full arrangement looks like;
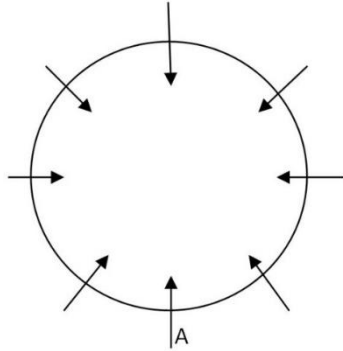
F (Ferrari)

(Safari) H

D (Ambassador)

(Volkswagen) G

C (Duster)

(Mercedes) E

B (Fiat)

A (Scorpio)

Q.17)
Ans) b
Exp) First of all, we note down about whom it's given about the cars they like or dislike

A	B	C		D	E	F	G	H
	Fiat	Duster			~~Scorpio~~	Ferrari	~~Mercedes~~ ~~Scorpio~~	Safari

Fix any spot for A.

Then, using statement 2 (C sits second to the right of A and he likes Duster. There are only two persons between A and D). Spot for B is fixed and there are two possibilities for D but using statement 3 (E and G are immediate neighbours, while D and F are also immediate neighbours. B, who likes Fiat, sits third to the left of F) there is only one possibility for D because third to the left of F is not vacant in one possibility. So, the arrangement will be;

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Now, there is only one vacant seat so, E sits at that spot. G does not like Scorpio or Mercedes. So, he must like Volkswagen while E does not like Scorpio so he likes Mercedes and A likes the remaining one namely Scorpio. Now, the full arrangement looks like;
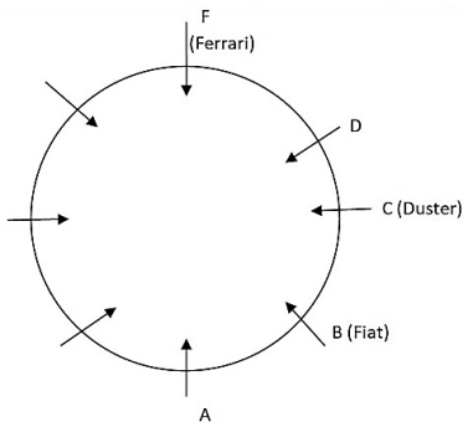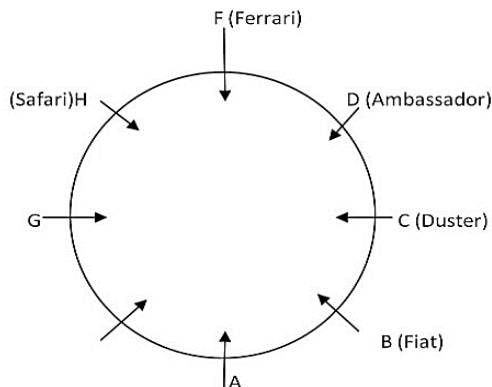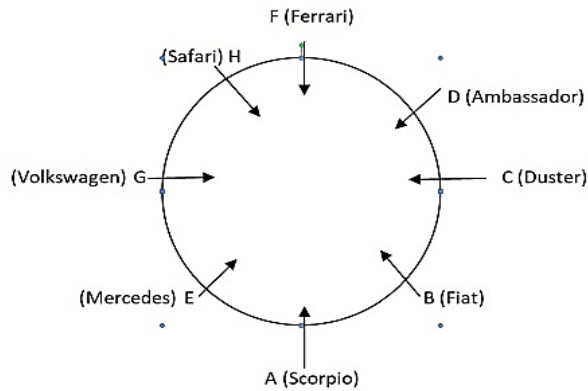

Q.18)
Ans) a
Exp) First of all, we note down about whom it's given about the cars they like or dislike

A	B	C	D	E	F	G	H
	Fiat	Duster		~~Scorpio~~	Ferrari	~~Mercedes~~ ~~Scorpio~~	Safari

Fix any spot for A.

Then, using statement 2 (C sits second to the right of A and he likes Duster. There are only two persons between A and D). Spot for B is fixed and there are two possibilities for D but using statement 3 (E and G are immediate neighbours, while D and F are also immediate neighbours. B, who likes Fiat, sits third to the left of F) there is only one possibility for D because third to the left of F is not vacant in one possibility. So, the arrangement will be;

Using, statement 4 (G does not like Mercedes or Scorpio. D sits third to the left of G) spot for G is fixed and using statement 5 (The person who likes Ambassador is sitting between the person who likes Fiat and Duster. H likes Safari and is on the immediate right of the person who likes Ferrari) Spot for H is fixed and its clear D likes Ambassador.

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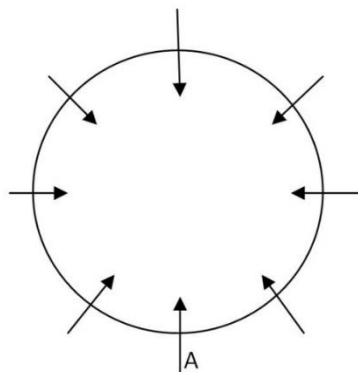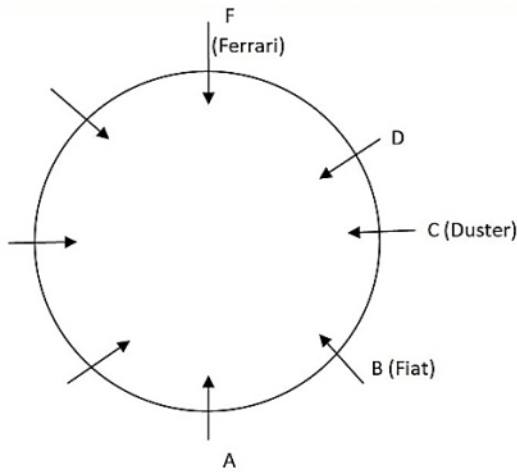

