

Explanatory Notes for TEP0513

Quant Solutions

Solutions for questions 1 to 6:

1. The total number of digits when 2^m and 5^m are written one after another is always equal to $(m + 1)$
(This can be verified easily by empirical method
 $m = 1, 2, 3, 4$ etc.)
 \therefore if 2^{2004} and 5^{2004} are written beside each other then we have $2004 + 1 = 2005$ digits in all. Choice (4)

2. Opening the parentheses starting from the innermost, we get
8 or $9 = 9 - 8 = 1$
7 and $1 = 7 - 1 = 6$
6 but not $6 = 6 + 6 = 12$
4 and 5 but $12 = 4 + 12 - 5 = 11$
3 or $11 = 11 - 3 = 8$
2 but not $8 = 2 + 8 = 10$
and 1 or $10 = 10 - 1 = 9$. Choice (1)

3. The number of ways of picking two squares out of 100 (numbered squares) = ${}^{100}C_2 = 4950$ Choice (2)

4. Let the number of chairs in the assignment be n .
Total cost = $560 + 2n^2$

$$\text{Average cost} = \frac{560 + 2n^2}{n}$$

$$\text{Given } \frac{560 + 2n^2}{n} \leq 68$$

$$\Rightarrow 2n^2 - 68n + 560 \leq 0 \Rightarrow (n - 14)(n - 20) \leq 0$$

$$\Rightarrow 14 \leq n \leq 20.$$

Choice (4)

5. $f_1(1) = 0$

$$f_2(1) = f_1(1) - 1 = -1 \text{ (since } n = 1)$$

$$f_3(1) = f_2(1) - 1 = -1 - 1 = -2 \text{ (since } n = 2)$$

$$f_4(1) = f_3(1) + 1 = -2 + 1 = -1 \text{ (since } n = 3)$$

$$f_5(1) = -2 \quad f_8(1) = -3$$

$$f_6(1) = -3 \quad f_9(1) = -4$$

$$f_7(1) = -2 \quad f_{10}(1) = -3$$

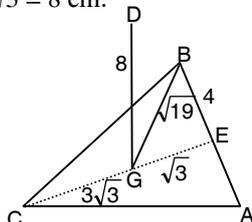
By the same pattern

$$F_{48}(1) = -17 \Rightarrow f_{49}(1) = f_{48}(1) + 1 = -17 + 1 = -16$$

$$\therefore f_{50}(1) = f_{49}(1) - 1 = -16 - 1 = -17 \quad \text{Choice (3)}$$

6. Since area of $\Delta ABC = 16\sqrt{3}$

$$AB = 16\sqrt{3} \times 4\sqrt{3} = 8 \text{ cm.}$$



Since $\Delta BGD = \Delta AGD$,

$$\frac{1}{2}(BG)(GD) = \frac{1}{2}(AG)(GD)$$

$$\Rightarrow BG = GD \Rightarrow G \text{ is on the perpendicular bisector of } AB.$$

$$\text{Also } BG = \sqrt{19}, \text{ since } \frac{1}{2}BG(8) = 4\sqrt{19}$$

If E is midpoint of AB, then in right triangle BGE,

$$BG^2 = BE^2 + GE^2 \Rightarrow GE = \sqrt{19 - 16} = \sqrt{3}$$

$$\text{and } CG = CE - GE$$

$$= \frac{\sqrt{3}}{2}(8) - \sqrt{3} = 3\sqrt{3}$$

$$\Delta CGD = \frac{1}{2}CG(GD) = \frac{1}{2}(3\sqrt{3})(8) = 12\sqrt{3}$$

Choice (3)

Solutions for questions 7 and 8:

7. Given $x @ y = x - y$

$$\Rightarrow \text{the positive difference of } x \text{ and } y \text{ is } x - y$$

$$\Rightarrow x > y$$

but still we cannot conclude anything about the positive difference of the squares of x and y , since say $x = 1$ and $y = -3$.

$$\Rightarrow x @ y = x - y \text{ and } x \mathcal{L} y = y^2 - x^2 \text{ but if } x = 3 \text{ and } y = 1$$

$$\text{then } x \mathcal{L} y = x^2 - y^2.$$

\therefore we cannot find the value of the given expression.

