

Let say, Time taken by Bharat be 't' minutes.

Then the time taken by Anil = t-30 minutes

Substituting these in equation (1), we get

$$\frac{t-30}{t} = \frac{1}{2}$$

$$\Rightarrow t = 60 \text{ minutes.}$$

Therefore the time taken by Anil and Bharat are 30 minutes and 60 minutes respectively.

Let Efficiency of Bharat be 'x', then Efficiency of Anil will be '2x'

$$\Rightarrow \text{Total Work} = \text{Efficiency} \times \text{Time taken} = (2x) \times 30 \text{ (or)} (x) \times 60 = 60x \text{ units.}$$

Efficiency when Anil and Bharat are working together = x+2x = 3x

Total Work = 60x units

Time taken(T) by Anil and Bharat together to complete the work = Total work/ Efficiency when Anil and Bharat work together

$$\Rightarrow T = \frac{60x}{3x}$$

$$\Rightarrow T = 20 \text{ minutes.}$$

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Reasoning

Instructions

For the following questions answer them individually

Question 26

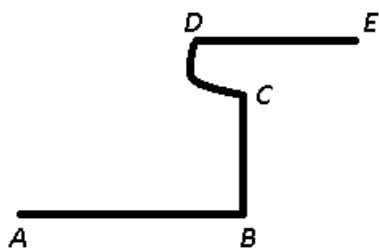
The river flows from west to east and on the way then turns left. After going some distance it encounters a hill. It goes around the hill counter-clockwise in a quarter circle, and then turns right. In which direction is the river finally following?

- A North
- B South
- C East
- D West

Answer: C

Explanation:

Let the river start from point A and flows towards B, then turns left and reach at hill C. It goes around the hill counter-clockwise in a quarter circle to reach D, and then turns right finally to reach E.



Thus, river is flowing in **east** direction.

=> Ans - (C)

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Question 27

Based on the statement given below which of the following option is correct:-

Whenever Preeti's father is in town, she abstains from school and goes to her aunt's house.

- A a) If Preeti has not abstained from school or she has not gone to her aunt's house, it means that her father is not in town.
- B b) If Preeti has not abstained from school but her father is in town, then she will definitely go to her aunt's house.
- C c) If Preeti has abstained from school but she has not gone to her aunt's house, it means that her father is not in town.
- D d) Both (a) and (c)

Answer: D

Question 28

Four friends, namely, Liyaqat, Lillian, Lima and Lalit are sitting on a horizontally placed wooden bench, all looking towards the same direction.

If:

There is at least one person sitting between Lillian and Lima;

Liyaqat is towards the right of Lima but not towards the right of Lalit;

Lalit is seated immediately next to Lillian; &

Lima is seated at one of the extreme corners of the bench.

Which of the following is definitely true?

- A Lillian and Liyaqat are seated immediately next to one another.
- B Liyaqat is seated at one of the extreme corners of the bench.
- C There is at least one person seated between Lalit and Liyaqat.
- D There is at least one person seated between Lalit and Lima.

Answer: D

Explanation:

Lima is seated at one of the extreme corners of the bench. Liyaqat is towards the right of Lima

=> Lima is at left end of row.

There is at least one person sitting between Lillian and Lima, => Now there are tow cases, when there is 1 person between them and when there are 2.

Liyaqat is towards the right of Lima but not towards the right of Lalit.

Case I :

Lima	Liyaqat	Lalit	Lillian
------	---------	-------	---------

Case II :

Lima	Liyaqat	Lillian	Lalit
------	---------	---------	-------

Thus, only statement which is definitely true is that there is at least one person between Lalit and Lima.

=> Ans - (D)

Question 29

Ali, Benu, Cutty and Dolly play four different games among Basketball, Cricket, Kabaddi and Hockey. Ali does not play Basketball or Cricket. Benu does not play Kabaddi or Hockey. Cutty plays Hockey and Dolly plays either Basketball or Hockey. Who plays cricket?

- A Ali
- B Benu

C Cutty

D Dolly

Answer: B

Explanation:

It is given that **Cutty plays Hockey**.

Dolly plays either Basketball or Hockey, => **Dolly plays Basketball**.

Ali does not play Basketball or Cricket, => **Ali plays Kabaddi**.