Q.19)
Ans) d
Exp) First of all, we note down about whom it's given about the cars they like or dislike

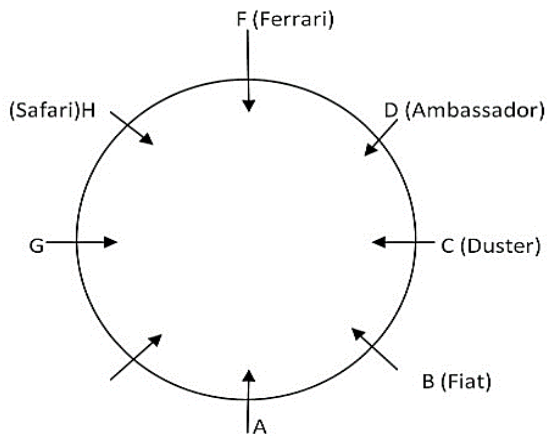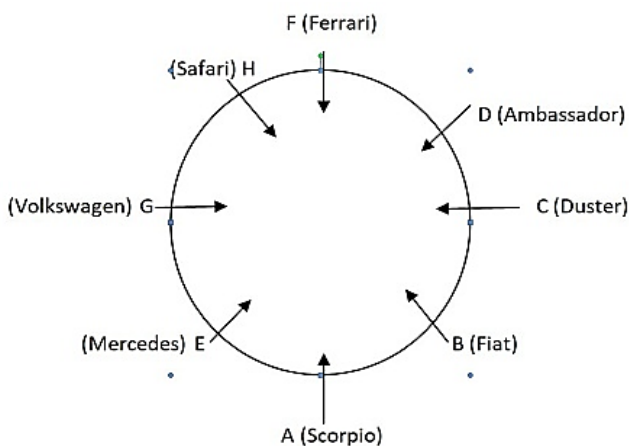| A	B	C	D	E	F	G	H
	Fiat	Duster		~~Scorpio~~	Ferrari	~~Mercedes~~ ~~Scorpio~~	Safari

Fix any spot for A.

Then, using statement 2 (C sits second to the right of A and he likes Duster. There are only two persons between A and D). Spot for B is fixed and there are two possibilities for D but using statement 3 (E and G are immediate neighbours, while D and F are also immediate neighbours. B, who likes Fiat, sits third to the left of F) there is only one possibility for D because third to the left of F is not vacant in one possibility. So, the arrangement will be;

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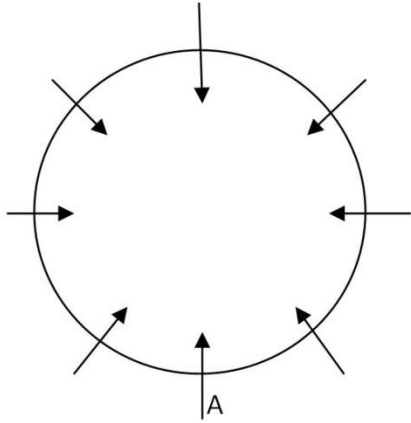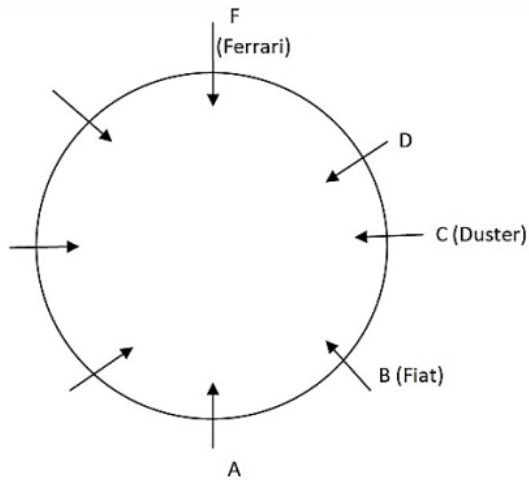

Q.20)
Ans) d
Exp) First of all, we note down about whom it's given about the cars they like or dislike

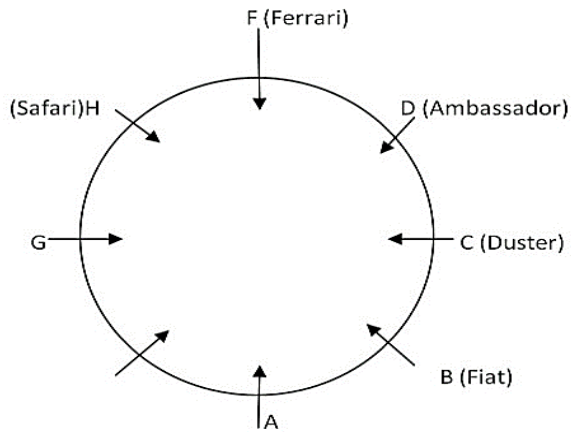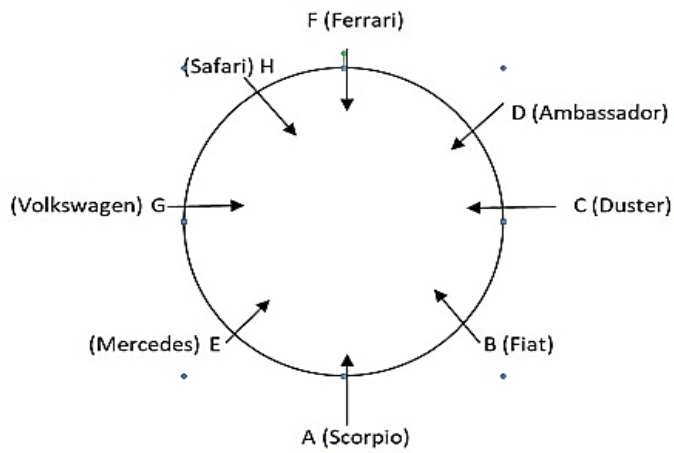| A	B	C	D	E	F	G	H
	Fiat	Duster		~~Scorpio~~	Ferrari	~~Mercedes~~ ~~Scorpio~~	Safari

