**Some artists go out in a blaze of glory. Pierre-Auguste Renior went out in a blaze of kitsch. At least, that's the received opinion about the work of his final decades: all those pillowy nudes, sunning their abundant selves in dappled glades; all those peachy girls, strumming guitars and idling in bourgeois parlors; all that pink. In the long twilight of his career, the old man found his way to a kissable classicism that modern eyes can find awfully hard to take.**

**All the same, the Renoir of this period - the three very productive decades before his death in 1919 at the age of 78 - fascinated some of the chief figures of modernism. Picasso was on board; his thick - limbed 'neoclassical' women from the 1920 are indebted to Renior. So was Matisse, who had one eye on Renoir's Orientalist dress-up fantasies like the Concert, with its flattened space and overall patterning, when he produced his odalisques. Given that so much of late Renior seems saccharine and semi comical to us, is it still possible to see what made it modern to them?**

**Yes and no. To understand the Renoir in the 20$^{th}$ Century you have to remember that before he became a semiclassicist, he was a consummate Impressionist. You need to picture him in 1874, 33 years old, painting side by side with Monet in Argenteuil, teasing out the new possibilities of sketchy brushwork to capture fleeting light as it fell across people and things in an indisputably modern world.**

**But in the decade that followed, Renoir became one of the movement's first apostates. Impressionism affected many people in the 19$^{th}$ century in much the way the internet does now. It both charmed and unnerved them. It brought to painting a novel immediacy, but it also gave back a world that felt weightless and unstable. What we now call post - Impressionism was the inevitable by-product of that anxiety. Artists like Seurat and Gauguin searched for an art that owed nothing to the stale models of academicism but possessed the substance and authority that Impressionism had let fall away.**

**For Renoir, a turning point came during his honeymoon to Rome and Naples in 1881. Face to face with the firm outlines of Raphael and the musculature of Michelangelo, he lost faith in his flickering sunbeams. He returned to France determined to find his way to lucid, distinct forms in an art that reached for the eternal, not the momentary. By the later years of that decade, Renoir had lost his taste for the modern world anyway. As for modern women, in 1888 he could write, "I consider that women who are authors, lawyers and politicians are monsters". ("The woman who is an artist," he added graciously, "is merely ridiculous.")**

**Ah, but the woman who is a goddess - or at least harks back to one - that's different matter. It would be Renoir's aim to reconfigure the female nude in a way that would convey the spirit of the classical world without classical trappings. Set in "timeless" outdoor settings, these women by their weight and scale and serenity alone - along with their often recognizably classical poses - would point back to antiquity.**

**For a time, Renior worked with figures so strongly outlined that they could have been put down by Ingres with a jackhammer. By 1892, he had drifted back toward a fluctuating impressionist brushstroke. Firmly contoured or flickering, his softly scalped women are as full-bodied as Doric columns. This was one of the qualities that caught Picasso's eye, especially after his first trip to Italy, in 1917. He would assimilate Renoir along-side his own sources in Iberian sculpture and elsewhere to come up with a frankly more powerful, even haunting, amalgam of the antique and the modern in paintings like Woman in a White Hat.**

**Renior was most valuable as a stepping - stone for artists making more potent use of the ideas he was developing. The heart of the problem is the challenge. Renoir set for himself: to reconcile classical and Renaissance models with the 18$^{th}$ century French painters he loved. To synthesize the force and clarity of classicism with the intimacy and charm of the Rococo is a nearly impossible trick. How do you cross the power of Phidias with the delicacy of Fragonard? The answer: at your own risk - especially the risk of admitting into your work the weaknesses of the Rococo. It's fine line between charming and insipid, and 18$^{th}$ century French painters crossed it all the time. So did Renoir.**

**55. All of the following are true in light of the passage EXCEPT.**

(1) Fragonard is an 18$^{th}$ century artist.
(2) Picasso combined classicism and modernism in 'Woman in a white Hat".
(3) Renoir was a semi - Classicist, who became an Impressionist.
(4) Gauguin suffered from post - Impressionism anxiety.

**56. We can infer from the passage that the word 'odalisques' means**

(1) pillars
(2) landscapes
(3) figures
(4) women

**57. The passage suggests that**

(1) Renoir was greatly misunderstood in his lifetime.
(2) Classicism and modernism don't go together.
(3) Renoir's later work appealed to modern tastes.
(4) Renoir's artistic appeal waned in the twilight of his career.