Thus, only one left now is **Benu plays Cricket**.

=> Ans - (B)

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Question 30

A National Highway road network has parallel and perpendicular roads running north south or east west only.

Junctions/Intersections on this road network are marked as R1, R2, R3, R4... All roads are at exactly half a kilometer distance from each other. The following is known about junctions R1, R2, R3, R4, R8 and R24.

"R1' is east of 'R2' and west of 'R3'; 'R8' is southwest of 'R3' and southwest of R2. 'R2' is southeast of 'R24'. Which junctions are the farthest south and the farthest east?

A R1, R2

B R8, R3

C R3, R8

D R2, R8

Answer: B

Question 31

125 small but identical cubes have been put together to form a large cube. How many such small cubes will be required to cover this large cube completely?

A 208

B 212

C 254

D 218

Answer: D

Explanation:

125 small cubes have been together, so we have a $5 \times 5 \times 5$ cube.

So, if we want to cover it completely we've need to cover all the sides of it completely, we will just put same cubes over the one of the sides of it and then from both the sides we've to spread it just by one row and so it will cover it properly, and do it for all the other sides.

So, now we will have a $7 \times 7 \times 7$ cube.

Thus, number of cubes required to cover it = $(7 \times 7 \times 7) - (5 \times 5 \times 5) = 218$

=> Ans - (D)

In short, to cover it completely, cubes required = $(n + 2)^3 - (n)^3$

and to make it hollow, cubes removed = $(n)^3 - (n - 2)^3$

Question 32

Five boys Ganesh, Hitesh, Ishan, Jaiknee and Kailash always compete with one another. Ishan gets more marks than Kailash and Jaiknee gets less marks than Ganesh. Hitesh gets more marks than Jaiknee and Kailash. Whose marks among the following could be the lowest?

- A Ganesh
- B Hitesh
- C Ishan
- D Jaiknee

Answer: D

Explanation:

Hitesh gets more marks than Jaiknee and Kailash, : $H > J, K$

Ishan gets more marks than Kailash and Jaiknee gets less marks than Ganesh, : $I > K$ and $G > J$

From above statements, we can conclude that one of either **Jaiknee** or Kailash could be the lowest.

=> Ans - (D)

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Question 33

Below given question has a main statement followed by four statements labeled A, B, C and D. Choose the ordered pair of statements, where the first statement implies the second and the two statements is logically consistent with the main statement.

All cubes are round in shape.

- (A) Figure A is not round in shape.
- (B) Figure A is a cube.
- (C) Figure A is not a cube.
- (D) Figure A is round in shape.

- A CA
- B DB
- C AC
- D AB

Answer: C

Explanation:

Given, All cubes are round in shape

From the above statement, it can be inferred that

If a figure is round implies it may or may not be cube because there will be other figures which are round.

If the figure is not cube implies it may or may not be round.

If the figure is not round in shape implies it should not be cube.

If the figure is cube implies it should be round.

Hence, AC and BD will be logically consistent statements with the main statement.

Question 34

If $a + b$ means a is sister of b ,
 $a - b$ means a is brother of b ,
 $a \times b$ means a is daughter of b ,
 $a \div b$ means a is mother of b ,

Which of the following relationship shows that p and r are wife and husband?

A $p \div q \times r$

B $p - q \times r$

C $p + q \times r$

D $p + q - r$

Answer: A

Explanation:

Let us verify the options.

Option (A):

$p \div q$, means p is mother of q .

$q \times r$, means q is daughter of r .

The above two statements together tells us that, p is the wife of r . Hence wife and husband relationship exists between p and r .

Therefore option (A) is the answer.

Option (B):

$p - q$, means p is the brother of q .

$q \times r$, means q is daughter of r .

The above two statements together doesn't tell us that p and r are related as wife and husband.

Hence, Option (B) is not the answer.

Option (C):

$p + q$, means p is the sister of q .

$q \times r$, means q is daughter of r .

The above two statements together doesn't tell us that p and r are related as wife and husband.

Hence, Option (C) is not the answer.

Option (D):

$p + q$, means p is the sister of q .

$q - r$, means q is the brother of r .

The above two statements together doesn't tell us that p and r are related as wife and husband.

