1.	2	**21.**	1	**41.**	2	**61.**	2	**81.**	3
2.	2	**22.**	4	**42.**	4	**62.**	1	**82.**	5
3.	5	**23.**	3	**43.**	5	**63.**	3	**83.**	1
4.	3	**24.**	4	**44.**	5	**64.**	5	**84.**	4
5.	4	**25.**	4	**45.**	2	**65.**	2	**85.**	5
6.	1	**26.**	3	**46.**	4	**66.**	5	**86.**	2
7.	2	**27.**	2	**47.**	5	**67.**	3	**87.**	4
8.	3	**28.**	3	**48.**	4	**68.**	4	**88.**	3
9.	5	**29.**	3	**49.**	5	**69.**	1	**89.**	4
10.	5	**30.**	1	**50.**	3	**70.**	5	**90.**	5
11.	3	**31.**	1	**51.**	3	**71.**	5		
12.	2	**32.**	4	**52.**	2	**72.**	2		
13.	3	**33.**	3	**53.**	2	**73.**	2		
14.	4	**34.**	3	**54.**	1	**74.**	1		
15.	1	**35.**	2	**55.**	1	**75.**	4		
16.	5	**36.**	1	**56.**	4	**76.**	3		
17.	1	**37.**	5	**57.**	3	**77.**	4		
18.	1	**38.**	5	**58.**	5	**78.**	2		
19.	5	**39.**	4	**59.**	3	**79.**	2		
20.	2	**40.**	1	**60.**	4	**80.**	1		

CAT 2008 Solutions

1. Since amount of rice, in the end is zero , so last person must have got $= \frac{1}{2} + \frac{1}{2} = 1$ kg

So, shopkeeper must have had $2 + 1 = 3\ kg$

So, 2nd person will get $= 1\frac{1}{2} + \frac{1}{2} = 2$ kg

After that shopkeeper had $3\frac{1}{2} + 3\frac{1}{2} = 7$ kg

originally.

2. $f(3) = 9a + 3b + c = 0$ ----------(1)
$f(5) = -3\,f(2) \Rightarrow 25a + 5b + c = -3(4a + 2b + c)$
$\Rightarrow 25a + 5b + c = -12a - 6b - 3c$
$\Rightarrow 37a + 11b + 4c = 0$. ----------(2)
Equation 2 – 4 × (Equation 1)
Given a – b = 0, a = b , if a = b, then sum = –1,
so other root = –4.

3. Since a = b, thus
from Equation1 $\Rightarrow$ 12a + c = 0
from Equation2 $\Rightarrow$ 48a + 4c = 0
Can't be determined

4. In the first series the numbers are of the type 4n + 1, in second series the numbers are of the type 5m + 1. Thus we need to find out the numbers of type 20x + 1.
It is a series of 21, 41, 61, ---------- 401.
Total number of terms is = 20.

5. No. of ways to reach from A to one corner of the park P = 4! / 2! × 2! = 6
No. of ways to reach from one corner to another corner of the park P = 1
No. of ways to reach from another corner of park P to B = 6! / 4! × 2!
Total number of possible shortest paths from A to B = 6 × 1 × 15 = 90

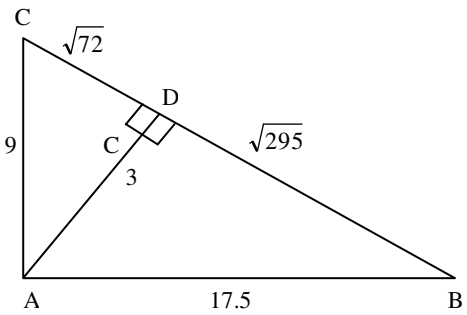
6. Looking at the figure carefully and analyzing there are total of 13 ways to reach C from B or Vice Versa.
Using fundamental Laws of multiplication, the number of ways from her house at A to her club at C Via B = (No. of ways from A to B) × (No. of ways from B to C)
Therefore the required no. of ways has to be multiple of 13.
Out of the choices only option (1) is a multiple of 13. i.e. 1170.