Fix any spot for A.

Then, using statement 2 (C sits second to the right of A and he likes Duster. There are only two persons between A and D). Spot for B is fixed and there are two possibilities for D but using statement 3 (E and G are immediate neighbours, while D and F are also immediate neighbours. B, who likes Fiat, sits third to the left of F) there is only one possibility for D because third to the left of F is not vacant in one possibility. So, the arrangement will be;

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Now, there is only one vacant seat so, E sits at that spot. G does not like Scorpio or Mercedes. So, he must like Volkswagen while E does not like Scorpio so he likes Mercedes and A likes the remaining one namely Scorpio. Now, the full arrangement looks like;
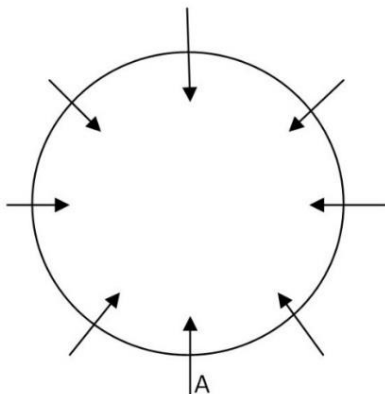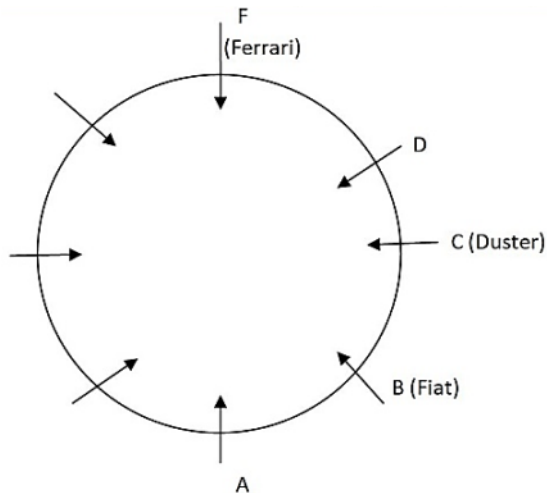
Q.21)
Ans) a
Exp) Statement 1 is correct: The following lines clarify the first statement "Each person possesses an inviolability founded on justice that even the welfare of society as a whole cannot override. For this reason, justice denies that the loss of freedom for some is made right by a greater good shared by others."
Statement 2 is incorrect: The passage does not argue that elegant and economical theories are untrue but rather if theories are untrue, they must be rejected even if they are elegant and economical.
Statement 3 is incorrect: Justice is argued as the first virtue, not as a condition for the social institution to function. Social institutions can function without justice for example a dictatorial regime.
Statement 4 is correct: The author has clearly highlighted that justice and truth are the first virtues of human activities. Also, the author talks about the "intuitive conviction of the primacy of justice". Thus, the author clearly says that humans have an embedded sense of justice in them.

Q.22)
Ans) d
Exp) Option d is correct
The author has argued that "in a just society, the liberties of equal citizenship are taken as settled". He also argues for the inviolability of each person and says that freedom can't be compromised for the good of some larger number as that would be an injustice.

Q.23)
Ans) a
Exp) Option a is correct.
The following line from the passage clarifies the reason for acceptance of injustice, "The only thing that permits us to acquiesce in an erroneous theory is the lack of a better one; analogously, an injustice is tolerable only when it is necessary to avoid an even greater injustice."

Q.24)
Ans) d
Exp) Option d is correct.
The passage at the start itself talks about a particular set of problems that people face. The through different questions show that the problems faced by people are not unique, but all people face the similar problem. Thus, all people face similar problems would best sum up the passage.

Q.25)
Ans) d
Exp) Option d is correct.
The writer has tried to convey that the sheer force of laughter is so physical and engrossing in itself that it lets you dilute all other prevailing issues of life. Though a laugh may be short-lived it has the capacity to make us forget all other mundane things.