Hence, Option (D) is not the answer

Question 35

In a code language FRIGHTENS is written as 106; SIMILARLY is written as 118; How would DEMONITISATION be written in the same language?

A 159

B 169

C 167

D 166

Answer: C

Explanation:

If we add the numbers denoted by each alphabet, when we number them as A=1, B=2, C=3.....Z=26

FRIGHTENS : $6 + 18 + 9 + 7 + 8 + 20 + 5 + 14 + 19 = 106$

SIMILARLY : $19 + 9 + 13 + 9 + 12 + 1 + 18 + 12 + 25 = 118$

DEMONITISATION : $4 + 5 + 13 + 15 + 14 + 9 + 20 + 9 + 19 + 1 + 20 + 9 + 15 + 14 = 167$

=> Ans - (C)

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Question 36

Four packets P, Q, R and S, three wallets A, B and C are kept on a table one after the other in a row from left to right. Wallet C has as many items to its left as to its right. No packet is at any extreme end of the row. Packet P is kept to the immediate left of packet R. Packet P is to the immediate right of wallet A. What is kept third from left end of the row on the table?

A C

B S

C R

D A

Answer: C

Explanation:

Wallet C has as many items to its left as to its right, => Wallet C is in middle.

No packet is at any extreme end of the row, => A and B are at ends.

Packet P is to the immediate right of wallet A, => A is at extreme left end.

A	P		C			
<u>Wlt</u>	Pkt	Pkt	<u>wlt</u>	Pkt	Pkt	<u>Wlt</u>

Packet P is kept to the immediate left of packet R.

Thus, B is at extreme right end.

A	P	R	C	Q/S	S/Q	B
<u>Wlt</u>	Pkt	Pkt	<u>wlt</u>	Pkt	Pkt	<u>Wlt</u>

∴ **Packet R** is third from left end.

=> Ans - (C)

Question 37

A green grocer sells five types of fruits- Apple, Black berry, Banana, Cherry and Peach. Black berry is more fresh and heavier than Peach. Apple is heavier than Banana and more fresh than Cherry. Cherry is heavier than Black berry, but less fresh than Peach. Banana is heavier than Black berry, but less fresh than it.

Which of the following is the lightest of all the fruits?

A Peach

B Black berry

C Apple

D Banana

Answer: A

Explanation:

We need to find the lightest fruit, so we will take the weight scale only.

Cherry is heavier than Black berry and Black berry is heavier than Peach, : $C > BB > P$

Apple is heavier than Banana, : $A > B$

Banana is heavier than Black berry, : $B > BB$

Combining above statements, we get : $A > B > BB > P$ and $C > P$

Thus, we can conclude that **Peach** is the lightest.

=> Ans - (A)

Question 38

2 3 7 4 3 2 1 5 7 3 2 7 1 0 9 8 7 5 4 7 2 3

Find the number of 7 in the given series that are followed by an even number but are not preceded by a prime number?

A 1

B 2

C 3

D 4

Answer: A

Explanation:

Number of 7 in the given series that are followed by an even number but are not preceded by a prime number

= (not a prime number) (7) (even number)

2 3 7 4 3 2 1 5 7 3 2 7 1 0 9 8 7 5 4 7 2 3

Thus, there is only one such 7.

=> Ans - (A)

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Question 39

Each of the three kids gets at least one color box out of 6 color boxes, at least one tiffin box out of 6 tiffin box and at least one chocolate box out of 6 chocolate boxes so that the total number of the items that each of them gets is the same. No one gets the same number of tiffin boxes, color boxes and chocolate boxes. Then which of the following can be TRUE?

A Each Kid gets 2 tiffin boxes, 2 color boxes and 2 chocolate boxes.

B Each Kid gets 2 tiffin boxes and 2 color boxes.

C Each Kid gets 1 color box, 2 chocolate boxes and 3 tiffin boxes.

D The number of tiffin boxes, color boxes and chocolate boxes that each Kid gets is 1, 2 and 3 not necessarily in that order.

Answer: D

Explanation:

Each of the three kids gets at least one color box out of 6 color boxes, at least one tiffin box out of 6 tiffin box and at least one

chocolate box out of 6 chocolate boxes so that the total number of the items that each of them gets is the same. No one gets the same number of tiffin boxes, color boxes and chocolate boxes.