7. $f(x)\,f(y) = f(xy)$,
$f(2) = 4, f(2)\,f(1) = f(2)$,
$4 \times f(1) = 4$, So $f(1) = 1$,
$f(2)\,f(2) = f(4)$
$4 \times 4 = f(4)$, So $f(4) = 16$,
$f(4)\,f(1/2) = f(2)$, $16 \times f(1/2) = 4$,
$f(1/2) = 1/4$

8. Total sum of the numbers written on the blackboard = 40 × 41/2 = 820
When two numbers 'a' and 'b' are erased and replaced by a new number a + b - 1, the total sum of the numbers written on the blackboard is reduced by 1. Since, this operation is repeated 39 times, therefore, the total sum of the numbers will be reduced by 1 × 39 = 39.
Therefore, after 39 operations there will be only 1 number that will be left on the blackboard and that will be 820 - 39 = 781.

9. This is a function in which we need to find out the digital root (the process in which sum of the digit is to be calculated till a single digit result). And in the question it is asking about the no. of integers having digital root 9. 9, 18 , 27, ---------- 495 (all the multiples of 9 < 500)
These are 55 in number.

10.



Area of triangle will be =

$$\frac{1}{2}(\sqrt{72} + \sqrt{295}) \times 3 = \frac{1}{2}(8.5 + 17.2) \times 3$$

Radius of a circumcircle is always = $R = \frac{abc}{4\Delta}$

On solving we get 26.25 as answer.

11. On seeing the cyclicity of last 2 digits of 7, we get 07, 49, 43, 01 as the last 2 digits, so the answer is 01.

12. Let the roots of the above cubic equation be
$(\alpha - 1), \alpha, (\alpha + 1)$
$\Rightarrow \alpha(\alpha - 1) + \alpha(\alpha + 1) + (\alpha + 1)(\alpha - 1) = b$
$\Rightarrow \alpha^2 - 1 + \alpha^2 + \alpha + \alpha^2 - 1 = b \Rightarrow 3\alpha^2 - 1 = b$
Thus, the minimum possible value of 'b' will be equal to - 1 and this value is attained at $\alpha = 0$.

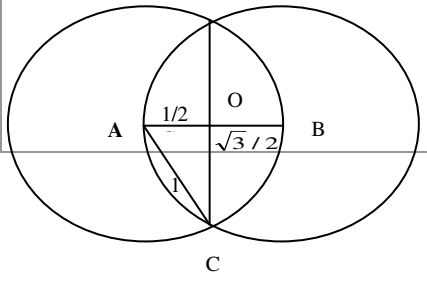
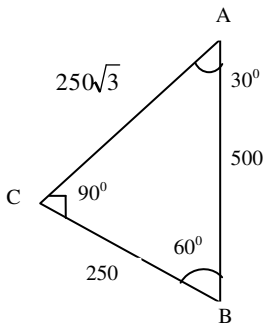
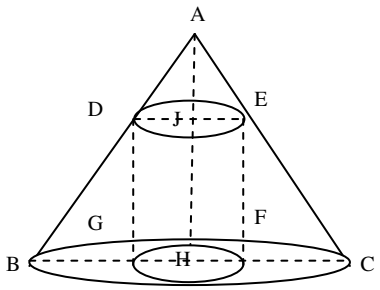
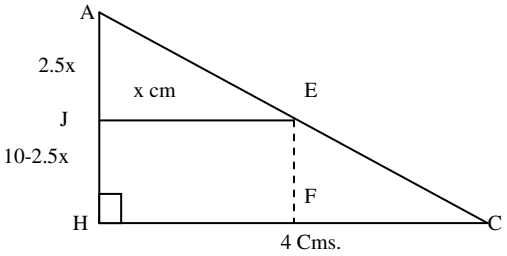
13. According to basic property of triangle, sum of any two sides of a triangle must be greater than third side.
Since it is an obtuse angled triangle of say sides a, b and c, so $a^2 + b^2 < c^2$.
If x is taken as the largest side then the third side can be 18, 19, 20, 21 and 22.
Also if we take 15 as the largest side, then the third side could be 8, 9, 10, 11 and 12.
Thus 10 triangles exist.

