Mock CAT Test – 1

Answers & Explanations

1	a	**2**	c	**3**	b	**4**	b	**5**	c	**6**	a	**7**	d	**8**	d	**9**	c	**10**	b
11	c	**12**	a	**13**	d	**14**	b	**15**	d	**16**	a	**17**	a	**18**	b	**19**	c	**20**	a
21	c	**22**	d	**23**	b	**24**	d	**25**	b	**26**	b	**27**	d	**28**	c	**29**	b	**30**	c
31	d	**32**	b	**33**	c	**34**	d	**35**	d	**36**	c	**37**	c	**38**	b	**39**	c	**40**	a
41	d	**42**	b	**43**	c	**44**	c	**45**	c	**46**	d	**47**	b	**48**	c	**49**	a	**50**	b
51	b	**52**	c	**53**	a	**54**	b	**55**	c	**56**	a	**57**	c	**58**	b	**59**	a	**60**	c
61	b	**62**	c	**63**	b	**64**	b	**65**	b	**66**	d	**67**	d	**68**	d	**69**	a	**70**	a
71	b	**72**	d	**73**	b	**74**	b	**75**	c	**76**	b	**77**	b	**78**	c	**79**	d	**80**	a
81	c	**82**	b	**83**	a	**84**	d	**85**	d	**86**	b	**87**	a	**88**	b	**89**	c	**90**	d
91	d	**92**	c	**93**	a	**94**	d	**95**	c	**96**	b	**97**	a	**98**	a	**99**	a	**100**	c
101	b	**102**	b	**103**	c	**104**	a	**105**	b	**106**	b	**107**	a	**108**	d	**109**	d	**110**	c
111	b	**112**	c	**113**	b	**114**	b	**115**	c	**116**	a	**117**	b	**118**	d	**119**	b	**120**	c
121	c	**122**	d	**123**	a	**124**	a	**125**	b	**126**	d	**127**	a	**128**	d	**129**	b	**130**	a
131	a	**132**	a	**133**	c	**134**	a	**135**	c	**136**	a	**137**	a	**138**	a	**139**	c	**140**	a
141	b	**142**	c	**143**	c	**144**	d	**145**	c	**146**	a	**147**	b	**148**	c	**149**	d	**150**	d
151	c	**152**	c	**153**	d	**154**	d	**155**	d	**156**	d	**157**	c	**158**	d	**159**	a	**160**	d
161	a	**162**	c	**163**	b	**164**	c	**165**	a										

	Question number	Total questions	Total attempted	Total correct	Total wrong	Net Score	Time Taken
EU + RC	1 to 55	55					
QA	56 to 110	55					
CR + DI + DS	111 to 165	55					
Total		165					

1. It cannot be (d) because he is also mentioning the dangers of the same. Hence a pragmatic attitude is the best answer.

2. The (a) and (b) have been given as reasons for market failure in paragraph 8 and (d) has been given in the 11th paragraph. As for (c), the author says that Smith favoured free trade to prevent market failure as mentioned in the first line of the 12th paragraph.

3. Among (b) and (c), (b) is definitely better as it can be implied from one of Smith's best known remarks given in the third paragraph. As for government intervention, he felt that it should be restricted to three areas.

4. The passage mentions that the government should confine themselves to the three tasks of defending the people from violence and invasion, protecting every member from injustice or oppression and providing certain public works due to market failure. (a), (c) and (d) fall in this category and definitely not (d).

5. The free rider problem occurs due to market failure in the areas of providing collective defence and the administration of justice. Hence there is a need for (a), (b) and (d). (c) is irrelevant.

6. (c) cannot be concluded because it is mentioned in the passage that the reasons for the failure of the government and market may be the same. The answer is (a) because it is stated that sometimes government intervention may be the cause of market failure resulting in further government intervention.

7. Nothing has been mentioned about his support for corporation. But Smith has definitely talked about free trade between countries in order to check the growth of monopolies and has said that it is perfect folly that barriers to trade must go up.

8. The passage does not talk about flexibility in the role of the government. In fact it states that government should confine itself only to certain tasks.

9. It is mentioned in the first paragraph that behaviourism and psychoanalysis differ in their methods and their views of consciousness.

