Key

SECTION – I

1. D	6. B	11. A	16. B	21. C	26. B
2. A	7. A	12. B	17. C	22. D	27. B
3. C	8. C	13. C	18. D	23. C	28. D
4. C	9. B	14. A	19. B	24. C	29. A
5. B	10. A	15. D	20. A	25. C	30. A

SECTION – II

1. C	6. D	11. D	16. A	21. C	26. A
2. A	7. D	12. C	17. C	22. D	27. B
3. B	8. C	13. B	18. C	23. B	28. B
4. D	9. B	14. C	19. D	24. D	29. B
5. C	10. B	15. C	20. D	25. D	30. A

Solutions

SECTION – I

Solutions for questions 1 and 2:

1. Given n = 10.
$g(a_2, a_8) = a_6$ as $|8 - 2| = n - 4 = 6$
$g(a_1, a_7) = a_6$ as $|7 - 1| = n - 4 = 6$
$g(g(a_2, a_8), g(a_1, a_7))$
$= g(a_6, a_6) = a_0$, as $|6 - 6| < n - 4 = 6$ Choice (D)

2. Remainder of k + m divided by n is m. This is possible only when k = 0. [k can only be 0, 1, 2…(n –1)]. Choice (A)

Solutions for questions 3 to 5:

3. Let the number of ₹1 coins, ₹2 coins and ₹5 coins in the bag be x, y and z respectively.
$x + y + z = 150$ ——— (1)
Given, value of ₹1 coins is at least 50% of total.

$\Rightarrow x \geq \frac{1}{2}(x + 2y + 5z)$

$\Rightarrow 150 - y - z \geq 2y + 5z$
$\Rightarrow 50 \geq y + 2z$ ——— (2)
The data is tabulated below:

Denomination	1	2	5
Number	x	127 – x	23
Value	x	254 – 2x	115

Given z = 23 and from (2), i.e., $y + 2z \leq 50$
$\therefore y \leq 4$, i.e. y = 1, 2, 3 or 4.
If y = 4, x = 123 and the value of the 2 rupee coins is 8/(123 + 8 + 115) or more than 3%. If y = 1, 2 or 3, this percentage is less than 3%. Choice (C)

4. Given the digits P, Q, R, S, T, U, V are 0, 1, 2, 3, 4, 5, 6 (not necessarily in that order)

```
and   PQ
    + RS
    ----
     TUV
    ----
```

The sum of the 2 two-digit numbers is less than 200.
$\therefore T = 1$
Further $P \neq 0$, $R \neq 0$, $Q \neq 0$, $S \neq 0$ ($\therefore$ if Q or S is 0, V would not be distinct from S or Q and if P or R = 0, then we cannot get a three-digit sum).
$\therefore U = 0$ or V = 0.
If V = 0, {Q, S} = {4, 6}. The greatest value of PQ + RS can only be 56 + 34 and not a 3-digit number.
$\therefore U = 0$
Now {P, R} = {4, 6} because if {P, R} = {4, 5}, PQ + RS can be at the most 46 + 53 = 99 and if {P, R} = {5, 6}, PQ + RS is at least 51 + 62 = 113
while $102 \leq TUV \leq 106$
Substituting the values in the addition problem we have

```
  4 –
  6 –
  ---
 10 –
  ---
```

We see that the only possibilities are 42 + 63 = 105 or 43 + 62 = 105. In either case V = 5. Choice (C)

5. The remainder on the first card can be 0, 1, 2 or 3 i.e., 4 possibilities.
The remainder of the number on the next card when divided by 4 can have 3 possible values (except the one occurred earlier). For each value on the card the remainder can have 3 possible values.
The total number of possible sequences is $4(3)^4$.
Choice (B)

Solutions for questions 6 to 9:

6. Total information in *x*-ray files = 16950 TB
Now all the *x*-ray files are compressed by 60%
So the new, reduced amount of information
= (0.4) (16950) = 6780 TB (in magnetic medium)
Choice (B)

7. Total paper medium = 240 TB
News paper + Books + Periodicals
= 9 + 11 + 80 = 90 TB
Percentage = (90/240) × 100 = 37.5% Choice (A)

8. By observation, possible answers may be
(i) DVD's in Optical Medium

$= \frac{70}{130} \times 100 \cong 53.9\%$

(ii) Office Documents in Paper Medium
= 150/240 × 100 = 62.5%

(iii) Photographs in Film Medium
= 410/427 × 100 = 96% Choice (C)

9. Let the memory space available and the information available in 2000 be 100 and 80 units respectively.
The increase in information = 30% p.a.
Increase in storage = 20%
Increase in memory space = 10%
⇒ Effective increase in memory space = (1.1) (1.2)
= 1.32 ⇒ 32%
If after n years there is a shortage then
$80 \times (1.45)^n > 100\ (1.32)^n$

$\Rightarrow 1.25 < \left(\frac{1.45}{1.32}\right)^n$

$\Rightarrow 1.25 < (1.1)^n$ (approx)
$\Rightarrow n > 2 \Rightarrow n = 3$. Choice (B)

Solutions for questions 10 to 15:

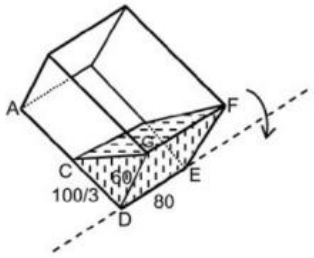
10. $a(a + b + c) = d^2 \rightarrow (1)$
$b(a + b + c) = e^2 \rightarrow (2)$
$c(a + b + c) = f^2 \rightarrow (3)$
Adding (2) and (3) and subtracting the result from (1),
$a^2 - (b + c)^2 = d^2 - (e^2 + f^2)$
As $b + c > a$, $a^2 - (b + c)^2 < 0$
$\therefore d^2 < e^2 + f^2$
Similarly it can be shown that $e^2 < d^2 + f^2$ and $f^2 < d^2 + e^2$
As the square of each side of triangle DEF is less than the sum of the squares of the other two sides, triangle DEF is acute angled. Choice (A)

11. 111/3 = 37
222/6 = 37
333/9 = 37

We see that when the box is titled along DE, the water level comes upto C, where

$CD = \frac{100}{3} cm$

After Tilting



Let the length, breadth and height of the cuboid be ℓ, b, h respectively. (ℓ = 100 cm, b = 80 cm, h = 60 cm)
Volume of water before tilting = ℓ bh

Volume of water after tilting = $\frac{1}{2}\left(\frac{\ell}{3}\right)bh = \frac{\ell bh}{6}$.

∴After the cuboid is restored to the initial position, only 1/6 the volume of the water is left and the height drops to 1/6 its original value, i.e. by 50 cm. Choice (A)

15. Each person would pair with x – 3 other persons.

$\therefore$ Number of possible pairs = $\frac{x(x-3)}{2}$

$\frac{x(x-3)}{2} = \frac{60}{3} = 20$

x (x – 3) = (8) (5).
Comparing both sides, we get x = 8. Choice (D)

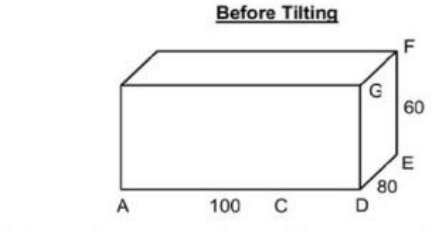
Solutions for questions 16 and 17:

Hence the number is 373737. Adding up all digits, we get 30. Choice (A)

12. The exchange of speeds and directions at the first meeting does not make a difference to the time or place of their second meeting. The two cars start together. By the first meeting (when the 2 cars together cover L, the distance between A and B), Q covers 40 km. By the 2nd meeting, the two cars together cover 3L and the distance covered by Q upto the first meeting plus the distance covered by P between the 1st and 2nd meetings is 120 km. Since the point of the 2nd meeting is 20 km from A, L = 100 km.
Choice (B)

13. The points where the curves intersect correspond to the roots of the equation.
$2x^3 + 3x^2 + 4 = 3x^2 - 2x + 8 \Rightarrow 2x^3 + 2x - 4 = 0$
$\Rightarrow x^3 + x - 2 = 0$. We can observe that, $x = 1$ satisfies this equation. So, $x = 1$ is one of its roots and $x = 1$ also satisfies the original two equations. So, $x = 1$ is one point of intersection $x^3 + x - 2 = (x - 1)(x^2 + x + 2)$. As $x^2 + x + 2 = 0$ has no real roots, $x = 1$ is the only common root.
$\therefore$ The two curves intersect once. Choice (C)

14.



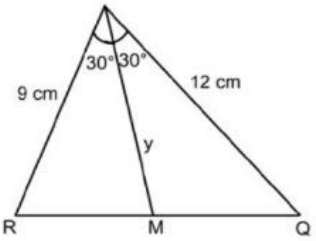
16. Since we know the two adjacent sides of the triangle PQR and the included angle (i.e., 9 cm and 12 cm with an included angle of 60°), we can directly apply the cosine rule, which says that in any triangle, of lengths of sides as a, b, c, if sides a and b have an angle of θ included between them, then $c^2 = a^2 + b^2 - 2ab\cos\theta$.
$\therefore$ In ΔPQR, $QR^2 = PR^2 + PQ^2 - 2PR \cdot PQ \cdot \cos 60°$

$\Rightarrow QR^2 = (9^2) + (12^2) - \left(2 \times 9 \times 12 \times \frac{1}{2}\right)$

$= (81) + (144) - (108) = 117$

$\Rightarrow QR = 3\sqrt{13}$ Choice (B)

17. Let us first draw the angle bisector of $\angle P$, to meet QR at M.
Now, consider the following figure:
Since $\angle Q + \angle R = 120°$, $\Rightarrow \angle P = 60°$



We know that RM : MQ = 9 : 12, i.e., 3 : 4, since, PM is the angle bisector of $\angle P$.
Let PM = y cm,
Now, since we seem to know the lengths of two sides and the included angle for ΔPRM (i.e., 9 cm and y cm, with an included angle of 30°) and for ΔPMQ (i.e., 12 cm and y cm,

with an included angle of 30°) and also for ΔPQR (i.e., 9 cm and 12 cm, with and included angle of 60°) we can evaluate the areas of these three triangles using the formula

$\Delta = \frac{1}{2} ab \sin\theta$.