14.

1	2	3	4

The first place can be filled in 3 ways (1, 2, 3)
The second place can be filled in 5 ways (0, 1, 2, 3, 4)
The third place can be filled in 5 ways (0, 1, 2, 3, 4)
The fourth place can be filled in 5 ways (0, 1, 2, 3, 4)
So that total numbers = 3 × 5 × 5 × 5 = 375.
So 375 + 1 (4000) = 376.

15. Number of terms in the given expansion is nothing but the non-negative integral solutions of the equation a + b + c = 20.
Using formula

	${}^{n+r-1}C_{r-1} \Rightarrow {}^{20+3-1}C_{3-1} = {}^{22}C_2 = 231$
16.	Through symmetry, AP = PD $\therefore \Delta$ APD is an isosceles triangle. Hence $\angle$ PAD = $\angle$ PDH = 30^0 Let AD = x & AH = $\frac{x}{2}$, Now $\frac{PH}{AH} = \tan 30^0$ & PH = AH tan $30^0 = \frac{x}{2} \times \frac{1}{\sqrt{3}} = \frac{x}{2\sqrt{3}}$ $\therefore$ Area of Δ APD = $\frac{1}{2} \times AD \times PH = \frac{1}{2} \times x \times \frac{x}{2\sqrt{3}} = \frac{x^2}{4\sqrt{3}}$ $\therefore$ Area of two Δ APD & BQC = $\frac{x^2}{2\sqrt{3}}$, Area of APDGCBE = $x^2 - \frac{x^2}{2\sqrt{3}} = \frac{(2\sqrt{3}-1)x^2}{2\sqrt{3}}$ $\therefore$ Required ratio = $\frac{\frac{(2\sqrt{3}-1)x^2}{2\sqrt{3}}}{\frac{x^2}{2\sqrt{3}}} = 2\sqrt{3}-1$
17.	Check by the options, only 3 satisfies this condition. Hence answer is $1 \le m \le 3$.
18.	Taking 1st two terms of the series we have $\sqrt{1+\frac{1}{1^2}+\frac{1}{2^2}} + \sqrt{1+\frac{1}{2^2}+\frac{1}{3^2}}$ $= \frac{3}{2} + \frac{7}{6} = \frac{16}{6} = \frac{8}{3} = 3 - \frac{1}{3}.$ Taking 1st three terms we have $\sqrt{1+\frac{1}{1^2}+\frac{1}{2^2}} + \sqrt{1+\frac{1}{2^2}+\frac{1}{3^2}} + \sqrt{1+\frac{1}{3^2}+\frac{1}{4^2}}$ $= \frac{3}{2} + \frac{7}{6} + \frac{13}{12} = \frac{45}{12} = \frac{15}{4} = 4 - \frac{1}{4}$ On this pattern we can conclude that $\sqrt{1+\frac{1}{1^2}+\frac{1}{2^2}} + \sqrt{1+\frac{1}{2^2}+\frac{1}{3^2}} = - - - - - - - - +$ $\sqrt{1+\frac{1}{2007^2}+\frac{1}{2008^2}} = 2008 - \frac{1}{2008}$
19.	In ΔAOC becomes a 30° 60° 90° As sides are AC = 1, AO = 1/2 and OC = $\frac{\sqrt{3}}{2}$ So, area of segment CBD = Area of sector ACBD – Area of ΔACB = $\left[\frac{120}{360} \times \pi \times (1)^2 - \frac{1}{2} \times \sqrt{3} \times \frac{1}{2}\right]$ On multiplying the equation by 2, we get the area of the intersecting region as $\frac{2\pi}{3} - \frac{\sqrt{3}}{2}$ 
20.	Using sine formulae, $\frac{\sin 90^0}{500} = \frac{\sin 30^0}{BC}$ $\Rightarrow$BC = 250km. Also $\frac{\sin 90^0}{500} = \frac{\sin 60^0}{AC} \Rightarrow AC = 250\sqrt{3}$ km Train from B will cover 250km @ 50kmph in 5hrs. $\Rightarrow$ it will reach C at 1pm.  Rahim will cover $250\sqrt{3}$ @ 70kmph from A to C in 6hrs 12 min. But he has to reach atleast 15 minutes earlier, so maximum he can take 6hrs. 27 minutes. So if he takes 6hrs 30 minutes, he reaches atleast 15 minutes before arrival time of the train. $\Rightarrow$ he must leave A by latest 6.30 A. M.
21.	Let ABC be required cone, Let DEFG be the required cylinder  Now considering Similar triangles Δ AEJ and Δ ACH Let x = Radius of cylinder, 10 – y = Ht. of cylinder.  $\frac{x}{4} = \frac{y}{10} \Rightarrow y = 2.5x$ $\Rightarrow$ Ht. of cylinder = $10 - y = 10 - 2.5x$ Surface Area = $\pi x^2 + \pi x^2 + 2\pi x(10 - 2.5x)$