10. The answer is stated in the fifth paragraph of the passage.

11. It can be inferred from the passage that psychoanalysts do not believe in stimulus and response but in the concept of consciousness that resulted in introspection. Hence they did not conduct any quantitative experiments.

12. La Mettrie's mechanist approach can be inferred from the passage.

13 The answer is given in the sixth paragraph.

14. Behaviorists believed in the concept of stimulus and response as opposed to the concept of consciousness. This is what Wigner has strongly opposed.

15. The answer is (d), given in the 7th paragraph.

16. The answer (a) can be inferred from the second last paragraph.

17 It is clearly stated in the passage that R. Thillainathan says the same in the context that the fall in prices had harmed much of the Asian countries after the Second World War.

18 It is clearly mentioned in the 12th and 13th paragraphs. It is lower commodity prices leading to the lower rate of inflation in the OECD countries that enable them to be heavy importers from Asia.

19 The passage states that only some of the increase in OECD imports can be attributed to currency devaluation as even countries like China and Japan whose currencies have not been devalued have increased their exports to the US.

20 It is clearly mentioned in the 19th paragraph. The answer is (a).

21 The answer is (c) as the entire passage focuses on the same.

22. The tone of the passage is descriptive as the passage describes the current state of Asia's economy.

23. The answer is definitely (b) because Western countries having low inflation and high economic growth will increasingly import from Asian countries, leading to their recovery. (a) is not the answer because an inflation-free economy is not possible.

24. (d) is irrelevant and is not even remotely connected to Asian recovery.

25. (b) is the answer because the title traces the evolution of employment rights and laws.

26. (a), (c) and (d) have been mentioned in the passage.

27. All the reasons except (d) have been mentioned in the 11th paragraph.

28. The answer lies in the first paragraph.

29. The 70 age cap was removed under the 1986 amendment.

30. The answer is in the third last paragraph.

31. Refer to the Vocational Rehabilitation Act 1973, eighth paragraph.

32. EEOA — 1972
CETA —1973
VRA — Later in 1973
ERISA — 1974

33. The answer is (c). It is in this context that the author talks about 'purposive shopping' wherein the consumer decides what to buy before he steps out of his house.

34. Since RI is a market research firm, it would offer services in terms of market and brand information, but definitely not cost-cutting techniques.

35. It is a specific detail question the answer to which is clearly mentioned in the passage in the 13th paragraph.

36. The answer is (c). The author says that while some generalization can be made, the buyer behaviour differs from one category to another.

37. The answer lies in paragraph 16.

38. The answer is (b) as clearly stated in the last paragraph of the passage.

39. The passage states that lack of customer knowledge is the biggest barrier to retailing firms which MR aims at bridging.

40. The passage gives a description of RI.

41. A and C should go together as A talks about India's position in 1947 whereas C talks about her position now. Again D must be the last sentence as it gives appropriate background for the sixth sentence.

42. A starts at the beginning of the last 45 years. B states how external powers tried to control the region, D continues with the idea. C talks about supply of arms to Pakistan, an idea that is continued in 6.

43. C states a cause for the problem introduced in 1. B starts with 'added to this', showing that it should follow C. A introduces a way out of the situation, and 6 analyses the solution. Therefore, A should precede 6.

44. C should be the first sentence as it states that the logic presented in 1 is not true. A and D talk about the qualities of a good actor. B talks about the author's own plays and 6 continues with his observation in B.

45. D talks about the 'power' introduced in 1. A states that if 'it is an anchor in difficulties it should be remembered in good times too'. C states the work done by some organizations and B adds to it.

46. B is the opening line as it introduces an author 'Mary Shelley' and her novel *Frankenstein*. A follows it as it tells us about Mary Shelley. D follows it further sequentially as comment upon her work by Mario Praz.

47. Opening sentence talks about engaging services of an advertising agency. So C has to follow as it talks whether finding such an agency is that easy. D follows C giving examples of a few agencies and that they would accept any after but charge a good fee. B states if some agency accepts the account, life would become simple. But A states that for newcomers life is not that easy.

48. Starts with Jenny's idea of producing *The Sheik* but soon runs into trouble (mentioned in C). A describes the problem. D explains the problem in a little detail. B follows which states Jenny's stand.