Also, $\Delta PQR = \Delta PRM + \Delta PMQ$

$\Rightarrow \left(\frac{1}{2}\times 9\times 12\times \sin 60^\circ\right)$

$= \left(\frac{1}{2}\times 9\times y\times \sin 30^\circ\right) + \left(\frac{1}{2}\times 12\times y\times \sin 30^\circ\right)$

$\Rightarrow \left(\frac{1}{2}\times 9\times 12\times \frac{\sqrt{3}}{2}\right) = \left(\frac{1}{2}\times 9\times y\times \frac{1}{2}\right) + \left(\frac{1}{2}\times 12\times y\times \frac{1}{2}\right)$

$\Rightarrow 108\sqrt{3} = 21y$

$\Rightarrow y = \frac{108\sqrt{3}}{21} = \frac{36\sqrt{3}}{7}$ Choice (C)

Solutions for questions 18 to 21:

Let us first try to fill the table given.
Since no team ended with the same number of points Spain should have got less than Korea. Since South Korea has got only two points, it means it had two draws and three losses, which implies it did not win over any team, i.e., even over Spain. As Spain cannot have any wins (as it had a maximum of 1 point) the match between South Korea and Spain must have ended in a draw.
∴ Spain got 1 point.
Now India could have scored anywhere between 3 to 7 points. Now India definitely did beat Spain and did beat or draw with South Korea. The table excluding the points of India would be

Country	Won	Draw	Lost	Goals for	Goals Against	Points
Australia	5	0	0	17	5	15
Netherlands	3	1	1	9	6	10
Pakistan	2	2	1		2	8
India				2	5	
South Korea	0	2	3	7	11	2
Spain	0	1	4	8	17	1

∴ India, in its remaining matches (each of which it lost) i.e., against Netherlands and Australia scored 0 goals but conceded 4 goals. So, Australia at the most could have scored 3 goals against India. Choice (C)

Solutions for questions 22 to 30:

22. The word "Madhu" would flash at intervals of $\frac{7}{2}+1$ i.e., $\frac{9}{2}$ seconds. Similarly the words "Sweet" and "House" would flash at intervals of $5\frac{3}{4}+1$ i.e. $\frac{27}{4}$ seconds and $9\frac{1}{8}+1$ i.e., $\frac{81}{8}$ seconds.
The first time, the first two words flash together is after the LCM $\left(\frac{9}{2},\frac{27}{4}\right)$ or $\frac{27}{2}$ seconds. The first time, the second and third words flash together is after the LCM $\left(\frac{27}{4},\frac{81}{8}\right)$ or $\frac{81}{4}$ seconds.
Hence required time interval = $\frac{81}{4}-\frac{27}{2} = 6.75$ seconds.
Choice (D)

23. g (x) is a symmetric function in x. If x = 0, g (x) = 0.
If p > 0 and q < 0, g (x) will always be positive when x ≠ 0.
∴g (x) will be minimum when x = 0, p > 0 and q < 0.
Choice (C)

24. Let the number of model A's manufactured be x. Total time spent on manufacturing Model A's = 4x hours. Total time available for manufacturing model B's = 1600 – 4x hours.
Number of model B's which can be manufactured
$= \frac{1600-4x}{2} = 800-2x$.
Total profit earned on both models
= 1200x + 1000(800 – 2x) = 800000 – 800x
This will be maximum when x = 0.
Hence total number of Model B's should be 800 – 0 = 800 for maximum profit. Choice (C)

with an included angle of 30°) and also for ΔPQR (i.e., 9 cm and 12 cm, with and included angle of 60°) we can evaluate the areas of these three triangles using the formula

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$\Rightarrow 108\sqrt{3} = 21y$

$\Rightarrow y = \frac{108\sqrt{3}}{21} = \frac{36\sqrt{3}}{7}$ Choice (C)

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South Korea	0	2	3	7	11	2
Spain	0	1	4	8	17	1

∴ India, in its remaining matches (each of which it lost) i.e., against Netherlands and Australia scored 0 goals but conceded 4 goals. So, Australia at the most could have scored 3 goals against India. Choice (C)

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If p > 0 and q < 0, g (x) will always be positive when x ≠ 0.
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Choice (C)

24. Let the number of model A's manufactured be x. Total time spent on manufacturing Model A's = 4x hours. Total time available for manufacturing model B's = 1600 – 4x hours.
Number of model B's which can be manufactured
$= \frac{1600-4x}{2} = 800-2x$.
Total profit earned on both models
= 1200x + 1000(800 – 2x) = 800000 – 800x
This will be maximum when x = 0.
Hence total number of Model B's should be 800 – 0 = 800 for maximum profit. Choice (C)

Now, total goals for = Total goals against
∴ We can find the goals for Pakistan as 45 – 43 = 2
Now the number of draws must be an even number. So the only possibility is that India has 4, 2 or 0 draws. So also total number of matches won = total number of matches lost. So India should have lost 1 game more than that it won. India definitely lost to Australia and Pakistan.
∴ It cannot have 4 draws. Now if India had 2 draws, i.e., with South Korea and Netherlands, there is an inconsistency, as Pakistan had two draws but no country is there to draw against it. So only possibility is India had 0 draws, which means India beat both South Korea and Spain and got 6 points.