	$S = 20\pi x - 3\pi x^2$ $\Rightarrow$ For S_{max} $\frac{ds}{dx} = 20\pi - 6\pi x = 0$ $\Rightarrow x = \frac{10}{3} cm.$ $\frac{d^2s}{dx^2} = -6\pi < 0$ Thus for Radius = $\frac{10}{3} cm$ we get Surface area $= \pi\left(\frac{10}{3}\right)^2 + \pi\left(\frac{10}{3}\right)^2 + 2\pi\left(\frac{10}{3}\right)\left(\frac{5}{3}\right)$ $= \frac{100}{3}\pi$ Alternatively : Surface area = $\pi x^2 + \pi x^2 + 2\pi x[10 - 2.5x] = 20\pi x - 3\pi x^2$ Substituting Surface area attains max around $x \cong 3 \Rightarrow$ surface Area (Max) = $\frac{100\pi}{3}$
22.	Going by options, one by one. Considering the case G W S B R , so 1st and 2nd option can be true. Considering the case B G W R S , so 3rd and 5th options can be true. If we consider 4th option, then Red can be first and thus Raju will get atleast Rs. 12000 or otherwise if White horse is first, then Raju will get atleast Rs. 8000 while it is given that there is no profit or loss. So there can never be three horses between white and red.
23.	_ W _ G _ If we assume that white came in second, then in no way Raju ends up at no profit and no loss because white at second place gives Rs. 6000 to Raju. But out of the Red and Black horses one has to come at 3rd place, so Raju would be getting higher amount than what he has spent. So white can never come in second.
24.	The question cannot be answered by using statement A because we do not know the number of byes got by the champion. The question cannot be answered by using statement B because we do not know the exact number of players in the tournament. **Combining both the statements together:** If there are 83 players, then there will be 7 rounds in the tournament and we know that the champion received only one bye, therefore the total number of matches played by the tournament will be 7 - 1 = 6.
25.	Using statement A: When n = 127, exactly one bye is given in round 1. When = 96, exactly one bye is given in round 6. As no unique value of n can be determined hence, statement A alone is not sufficient. Using statement B: As we do not know exactly how many byes are given, in total, we cannot determine the value of n, uniquely. Combining statement A and B: There is a unique value of n = 120, for which exactly 1 bye is given from the third round to the fourth round.
26.	Since we have to maximize Aditya's marks, let us take the base values of 50 marks in each section and try to reduce that by minimum values to ensure he doesn't get any call. We notice that by reducing the marks obtained in section C to 41, we ensure colleges 1, 2, 3 & 5 are ruled out. Now for colleges 4 & 6, reducing the marks obtained in section D to 43, ensures these colleges are als2o ruled out. Please note that we are reducing the score to 1 less than the minimum cut-off across all colleges for that particular section. In the other two sections A and B, Aditya may score 50 each. So, the maximum possible aggregate marks = 50 + 50 + 41 + 43 = 184.
27.	According to question, Bhama need to clear cut off in all the sections for all the colleges. For minimum total we need to assign: Score in Section A = 45, Section B = 45, Section C = 46, Section D = 45, Total Score = 181.
28.	As the least and second least aggregate cut off marks are 171 & 175. Here, we need to find the minimum score in any section. Let the student score a total of 175 marks and let the marks of the student in the section A, Section B and Section C to be 50. In that case, the minimum marks in the Section D will become 25, which will be our answer.
29.	Required percentage change = $\frac{90/180 - 120/380}{90/180} \times 100 \cong 36.84\%$
30.	Actual subscription in Europe = 600 , Subscription based on given assumption = $500 + \frac{500 \times 120}{380} = 657 \cong 50$
31.	No. of men = 60 No. of women = 40 As per given condition No. of men in 2010 = $60 \times (1.05)^7 = 84$ No. of women in 2010 = $40 \times (1.1)^7 = 78$. Hence total new population = 84+78 = 162 Therefore net percentage growth of subscriber is 62%
32.	Maximum absolute value of the change is in year 08 – 09 which is 45%
33.	To increase the average of Finance by one we need to transfer a man from marketing to finance of a age of 50 years. To cover this gap, the man who is being transferred to marketing from finance has to be 30 only. Final effect goes to HR department where person who is being transferred to HR has to be age of age 35 – 20 = 15. So final average age of HR department = [(5×45)+(1×15)]/(5+1) = 40 years.
34.	Total pay of Marketing man having age 40 years when he is transferred to HR department will be = 8000 + 90% of 8000 = 15200. Total pay of HR Department will be (5000 + 70% of 5000) × 5 = 42500. Total pay of HR Department after inclusion of marketing man = 42,500 + 15,200 = 57,700. Average gross salary of HR Department