**DIRECTIONS *for questions 58 to 60:* Read the following passage and answer the questions that follow it.**

**Humans have a basic need to perceive themselves as part of a grand scheme, of a natural order that has a deeper significance and greater endurance than the petty affairs of daily life. The incongruous mismatch between the futility of the human condition and the brooding majesty of the cosmos compels people to seek a transcendent meaning to underpin their fragile existence.**

**For thousands of years this broader context was provided by tribal mythology and storytelling. The transporting qualities of those narratives gave human beings a crucial spiritual anchor. All cultures lay claim to haunting myths of other-worldliness: from the dreaming of the Australian Aborigines or the Chronicles of Narnia, from the Nirvana of Buddhism to the Christian Kingdom of Heaven. Over time, the humble campfire stories morphed into the splendour and ritual of organized religion and the great works of drama and literature.**

**Even in our secular age, where many societies have evolved to a post-religious phase, people still have unfulfilled spiritual yearnings. A project with the scope and profundity of SETI (search for extra-terrestrial intelligence) cannot be divorced from this wider cultural context, for it too offers us the compelling promise that this could happen any day soon. As writer David Brin has pointed out, 'contact with advanced alien civilizations may carry much the same transcendental or hopeful significance as any more traditional notion of "salvation from above". I have argued that if we did make contact with an advanced extraterrestrial community, the entities with which we would be dealing would approach godlike status in our eyes. Certainly they would be more godlike than humanlike; indeed, their powers would be greater than those attributed to most gods in human history.'**

**So is SETI itself in danger of becoming a latter day religion? Science fiction writer Michael Crichton thought so. He said: "Faith is defined as the firm belief in something for which there is no proof," he explained. "The belief that there are other life forms in the universe**

**is a matter of faith. There is not a single shred of evidence for any other life forms, and in forty years of searching, none has been discovered." Writer Margaret Wertheim has studied how the concept of space and its inhabitants has evolved over several centuries. She traces the modern notion of aliens to Renaissance writers such as the Roman Catholic Cardinal Nichols of Cusa, who considered the status of man in the universe in relation to celestial beings such as angels.**

**With the arrival of the scientific age, speculations about alien beings passed from theologians to science fiction writers, but the spiritual dimension remained just below the surface. Occasionally it is made explicit, as in Olaf Stapledon's Star Maker, David Lindsay's A Voyage to Arcturus, or Steven Spielberg's Close Encounters of the Third Kind, which is strongly reminiscent of John Bunyan's A Pilgrim's Progress. These are iconic images that resonate deeply with the human psyche, and shadow the scientific quest to discover intelligent life beyond Earth…**

**58. It can be inferred from the passage that, 'Close Encounters of the Third Kind'**

(1) is a modern, scientific version of John Bunyan's Pilgrim's Progress.
(2) explores the spiritual unknown in the scientific quest to discover the extraterrestrial.
(3) is the work of a theologian-turned science fictionist.
(4) speculates on intelligent life in outer space and reflects vivid spiritual overtones.

**59. Which of the following statements reflects or captures the author's view on the search for extraterrestrial intelligence?**

(1) It is a vain attempt by man to underpin his fragile existence.
(2) It is in danger of becoming a latter day religion.
(3) Were the search to yield positive results, man would accord those creatures super god status.
(4) The belief that there are aliens in the universe springs from enormous faith and the pursuit reflects man's spiritual urge.

**60. Great literary works, according to the passage**

(1) had their origins in the spiritual age.
(2) evolved from tribal tales.
(3) were a product of the Renaissance.
(4) dwelt on the spiritual.

# SOLUTIONS

## Quantitative Ability

1. Let the cost of pencil, eraser and sharpener (in rupees) be $p$, $e$, $s$ respectively.
$2p + 5e + 7s = 30$ —(1)
$3p - 6e + 5s = 15$ —(2)
We need the value of the following expression
$E = -6p + 39e + s$
We assume that by multiplying equation (1) by $x$ and equation (2) by $y$ and adding we get the equation E. By considering the coefficients of only $p$ and $e$, we get
$2x + 3y = -6$
and $5x - 6y = 39$
This gives $x = \frac{(6)(-6) - 3(39)}{(2)(-6) - (5)(3)} = \frac{36 - 117}{-12 - 15} = \frac{-81}{-27} = 3$ and $\therefore y = -4$
[Note: Observe that the coefficients of $s$ also combine in the same way to match the coefficient of $s$ in E i.e., $3(7) - 4(5) = 1$].
$\therefore E = 3(30) - 4(15) = 30$ Choice (2)