18. The match between Spain and South Korea ended as a draw. Choice (D)

19. India won 6 points. Choice (B)

20. Pakistan scored 2 goals and conceded two. As it won two matches it should have scored the two goals in those two matches.
∴ The match with Netherlands was a draw and it ended as 0 – 0. Choice (A)

21. As India scored only 2 goals, it must have won both its matches (i.e., against South Korea and Spain) with a score of 1 – 0 each. Pakistan won on India with a score of 1 – 0.

25. Let the age of the father be 10a + b ⇒ Age of the son = b
After 10 years, ages of son and father will be b + 10 and 10a + b + 10 respectively.
3(b + 10) = 10a + b + 10 ⇒ 2b + 20 = 10a
The units digit of 10a will be '0'.
⇒ The units digit of 2b + 20 will also be '0'
⇒ b is 0 or 5.
As the son's age is more than 2 years b = 5
Age of father = 10a + b = 2b + 20 + b = 35 years
Required sum = 5 + 35 = 40 years Choice (C)

26. Choice (A):
$\max[(x+y)(x-y)] = \max[x^2-y^2] < [(-3)^2-(1/2)^2] < 8\frac{3}{4}$

$\min[(x+y)(x-y)] = \min[x^2-y^2] = \left(\frac{-1}{2}\right)^2 - (7)^2 = -48\frac{3}{4}$

$\therefore \max[(x+y)(x-y)] - \min[(x+y)(x-y)] < 8\frac{3}{4} - (-48\frac{3}{4}) \Rightarrow 57\frac{1}{2}$

∴ Choice (D) also is eliminated.

Choice (B): $\max[(x+y)^2] = [7 + (-1/2)]^2 = \left(\frac{13}{2}\right)^2 = \frac{169}{4}$
Choice (B)

27. Let us say the polygon has x convex corners and y concave corners. As the polygon has each side parallel to either the x axis or the y axis, each internal angle must be 90° or 270°.

Sum of its angles = 90°x + 270°y = 180° (x + y – 2)
x – y = 4.
As x = 26, y = 22 Choice (B)

28. Given that the vessel contains a mixture of 70 kg of A and 30 kg of B.
Let the densities of A and B be 2d and d (kg/litre) respectively.

∴ Volumes of X and Y in the vessel are $\frac{70}{2d}$l and $\frac{30}{d}$l respectively.

∴ The (initial) density of the mixture
$= \frac{\text{total weight}}{\text{total volume}} = \frac{100}{\frac{35}{d}+\frac{30}{d}} = \frac{100d}{65}$

After the mixture is evaporated for n hours,

	X	Y
Weight	(70 – n)	(30 – 2n)
Volume	$\left(\frac{70-n}{2d}\right)$	$\left(\frac{30-2n}{d}\right)$

∴ The (new) density of the mixture
$= \frac{100-3n}{\frac{35-\frac{n}{2}+30-2n}{d}}$ ..... (1)

But it is given that the new density = $1.04\left(\frac{100d}{65}\right)$ ... (2)

Equating (1) and (2)
$\frac{100-3n}{\frac{65-\frac{5n}{2}}{d}} = \frac{8}{5} \Rightarrow 5(100-3n) = 8\left(65-\frac{5n}{2}\right)$
⇒ n = 4 Choice (D)

y > 0 if [x] > –1
And y < 0 if [x] < –1
∴ Range of g(x) = R – { 0 }
Hence, range of f(x) ∩ range of g(x) = $\left[-\frac{1}{2},\frac{1}{2}\right] - \{0\}$
Thus statements II and IV are true. Choice (A)

30. Equation of the line L is
$y - 1 = \frac{0-1}{2-1}(x-1)$
i.e. x + y = 2 .....(1)
equation of line through (½ ,0) and perpendicular to (1) is
$y = -\frac{2-1}{0-1}\left(x-\frac{1}{2}\right)$
i.e. $x - y = \frac{1}{2}$ –(2)
(2) intersects y axis at B $\left(0,-\frac{1}{2}\right)$ and at C $\left(\frac{5}{4},\frac{3}{4}\right)$
∴ Area of triangle ABC = $\frac{1}{2}\left[\frac{5}{4}\right]\left[2+\frac{1}{2}\right] = \frac{25}{16}$
Choice (A)

Difficulty level wise summary - Section I	
Level of Difficulty	Questions
Very Easy	–
Easy	7, 8, 11, 15
Medium	1, 2, 4, 6, 12, 13, 14, 16, 22, 24, 25, 26, 27, 30
Difficult	3, 5, 9, 10, 17, 18, 19, 20, 21, 23, 28, 29
Very Difficult	–

SECTION – II

Solution for question 1:

29. Given $f(x) = \frac{x}{1+x^2}$

The domain of f(x) is R.