Choice (4)

8. Given $\left[\frac{(x^2 - y^2)}{(x - y)} \right]^2 - 2xy$

Where $a \sim b \Rightarrow$ positive difference of a and b

$$\Rightarrow \left[\frac{\pm(x^2 - y^2)}{(x - y)} \right]^2 - 2xy$$

$$= (x + y)^2 - 2xy = x^2 + y^2 = x \mathcal{S} y$$

Choice (2)

Solutions for questions 9 to 13:

9. Vaibhav wrote say m prime numbers.

Vikram wrote down $n = {}^m C_3$ numbers of the form $p_i p_j p_k$, where p_i, p_j, p_k are the numbers written by Vaibhav

Vishal wrote down $n(n-1)/2$ instances of some numbers.

Some of these were 1 (and hence not prime)

Some were of the form p_i and others were of the form $p_i p_j$ (and hence not prime)

Each of the prime numbers (of Vaibhav) were written down by Vishal a certain number of times. Consider one particular number, say p_i . Among the other $m - 1$ numbers, we have to count pairs of numbers of the form $p_i p_j p_r$ and $p_i p_j p_s$ where no two of i, j, r, s are equal and none of them is equal to 1. The number of ways of choosing p_i, p_j is ${}^{m-1} C_2$.

Among the remaining $m - 3$ numbers the number of ways of choosing 2 is ${}^{m-3} C_2$.

But in the product $({}^{m-1} C_2) ({}^{m-3} C_2)$ each such pair has been counted twice. Therefore, the number of distinct pairs is $({}^{m-1} C_2) ({}^{m-3} C_2) / 2$.

Vishal writes down so many numbers for each of the m primes of Vaibhav.

\therefore Number of instances of primes that Vishal writes

$$\frac{m({}^{m-1} C_2)({}^{m-3} C_2)}{2}$$

$$\therefore \frac{m(m-1)(m-2)}{2} \frac{(m-3)(m-4)}{2} = 90$$

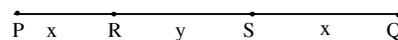
$$\Rightarrow m(m-1)(m-2)(m-3)(m-4) = (90)(8)$$

$$= 6(5)(4)(3)(2)$$

$$\Rightarrow m = 6$$

Choice (1)

10. Let $PR = QS = x$ and $RS = y$



Case (i)

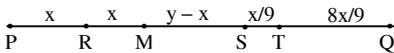
Let a and b be the speeds of cars A and B respectively. Car A travelled a distance of x with a speed of a and a distance of y at a speed of $2a/3$.

In the time car B has covered SQ (i.e. x), car A at $\frac{2a}{3}$ would cover a distance of $\frac{2}{3}(PR) + RS$ i.e. $\frac{2x}{3} + y$

∴ The ratio of their speeds

$$= \frac{\frac{2a}{3}}{b} = \frac{\frac{2x}{3} + y}{x} \quad \text{————— (1)}$$

Case (ii)



Car A travelled PM (or 2x) at a and MT at $\frac{2a}{3}$ while

car B travelled QT $\left(= \frac{8x}{9} \right)$ at b.

In the time car B covered a distance QT, car A at a speed of $\frac{2a}{3}$, would cover $\frac{2}{3}(PM) + MT$ i.e., $\frac{4x}{3} + (y-x) + \frac{x}{9}$.