It is given that the total number of the items that each of them gets is the same.

Total number of items = $6 + 6 + 6 = 18$

So each one will get $18/3 = 6$ items.

If no one gets the same number of tiffin boxes, color boxes and chocolate boxes

Then the number of items with each must be 1, 2, 3.

tiffin boxes color boxes chocolate boxes.

1 2 3

2 3 1

3 1 2.

Only option D is correct.

Question 40

A, B, C, D, E, F and G are seven members in a family, out of which there are three females and four males. There are two architects, two travel agents, one teacher, one engineer and one doctor. No lady is either a teacher or an engineer. C is a travel agent and is married to A, who is a teacher. F, the engineer, is married to D, who is neither a travel agent nor a doctor. No two ladies have the same profession. B is the sister of G who is an architect.

What is E's profession?

A Architect

B Travel agent

C Engineer

D Doctor

Answer: B

Explanation:

No lady is either a teacher or an engineer. No two ladies have the same profession.

=> The three females will be doctor, architect and travel agent each.

C is a travel agent and is married to A, who is a teacher, => A is male and C is female.

F, the engineer, is married to D, => F is male (because no females are engineer) and thus D is female.

D is neither a travel agent nor a doctor, => D is architect.

B is the sister of G who is an architect, => B the last remaining female is doctor, and thus G and E are the remaining males.

m	A	Teacher
f	B	Doctor
f	C	Travel Agent
f	D	Architect
m	E	Travel Agent
m	F	Engineer
m	G	Architect

Thus, E is a travel agent.

=> Ans - (B)

Question 41

There are six members - Pills, Qills, Rills, Sills, Tills and Uills in a family. There are two married couples. Qills is Bengali and is the father of Tills. Uills is the grandfather of Rills. Uills is from Tamil Naidu. Sills is the grandmother of Tills and Sills is from Punjab. There is one Bengali, one Tamilian, one Punjabi, one Telegu and two Haryanvis in the family. The Telegu person is a female and married. Nobody who is a grandchild is married.

Which of the following two are married couples?

- A Pills Qills, Uills Sills
- B Pills Sills, Qills Uills
- C Pills Rills, Qills Sills
- D Pills Uills, Qills Rills

Answer: A

Explanation:

Qills is Bengali and is the father of Tills. Sills is the grandmother of Tills and Sills is from Punjab

=> Sills is mother of Qills.

Uills is the grandfather of Rills., => Uills is husband of Sills.

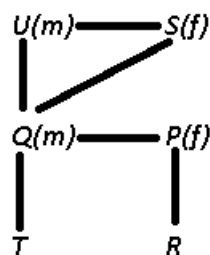
Also, Rills and Tills are grandchildren and siblings.

The Telegu person is a female and married, => Pills is wife of Qills.

The remaining two Rills and Uills are Haryanvis.

f	P	Telugu
m	Q	Bengali
m/f	R	Haryanvi
f	S	Punjabi
m/f	T	Tamilian
m	U	Haryanvi

The married couples are :



=> Ans - (A)

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Question 42

Complete the below given series:-

0, 6, 6, 20, 20, ____.

- A 42
- B 40

C 26

D 32

Answer: A

Explanation:

$$0 = 1^2 - 1$$

$$6 = 2^2 + 2$$

$$6 = 3^2 - 3$$

$$20 = 4^2 + 4$$

$$20 = 5^2 - 5$$

$$42 = 6^2 + 6$$

Option A is correct.

Question 43

Looking at Samir, Rahul said, "Your only brother is the father of my daughter's father". How is Samir related to Rahul?

A Father

B Grandfather

C Brother-in-laws

D Uncle

Answer: D

Explanation:

Father of Rahul's daughter's father = Rahuls' father

Now, Samir's only brother = Rahul's father

=> Samir is Rahul's uncle.

=> Ans - (D)

Question 44

Kapila, Meenal, Rishi, Pradeep and Lalita have five flats in different buildings of five different colours- Blue, White, Red, Orange and Green. The Green building is the shortest of all the buildings and Pradeep's flat is in it. The building in which Lalita's flat is located, is neither Blue nor White in colour and is taller than the building in which Meenal's and Rishi's flats are located. One person's name starts with the same letter as the first letter of the building's colour in which he resides and it is the second tallest of all. Which of the following can be TRUE about the resident of the building, its colour and its height?