49. Starts with telling that the author sees other painters' work he realises that in every picture the painter has tried to draw his self-potrait indirectly. B gives the reason for this followed by A which further strengthens the point. Then the author gives similar examples in the field of writing (mention in D). In the end in C, the author states that no matter what an artist draws or writes the inner message would be the same.

50. States that India and Japan have agreed to disagree. Then states what Japan's stand was previously and its actions which proved that (mention in D). Then comes to the current situation about Japanese Prime Minister's visit to India and the state of their relations currently. B states that the main factor bringing the two countries close is information technology. In the end c states the deal that has been struck between the two countries.

51. 'Audible' sounds as opposed to 'visual' symbols, fits here.

52. The rulers get too much power while those who are ruled show passive obedience.

53. 'Actuated' means motivated.

54. The most logical and grammatically correct option is (b).

55. (c) is the best option as the second word has to be warning which is the best choice.

Questions 56 to 58:

5(A + B + C + D + F) is odd
$\Rightarrow$ A + B + C + D + F is odd ... (i)
We know that A + B + C + D + E + F is even ... (ii)
From (i) and (ii), E is odd.
EC = 2AD $\Rightarrow$ EC is even
But E is odd $\Rightarrow$ C is even
AD > BE
$\therefore$ None of A and D is zero. E, C, A and D are not 0
$\Rightarrow$ B and F are zeros
$\because$ A + C is not even
$\therefore$ A must be odd (we already know that C is even).
$\therefore$ D must be even.

Questions 59 and 60:

Use the conditions to eliminate choices.

61. If the ratio of the altitudes of a triangle is 2 : 3 : 4, the ratio of its sides will be $\frac{1}{2}:\frac{1}{3}:\frac{1}{4} \Rightarrow 6:4:3$

$\therefore$ Sides of the triangle are 42, 28, 21.

62. 3^{89} in base 3 will be written as one followed by 89 zeros. When we add one to it, zero in unit's place will become one and we will have 88 zeroes.

63. It is equivalent to finding how many such two-digit numbers are there? In such numbers, we cannot have 0 or 1 in unit's place. When we have 2 in unit's place, we have 1 such number, 12.
When we have 3 in unit's place, we have 2 such numbers, 13, 23
.....
Then, we have 9 in unit's place, we have 8 such numbers. So number of such numbers is
$(1 + 2 + 3 + ... + 8) = 36$.
Hence, the resulting number has 72 digits.

64. $7^{83} = 7^3 (7^{80}) = 7^3 (7^4)^{20} = 7^3 (2400 + 1)^{20}$
$= 7^3 (2400\ k + 1) = 7^3 \times 2400\ k + 343$ (k is a natural number)
Obviously, when it is divided by 20, the remainder would be 3.

65. 3! onwards each and every number is divisible by 3 and 1! + 2! = 3. So N = 3 + 3k (k is a natural number). Hence, N is divisible by 3.

66. N(10) = 1 . 3 . 5 . 7 ... till 10 prime numbers. The total number of factors = (1 + 1) (1 + 1) ... 10 times = 2^{10}. This is also equal to (c). Hence, both (b) and (c).

67. $\left(\frac{x-a}{x-2a}\right)^2 = \frac{25}{16}$ or $a = \frac{x}{6}$

where x is taken as the capacity of the vessels.

68. $\frac{2}{B}+\frac{1}{C}+\frac{1}{D}=\frac{1}{2}$ ... (i)

$\frac{2}{A}+\frac{1}{C}=\frac{1}{3}$ ... (ii)

and

$\frac{1}{A}+\frac{1}{B}+\frac{1}{C}=\frac{1}{4}$ ... (iii)

On subtracting (i) from (ii), we get

$\frac{2}{A}-\frac{2}{B}-\frac{1}{D}=-\frac{1}{6}$ ... (iv)

On subtracting (iii) from (ii), we get $\frac{1}{A}-\frac{1}{B}=\frac{1}{12}$

$\Rightarrow \frac{1}{B}=\frac{1}{A}-\frac{1}{12}$ ... (v)

From (ii), $\frac{1}{C}=\frac{1}{3}-\frac{2}{A}$ ... (vi)