2. $(x + 1)(x + 9) + 8 = 0$
$x^2 + 10x + 17 = 0$
The roots of the equation are $a$ and $b$
$\therefore a + b = -10$
$ab = 17$
$(x + a)(x + b) - 8 = 0$
$x^2 + (a + b)x + ab - 8 = 0$
$x^2 - 10x + 9 = 0$
Therefore, roots of $(x + a)(x + b) - 8 = 0$ are 1 and 9. Choice (1)

3. Consider $7^4$, whose value is 2401
$\therefore 7^{700} = (7^4)^{175} = (2401)^{175}$
Any power of 2401 will end with 1 as the units digit and 0 as the tens digit.
$\therefore$ When it is divided by 100, the remainder is 1. Choice (1)

4. Tabulating the given information

| Cost price | item | selling price |
|---|---|---|
| $y$ | $S$ | $x - 300$ |
| $y + 100$ | $C$ | $x - 200$ |
| $y - 200$ | $L$ | $x - 500$ |
| $y + 300$ | $J$ | $X$ |

To compare the profit percentages, we can compare $\frac{SP}{CP}$.

$\frac{x-300}{y}, \frac{x-200}{y+100}, \frac{x-500}{y-200}, \frac{x}{y+300}$

It can be observed that the above fractions can be written as

$\frac{a}{b}, \frac{a+100}{b+100}, \frac{a-200}{b-200}, \frac{a+300}{b+300}$

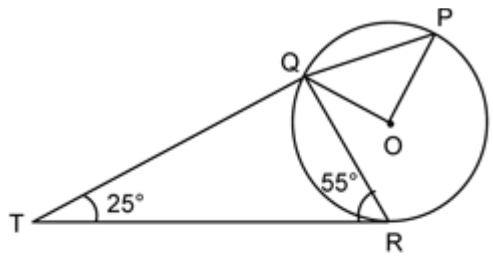
where $a = x - 300$, $b = y$

Now since no item sells at a loss, and given the identity that $\frac{m}{n} > \frac{m+k}{n+k}$ whenever $\frac{m}{n} \geq 1$, and $k$ is a +ve quantity, the above ratios can be rearranged as

$\frac{a-200}{b-200} \geq \frac{a}{b} \geq \frac{a+100}{b+100} \geq \frac{a+300}{b+300}$

$\Rightarrow l \geq s \geq c \geq j.$ Choice (3)

5.




In $\Delta QTR$,
$\angle QTR + \angle QRT + \angle RQT = 180°$.
$\angle RQT = 180° - (55° + 25°) = 100°$
$\angle ORT = 90°$. (TR is a tangent to the circle at R)
$\angle QRT + \angle ORQ = 90°$
$\angle ORQ = 90° - 55° = 35°$.
$OQ = OR$
$\therefore \angle OQR = \angle ORQ = 35°$.
$\angle RQT + \angle PQR = 180°$ (PQT is a straight line)
$100° + 35° + \angle PQO = 180°$
$\angle PQO = 45°$
In $\Delta OQP$, $OQ = OP$
$\therefore \angle OPQ = \angle PQO = 45°$
$\therefore \angle POQ = 90°$ Choice (3)

6. Let the 4-digit sequence be *abcd*.
In base 6, this represents $216a + 36b + 6c + d$ and each of $a, b, c, d$ is less than 6.
In base 10, it represents $1000a + 100b + 10c + d$.
Given $4(216a + 36b + 6c + d)$
$= 1000a + 100b + 10c + d$
$\Rightarrow 136a = 44b + 14c + 3d$ ------ (A)
By trial $a = 1$, $b = 2$, $c = 3$, $d = 2$
If $a = 2$, the LHS = 272
[If we consider $b = 5$, we need 272 – 220 or 52 from $14c + 3d$ $(c, d) = (2, 8)$ but 8 is not a proper digit in base 6.
If $a = 3$, the LHS = 408, while $44b + 14c + 3d$ can at the most be $(44 + 14 + 3)5$ or 305.
$\therefore$ There are no other possible values that satisfy (A)]
$\therefore abcd = 1232$ and $a + b + c + d = 8$ Choice (4)

7. Let the number of friends initially be $n$ and let the contribution of each be $x$.
Given $nx = (n – 2)(x + 1) = nx – 2x + n – 2$
$\Rightarrow n = 2(x + 1)$
We tabulate the possible values of $x$, $n$ and $nx$ below.

| $x$ | $n$ | $nx$ |
|---|---|---|
| 21 | 44 | 920 |
| 22 | 46 | 1012 |
| 23 | 48 | 1104 |
| 24 | 50 | 1200 |