A Lalita - Blue - Shortest

B Meenal - Red - Tallest

C Lalita - Orange - Tallest

D Pradeep - Green - Tallest

Answer: C

Explanation:

The Green building is the shortest of all the buildings and Pradeep's flat is in it (5-shortest and 1-tallest)

One person's name starts with the same letter as the first letter of the building's colour in which he resides and it is the second tallest of all.

=> There is only one such combination, Rishi and Red.

Height	Person	Colour
	<u>Kapila</u>	
	<u>Meenal</u>	
2	<u>Rishi</u>	Red
5	<u>Pradeep</u>	Green
	<u>Lalita</u>	

The building in which Lalita's flat is located, is neither Blue nor White in colour, => Lalita's flat is Orange.

Also, Lalita's building is taller than Rishi's building, => Its the tallest.

Height	Person	Colour
	<u>Kapila</u>	
	<u>Meenal</u>	
2	<u>Rishi</u>	Red
5	<u>Pradeep</u>	Green
1	<u>Lalita</u>	Orange

Thus, only true combination is : **Lalita-Orange-Tallest.**

=> Ans - (C)

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Question 45

Five theatres PVR, DT, Chanakya, Regal and Maratha Mandir screen two out of ten films based on Romance, Thriller, Horror, Adventure, Children, Drama, Documentary, History, Religion and Cartoon. Each theatre exhibits only two films and allots two different slots for them, wherein slot I is before slot II. Chanakya screens a Horror film in the first slot, while Maratha Mandir exhibits a Historical film in the second slot. DT exhibits a thriller film in the second slot and Regal exhibits a documentary film.

Drama must be exhibited only in the second slot. The children's film and the Cartoon film are exhibited in the same theatre while the religious film is not in the

first slot. If Chanakya screens a Religious film in its second slot, then which of the films can be screened by theatre Regal?

- A Cartoon and History
- B Documentary and Drama
- C Documentary and History
- D Horror and Documentary

Answer: B

Explanation:

Chanakya screens a Horror film in the first slot, while Maratha Mandir exhibits a Historical film in the second slot. DT exhibits a thriller film in the second slot and Regal exhibits a documentary film.

Theatre	Slot I	Slot II
PVR		
DT		Thriller
Chanakya	Horror	
Regal		
Maratha Mandir		Historical

(Documentary)

(Drama)

The children's film and the Cartoon film are exhibited in the same theatre, => Only theatre with two slots left is PVR.

Theatre	Slot I	Slot II
PVR	Children/ Cartoon	Cartoon/ Children
DT		Thriller
Chanakya	Horror	
Regal		
Maratha Mandir		Historical

(Documentary)

(Drama)

Religious film is not in the first slot, => Religious and Drama are in second slot, and thus Documentary is played in Regal in first slot.

Theatre	Slot I	Slot II
PVR	Children/ Cartoon	Cartoon/ Children
DT		Thriller
Chanakya	Horror	Religious/ Drama
Regal	Documentary	Drama/ Religious
Maratha Mandir		Historical

∴ If Chanakya screens a Religious film in its second slot, then **Documentary and Drama** films can be screened by theatre Regal.

=> Ans - (B)

Question 46

Three girls K, L, M and three boys N, Z and P are sitting around a table facing inwards playing cards. K and L do not sit next to each other. Z and P are opposite each other. M is sitting to the immediate right of P. If K is not between Z and M, then N is not next to P. Which of the following is not an arrangement (in clockwise direction) satisfying the conditions given above?

- A NK Z LMP
- B PKN Z LM
- C LN Z KMP
- D KMPLN Z

Answer: A

Explanation:

The last condition i.e If K is not between Z and M, then N is not next to P which is not satisfied in option A.

In Option A, N is next to P since it is a circular arrangement.

Hence, the correct answer is Option A

Question 47

Ten candidates appear for an interview and six of them are selected. There are two M.Techs, two MBAs, two MBBS and four LLB among the candidates. At least one MBA candidate is selected, of the six selected candidates, exactly one must be an M.Tech candidate. If two MBBS candidates are selected, then which of the following statements can be TRUE?