Using (i), (v) and (vi), we get

$$\frac{1}{D}=\frac{1}{2}-2\left(\frac{1}{A}-\frac{1}{12}\right)-\left(\frac{1}{3}-\frac{2}{A}\right)=\frac{1}{3}$$

Therefore,

$$\frac{1}{A}+\frac{1}{B}+\frac{1}{C}+\frac{1}{D}=\frac{1}{4}+\frac{1}{3}=\frac{7}{12}$$

$\therefore$ Time taken to complete the job = $\frac{12}{7}$ days

Questions 69 and 70:

Suppose initial speed of Pawan was v m/s, so that of Upender was v + 1 m/s and the final speed of Pawan was v + 2 m/s. It is obvious that

$\frac{500}{v+1}-\frac{500}{v+2}=25$ or v = 3 m/s

So speed of Upender was 4 m/s.
Suppose once Pawan and Upender meet, the remaining distance is D. Since Upender finish 7 min and 8 s after Pawan, i.e. 428 s.

So $\frac{D}{4}-\frac{D}{5}=428$ or D = 8,560 m.

$\therefore$ Before meeting they had travelled
10,000 – 8,560 = 1,440 m.
$\therefore$ Difference in time taken or time lapse

$= \frac{1440}{3}-\frac{1440}{4} = 120$ s = 2 min.

71. When the area of the rectangle is 900 m^2, minimum perimeter will be $4\times\sqrt{900}=120$ m and the minimum cost will be $120 \times \frac{25+10}{2}$ = Rs. 2,100.

And thus, Sujit will always be in loss.

72. Let the integers a, b, c, d and e be of the form
$(x-1)^2 + x^2 + (x + 1)^2 = (x+ 2)^2 + (x + 3)^2$
Solving the equation, we get x = –1, 11.

Short cut:
Here you can take the value of b from the option and check the condition given in the question.

73. In 120 s, there will be 14 units.
So, the charge = 14 × 4 = Rs. 56.

74. Charge in T_1 for one-minute call = Rs. 40
Charge in T_3 for one-minute call = Rs. 28
$\Rightarrow$ Percentage saving = 30%

75. Suppose the contractor had x trucks.

So, we have $\frac{x+8}{x-8}=\frac{3}{2} \Rightarrow x = 40$.

76. 1 + 2 + 3 + 4 + 5 + 7 + 8 = 30

77. $\because$ 1! = 1 and 2! = 2. So, just two x's are possible.

78. 3660 – 1430 = 2230.

79. People who passed in exactly three papers
= 2630 – 1430 = 1200.
People who failed in two or more subjects
= 6300 – 1430 – 1200 = 3670.

80. One of the statements III and IV has to be false and statement III is true, hence statement IV is false.

81. Sum of AP with a = 105, d = 7 and last term = 497
$\therefore$ The sum obtained = 17157.

82. There might be two cases that we pick a 'Black' or 'White' from first urn.

Required probability = $\frac{5}{12}\times\frac{8}{16}+\frac{7}{12}\times\frac{7}{16} = \frac{89}{192}$.

83. Suppose the minimum distance between P and Q occurs 't' hr after P is at the intersection. At that time, distance of P from point of intersection = 50 t.
Distance of Q from point of intersection = 50 – 25 t.

Distance between P and Q = $\sqrt{(50t)^2+(50-25t)^2}$

If this has to be minimum, then

$$\frac{d\left\{(50t)^2+(50-25t)^2\right\}}{dt}=0$$

or 6250 t – 2500 = 0

or t = $\frac{2}{5}$

$\therefore$ The minimum distance between P and Q is

$$\sqrt{\left(50\times\frac{2}{5}\right)^2+\left(50-25\times\frac{2}{5}\right)^2} = 20\sqrt{5} \text{ km.}$$

Alternate method:
Let the minimum distance is when Q moves 'x' km after meeting. P moves $\frac{x}{25}\times 50 = 2x$

For the distance to be minimum

$$\frac{d}{dx}\left(\sqrt{(2x)^2+(50-x)^2}\right)=0$$

$\therefore$ x = 10

$\therefore$ Distance = $20\sqrt{5}$

84. Divide 27 coins into three groups of 9 each. Put two of the groups on two pans. You will come to know which group has the faulty coin. Again divide that group having faulty coin into three groups of three coins each and proceed. Hence in 3 weighings only we can find the faulty one out of 27 identical coins.