∴ The ratio of their speeds

$$= \frac{\frac{2a}{3}}{b} = \frac{\frac{4x}{3} + (y-x) + \frac{x}{9}}{\frac{8x}{9}} \quad \text{————— (2)}$$

By equating (1) and (2) we get,

$$\frac{2x+3y}{3x} = \frac{9y+4x}{8x}$$

$$\Rightarrow 8(2x+3y) = 3(9y+4x)$$

$$\Rightarrow y = \frac{4}{3}x$$

By substituting the value of y in (1), we get

$$\frac{2a}{3b} = \frac{\frac{2x}{3} + \frac{4x}{3}}{x} = \frac{2}{1}$$

$$\Rightarrow \frac{a}{b} = 3$$

∴ The ratio of A to B is 3 : 1

Choice (3)

11. The 12 minutes saved in filling the drums is because of my contribution of few buckets of water. I poured one-third of each bucket in the smaller drum and the remaining two-thirds in the bigger drum i.e. t min is saved in filling the smaller drum, 2t min is saved in filling the bigger drum.

$$\therefore 3t = 12$$

$$\Rightarrow t = 4$$

So, 4 min is saved in filling the smaller drum. So, the smaller drum was filled 4 minutes earlier than its normal filling time. So, it was filled at 1 – 26 p.m.

Choice (3)

12. The sum of the squares of the first n odd natural numbers = sum of the squares of the first 2n – 1 natural numbers – sum of the squares of the first n – 1 even natural numbers. Hence,

$$S_n = \frac{(2n-1)(2n)(4n-1)}{6}$$

$$- 4 \left[\frac{(n-1)(n)(2n-1)}{6} \right] = \frac{n(2n-1)}{3}(2n+1)$$

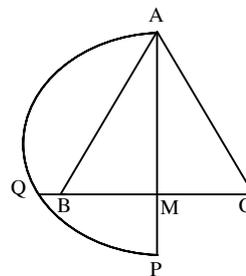
As $S_n = 533n$,

$$\therefore n(2n-1)(2n+1) = 1599n$$

$$\Rightarrow 4n^2 = 1600 \Rightarrow n = 20.$$

Choice (2)

13.



$\angle PQA$ (not shown) = 90° (angle in a semicircle)
 $(MP)(MA) = MQ^2$

If $BM = 1$, $MP = 1$ and $AM = \sqrt{3}$ and $MQ = 3^{1/4}$

$$\therefore T = MQ^2 = \sqrt{3} \text{ while } S = \frac{\sqrt{3}}{4} (4) = \sqrt{3}$$

$$\therefore T = S$$

Choice (2)

Solutions for questions 14 and 15:

14. The data is tabulated below.

I Tank		II Tank		
Petrol	Kerosene	Petrol	Kerosene	Total
100				
$100 - x$	x	$\frac{x}{100}$	$\frac{(100-x)x}{100}$	100

The amount of petrol in the second table in $\frac{(100-x)^2 + 100x}{100}$

$$= \frac{10,000 - 100x + x^2}{100} = \frac{(x-50)^2 + 7500}{100} \text{ (which is greater than or equal to 75)}$$

∴ The concentration is greater than or equal to 75%

Choice (4)

15. If the concentration in tank II is 75%, $x = 50$

The quantity of petrol in tank II is $x + \frac{(100-x)^2}{100}$
 $= 50 + 25 = 75$ and that of Kerosene is 25.

If the cost of Kerosene is k, the cost of petrol in 2k and the cost price for the contents of tank II is $25k + 75(2k) = 175k$
 The nominal rate of profit is 25%, i.e., the selling price is $200k + 50k = 250k$

$$\therefore \text{Actual profit percentage} = \frac{250 - 175}{175} = \frac{75}{175} = \frac{3}{7} = \frac{300}{7}\%$$

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

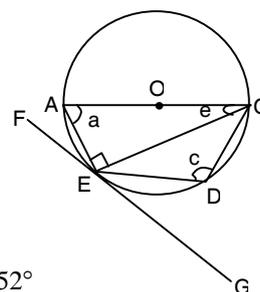
Choice (1)

Solutions for questions 16 and 19:

16. We get for $k \geq 5$, $2.4 + 4 \times 2 + 1.2(k-5)$
 $= 10.4 + 1.2(k-5)$

Choice (2)

17.