- A One MBA and one LLB candidate are selected.
- B Three LLB candidate are selected.
- C Only one MBA and two LLB candidates are selected.
- D One M.Tech and three LLB Candidates are selected.

Answer: C

Explanation:

Course	M. techs	<u>MBAs</u>	MBBS	LLB
Total (10)	2	2	2	4
Selected (6)	1		2	

3 candidates are already selected and now at least one MBA candidate is selected.

Case I : 1 MBA and 2 LLB candidates are selected.

Case II : 2 MBA and 1 LLB candidates are selected.

Case III : 1 each of M.tech, MBA and LLB candidate is selected.

Thus, case I matches the third option.

=> Ans - (C)

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Question 48

All students are young; some young are short; all short are stout; most stout are clever; all clever are courageous, then which of the following is most definitely false?

- A Some students are stout
- B Some young are courageous
- C Most stout are courageous
- D All stout are courageous

Answer: D

Question 49

Arvind, Saurabh, Romy and Denu, have different qualifications. Their qualifications are MBA, B.Tech, M.Tech and LLB - not necessarily in that order. Arvind and Romy are not MBAs, whereas Saurabh and Romy are not LLB; Romy and Denu are not B.Tech, whereas Denu and Arvind are not M.Tech.

If Saurabh is a B.Tech then which of the following should be an MBA?

- A Romy
- B Arvind
- C Denu
- D Either Romy or Denu

Answer: C

Explanation:

Data arranged as per the statements

	MBA	B.Tech	M.Tech	LLB
Arvind	X		X	
Saurabh				X
Romy	X	X		X
Denu		X	X	

Now if Saurabh is a B.Tech, then **Denu** should be an MBA.

=> Ans - (C)

Question 50

Five delegates P, Q, R, S and T are forwarding their files to one another. P sends his file to Q, S and T, T sends his files to R while P and R exchange their files with each other. Q sends his file to S who sends his files to T. If P has to forward his files to R, then in how many ways P can forward files to R?

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

Answer: C

Explanation:

From the given data, we can compile the following table

Receiver Sender	P	Q	R	S	T
P		✓	✓	✓	✓
Q				✓	
R	✓				
S					✓
T			✓		

This table represents that Sender P will send files to Q R S and T

The various ways of transferring files from P to R is

- 1)PR
- 2)PQSTR
- 3)PSTR
- 4)PTR

Hence 4 ways..

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Verbal

Instructions

Read the passage carefully and answer the question that follows.

Passage I

I once made a statement in a room full of college students that the most important thing a young person could acquire in college might be a sense of her own limitations. I realised when I said it that it was not a very fashionable thing to say. Popular books on how to therapy, stress the glorious potential of every human being and urge us to accept ourselves, finally, as being only a little lower than the angels. I heartily approve of any celebration of human potential, but I believe that we must acknowledge our potential for limitless evil as well. We must understand what we can do in the way of evil before we can even pretend to be good. This is the beginning of morality, the psychological or spiritual or, in a religious tradition, the mythical basis that makes morality possible. One of the most moral book of the past century is Joseph Conrad's Heart of Darkness, because Conrad faces the problem of evil in people. He tells us that we must recognize in ourselves the ability to put the head of our enemy on stick and dance around a fire with it, and only when we recognize that can we even begin to deal with any moral question at all. Students who have been nourished on pop psychology and told "I'm O.K." have some trouble dealing with Conrad, and some of them regard him as perverse. I am amazed at the number of educated people who believe that we are somehow better, more moral, than our ancestors were. I have seen otherwise intelligent people grow red in the face at the suggestion that human beings are not better now - less cruel, more considerate, less animalistic, more humane- than they were when Nero ruled Rome or when the Pharaohs ruled Egypt or, when the Druids at Stonehenge readied their sacrifices. In one way we are more likely to have become dull to our potential for evil (and so discover it suddenly and with disastrous consequences) today than we were a few centuries ago. This is because we actively suppress the kind of self-knowledge that makes intelligent moral decisions possible. Sin and guilt are such old-fashioned terms that most of us are embarrassed by the very words.

Question 51

The beginning of morality is based on:-

- A A strong religious and ethical sense.
- B A knowledge of the possibilities of evil as well as good.
- C A profound sense of tradition.
- D An innate sense of good and evil.