	= 57700/6 = 9616.6. Change in average salary = 9616.6 – 8500 = 1116.6. Hence percentage change = $\frac{1116.6}{8500}\times 100 = 13.1 \cong 13\%$
35.	2 Person transferred from maintenance department to HR department will contribute = $2\times 6000 = 12000$ One person transferred from Marketing Department will contribute = 8000. Total basic salary of HR Department = 5000 × 5 + 12000 + 8000 = 45,000. Average basic salary of HR Department = 45000/8 = Rs.5625 Change in Average salary is = Rs. 625 Percentage change = $\frac{625}{5000}\times 100 = 12.5\%$
36.	As the question defines that it was a boom day, as per that and information given Abdul buys at 10 am, the lowest price and sells at 3 pm, the highest price. He will make the maximum profit. The two other persons Bikram and Chetan, are investing with different strategies, one with equal units and other will equal investment. In that approach the person with equal investment at all the prices always will have the lower average price. Thus Chetan will have higher profits and returns. Thus lowest return will be of that of Bikram.
37.	The question states that the prices were fluctuating , nothing is given about the direction of the prices. Secondly it is not known that when Bikram and Chetan bought whether the prices were more than the opening price or lesser than the opening price. Thus cannot be determined.
38.	Suppose the price of shares remains same throughout the day then all the four given statements would not hold true.
39-40.	Let the share price at 10 am, 11 am, 12 noon, 1 pm, 2 pm and 3 pm be a, b, c, d, e & f rupees respectively. From information (i) we get, a > f …(I) From information (ii) we get a) Dane made profit i.e. (a + b + c) < (d + e + f) (II) And, (b) Emily made profit continued from original i.e. c/a× f/d > 1 (III) or c × f > a × d (IV) From information in sentence (III) we get, e > f (V) From information in sentence (IV) we get, a > c (VI) On combining in equations (I) & (IV) we get c > d (VII) On combining in-equations (I) and (VII) we get, a + c > d + f …(VIII) On combining in-equations (II) and (VIII) we get, e > b …(IX) Hence, we get the sequence as (a > f > e > b) and (c > d). And also we know that 'a' is greater than both 'c' and 'd', therefore 'a' is the highest among the six mentioned variables.