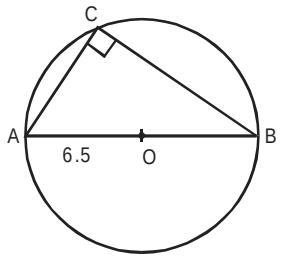
85. Let length, breadth, height be L, B, H.
To paint 2[L × B + B × H] it takes 3 days. Now all are doubled.
$\therefore$ New area 2 × 4[L × B + B × H]
It will bake 3 × 4 = 12

86. The volume increases to $\frac{5}{4}$ of the original volume.

Hence, each time the concentration of milk becomes $\frac{4}{5}$ times the original concentration.

So the final concentration of milk is $\frac{4}{5}\times\frac{4}{5}\times\frac{3}{5}=\frac{48}{125}$ and ratio of milk to water = 48 : 77.

87.



Here AO = 65 cm.
Centre of the circle will be mid-point of the hypotenuse of the triangle. So the hypotenuse = 2 × 6.5 = 13 cm.
Since all the sides are natural numbers, obviously other sides are 5 cm and 12 cm and the perimeter is 5 + 12 + 13 = 30 cm.

Questions 88 and 89:

Suppose percentage of alcohol in S1, S2 and S3 vessels are a, ar and ar^2, respectively, then

$$\frac{2a+3ar+4ar^2}{9\times 100}=\frac{32}{100} \quad \text{... (i) and}$$

$$\frac{3a+2ar+ar^2}{6\times 100}=\frac{22}{100} \quad \text{... (ii)}$$

Solving these two, we get a = 12 and r = 2.
$\therefore$ The percentage of alcohol in S1, S2, and S3 is 12, 24 and 48. If S2 and S3 are mixed in the ratio 3 : 2, percentage of alcohol in the resultant solution will be

$$= \frac{24\times 3+48\times 2}{5}=33.6\%.$$

Questions 90 to 92:

Let AB = D.
Let AX = fD (f is a fraction).

If the speeds of the car and the motorcycle are u, v respectively, then $\frac{u}{u+v}$ = f

On solving, we get

$XY = f(1 - f)\ D = \frac{2}{9}\ D$

$\Rightarrow\ f = \frac{2}{3}$ or $\frac{1}{3}$

But since the speed of the car is more than the motorcycle $f = \frac{2}{3}$ is the only valid conclusion.

This means the ratio of speeds u : v = 2 : 1.
Now use choices to answer the questions. In questions 91 and 92. We see that there is only one option in question 91 which is twice that of the option in question 92. They are 80 km/hr and 40 km/hr. Use these options to check the subsequent conditions.
Distance between two points
= (80 – 20)3 + 40 × 3 = 300 km

93. The cost of delivery per part for box A = $\frac{20}{70}$

The cost of delivery per part for box B = $\frac{10}{40}$

The cost of delivery per part for box C = $\frac{7}{25}$

So, the box A is the costliest and so we have to minimize the use of it. At the same time, we have to maximize the use of box B because that is the cheapest.

Alternative method:
Use the options.

94. It is a quadratic equation with modulus, hence will effectively become two quadratic equations and should have four roots.

95. Total possible ways = $\frac{7!}{2!\,3!}$

With 0 as1st unit, number of ways = $\frac{6!}{2!\,3!}$.

Total number of ways = $\frac{7!}{2!\,3!} - \frac{6!}{2!\,3!}$.

96. An integer can end with any of the ten's digits (0, 1, 2 ... 9) out of which if it ends with one of the four (0, 1, 5, 6), the required condition will be satisfied.
The probability of an integer ending with 0 or 1 or 5 or 6 is $\frac{4}{10} = \frac{2}{5}$

Now the probability of second integer also ending with the digit that has come in unit's place of the first integer is $\frac{1}{10}$.

$\therefore$ The required probability = $\left(\frac{2}{5}\right) \times \left(\frac{1}{10}\right) = \frac{1}{25}$.