$g(x) = \frac{e^{-x}}{1+[x]}$

Now $1 + [x]$ should not be 0

$\Rightarrow x \notin [-1,0)$

$\therefore$ Domain of g(x) is $R - [-1,0)$

$\therefore$ Domain of f(x) + g(x) = R – [1, 0)

We shall try to find the range of f(x)

Let $y = \frac{x}{1+x^2} \Rightarrow y + x^2y = x$

$\Rightarrow x^2y - x + y = 0$

$\Rightarrow x = \frac{1 \pm \sqrt{1-4y^2}}{2y}$

Clearly y cannot be 0, and $\sqrt{1-4y^2} \geq 0$

Thus $y \neq 0$ and $1 - 4y^2 \geq 0$

$\therefore y \neq 0$ and $y \in \left[-\frac{1}{2}, \frac{1}{2}\right]$

$\therefore$ Range of f(x) = $\left[-\frac{1}{2}, \frac{1}{2}\right] - \{0\}$

Consider $g(x) = \frac{e^{-x}}{1+[x]}$

Let $y = \frac{e^{-x}}{1+[x]}$

1. Sentence D is a general sentence that begins the paragraph. It refers to the fact that textbooks will remain a political issue until the time the government approves them. Sentence A follows. It highlights the changed scenario. As more access to other texts is available, the dominance of textbooks may wane. Sentence B extends the thought with the reference to the influence of teachers. Even the power of the teacher will wane. The 'indeed' in sentence B is used for emphasis. So sentences A,B compare the influence of both teachers and textbooks. Choice C goes beyond the textbook-teacher influence comparison to indicate that textbooks may soon be available online, which is merely an elaboration on statement A. It is redundant since it does not contribute to the thought flow explained below.

Choice (C)

Solutions for questions 2 to 5:

Number of words and Explanatory notes for RC:

Number of words : 445

2. From a careful reading of the fourth para, all facts provided in choice A are true. Freud assumed that mental illness resided in the unconscious.....He discovered in his patients desires (which resided in the unconscious) which were making them ill. The unconscious is a repository of the primitive, the antisocial and the evil within us. Jung concluded that mental illness is not the product of the unconscious .....but disordered relationship between conscious and unconscious. So the first part of option A is Jung's view and the second part is Freud's view. In choice C, Freud's view as given in the first part is correct but the second part does not correctly relate to Jung's view. Jung believed that the conscious mind repressed desires and feeling (not the unconscious mind). Choice B is incorrect.

Ailments of the mind being grounded in the conscious is not the correct view of Freud. Also he believed that ailments resided in the unconscious and were not necessarily triggered by it. The word 'trigger' is usually used to imply 'something that did not exist earlier' or '(initate or cause) a potential risk'. While ailments may exist in the unconscious, there is no information in the passage to suggest that the unconscious causes the ailments of the mind. Choice D is incorrect. Freud's view is given correctly in the first part of D but the second part is not the view of Jung. Choice (A)

3. Statement I can be deduced as it has been mentioned in the third paragraph that idle thoughts are cast aside most of the time but they can be significant and can provide valuable insights. Statement II cannot be inferred. That emotionally dishonest clients are very poor communicators and suffer from psychological problems may or may not be true. It has only been mentioned that dissociative identity disorder is dealt with in a psychotherapeutic process. The reasons for dissociative identity disorder are not mentioned. So statement III is incorrect. From the last line of the second paragraph (.....and the message always seems to be one designed to nurture spiritual growth.....), statement IV can be inferred. Statement V can be inferred from the first paragraph of the passage. Honest communication is vital for the psychotherapeutic process to work. So statements I, IV, V are consistent with the passage. Choice (B)

4. The concept of 'idle thoughts' has been explained in detail only in the third para, so choice B which would follow as an extension of the concept of 'idle thoughts' cannot be a part of the inserted paragraph. So choice B is incorrect. It has already been mentioned that emotional honesty can be a difficult task for the client or patient. So choice C is not correct. It presents in other words what is stated about denied emotions in the first para. Also gauging emotional honesty would not be the main objective of psychotherapists. A psychotherapist will try to understand

So, T, W and X must live alone on their respective floors. As, W and X are in two consecutive floors, those two floors must be third and second floor.
So, only option (D) must be true. Choice (D)

8. Q is on the third floor means, P is also on the third floor.
If there is only one person on the second floor, then that person can be W or R or S.
If there are two persons, then it must be W along with R or S.
∴ A total of 5 combinations of persons are possible.
Choice (C)

Solution for question 9:

9. In sentence 'a', use of 'the' before 'early age' is incorrect as early age is a general term. If a particular age was mentioned (as in the early age of), the use of 'the' would have been apt. So 'an' is apt before early age. Sentence 'b' is correct. In sentence 'c', the author states that coarse people or touts do not deserve a complex anatomical equipment like the human body. They have bad habits and are responsible for shallow judgements and do not add any value to the world. Consumption is their only function. In sentence 'c', the 'so.....as' construction is apt. Thus 'as' is to be used in place of 'than' (and the sentence should read '.....did not deserve so beautiful an instrument and such a complex anatomical equipment as the human body'). Sentence 'd' is correct, here the author uses the analogy of the alimentary canal to describe coarse people. It connects with the previous sentence of the para. The author says that coarse people who do nothing much in life should merely have a sack for the digestive process and nothing more. They do not deserve a beautiful and complex body. In sentence 'e', we need the word 'being' to open the sentence. 'Being very fond of animals' is an adjective phrase describing 'he' (Leonardo da Vinci) in the sentence. So, 'b' and 'd' are correct. Choice (B)

Solution for question 10:

his or her patient. Choice A seems far-fetched. Choice D would be the best option to complete the thought flow in a para between para 1 and para 2. It connects the idea of denied emotions as expressed in para 1 and the analysis of dreams for the helpful information gained (as a result of the unconscious speaking to us more clearly) as expressed in para 2. Choice (D)

5. The meaning of the word 'petulantly' is 'peevish impatience'. The word 'eludes' means *"to escape the understanding or grasp of; to baffle"*. So choice C is apt. "..... significance of many dreams eludes us" indicates that psychotherapists can be frustrated when pursuing their objectives. The word 'frustrate' has two meanings. One is 'to prevent from accomplishing a purpose or fulfilling a desire; thwart' and the second is 'to cause feelings of discouragement or bafflement in'. The former meaning is what is applicable here - psychotherapists can be stalled in their understanding due to difficulties that come in the way. The latter meaning of the word 'frustrate' refers to an emotional aspect – One would be better off without it because of the discouragement caused – and is not applicable here. The word 'petulantly' does not mean "divert attention" or "puzzle." "irritate" is a mild term in this context. So choices A, B and D are incorrect. Choice (C)

Solutions for questions 6 to 8:

As there are nine persons and six floors, there must be three floors with two persons each and three floors with one person each.

6. Given, W and U live on different floors. As W and X live on two consecutive floors, as per the given conditions those two must be either 3rd and 2nd or 2nd and 1st.
So, one among them must be on the 2nd floor.
If P lives on the second floor, Q must also be there.
Hence, (D) is false. Choice (D)

7. As per the given conditions, U and R live on the sixth floor and S and V live on the first floor.

10. The paragraph introduces the idea about 'Logo-centric approach to meaning', given in statement 'b'. This statement also talks about the importance of speech. Statement 'a' follows by stating that thoughts though primary are dependent on speech. This is followed by a mention of language being a process involving thoughts as given in statement 'c'. 'no method of transmission' given in statement 'a' links with 'language emerges as a process to allow thoughts to travel'. The relationship between thoughts and speech in language is further explained in statement 'e'. Statement 'd' ('....then be viewed....") concludes the paragraph by combining thought and speech in a system called language. The correct sequence is 'baced'. In choice A, statement 'b' is incorrectly placed after statement 'a' and the remaining statements do not convey the meaning effectively. In choice C, statement 'e' (Language.....) is incorrectly placed before statement 'c' (Language, the cornerstone of humanity,.....). Choice D may look deceptively close. Statement 'b' cannot end the paragraph and statement 'c' cannot begin the paragraph. So, 'baced' Choice (B)

Solution for question 11:

11. The correction required in D is "melted into cheers'. Other sentences have a correct usage of the word 'melt'. In choice A, the usage is 'to disappear or vanish gradually as if by dissolving'. In choice B, the reference is 'to become emotional or softened in feeling'. In choice C, the usage is 'to disappear'. Choice (D)

Solution for question 12:

12. It would be a good idea to check each choice in this case as each choice has a different introduction sentence. Statement 'e' introduces the idea about the regulation of people's labour in producing things. Statement 'a' follows next with the point about production in pre-capitalist societies. Statement 'c' follows statement 'a' with its declaration that capitalism is different from earlier

production modes. Further explanation about this is given in statement 'd'. (.....commodities are produced for sale.....). Statement 'f' follows statement 'd' with Marx definition of '.....generalised commodity production...' Statement 'b' which is a stand-alone sentence best concludes the paragraph. So 'eacdfb'. Choices A, B and D are incorrect as the sequence of sentences disrupts the thought flow.

Choice (C)

Solutions for questions 13 to 15:

Given that, no person participated in both Bungeee jumping and Rock climbing

⇒ Lewis did not participate in Rock Climbing. Peter participated in three events.

∴He participated in Paragliding, Skilling and in exactly one of Bungee jumping and Rock climbing.

	Paragliding	Skiing	Bungee Jumping	Rock Climbing	Total
John		✓		×	
Mike					
Lewis	×		✓	×	
Peter	✓	✓			3
Total	2	3	2	1	

13. Lewis participated in two sports.

∴He participated in Skiing. ∴Mike did not participated in Skiing.

But Mike participated in one of Paragliding and Skiing.

∴Mike participated in Paragliding.

∴John did not participate in Paragliding.