39.	Since the price at 11 am i.e. 'b' is less than the price at 2 pm (i.e. 'c'), hence statement (1) is necessarily false. From (VII) we know that c > d. Hence statement (4) is also necessarily false. *In the answer key given by IIMs this question is disqualified on the ground of inconsistency of data, but the explanations, which were made by our team are given here for your clarity about the approach to answer this question.*
40.	The price at 10 am i.e. 'a' is greater than prices at any other time.
41-43.	<table><tr><td>Yellow</td><td>Green</td><td>Blue</td></tr><tr><td>R</td><td>Q</td><td>T</td></tr></table> <table><tr><td>P</td><td>U</td><td>S</td></tr><tr><td>White</td><td>Orange</td><td>Red</td></tr></table> T > S, Q > P > R > U
44.	The total out come of the 1st stage is as follow A: Defeated B, C, D B: Defeated E & F and lost to A C: Lost to A, D and E D: Defeated C and F & lost to A E: Defeated C and A lose to B F: Lost to B, D and E. The total out come of the 2nd stage is as follow <table><tr><td></td><td>No of matches played</td><td>won</td><td>lost</td></tr><tr><td>A</td><td>2</td><td>0</td><td>2</td></tr><tr><td>B</td><td>2</td><td>2</td><td>0</td></tr><tr><td>C</td><td>2</td><td>0</td><td>2</td></tr><tr><td>D</td><td>2</td><td>0</td><td>2</td></tr><tr><td>E</td><td>2</td><td>2</td><td>0</td></tr><tr><td>F</td><td>2</td><td>2</td><td>0</td></tr></table>
48.	Volume of data transfer for Spain is 30/13 ≅ 2 and Value of data transfer for UK is $\frac{15}{7} \cong 2$, Hence are same. For rest of the choices it is quite different.
49.	Total revenue of Singapore is $\frac{9}{21\%} \cong 42$ which is about 4 times that of India ($\frac{.9}{8\%} \cong 11$)
50.	<table><tr><td></td><td>India</td><td>Sweden</td></tr><tr><td>Percentage share</td><td>27%</td><td>36%</td></tr><tr><td>Total Revenue</td><td>200</td><td>100</td></tr><tr><td>Volume of Data Transfer</td><td>Same</td><td>Same</td></tr><tr><td>Revenue from Data Transfer as a percentage of total Revenue</td><td>27% of 200 = 54</td><td>36</td></tr></table> Hence volume of Data transfer for Sweden is $\frac{36}{6.5} = 5.8$, which is the same for India. Therefore new ARDT of India is $\frac{54}{5.8} = 9.3$ which is approx. 9 times the previous value. Hence percentage increase of ARDT in India is approx. 800%
51.	Brooch - jewellery and item for jewellery, Broach - to think. Councillor – representative of local authority, Counsellor – Advisor. Climactic – constituting a climax, climatic – relating to climate. Flair – aptitude, flare – expanding outward.
52.	Currants – fruits. Exceptional – uncommon/extra ordinary, Exceptionable – objectionable.