Q.26)
Ans) a
Exp) We know that, Product of two expressions = product of LCM and HCF of these two expressions
Given,
LCM = $(x^2 + 6x + 8)(x + 1)$
And, HCF = (x + 1)
One expression = $(x^2 + 3x + 2)$. Let, Other expression = M
$\therefore (x^2 + 3x + 2) \times M = (x^2 + 6x + 8)(x + 1)(x + 1)$

Factorizing both sides
$\Rightarrow \{(x + 2)\ (x + 1)\} \times M = (x+ 4)\ (x + 2)\ (x + 1)\ (x + 1)$
$\Rightarrow M = (x+ 4)\ (x + 1)$
$\Rightarrow M = x^2 + 5x + 4$

Q.27)
Ans) b
Exp) Let the cost price = Rs. 100
Selling price = Rs. 125
Printed price $= \frac{100}{100-40} \times 125 = Rs. \frac{1250}{6}$
So, the required ratio $= \frac{Cost\ price}{printed\ price} = \frac{100 \times 6}{1250} = \frac{600}{1250} = \frac{12}{25}$
$\Rightarrow$ 12:25

Q.28)
Ans) b
Exp) They meet each other when all of them are at the same position and LCM of time taken by them give us the time interval after which they are at the same position
LCM of (30, 45 and 15)
= 3|30, 45, 15
= 5|10, 15, 5
= |2, 3, 1
LCM of (30, 45 and 15) = 90 minutes
In 6 hours there is 60 × 6 = 360 minutes
They meet at every 90 minutes
So, the number of time they meet $= \frac{360}{90}$ = 4

Q.29)
Ans) c
Exp) Let total no of the male employee be x
Total no of the female be y
Then total salary of all male = $14000 \times x$
The total salary of all female = $10000 \times y$
But as per question total salary of all the employee = $12000(x + y)$
So $[(14000 \times x) + (10000 \times y)] = 12000(x + y)$
By equating we will find $\frac{x}{y} = \frac{1}{1}$
So, the percentage of male employee $= \frac{1}{2} \times 100 = 50\%$

Q.30)
Ans) C
Exp) Let the number of rows be x, then
$45 \times 55 = 25 \times x => x = \frac{45 \times 55}{25} => 99$

Q.31)
Ans) c
Exp)
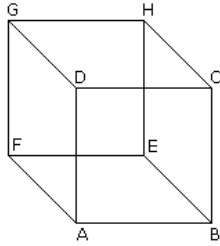
ABEF → Saffron
DCHG → Orange
ABCD → Silver
EFGH → Grey
AFGD → Beige
BCHE → Indigo
Side EFGH is opposite to side ABCD.

Q.32)
Ans) b
Exp) The boy in the photograph is the only son of Simi's grandfather's only son; i.e., the boy is the only son of Simi's father.
Hence, the boy is the brother of Reena or Reena is the sister of the boy.

Q.33)
Ans) a
Exp) A: B: C = $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$ = 6 : 8 : 9 (*Multiply each ratio by LCM*)
B's share = 299 × $\frac{8}{23}$ = 104

Q.34)
Ans) b
Exp) The pattern is = (108 −107) = 1^1, (4 − 1) = 3^3, (27 − 25) = 2^2.
So, the missing number = $(55 − x)^{55−x} = 256 ==> (55 − x)^{55−x} = 4^4$
So, (55 − x) = 4, x = 51

Q.35)
Ans) c
Exp)
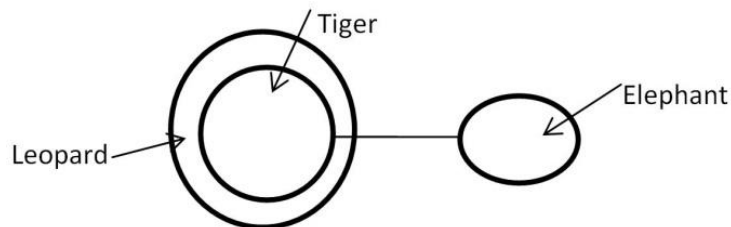
Q.36)
Ans) a
Exp) Aryan and Bipasha are husband and wife. Since Shyamal and Yogesh are brothers, and Shyamal is the brother of Aryan, Yogesh is also the brother of Aryan.
Thus, Yogesh is the brother-in-law of Bipasha. Hence, the answer is (a)

Q.37)
Ans) c
Exp) Series pattern:
9
$(9+1^2) = 10$
$(10+2^2) = 14$
So, the next number is $(14+3^2) = 23$

Q.38)
Ans) a
Exp)
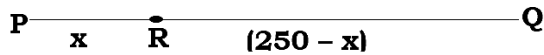
Let PR = x km. Then, QR = (250 - x) km
PQ = 125% of QR
==> $250 = \frac{125}{100}(250 - x)$
==> $250 - x = \frac{250 \times 100}{125}$
==> x = 50 km
Therefore, PR = 50 km

Q.39)
Ans) c
Exp) They are in same direction then the difference in their speed is the relative speed.
Time taken = $\frac{Distance}{Relative\ Speed}$
Note: Speed is in m/s while distance is in km. So, we have to either convert m/s into km/hr. or km into metres. We will convert m/s into km/hr = $180 \times \frac{1000}{3600}\frac{km}{hr} = 50\frac{km}{hr}$
Time = $\frac{400}{50} = 8\ hrs$

Q.40)
Ans) b
Exp) Time is inversely proportional to speed. Since ratio of speed of A: B is 4: 3, then the ratio of time will be 3: 4.
i.e. if B takes 4 minutes, then A takes 3 minutes.
Or if B takes 44 minutes, then A takes $\frac{3}{4} \times 44 = 33\ minutes$

Q.41)
Ans) b
Exp) Option b is correct.
Statement 1 is correct: The following line in the passage highlights the given statement, "The unwillingness of the devout soul to admit that evil can have its existence in God has led to variations of the Manichean theory..."
Statement 2 is incorrect: This has not been argued that rationalists do not face any problem at all but rather that they are not bothered by the origin and source of evil.
Statement 3 is correct: Following lines in the passage highlight the given statement, "Nature is blind and unintelligent and has, therefore, no conception of good or evil; the conception belongs to the human mind".
Statement 4 is correct: Following line in the passage highlights the given statement, "Unless we limit our conception of God as the source and creator of all, that from which all proceeds, we must admit that evil as part of the economy of the world must have proceeded from Him no less than good."