	Paragliding	Skiing	Bungee Jumping	Rock Climbing
John	(×)	✓		×
Mike	(✓)	(×)		
Lewis	×	(✓)	✓	×
Peter	✓	✓		

Choice (B)

Solutions for questions 17 to 19:

Number of words and Explanatory notes for RC:

Number of words : 511

17. "this description is unlike any real person" along with "not his fallible counterpart" and "what economists consider anomalous is the norm" given in para 1 supports (C). (B) is incorrect. (A) is far from the truth. In the penultimate sentence of the first para, the author states that "Mc Fadden wants economists to accept that evidence from other disciplines does not explain ....behaviour that do not fit the standard models." So "inaccurate picture of consumer behaviour" in choice A is wrong. Choice D does not amount to criticism as such. The author identifies what the economists think about 'Homo Economicus' (idea of Everyman). He states an attribute (mythical or ideal person) and not what is wrong with it. Choice (C)

18. The study suggested that poor people are more likely to decide to accept handouts when they perceive themselves as successful. This indicates that the value they derive from their achievements (dignity) and not just the sense of achievement (pride) is the arbiter in their decision making. So choice A is incorrect and choice C is appropriate. The observations provide support for the main idea of the para. B and D are more relevant to those interacting with the poor and not the poor themselves, and are therefore inadequate. Choice (C)

19. (A) goes overboard. The words 'any choice' in option (A) makes the choice extreme. (B) is beside the point. (C) is suspect and incorrect. It is given in the last para that workers prefer that their employers put them into pension plans at preset contribution rates. A contradiction is indicated in choice (C). In the second sentence of the last para, it is indicated that economists tend to think that more choice is good. "..... ambiguous view of an abundance of choices" as given in the last paragraph supports (D). Thus, (D) is correct. Choice (D)

14. John participated in Paragliding.

	Paragliding	Skiing	Bungee Jumping	Rock Climbing
John	(✓)	✓		×
Mike	(×)	(✓)		
Lewis	×	(×)	✓	×
Peter	✓	✓		

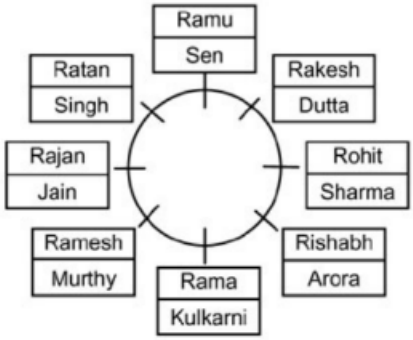
Choice (C)

15. From (iv) and (v), Mike participated in at most two of the four sports. ∴Mike cannot participate in three sports.

Choice (C)

Solution for question 16:

16. Names : Ratan, Rama, Ramesh, Ramu, Rakesh, Rajan, Rishabh and Rohit.
Surnames : Kulkarni, Arora, Jain, Dutta, Singh, Sharma, Sen and Rao.
As per the instructions, we get the following diagram:



Hence, Ramesh Murthy sits opposite Rakesh Dutta.

Choice (A)

Solution for question 20:

20. "syncretism" refers to the fusion of differing systems of belief. "manumission" refers to "setting free or being set free from slavery; emancipation". "Obliteration" means to do away with or remove completely so as to leave no trace. "encumbrance" means "a thing that impedes or is burdensome or a hindrance". "vicissitudes" means changes, variations or shifts. "Straitjacket" here refers to something that restricts, hinders, or confines.

It can be observed that the second blank needs a negative word (subordinated to the.....of ideology). So 'manumission' cannot fit the first blank as it has a positive meaning. Also the first blank does not convey the sense of the word 'syncretism'. So, choice A is incorrect. One is not referring to the removal of capitalism in today's times, so 'obliteration' is incorrect. Also "prejudices" (unreasonable preconceived judgments or convictions) of ideology is incorrect. So choice B is incorrect. While "encumbrances" is correct for the second blank, the repudiation or "the refusal, especially by public authorities, to acknowledge" is not implied. One is looking for a feature of capitalism to parallel the "nihilism of religion" as given. So "vicissitudes", "straitjacket" is the correct pair. Choice (D)

Solution for question 21:

21. The paragraph begins with a description of the aims and objectives of the scientist and the artist. It also explains that there is a difference in the type of world each wishes to change. Inspite of a difference in the area of contradiction discovered by each of them, the work of both the scientist and the artist involves creative acts. The penultimate sentence explains the role of the scientist in creatively changing the world and it resonates with "the external world

of man's objective relations with nature", "contradiction in his consciousness of the external world" and "resolves it in a scientific hypothesis". Therefore the last sentence should ideally focus on the role of the artist in a creative act in more detail. Only choice C is specific. The role of the artist as given in choice C - "heightens our sense of ourselves as social beings and so advances the class struggle" - closes the ideas of "internal world of his subjective relations with his fellow men", "contradiction in his consciousness of the internal world" and "resolves it in a work of art." Choice B would be incorrect as it continues with the role of the scientist but there is a need to deal with the role of the artist to correctly complete the thought flow and provide the necessary contrast (role of the scientist and that of the artist) as given in the earlier sentences in the paragraph. Choices A and D are incorrect as concluding sentences. Simplifying explanations or teaching one to think for oneself are very general sentences and they could be roles performed by any other person, not necessarily an artist. These functions have also not been hinted at in the earlier sentences. Choice (C)