	Consent – to accept/give acceptance, Assent – agreement. Obliged – legal obligations, Compel – to force. Sanguine – optimistic, Genuine – real.
53.	Caustic – bitter. Cogent plea (idiomatic usage) Adverse – unfavorable, Averse – opposed. Coupé – a small compartment, Coup – a struggle. Peeling – to scrap off, Pealing – a set of bells tuned to each other.
54.	Defused – reduce severity of, Diffuse – spread. Bated – to lessen, Bait – to harass. Hoard – to accumulate, Horde – a large group. Internment – to confine. Unsociable – unfriendly.
55.	Error in A- spelling of imigrant is immigrant Error in C - , (comma) required after in-law & David Stern
56.	Error in B- ……changes in "its" labour policy Error in C – sensing that…. Error in E – an industry leader
57.	Error in B – it should be millions Error in D- it should be 'the hundreds' Error in E- the death count "has" just begun
58.	Error in B & C- of tenses Error in E "make an effort"
59.	Disingenuous means insincere, Victims is the exact opposite of perpetrators
60.	Concede means "to accept/acknowledge reluctantly" hence choice 4
61.	Anticipate the blanks. This is a sentence which talks of the usual Nature Vs Nurture theory of development. So the first blank should be something related to genes or nature. Clue for this is that the environment part, read nurture, is already mentioned. So we narrow down the choices to 2 & 5. Option 2 fits the second blank better, because education is a more generic term.
62.	Tenets means any opinion, principle, doctrine. Principles to the extent of being dogmatic. Fixation- the act of fixing or the state of being fixed, related to rigid individual perception.
63.	People can't run over rather they run after.
64.	Correct usage is "come around"
65.	Unidiomatic use.
66.	A file refers to a single line/row." Broke the file " is unidiomatic
67.	Read the line "it's about to happen before the patient does…"which shows Perowneis in the know of the patient's reacton and also knows that the patient is not going to come back. Therefore the unconcern.
68.	Sums up the paragraph logically, option 2& 3 look inviting but the author gives eg's of these two countries only to reinforce the main idea which we find in option 4.
69.	Here the passage is a narration about the ambience of an old synagogue. In the last sentence we also have a statement about it being an example of religious tolerance. Hence 1, which reinforces the picture of tolerance. 2 is a bit tangential, since it moves the context from tolerance to absence of discrimination. 4 goes against the grain of the passage. 5 does not fit in with the theme.
70.	As per the source – Article by Amartya Sen.
71.	Refer to the line in para, "for these reasons…module." Which tells that it is an opinion of chosen few 'the scientists' and not a popular opinion.
72.	Natural Behaviour displayed by bees.
73.	Paragraph 2, last line, "In nature's talent….."
74.	Paragraph 1, line 3 & 4 "Which child develops spontaneously without conscious effort or formal instruction".
75.	The last line of Paragraph 3, reinforces what has been said in 1st line of 2nd para.
76.	It is one of the facts given in the passage. Hence cannot be inferred since it is a fact.
77.	Young upstarts- "Seeks attention thinking that he is important but he is not as important". This is confirmed by the passage.
78.	Intemperance means not in moderation – hence it is because of his desire to be seen as a person with excess….
79.	As per the author we have changed the definition of morality so as to accommodate our excessive consumerist tendency. So it has changed and evolved over the years. (5) & (3) choices are irrelevant.
80.	Para (4), last line words like 'pedagogical' gives the hint.
81.	Para (1), line 7 "Many of the concepts of modern art, by contrast, have resulted from the almost accidental meeting of groups of talented individual at certain times and certain places.
82.	Para (3), line 5 " The Time factor is important here. As an art movement slips into temporal perspective, it ceases to be a living organism – becoming, rather, a fossil. This is not to say that it becomes useless or uninteresting. Just as a scientist can reconstruct the life of a prehistoric environment from the messages codified into the structure of a fossil, so can an artist possibility from the recorded structure of a 'dead' art movement.
83.	Para (1), line 2 " It is almost tempting to see a pattern emerging within the art field or alternatively imposed upon it a *posteriori* – similar to that which exists under the umbrella of science where the general term covers a whole range of separate, though interconnecting, activities. Any parallelism is however – in this instance at least – misleading."
84.	Para (1), line 20 " Different groups of artists would collaborate in trying to make sense of a rapidly changing world of visual and spiritual experience".
85.	Last Para, last line.
86.	Para 2, "compounding that mismatch between land and resources."
87.	'anthro' stands for 'mankind'.
88.	Para (3), line 9 "However by the time of the classic collapse the landscape was full, there was no useful unoccupied land in the vicinity on which to begin a new, and the whole population could not be

	accommodated in the few areas that continued to have reliable water supplies.
89.	4. Refer the first paragraph. I acknowledge, however, that Maya archaeologists still disagree vigourously among different parts of the Maya realm; because detailed archaeological studies are available for only some Maya sites
90.	Given below are references for all of the options, except 5. 1 – second paragraph 2 – second paragraph 3 – third paragraph
	4 – third paragraph 5 – here the obsession is that of the rulers and the kings, not the population.