As $1000 < nx < 1100$, $(x, n) = (22, 46)$ i.e. $n = 46$.
Hence, number of friends who actually contributed = $n – 2 = 44$ Choice (3)

8. If $n$ is a factor of 360, then according to the pattern of movement followed by the robot, it will cover a regular polygon of an external angle of $n°$ and number of sides = $\frac{360}{n}$.
The length of each side will be $2n$ metres. Hence the robot will come back to O in this case. However, if $n$ is not a factor of 360°, then the robot will not come back to O, but will continue moving till it covers 1000 metres and then stop.
Note: The robot may come back to O for other values of $n$, which are not factors of 360° but are factors of 720°, 1080°…etc. However, in such cases the distance required to be covered before reaching O will be greater than 1000 m.

Since the robot came back to O, $n$ must be a factor of 360° and also the total distance covered = (number of sides of the regular polygon) × (length of each side) = $\frac{360}{n} \times 2n = 720$ m Choice (3)
Note that the distance is independent of N.

9. If $n$ is a factor of 360, then according to the pattern of movement followed by the robot, it will cover a regular polygon of an external angle of $n°$ and number of sides = $\frac{360}{n}$.

The length of each side will be $2n$ metres. Hence the robot will come back to O in this case. However, if $n$ is not a factor of 360°, then the robot will not come back to O, but will continue moving till it covers 1000 metres and then stop.
Note: The robot may come back to O for other values of $n$, which are not factors of 360° but are factors of 720°, 1080°...etc. However, in such cases the distance required to be covered before reaching O will be greater than 1000 m.

If the robot covered less than 1000 m, then it must have come back to O. The factors of 360 in the range [1, 60] are $\frac{360}{1} \Rightarrow$ 360 sides to $\frac{360}{60}$ = 6 sides. All other rational values of n, for 359 sides, 358 sides and so on till 6 sides are possible.
Hence a total of (360 – 6) + 1 = 355 values are possible. Choice (3)

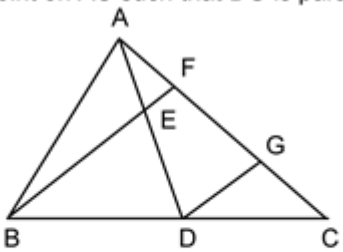
10. Rem [N/625]

$$= \text{Rem}\left[\frac{\text{the number formed by the last four digits}}{625}\right]$$

$$= \text{Rem}\left[\frac{8888}{625}\right] = \text{Rem}\left[\frac{14\times625+138}{625}\right] = 138$$ Choice (2)

11. $[\log_{10}x] = 0$, for any value of $x \in \{1, 2,.....9\}$, —— (1)
Similarly $[\log_{10}x] = 1$, for $x \in \{10, 11, 12....99\}$ —— (2) and $[\log_{10}x] = 2$, for $x \in \{100, 101, 102....999\}$ —— (3)
Now consider, $1 \le n \le 9$, then
$[\log_{10}1] + [\log_{10}2] + [\log_{10}3].....[\log_{10}n] = 0$ (i.e., $\neq n$)
Hence the expression given in the question cannot be satisfied.
Now consider, $10 \le n \le 99$, then $[\log_{10}1] + [\log_{10}2].....[\log_{10}n]$
From (1) and (2), the above expression becomes (0 + 0.....9 times) + (1 + 1 + .... ($n$ – 9) times) = $n$ – 9
Using the same approach, for
$100 \le n \le 999$, $[\log_{10}1] + [\log_{10}2]....[\log_{10}n]$
$= 90 + 2(n - 99)$
It can be seen that, only for the third case i.e., $100 \le n \le 999$, can the expression given in the question be satisfied.
Hence $90 + 2(n - 99) = n$
$\Rightarrow n = 198 - 90 = 108$ Choice (3)

12. Let G be a point on AC such that DG is parallel to BF.




$$\frac{AF}{FG} = \frac{AE}{ED} = \frac{3}{4}, \quad \frac{FG}{GC} = \frac{BD}{DC} = \frac{4}{3}$$

$\therefore AF : FG : GC = 3 : 4 : 3.$

$$\therefore AC = \frac{10}{3}(AF) = \frac{10}{3}(12)\text{ cm} = 40\text{ cm}$$ Choice (4)

13. Let the number of sides be $2n$. Let the length of the side be S and the length of the perpendicular from the centre to each side be P. Since the number of sides is even, the opposite sides will be parallel and the distance between any two opposite sides is equal to 2P.