Q.42)

Ans) d

Exp) Option d is correct.

The author has clearly argued that Manichean theory is the where one sees a double control in the world, God as the Principle of good and Satan as the Principle of evil.

Q.43)

Ans) b

Exp) Option b is correct

The inference about the nature can clearly be drawn from the following line in the passage, "Nature is blind and unintelligent and has, therefore, no conception of good or evil; the conception belongs to the human mind and is the result of the social sense and the ideas of pleasure and pain developed in human beings by a perfectly intelligible natural process"

Q.44)

Ans) a

Exp) Option d is correct.

Although Option d is also highlighted in the passage, it is not the most logical and essential message in the passage. Rather, the author talks in length about the reason for God being a source of evil as He is all that exists. The author highlights repeatedly that we must not limit our understanding of God and must try to understand the purpose behind Him being a source of evil.

Q.45)

Ans) d

Exp) Option d is correct.

The author has clearly outlined that if we empower our employees and they participate in the process. The result is that of organisational growth and development, enhanced performance and better organisational culture.

Q.46)

Ans) b

Exp) Option b is correct.

The author has argued that first, we must identify the issues of our country and not ignore them. Furthermore, public discussion and debate are of vital importance if we want to improve our country. Public reasoning must be utilised to address the prevailing problems.

Q.47)

Ans) a

Exp) Option a is correct.

The author is arguing that true and real freedom comes from the freedom to think because that allows the discovery of anything. It is not by the discipline of putting barriers in the mind but by opening the mind we understand the true meaning of freedom.

Q.48)

Ans) c

Exp) Option c is correct.

The author has clearly argued that a good writer must write without any kind of consideration, fear or favour. Spontaneity is essential for the creation of literature. This is also highlighted by the following lines in the passage, "Unless spontaneity enters at some point or another, literary creation is impossible." and 'The literature is doomed if liberty of thought perishes.'

Q.49)
Ans) c
Exp)
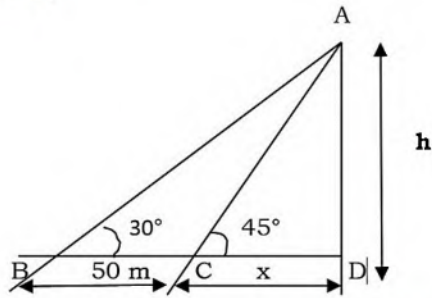
Let AD be the tower, BD be the initial shadow and CD be the final shadow.

Given that BC = 50 m, $\angle ABD = 30°$, $\angle ACD = 45°$,

Let CD = x, AD = h

From the right $\triangle$ CDA,

$\tan 45° = \dfrac{AD}{CD}$

$1 = \dfrac{h}{x}$ .... (eq. 1)

From the right $\triangle$ BDA,

$\tan 30° = \dfrac{h}{50 + x}$

$\dfrac{1}{\sqrt{3}} = \dfrac{h}{50 + x}$ .... (eq. 2)

From (eq. 1) and (eq. 2), we get

$\sqrt{3}h = 50 + h$

$h = \dfrac{50}{0.732} = 68.30\ m$

Q.50)
Ans) c
Exp) First vessel contains milk = $\frac{1}{2}$, water = $\frac{1}{2}$

Second vessel contains $milk = \frac{1}{3}$, $water = \frac{2}{3}$

Quantity of milk in large vessel = $\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$

Quantity of water in large vessel = $\frac{1}{2} + \frac{2}{3} = \frac{7}{6}$

Ratio of milk: water in large vessel = $\frac{5}{6} : \frac{7}{6} = 5 : 7$

Q.51)
Ans) d
Exp) B's 1 day's work = 1/18

B worked 6 days alone, work done in first five days = $6 \times \frac{1}{18} = \frac{1}{3}$

work left = $\left(1 - \frac{1}{3} = \frac{2}{3}\right)$

Now A and B can complete the work in 9 days. So, in next 6 days work done = $\left(6 \times \frac{1}{9} = \frac{2}{3}\right)$

So, B alone completed $\frac{1}{3}$ work and A and B together completed remaining $\frac{2}{3}$. So, A doesn't have to work alone.

Q.52)
Ans) c
Exp) Let the CP of item be x
Then, SP of the item = (x – 0.25x) = (0.75x)
0.75x = 200
x = 200/0.75 = 266.67

Q.53)
Ans) c
Exp) Clearly, 1 cannot be deduced from the statement. Also, nothing about discipline is mentioned in the statement. So, neither 1 nor 2 follows.

Q.54)
Ans) a
Exp) Using statements, what we get is written in table below;

	Profession	Relation	Other
P	~~Soldier, Engineer~~	Brother of R	
Q	Doctor	Married to Engineer	Married
R		Father of soldier, Brother of P	Married
S		Son of Q	
T	~~Engineer, Soldier~~	Married to Pilot	married
U	Actor	Son of Pilot	Unmarried

Now, T is neither Engineer nor soldier and Q is Doctor and U is an Actor and she is married to a Pilot so, she must be Musician. P is neither Soldier nor Engineer. So, he must be Pilot and Married to T. Therefore, R is married to Q. Hence, S is a soldier and Son of R and Q; U is the son of P and T.
Now, the table looks like,