97. The square of the middle term of three terms in a GP is equal to the product of the other two terms. Hence, $(x + 2)^2 = (3x + 2)(2x - 2)$
Solve this equation and find the value of x.

98. All such numbers will have 1 or 4 or 9 as their middle digits. Unit's and 100th place can be selected in (1 to 9) = 9 ways. 10th place can be selected by taking 1, 4 or 4 = 3 ways. There will be 9 × 3 × 9 = 243 such numbers. Numbers 1... 9 will appear 27 times in unit's and 100th places each and 1, 4, 9 will appear 81 times in ten's place.
Their sum is 100 × 27 (1 + 2 + 3 + ... + 9) + 10 × 81 × (1 + 4 + 9) + 27 (1 + 2 + 3 + ... + 9) = 2700 × 45 + 810 × 14 + 27 × 45 = 134055.

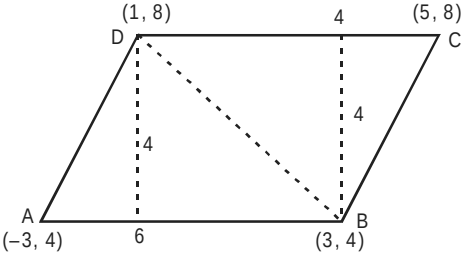
99. Suppose $\frac{bx - ay}{b} = \frac{cy - bz}{c} = \frac{az - cx}{a} = k$
So, c(bx – ay) + a(cy – bz) + b(az – cx)
= k(ab + bc + ca)
$\Rightarrow$ k(ab + bc + ca) = 0 or ab + bc + ca = 0

100. Take three consecutive odd numbers and check the condition given and also cross check by taking other three consecutive odd numbers.

101. The question is equivalent to solving x + y + z = 25, where x, y, z > 0. Finding integer solution which is equivalent to $^{24}C_2$ or 276.
There is a difference between non-zero solutions and positive solutions. Positive solutions do not include zero, but the former does.

102. f(x) = 2x + 4 now becomes f(–x) so the equation would be y = – 2x + 4.

103.



$\therefore$ Area of ABCD = Area of ΔABD + Area of ΔBCD

$= \frac{1}{2} \times 6 \times 4 + \frac{1}{2} \times 4 \times 4 = 20$

104. $\frac{^5C_2 \times {}^{(4+3)}C_2}{^{12}C_4} = \frac{^5C_2 \times {}^7C_2}{^{12}C_4} = \frac{14}{33}$

105. $^{15}C_3 - {}^{13}C_1 = 455 - 13 = 442$

106. The last digit of 1! + 2! + 3! ... 100! is same as the last digit of 1! + 2! + 3! + 4!, since all the rest of the factorials end in a 0.

107. G(5) = F(5) – F(4)
= Unit's digit of (1! + 2! + 3! + 4! + 5!) – unit's digit of(1! + 2! + 3! + 4!) = 0

Questions 108 and 109:
Take some points in f(x) graph and check the points with the conditions given. If the point satisfies the conditions between f(x) and g(x), then select the correct option.

110. Take 'N' as any natural number to find out the answer. For example, if we take 'N' as 7, there are 3 ways by which we can write it as a sum of two natural number, i.e. (3, 4); (5, 2); (1, 6). Here 'N' is odd.

Now when we put it in $\frac{N-1}{2}$, we get $\frac{7-1}{2}=3$

$\therefore$ This condition is the only possiblity for the answer.

111. This is based on induction, i.e. if a e-nose can be developed there is a possibility of a e-tongue also being developed. The question asks which must be true and the option says 'maybe'. The use of the word 'maybe' makes it a 'must' case.

112. The passage talks about a new battery which has a longer life than today's batteries and then says that the present ones absorb two electrons during discharge while the new batteries absorb three electrons. Hence it can be inferred that the longer life is due to absorption of more electrons.

113. The basic assumption of the argument that the use of hydrogen will make cities healthier is that hydrogen is a clean form of energy, i.e. it does not pollute the atmosphere. Hence, (b) if true will seriously weaken the argument.

114. The line of reasoning used in the argument is that, to understand refrigeration the given small test would suffice. Similarity is the key.