Given $\angle GEC = 52^\circ$

$\angle OAE = \angle GEC = 52^\circ$ (alternate segment theorem)

As O is the centre of the circle A

In triangle OAE,

$\therefore \angle OCE = 180^\circ - 90^\circ - 52^\circ = 38^\circ$ (since $\angle AEC$ is an angle in a semicircle.)

ACDE is a cyclic quadrilateral

$\therefore c = 180 - a = 180 - 52^\circ = 128^\circ$

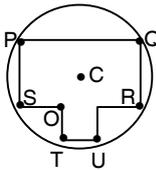
$\therefore \angle e + \angle c = 38^\circ + 128^\circ = 166^\circ$ Choice (3)

18. For the value of d to be the maximum the number of full unit-squares that Rekha counts must be the minimum, which is 4 unit-squares. (i.e., 4 full unit-squares will always fall within the circle)

$\therefore d = \pi r^2 - 4 = 4\pi - 4 = 4(\pi - 1)$

$= 4(3.142 - 1) = 4(2.142) \cong 8.56$. Choice (4)

19. For d to be minimum the number of full squares falling within the circle must be the maximum, which is 7 unit squares. The following figure illustrates this possibility.



The points have the following co-ordinates

$O \rightarrow (0, 0)$

$\therefore C \rightarrow (0.5, 0.7)$

$P \rightarrow (-1, 2), Q \rightarrow (2, 2)$

$R \rightarrow (2, 0), S \rightarrow (-1, 0)$

$T \rightarrow (0, -1), U \rightarrow (1, -1)$

We will have seven full squares within the circle.

$\therefore d = 4\pi - 7 \cong 5.56$ Choice (2)

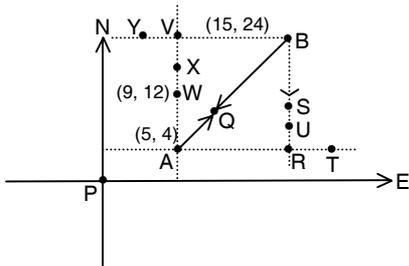
Solutions for question 20:

20. As is seen from the graphs $g(x)$ is reflected about y axis

\therefore It follows that $g(x) = f(-x)$ Choice (2)

Solutions for question 21 and 22:

21.



The ratio of the speeds is $V_A : V_B = 2 : 3$

\therefore if they meet at Q then $\frac{AQ}{BQ} = \frac{2}{3}$

$\therefore Q \cong 5 + \left(\frac{(15-5)(2)}{2+3}, 4 + \frac{(24-4)(2)}{2+3} \right)$

$Q \cong (9, 12)$

$\therefore PQ = \sqrt{9^2 + 12^2} = 15$ m. Choice (3)

22. If A walks East, i.e., along AR and B walks South i.e., along BR then when A reaches R, i.e., covers $15 - 5 = 10$ m.

B would have covered exactly $10 \times (3/2) = 15$ m along BR.

So say $BS = 15$ m.

Now say after a covered another 2 m say from R to T, B comes from S to U, where $SU = 3$ m.

Now $UT = \sqrt{(5-3)^2 - 2^2} = \sqrt{4+4} = 2\sqrt{2}$ which is less than 5.

$\therefore d_1 < 5$ m. Choice (2)

Solutions for questions 23 and 24:

We plot the graph by noting the following

$f(x) = |x - 1| - x$

case (i) for $x \geq 1, |x - 1| = x - 1$

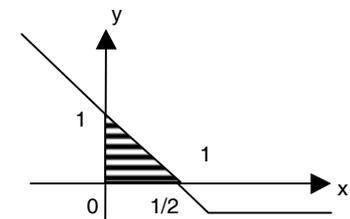
so $f(x) = (x - 1) - x = -1$

case (ii) for $x < 1, |x - 1| = -x + 1$

so $f(x) = -x + 1 - x = -2x + 1$

so $f(x) = -2x + 1$ for $x < 1$

-1 $x \geq 1$



23. The area of the triangle is $\frac{1}{2} \times \frac{1}{2} \times 1 = \frac{1}{4}$

Choice (2)

24. Clearly from graph, there is no part of the graph lying in the 3rd quadrant.

Choice (4)

Solutions for questions 25 to 27:

From the given conditions, from (a) to (e), we can formulate a table as given below, which describes the persons speaking a particular language. Any name enclosed within a circle suggests that the mother - tongue of the person is the same as the heading.