	Profession	Relation
P	Pilot	Brother of R, Married to T and Father of U
Q	Doctor	Married to Engineer and Mother of S
R	Engineer	Married to Q and Father of S
S	Soldier	Son of Q and R
T	Musician	Married to Pilot and Mother of U
U	Actor	Son of P and T

Q.55)
Ans) c
Exp) Using statements, what we get is written in table below;

	Profession	Relation	Other
P	~~Soldier, Engineer~~	Brother of R	
Q	Doctor	Married to Engineer	Married
R		Father of soldier, Brother of P	Married
S		Son of Q	
T	~~Engineer, Soldier~~	Married to Pilot	married
U	Actor	Son of Pilot	Unmarried

Now, T is neither Engineer nor soldier and Q is Doctor and U is an Actor and she is married to a Pilot so, she must be Musician. P is neither Soldier nor Engineer. So, he must be Pilot and Married to T. Therefore, R is married to Q. Hence, S is a soldier and Son of R and Q; U is the son of P and T.

Now, the table looks like,

	Profession	Relation
P	Pilot	Brother of R, Married to T and Father of U
Q	Doctor	Married to Engineer and Mother of S
R	Engineer	Married to Q and Father of S
S	Soldier	Son of Q and R
T	Musician	Married to Pilot and Mother of U
U	Actor	Son of P and T

Q.56)
Ans) b
Exp) Using statements, what we get is written in table below;

	Profession	Relation	Other
P	~~Soldier, Engineer~~	Brother of R	
Q	Doctor	Married to Engineer	Married
R		Father of soldier, Brother of P	Married
S		Son of Q	
T	~~Engineer, Soldier~~	Married to Pilot	married
U	Actor	Son of Pilot	Unmarried

Now, T is neither Engineer nor soldier and Q is Doctor and U is an Actor and she is married to a Pilot so, she must be Musician. P is neither Soldier nor Engineer. So, he must be Pilot and Married to T. Therefore, R is married to Q. Hence, S is a soldier and Son of R and Q; U is the son of P and T.

Now, the table looks like,

	Profession	Relation
P	Pilot	Brother of R, Married to T and Father of U
Q	Doctor	Married to Engineer and Mother of S
R	Engineer	Married to Q and Father of S
S	Soldier	Son of Q and R
T	Musician	Married to Pilot and Mother of U
U	Actor	Son of P and T

Q.57)
Ans) b
Exp)

Only conclusion (2) follows

Q.58)
Ans) a
Exp) Clearly, such projects shall be an asset and a source of income to the country later on. So, course 1 shall follow.

Q.59)
Ans) c
Exp) Clearly, the situation demands that the faults in Accounts be properly worked out and the persons involved be interrogated about the matter. So, both the courses follow.

Q.60)
Ans) d
Exp) Re-election would demand repeated expenses and following course 2 would reduce the voter base permanently. Instead, awareness should be created among the people to use their right to vote effectively. So, neither 1 nor 2 follows.

Q.61)
Ans) c
Exp)

13	1	14	7	15		14	3	18	15	(5 or 31)
M	A	N	G	O		N	C	R	O	E

$+1$
$\pm(1\times2)$
$\pm(2\times2)$
$\pm(2\times4)$
$\pm(2\times8)$

The same pattern applied in CAT

3	1	20		4	3	24
C	A	T		D	C	X

So, the given word MOUSE follows the same pattern,

13	15	21	19	5		14	17	25	(1 or 27)	21
M	O	U	S	E		N	Q	Y	A	U

Q.62)
Ans) c
Exp) Using,
(P_1-P_2) % of a number = $r_1 - r_2$
$(30-20)$% of number = 14
Number = $\frac{14}{10} \times 100 = 140$

Q.63)
Ans) d
Exp) Option a is incorrect: The passage mentions that cloning may cure diseases and not only treat symptoms. But it does not imply that it will cure all diseases.

Option b is incorrect: Currently, many have raised the social justice concerns associated with cloning due to inaccessibility. But some believe that Cloning therapies may become cheaper, less labor intensive and more widely accessible after time. Thus, then it can promote social justice.

Option c is incorrect: The passage does mention about the alternatives to cloning.

Option d is correct: The passage is talking about the current situation of cloning that makes it raise some social justice concerns due to inaccessibility to the most people. Currently, cloning is very expensive due to the labour intensity and the cost of technology involved.

Q.64)

Ans) b

Exp) Option a is incorrect: The passage does not mention the relation between moral education and individual freedom. So, we cannot infer this statement.

Option b is correct: There were twin aims of political life in Athens – formulation of public policy and civic education. The purpose of education–which was political life itself–was to develop a person with nobler, stronger, more virtuous values. It was also a curriculum for the intellectual, moral, and civic education of her citizens. Thus, it promotes the self-development of the citizens.

Option c is incorrect: The passage does mention about the structure of Athenian education but only about its nature. So, we cannot infer this statement.

Option d is incorrect: The passage mentions that there were twin aims of political life in Athens – formulation of public policy and civic education. So, this is incorrect statement.

Q.65)

Ans) d

Exp) Option a is incorrect: The passage does not mention about the intensity of emission from crypto mining. So, we cannot infer this statement.

Option b is incorrect: The passage does not mention whether more energy will be required to mine a single Bitcoin as more people start to mine it. This statement is out of the scope of the passage.

Option c is incorrect: The passage mentions that use of drilling gas by cryto miners disincentivizes oil and gas companies from piping away that gas to be used elsewhere. So, it is clear that the oil and gas companies were selling the drilled gas and getting profits before the arrival of crypto miners also.