115. The words 'to avoid such problems' mean that they are likely to have such problems. Thus it can be inferred that their intake of meat is on the higher side and hence they have been advised to double their intake of plant-based foods.

116. The U-turn mentioned in the passage signals a reversal of existing notion. It was believed that tea is harmless. The research refutes this claim.

117. The relationship between highly emotional people and sense of smell is clearly established.

118. (d) is a parallel analogy to the statement.

119. If aspirin could prevent deafness caused by antibiotics and if salicylate prevents the damage, then aspirin contains salicylate.

120. If the subway system was being stalled because of interfering with a proposed monorail pillar, then obviously the monorail system has not been shelved forever, which means, we can infer that it will be revived.

121. Jaanu is 47 m above Ash, so you subtract 47 from Ash's 210 m below sea level to determine that Jaanu is 163 m below sea level (210 – 47 = 163). Chettiar is 87 m below Jaanu, so you add 87 to Jaanu's 163 m below sea level to determine that Chettiar is 250 m below sea level (163 + 87) = 250. Liz is 110 m above Ash, so she is at (210 – 110) = 100 m below sea level. Krishna is 30 m below Liz, so he is at (100 + 30) = 130 m below sea level.

122. Mary bought 4 boxes of almond chunky, 2 boxes of chewy chocolate chip, and 3 boxes of super special raisin nut granola bars.

Short cut:
Pick up the option and check the sum of 88 bars. Only (d) satisfies the given condition.

123. I had lost 4 gallons. Since I travelled at 50 mph for 4 hr = 200 miles, I used 8 gallons for my journey.

124. Eliminate choices based on the given conditions.

125. 196th term has to be the 14th odd number = 27, the next 29 terms should be 29. Thus, 200th term is 29.

126. Data regarding the actual costs are not known.

127. $100 \rightarrow 106.44$, increase of 6.44%,

$20 \text{ crore} \rightarrow \frac{20 \times 106.44}{100} = \text{Rs. } 21.29 \text{ crore}$

128. We cannot comment on 1999, the data is incomplete.

129. The answer is $\frac{1}{2} \times \frac{102}{103.7} = \frac{102}{207.4}$.

130. 100 × 1.076 + 10 × 1.049 + 20 × 1.02 + 40 × 1.037 + 20 × 1.019 = Rs. 200.35 crore

131. From statement I, 5 (x + z) = 7y
But if x, y, z are in AP, then x + z = 2y.
So they are not in AP. Hence statement I alone is sufficient to answer the question.

132. From statement II,
$\angle A + \angle B = \angle C - 20°$
or $\angle A + \angle B + \angle C = 2\angle C - 20°$
or $180° = 2\angle C - 20°$
$\therefore \quad \angle C = 100°$
Thus, ΔABC is obtuse-angled from statement I, we can only conclude that $\angle A = 55°$ but cannot say about $\angle B$ and $\angle C$.

133. From the given condition, we can conclude that a, b are of the same sign and with the help of both the given statements, we can conclude that c is opposite in sign to both a and b. So bc will always be negative. So bc is always less than ab.

134. From statement I, if $\frac{a}{bcd}$ is even, a has to be even.
Thus, abcd is even.

135. From statement I,

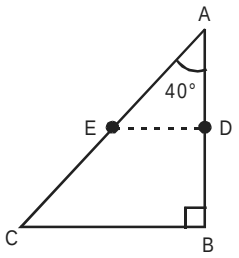
$\frac{p}{3} < \frac{q}{4}$

or $\frac{p}{q} < \frac{3}{4}$

or $\frac{p}{q} < 1$

$\therefore$ p < q , so p is not the largest.
From statement II,
s + 2q = r
So, r is obviously greater than both s and q.
Thus, r is the largest.

136.



From statement I,
If ABC is right-angled and $\angle A = 40°$, then $\angle C = 50°$
Thus, from the statement I, since DE || BC, $\angle DEA = 50°$

137. 7x + 10y > 0
or 7x > –10y

or $x > -\frac{10}{7}y$

So from statement I, if y is negative x is positive.
Thus x > y.