Gujarati	Tamil	Bengali
(A)	A	A
(C)	C	(B)
	(D)	(F)
(E)	(G)	E

- (I) It is worthwhile to remember that Bengalis and Tamilians refuse to share room.

- (II) Also, each participant in a room must be able to converse with at least one other participant in the same room, in any language.

25. Verify each choice as per the given table and rules.

(i) and (ii) given above.

(1) B, C, F: B and F speak only Bengali and C does not, thus C cannot converse with any of them. Hence, incorrect.

(2) C, D, F, G: Although C, D and G can converse with each other, but none of these can converse with F, who speaks only Bengali. Hence incorrect.

(3) A, D, E, G: It is not possible since B, C, F who will have to be in the other room is already shown to be NOT possible in Choice (1)

(4) D, G, C, E: C can speak to D and G in Tamil and to E in Gujarati. This is a possible combination where B, F, A are in the other room and they can all speak in Bengali.

Choice (4)

26. Various combinations are as below:

(G - Gujarathi; T - Tamil; B - Bengali)

Room 1			
	Gujarati	Tamil	Bengal
(i)	A	D, G	–
(ii)	A	–	B, F
(iii)	A, C	D, G	–
(iv)	A, E	–	B, F

Room 2		
Gujarati	Tamil	Bengal
C, E	–	B, F
C, E	D, G	–
E	–	B, F
C	D, G	–

Total number of arrangements = 4 Choice (3)

27. H cannot be placed with B, E and F (as per choice (3)), because H is a Tamilian and B, F are Bengalis, which violates condition F. Choice (3)

Solutions for questions 28 and 29:

The following information is given:

- (i) Chennai → Pune = Rs.1650
 - (ii) Taj Mahal Express = Delhi → Mumbai
 - (iii) Bangalore → Agra = (Taj Mahal Express) fare – 750
= x – 750
 - (iv) (Rajdhani Express) fare = (Taj Mahal Express) fare – 150
= x – 150
- From the above information, we have the following table

Train	From	To	Fare
Rajdhani Express	Chennai	Pune	1650
Shataabdi Express	Bangalore	Agra	x – 750 = 1050
Taj Mahal Express	Delhi	Mumbai	x

Also from (1), $x - 150 = 1650 \Rightarrow x = 1800$
Hence respective fares are
Rajdhani Express = Rs.1650
Shataabdi Express = Rs.1050
Taj Mahal Express = Rs.1800

- 4. The fare for Shataabdi Express is Rs.1050. Choice (3)
- 5. From the above table, Choice (3)

Solutions for questions 30 and 31:

It is given that in the three test matches, Sehwag, Ganguly, Tendulkar, Dravid and Laxman are the top five scoring batsmen, not necessarily in the same order.

From (A), we get no two players scored the same number of runs in any match.

From (B), we get

- Sehwag > Ganguly - 1st match
- Sehwag > Ganguly - 2nd match
- Ganguly > Sehwag - 3rd match

From (C), we get

The player who scored highest runs in the 3rd match scored the least in the 1st match.

From (D), we get

- Tendulkar > Dravid > Laxman in the 2nd match
- Tendulkar > Laxman in the 1st match
- Dravid > Laxman > Ganguly in the 3rd match.

From (E), we get

Tendulkar scored least in one match. In two matches his position in the decreasing order of the runs scored by him is the same.

i.e., if Tendulkar is the second highest scorer in the 1st match then he will also be the 2nd highest scorer in either the 2nd match or in the 3rd match.

Tendulkar is not the top scorer in any match.

30. From (B) and (D) we get Dravid > Laxman > Ganguly > Sehwag and Tendulkar is not the top scorer in any match. Hence, Dravid is the top scorer and the least scorer in the 3rd and in the 1st matches respectively.