Option d is correct: The passage mentions that the crypto miners have started to tap an unconventional new energy source. Although their claim of no excess emissions are created while using drilled gas is refuted in the passage, but it can be inferred that they are looking for alternate sources of energy.

Q.66)

Ans) b

Exp) Option a is incorrect: This statement is out of the scope of the passage as the passage does mention about all the sources of air pollution. Though the passage talked about road emission and industrial pollution, but we cannot infer that they are the only sources of air pollution.

Option b is correct: The passage mentions that air pollution mainly affects those living in large urban areas by degrading the air quality. The spread of a toxic fog can be fatal to the populations of the surrounding areas.

Option c is incorrect: The passage does not mention how to mitigate the road emission. So this statement is out of the scope of the passage.

Option d is incorrect: The passage mentions about the parameters for dispersion of pollutants (atmospheric stability and wind). They themselves are not contributors of the air pollution.

Q.67)

Ans) c

Exp) Option a is incorrect: The passage does not compare the economic impact of COVID-19 on developed and developing countries.

Option b is incorrect: The passage mention that the COVID-19 is causing the biggest economic downturn that developing countries. But whether the same is true for developed countries, we cannot infer. So, we cannot infer that it was the biggest financial crisis in the world history.

Option c is correct: The passage mentions that the governments should be prepared to be adequately financed to withstand the collapse in tax revenues and the need for increased health and social expenditures. Absence of such action will lead to a combination of currency, debt, and banking crises.

Option d is incorrect: The passage nowhere mentions that the international community is not prepared for a Category 5 hurricane. Also, this statement cannot be the most logical inference as the passage is centered on the economic impact of COVID-19 and how to tackle them.

Q.68)

Ans) a

Exp) Statement 1 is correct: The passage mentions that the pollutants such as black carbon, methane, tropospheric ozone, and aerosols affect the amount of incoming sunlight. As a result, the temperature of the Earth is increasing and thus resulting in melting of ice, icebergs, and glaciers.

Statement 2 is correct: In Climatic changes is affecting the incidence and prevalence of viral infections. Climate affect the duration, timing, and intensity of outbreaks strongly and change the map of infectious diseases in the globe. Mosquito-transmitted parasitic or viral diseases are extremely climate-sensitive. Recently, in Europe, eradicated diseases seem to be emerging due to the migration of population, for example, cholera, poliomyelitis, tick-borne encephalitis, and malaria.

Statement 3 and 4 is incorrect: The passage does not mention the impact of climate change on nutritional levels and immunity levels. It mentions that malnutrition and disequilibration of the immune system are associated with the emerging infections. So, we cannot infer this.

Q.69)

Ans) b

Exp) Statement 1 is incorrect: Though the spread of epidemics is associated with natural climate disasters and storms but other factors like Malnutrition and disequilibration of the immune system are also associated with the emerging infections.

Statement 2 is correct: The passage mentions that the air pollution and climate change are closely related. Pollutants such as black carbon, methane, tropospheric ozone, and aerosols affect the amount of incoming sunlight. As a result, the temperature of the Earth is increasing and thus leading to climate change.

Q.70)

Ans) c

Exp) Option a is incorrect: We cannot infer that we can reverse the impact of global warming in short span of time if we reduce the air pollution.

Option b is incorrect: The passage mentions that the mosquitoes thrives in warm weather. Mosquito-transmitted parasitic or viral diseases are extremely climate-sensitive, as warming firstly shortens the pathogen incubation period and secondly shifts the geographic map of the vector.

Option c is correct: Climate and weather affect the duration, timing, and intensity of outbreaks strongly and change the map of infectious diseases in the globe. Also, the spread of epidemics is associated with natural climate disasters and storms, which seem to occur more frequently nowadays. So, it is a correct statement.

Option d is incorrect: The passage does not mention the impact of climate change on agricultural production.

Q.71)

Ans) b

Exp) In the given statement manager tells to inform everyone to not to read newspaper nothing is mentioned about either it's punishable offense or not. So, (1) doesn't follow. The manager ordered that after viewing a quarterly report which states "efficiency is decreased than earlier". So, (2) follows.

Q.72)
Ans) b
Exp) Here clock-wise and anti-clockwise arrangement s are same.
Hence the total number of circular–permutations: $^{16}P_{14}/2\times14 = \frac{16!}{2\times28}$

Q.73)
Ans) c
Exp) The numbers like 100, 200 300 are 9 in total then the zeroes in them are $9 \times 2 = 18$
Now if we see numbers like 101, 102, 103, 201 are 9 in each set of 100 numbers, then in 9 sets the total zeroes are $9 \times 9 = 81$
Then we come to numbers like 110 120 920 etc. So these numbers are 9 in each set of hundred then we have total zeroes are $9 \times 9 = 81$,
Then total number of zeroes is $81 + 81 + 18 = 180$
Now to count 4, If we conclude a number in one's place, are 104, 114, 204, 124 etc 10 per set so total are $10 \times 9 = 90$
4's in tens place like 140, 141..... 149 are 10 in each set so $10 \times 9 = 90$
Now 4 in hundred place is from 400, 401, 402 ......499= 100, so the total is $100 + 90 + 90 = 280$
The number of 7 is the same as the number of 4
From this the equation will be $\frac{280+280-180}{190} = \frac{380}{190} = 2$

Q.74)
Ans) b
Exp) Let the number be a, b and c respectively,
Then, according to the question
a: b = 2: 3
b: c = 7: 9 = $\left(7 \times \frac{3}{7} : 9 \times \frac{3}{7}\right)$
= $(3 : \frac{27}{7})$
$a: b: c = 2: 3: \frac{27}{7} => 14: 21: 27$
a = $62 \times \frac{14}{62} = 14$ $\left(Required\ number = \left(total\ number \times \frac{fraction}{total\ fraction}\right)\right)$