138. From statement I, the number only possible is 54.
Here we do not require statement II.

139. From statement II,

$c = (8!)^{\frac{1}{9}}$ $b = (9!)^{\frac{1}{8}}$

$c^{72} = (8!)^8$ $b^{72} = (9!)^9$
Thus, b > c.
From statement I, b < a.
$\therefore$ Obviously, a > c

140. From statement II, if V + I is a perfect square V cannot be a perfect square.

141. Read the value from the table = 28.82

142. $\frac{1.6311-1.4633}{1.463} \times 100 = 11.47\%$

143. $\frac{1000 \times 1.4633}{0.8971} \times 100 = 1631.15$

144. If he converts 1 pound, he gets \$1.5748 dollars which converted to British pound gives

$\frac{1.5748}{0.6131} \times 0.3893 \approx \$1.5748$ dollars $\simeq$ 1 pound.

Hence no return on his investment.

145. The smallest value in the column corresponds to GBP of Italy.

146. $\frac{108.43}{249.25} = 43.5\%$

$43.5\% \xrightarrow{\times 0.77} 33.5\%$

To maintain the original production levels, rest of 56.5% should change to (100 – 33.5) = 66.5%, i.e. by 17.7%.

147. $\frac{22.56 + 10.10 + 139}{58.5 + 79 + 9.57} \times 100 = 23.15\%.$

148. 1 hectare = 10^4 sq. m = 10^{-2} sq. km
$\Rightarrow$ 100 hectare = 1 sq. km
$\therefore$ Yield = 1,400 tonnes per sq. km

Increase in production = $0.12 \times 0.07 \times 299411 \times \frac{1400}{10^6}$

million tonnes $\approx$ 3.46 million tonnes

Percentage increase = $\frac{3.46}{3.35 + 9.60} \times 100 = 26.7\%$

149. Yield of sugar cane and fruits is required and also the area under cultivation for these items.

150. Livestock is in million numbers while milk production is in million litres and the rest in million tonnes. Hence, percentage share cannot be calculated for different units.

Questions 151 to 155:

	Food	**Game**
Amit	Gujrati	Football
Betty	Italian/Mughlai	Badminton/Carrom
Cathy	South Indian	Table tennis
Danny	Mughlai/Italian	Carrom/Badminton
Earl	Chinese	Soft ball

156. $\frac{655088 - 26950}{26950} \times 100 = 2341.8\%$

157. Percentage increase from 1995-96 to 1996-97

$= \frac{302 - 275}{275} \times 100 = 9.8\%,$

Percentage increase from 1996-97 to 1997-98

$= \frac{333 - 302}{302} \times 100 = 10.26\%$

Percentage decrease from 1997-98 to 1998-99

$\frac{222 - 333}{333} \times 100 = -33.33\%$

Average = $\frac{(9.8 + 10.26 - 33.3)}{3} = -4.42\%$

158. Data is insufficient since we do not have information about the number of phones already existing.

159. The population = $\left(\frac{100}{1.2}\right) \times (150021) \times 21 \approx 262$ million

New phone connection = 2E + 5 = 200000
Existing = 20 × 2000000 = 4000000
Total = 4200000
Now AP teledensity = 1.2% in 1995-96

$\therefore$ Population of AP = $\frac{4.2}{1.2} \times 100 =$ 350 million.

160. Teledensity = $\frac{\text{Number of telephones} \times 100}{\text{Population}}$

Ratio of population = $\frac{\text{Ratio of number}}{\text{Teledensity ratio}}$

Ratio of population of AP to India

$= \frac{\left(\frac{1}{50}\right)}{\frac{1.76}{2.1}} = \frac{2.1}{(50 \times 1.76)} = 1 : 42$

161. $\frac{3018 - 2609}{2609} \times 100 = 15.7\%$

162. $\frac{2744 - 2407}{2407} \times 100 = 14\%$, i.e. a increase of 14%

163. $\frac{2407}{3172} = 0.76$

164. (a) $\frac{2744}{2660} = 1.03$

(b) $\frac{2744}{2609} = 1.05$

(c) $\frac{3172}{2660} = 1.19$

(d) $\frac{2609}{2407} = 1.08$

165. For 1999-2000, 2744 + 3018 + 3172 = 8934.
For 1998-98, 2660 + 2609 + 2407 = 7676.
Hence, percentage increase = 16.4%