In the 2nd match Tendulkar > Dravid. Hence, Tendulkar cannot be the least scorer in the 2nd match.

So, Tendulkar is the least scorer in the 3rd match. Choice (3)

31. With the above given information, Tendulkar will be either the 2nd highest scorer in the 2nd and the 3rd highest scorer in the 2nd or in the 3rd matches. In the 2nd match, Tendulkar > Dravid > Laxman

It is also given that Tendulkar > Ganguly in the 2nd match and Tendulkar is not the highest scorer, Tendulkar will be the 2nd highest scorer in both the 1st and in the 2nd matches (since his position in the decreasing order of the runs scored by him is the same). Choice (4)

Solutions for questions 32 to 34:

32. By observation we see that the increase is about 33% from 1985 to 1986. Choice (2)

33. The lowest numerator and the highest denominator appear together in C, 1986 and this will give us lowest percentage contribution. Choice (1)

34. By noticing that for each Bank, there has been at least one really bad year, in which it has failed to get 20% of the total disbursements that year and hence none of the banks meets the qualifying criteria. Choice (4)

Solutions for questions 35 to 37:

35. Total of 5% of time spent on each area = 5% of total time spent on preparation.
Hence, first subtract this 5% from the total time spent on solved examples, i.e., 10% of total time. We are left with 5% of total time. All of this remaining 5% may belong to only one area of study. To get the required percentage maximum, the total time spent on the area must be as less as possible. Hence, it could be either DS or LA. i.e. 10% of total time spent on preparation.

Now 5% = 50% of 10% and already 5% of 10% was allotted. Hence, 50% + 5% = 55% of the time spent on a single area of study, say DS, was spent on solved examples. Hence, 55% is the maximum. Choice (4)

36. The student cannot cover the complete critical analysis at friend's place. He/she has to left out critical analysis of at least one subject at friend's place. At the most he/she covered critical analysis of five subjects at friend's place. Choice (3)

37. At the most, the time that would have spent on tests in V.A. = Smaller value of tests and V.A. = Smaller of 10% and 15% = 10%. Time that would have spent at the most on revision in L.A. = Smaller of 20% and 10% = 10%. All together he would have spent 10% + 10% = 20% of T.I.M.E. classes on the above two topics. Hence, % of time spent on the above two is $\frac{10\% + 10\%}{30\%} = \frac{20}{30} = 66\frac{2}{3}\%$

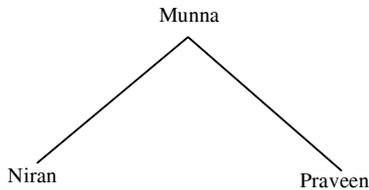
Choice (3)

Solutions for questions 38 to 41:

The persons who copied from Munna cannot leave any blanks in their answer choices.

∴ The persons that copied from Munna must be among Niran, Praveen, Rahul and Sastry.

The person who copied from Munna must have only one different answer compared to Munna, but Rahul has different answers for questions III and IV, when compared to Munna. Similarly, Sastry also has two different answers compared to Munna, hence Niran and Praveen are the only persons copied from Munna.



If we compare the answer choices marked by all the persons for I question, only Chinky marked a different answer. Hence, we can conclude that no body has copied the answer key from Chinky.

Similar, is the case for Arun for IV question, Ritesh for V question and Jassi for IX questions.

∴ No body copied answer choices from Arun, Chinky, Ritesh or Jassi. Praveen introduced a wrong answer choice 'C', for IX question, but none of Rahul, Sastry, Jassi has left it blank or marked it as C. ∴ These persons did not copy from Praveen and they also did not copy from a person copied from Praveen. So all the three of them either copied from Niran or from a person, who copied from Niran.

If we compare answer choices of Rahul and Niran, only one choice is different.

∴ Rahul copied from Niran and similarly Sastry copied from Niran.

Jassi left the II question as blank, which is marked as a by all other persons as 'A' except Rahul, who marked it as 'C'.