Q.75)
Ans) d
Exp) Let the Danish age be "5x" and Shiv's age be "6x"
It is also given that Shiv's age - Danish's age = 5
==> 6x - 5x = 5
==> x = 5
Present age of Shiv and Danish is 30 and 25 respectively. After five years their ages will be 35 and 30 respectively.
The required ratio will be 35: 30 or 7: 6

Q.76)
Ans) b
Exp) Machine A produces 2 candles in a minute. Machine A and B produce 5 candles in a minute.
So, from above we can say that Machine B produce 3 candles in a minute.
So, to produce 30 candles it will take 10 minutes.

Q.77)

Ans) c

Exp) Let's first number the conditions given in question. There are eight conditions in all.

i. Six students Arif, Badri, Chandan, Danish, Evan and Farhan appeared in several tests.

ii. Either Chandan or Farhan scores the highest.

iii. Whenever Chandan scores the highest, then Evan scores the least.

iv. Whenever Farhan scores the highest, Badri scores the least.

v. In all the tests they got different marks;

vi. Danish scores higher than Arif, but they are close competitors;

vii. Arif scores higher than Badri;

viii. Chandan scores higher than Arif

If Farhan stands second, then by condition (ii), Chandan will be first. If Chandan is first (i.e., score highest) by condition (iii), Evan scores the least. And using conditions (v), (vi), (vii) and (viii), we got the following order - Chandan – Farhan – Danish – Arif – Badri – Evan. Hence Badri stood fifth.

Q.78)

Ans) d

Exp) Let's first number the conditions given in question. There are eight conditions in all.

i. Six students Arif, Badri, Chandan, Danish, Evan and Farhan appeared in several tests.

ii. Either Chandan or Farhan scores the highest.

iii. Whenever Chandan scores the highest, then Evan scores the least.

iv. Whenever Farhan scores the highest, Badri scores the least.

v. In all the tests they got different marks;

vi. Danish scores higher than Arif, but they are close competitors;

vii. Arif scores higher than Badri;

viii. Chandan scores higher than Arif

Badri scores last means Chandan is not on the first position (condition iii). So, on the first position there must be Farhan (condition ii). Now two out of six positions first and last positions are fixed. Farhan _ _ _ _ Badri. The middle four positions will be filled by Evan, Chandan, Danish and Arif. In which Chandan, Danish and Arif will come in following order (conditions v, vi, vii and viii) – Farhan _ Chandan _ Danish _ Arif _ Badri. In this arrangement Evan can occupy four positions. In every case Chandan can be either occupy second or third place.

Q.79)

Ans) b

Exp) Let's first number the conditions given in question. There are eight conditions in all.

i. Six students Arif, Badri, Chandan, Danish, Evan and Farhan appeared in several tests.

ii. Either Chandan or Farhan scores the highest.

iii. Whenever Chandan scores the highest, then Evan scores the least.

iv. Whenever Farhan scores the highest, Badri scores the least.

v. In all the tests they got different marks;

vi. Danish scores higher than Arif, but they are close competitors;

vii. Arif scores higher than Badri;

viii. Chandan scores higher than Arif

Evan is ranked third, it means it is not ranked last, it means Chandan is not first it means Farhan is first, it means Badri is last (using conditions given in question). So, we have following arrangement - Farhan _ Evan _ _ Badri
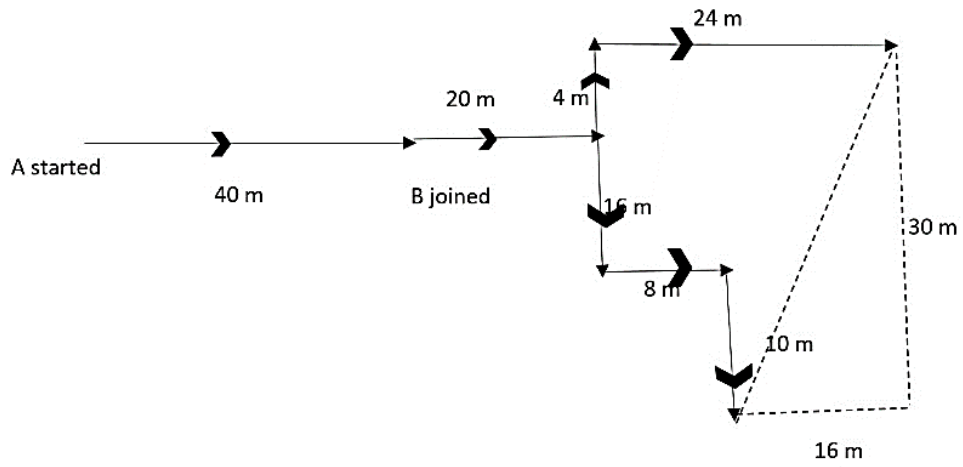
Now by using conditions (v) to (viii) we can 2 final orders – Farhan, Chandan, Evan, Danish, Arif, Badri. OR Farhan, Danish, Evan, Chandan, Arif, Badri.

Thus in 1 condition Chandan may get marks higher than Evan.

Q.80)
Ans) b
Exp)

Using Pythagoras Theorem in triangle, Shortest distance between their offices

Shortest Distance = Hypotenuse = $\sqrt{(30^2 + 16^2)} = \sqrt{900 + 256} = 34\ m$