Solution for question 22:

22. The correction in Choice D would be 'scale down' the number of beds. Here the reference is 'to alter (decrease) according to a standard or by degrees; adjust in calculated amounts'. Other sentences are correct. In choice A, the meaning is 'to clear or strip off scales and clean the fish'. In choice B, the meaning is "the mother understood the truth or realization dawned on her'. In choice C, 'tipped the scales in her favour' means 'to make something more likely to happen, or to make someone more likely to succeed'.
Choice (D)

Solutions for questions 23 to 25:

noblest of distractions" and "Reading does not .....dissipate immediately", one can infer (b). From the last sentence of the passage, "Real life.....is literature", one can infer (c). From the third sentence of the last paragraph, "One who loves people in books, to whom one had given more of one's attention.....", one can infer (d). (e) is supported by "sudden twists in plot," as given in the last sentence of the second para. In (f), "unlikely element" is not true as "plausible surprises that propelled his novels" has been mentioned in the last sentence of the second para. Thus (a), (b), (c), (d) and (e) are correct. Choice (D)

Solutions for questions 26 to 29:

26. The number of gold coins in each box is 9. Then the procedure that one should apply is as follows.
We have to take a total of 45 coins, i.e., one from the first box, two from the second box,--------, and so on fill nine from the ninth box.
If the total weight of these 45 coins is 450 gm, then tenth box is the required one. If the total weight of these 45 coins is 460 gm, the required box is the first one. If the total weight of these 45 coins is 470 gm, the required box is the second one and so on.
$\therefore$We have to use the weighing machine only once.
Choice (A)

27. Here, let us take a total of 28 coins i.e one from the first box, two from the second box, three from the third box ----------, seven from the seventh box. If these 28 coins weight 280 gm, then the required box is one among the remaining three, other wise we can find that in the first weighting itself. Now, from the remaining three boxes, take one coin from the first, two from the second, three from the third and this will enable us to find the required box. Choice (B)

Number of words and Explanatory notes for RC:

Number of words : 429

23. The passage provides a survey of Proust's reading tastes. The beginnings of each paragraph provide sufficient clues – "well read', "read more", "On Reading", "A book".
"In seach of Lost Time" is discussed only in the first paragraph. So choice (A) is incorrect. The passage does not compare Proust's work with that of other writers, so choice (C) is incorrect. Even though the names of other writers are given in para 2, choice (D) is not the focus of the passage.
Thus, (B) is correct. Choice (B)

24. In the first para, the author is all praise for Marcel Proust. He says that the novel "In Search of Lost Time" has the main traditions of French literature encapsulated within it. He then focuses on his maxims, drawn from the novel. From the example of the maxim given in the last sentence of the first paragraph, one can infer choice D as a feature of his maxims. The author wishes to state that the presentation of the thought is also important through the proper choice of words. In the penultimate line of the first para, it has been mentioned that "an unusually high quotient of them (maxims) are dazzling". The word 'dazzling' here means 'to inspire admiration or wonder'. {In another context, the word can mean 'to amaze, overwhelm, or bewilder with spectacular display.' So choice D is what the author seeks to highlight. Other choices are incorrect. "greatest praise of God" as given in the maxim does not highlight Proust's belief in God. So choice C is incorrect. The passage mentions "French literature" and "contemporary literature" but choice A and choice B are not implied. Choice (D)

25. From the first sentence of the third para, "The reading of all good books is like a conversation with the most cultivated men of past centuries....", one can infer (a). From the clues in the second sentence of the third para, "Reading is the

28. Take one coin from each of the first three boxes, two from each of the next three boxes and three from each of the next three boxes. If these 18 coins weigh 180 gm, then the required box is the tenth one. If these 18 coins weigh 190 gm, then the required box is in the first three. If these coins weigh 200 gm, then the required box is in the second group of three boxes. If these coins weigh 210 gm, the required box is in the third group of three boxes. Now, we already find the group of three boxes. From these three boxes, take one coin from the first box, two from the second, three from the third. Now, we can find the required box from these three boxes. Choice (B)

29. First take one coin from each of the first five boxes and two from each of the next five. Now, we can find that the group in which the required box is there. Then, we can find two boxes then one box i.e., a total of three weighings are required. Choice (B)

Solution for question 30:

30. Sentence D is a general sentence that begins the paragraph. Sentence B follows. The 'metal' in sentence B refers to 'steel' in sentence D. Sentence C is also a part of the paragraph. It concludes the para by saying that steel makes up 95% of global metal production but its raw material iron ore attracts little attention. So sentences D, B, C in that order form a paragraph about steel. Sentence A talks positively about the trade in iron ore and is not a part of the context. Sentences C and A cannot be paired together. So D, B, C. Choice (A)

Difficulty level wise summary - Section II	
Level of Difficulty	Questions
Very Easy	–
Easy	6, 7
Medium	1, 5, 8, 9, 11, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 20
Difficult	2, 3, 4, 12, 21, 25, 26, 27,
Very Difficult	10, 20, 28, 29