∴ Jassi copied from Rahul and one other questions are matched for that two person.

∴ The two persons must be Niran and Rahul. Lucky left only two questions as blank, which means the answer choices of of all the other questions marked by both the persons is same. This happened only for Niran and Praveen.

∴ Lucky copied from Niran and Praveen.

Chinky and Arun should have Sastry as one of the persons they copied from as in other case they would have not left VII question blank, Chinky left VIII question blank,

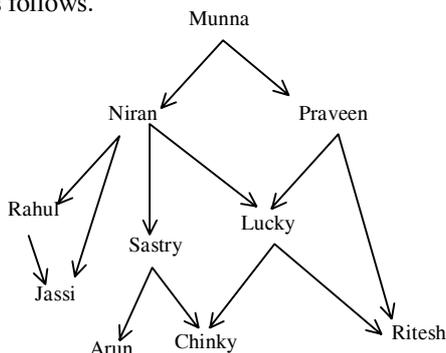
∴ the other person that he has copied from must be Lucky.

Arun left IX question blank,

∴ He should have copied from (Sastry and Praveen) or (Sastry and Lucky) i.e., questions

∴ If he copies from Sastry and Lucky, he could not have marked a for question X.

∴ So he copied from Sastry and Praveen. ∴ The final diagram is as follows.



38. Munna is the Jigri of Niran and Praveen.

Choice (2)

39. No body has Jassi as Jigri.

Choice (1)

40. Chinky has Sastry and Lucky as Jigris.

Choice (3)

41. Munna marked wrong answer for Q.No.III.

∴ In total 3 questions have choice (b) as correct answer.

Choice (2)

Solutions for questions 42 to 44:

42. From I, as A cannot deduce the colour of his hat, both B and C are not wearing white. The possibilities are (white, black) or (black, white) or (black, black). C could be wearing black or white.

From II, B cannot deduce the colour of his hat even after getting A's answer. If A's answer was Yes, all of them would deduce that B and C were both wearing white. If B's answer was No and C was wearing white, B would be able to deduce that he himself was wearing black. Hence C was not wearing white.

∴ C was wearing black. We can answer the question from II alone.

Choice (1)

43. Using statement I alone, the average age of the class in the year $x + 1$ was less than 16 and in $x - 1$, it was less than 14 (say $14 - a$). Statement I alone is not sufficient.

Statement II alone is not sufficient.

Using both the statements,

After A joins, the average drops to $14 - a$, i.e., before that it was more than $14 - a$. It could have been less or more than 14. Even by combining the statements, we cannot answer the question.

Choice (4)

44. No person got the same rank in both the rankings

∴ From statement I alone, the tallest person is heavier than the 3rd tallest person. The 3rd tallest cannot neither the heaviest nor the 2nd heaviest.

∴ He also cannot be the 3rd heaviest.

∴ He must be the lightest.

∴ Statement I alone is sufficient.

From statement II alone, the shortest person is lighter than 2nd tallest person, hence the 2nd tallest person must be the heaviest.

∴ statement II alone is sufficient.

Choice (2)

Solutions for questions 45 to 54:

45. Refer to para 2, lines 1-3.

Choice (1)

46. Refer to para 9, line 1.

Choice (1)

47. Refer to para 11.

Choice (2)

48. Refer to para 14.

Choice (1)

49. Refer to para 5, lines 5-6.

Choice (2)

50. Refer to para 2. Since line 3 mentions 'illicit affair' the ascent refers to the legal and moral recognition.

Choice (1)

51. Refer to para 4.

Choice (4)

52. 'Estranged' can be ruled out since the relationship has been patched up. There is nothing to suggest 'perfect' or 'fulfilling' hence the best answer would be 'strained'.
Choice (2)

53. Only choice 2 conveys the meaning of the words. The others are implications not clearly borne out by the passage.
Choice (2)

54. 'Pavlovian' refers to conditioning.
Choice (1)

Solutions for questions 55 to 59:

55. Sentence 2 should be 'squeeze out the water', they don't squeeze the water.
Choice (2)

56. Sentence 3 should be 'in poor taste' – the article makes it wrong. The idiom in poor taste means to be offensive and not at all appropriate.
Choice (3)

57. Sentence 1 should be 'on the open market' – an idiom that means freely available.
Choice (1)

58. Sentence 4 should be 'rounded up' meaning found and arrested.
Choice (4)

59. Sentence 1 should be 'work out' meaning 'train the body by exercise'.
Choice (1)

Solutions for questions 60 to 63:

60. In choices 1 and 2 the absence of the verb 'is' leaves the sentence incomplete. Between 3 and 4 'to connect' is better since it gives the reason.
Choice (3)

61. The present tense 'are' is inconsistent with the past implied in the sentence. The past perfect 'have been handed' is apt. It could become a precedent 'to' other houses not 'for'.
Choice (2)

62. Since the subject is 'mindset' the verb should be 'causes' not cause. The adverb 'consistently' must be between the auxiliary and main verb – to be consistently deemed suspect.
Choice (4)

63. The party had made solid inroads 'in' the rural belt not 'of' (rules out choice 3 and 4). The absence of 'that' makes choice 2 incomplete.
Choice (1)

Solutions for questions 64 to 67:

64. Sentence D must have 'unlike in India...' since we are comparing the situations in the two countries.
Choice (2)

65. Sentence C should be 'capture in words'. In sentence D the adverb 'indelibly' should be between the auxiliary and the main verb (... are indelibly linked ...)
Choice (3)

66. In sentence B, it should be 'keep up' meaning maintain. In sentence C, it should be items (plural) since it is an armful.
Choice (1)

67. Sentence A should have either 'to enjoy' or a colon after 'is'. In sentence D it should be 'think about' – meaning 'use your mind to consider some thing' whereas 'think of' means 'to recall'.
Choice (4)

Solutions for questions 68 and 69:

68. The main points in this text are:
(1) Karnataka is among the four most corrupt states of India.
(2) India ranks among the most corrupt and the most difficult of countries to do business in.
(3) Bangalore has been criticized for its poor infrastructure by the IT czars as well as the common man.

Choice 1 is too brief and misses some essential points. Choice 2 is right. Choice 3 is incorrect as it clubs together Bangalore, Karnataka and India on the one hand and the criticism leveled against each of them on the other, thereby making the criticism common to all three. Choice 4 is wrong as it gives the examples of poor infrastructure.
Choice (2)

69. The main points in the text:
(1) Inhalation of asbestos fiber is known to cause cancer
(2) Japan banned it only recently, still no steps were taken regarding its release into the atmosphere.
(3) It became big news when several companies attributed the death of some of their workers to asbestos fiber inhalation.

Choice 1 is right. Choice 2 is wrong because it says lawsuits in the U.S. made people realize that asbestos is carcinogenus. Choice 3 is incomplete. Choice 4 is wrong when it attributes to the minister that asbestos should have been banned when it was done in the U.S.
Choice (1)

Solutions for questions 70 to 74:

70. The passage has already talked of 'freeing', so the word here is 'emancipating'. 'Discharging' is allow to go, 'enslaving' implies loss of freedom and 'emasculating' means make weaker.
Choice (3)

71. The words following the blank says 'become a remote memory' hence the suitable word in the blank is 'receded' – move back or further away, 'abated' means become less intense, 'rebounded' means bounce back and 'surged' means powerful forward movement.
Choice (2)

72. In the context of panchayat raj and power, devolution (decentralization) is the right word. It cannot be 'surrender' or dialectic (reasoning) or dichotomy (division).
Choice (4)

73. The context implies the village assembly meeting to approve the panchayat's accounts. Hence the right word is 'ratify' (confirm). The whole assembly will not 'countersign' 'rationalize' (justify) or 'rebuke' (reprimand).
Choice (1)

74. 'Consolidated' means strengthen and is the right word. Integrated means combined consigned means deliver to somebody's custody and 'conscripted' means 'enlisted'.
Choice (2)

KEY for TEP0513

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