Also, area of the polygon (A) = $2n\left(\frac{SP}{2}\right)$ ----- (1)

Given that S(2P) = A/4 or SP = A/8

$\therefore$ (1) $\Rightarrow$ A = $n$(A/8)

$\Rightarrow n = 8$ or $2n = 16$ Choice (4)

14. Let BC = $5k$

Given, by the time Q reaches C, P was halfway to C, i.e., AC/2 = $3k$ and AC = $6k$.

As Q met P, 165 km away from A, the distance to the meeting point from A is $3k + (3k)\left(\frac{3}{5+3}\right)$ i.e., $\frac{33k}{8}$

Given, $\frac{33k}{8} = 165 \Rightarrow k = 40$

$\therefore$ Distance between A and C is 240 km and that between B and C is 200 km.

From the data, as distance between A and B is twice that between B and C, it is 400 km.

$\therefore$ Speed of P = $\frac{400}{\left(6\frac{2}{3}\right)} = 60$ kmph

$\Rightarrow$ Speed of Q = $\frac{5}{3}(60) = 100$ kmph

$\therefore$ Time taken by Q to reach C from A = $\frac{240}{100} = 2.4$ hr. Choice (1)

15. If a positive number $a$ is expressed as the sum of two positive numbers $s_1$ and $s_2$ then $[a]$ could be at the most 1 more than $[s_1] + [s_2]$, i.e., the fractional parts of $s_1$ and $s_2$ together, can provide at most 1.

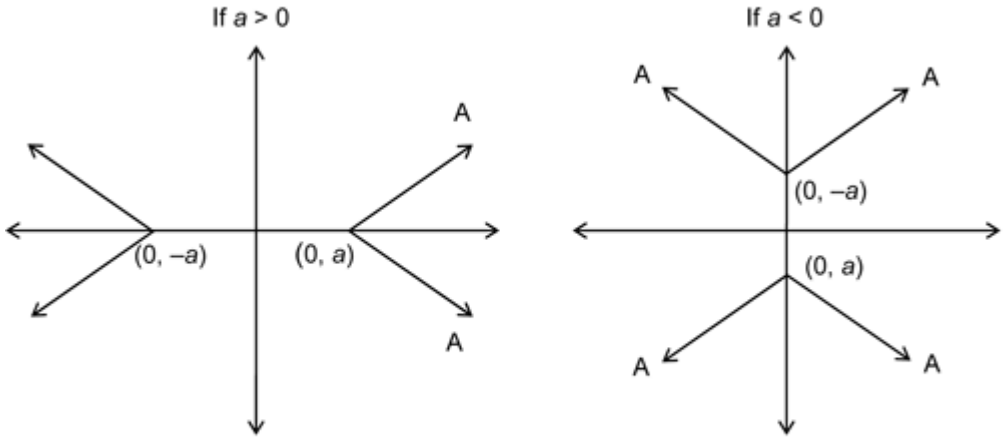
Similarly, the fractional parts of $s_1$, $s_2$, $s_3$, $s_4$, $s_5$ can together, provide at most 4.

Conversely, if $[a]$ is 4 more than $[s_1] + [s_2] + [s_3] + [s_4] + [s_m]$, then $m$ has to be at least 5.

Similarly, the least value of $n$ is 4.

$\therefore (m+n)_{min} = 5 + 4 = 9$ Choice (4)

16. The lines represented by A where $a > 0$ and when $a < 0$ are given in the following figures.




The area enclosed by A and D would be zero if $d < |a|$. In choice (2), $d = 1$ and $a = -2$ i.e., $d < |a|$.

If $a > 0$, then the only case when the area enclosed by A and D will be zero, is when $d = 0$. Choice (2)

17. Given that $120 \le n \le 240$.
$120 = 2^3 (3) (5)$ and $240 = 2^4 (3) (5)$
So, the prime factors involved in 120 and 240 are the same. We want the number of co-primes of 240 lying between 120 and 240 = $\phi(240) - \phi(120)$.

$$= 240\left(1-\frac{1}{2}\right)\left(1-\frac{1}{3}\right)\left(1-\frac{1}{5}\right) - 120\left(1-\frac{1}{2}\right)\left(1-\frac{1}{3}\right)\left(1-\frac{1}{5}\right)$$

$$= (240 - 120)\left(\frac{1}{2}\right)\left(\frac{2}{3}\right)\left(\frac{4}{5}\right) = 32$$

Choice (2)

18. Let $\frac{1}{10} = x$, then

$S = 2x + 6x^2 + 12x^3 + 20x^4 + 30x^5 \ldots\ldots$
$\Rightarrow Sx = 2x^2 + 6x^3 + 12x^4 + 20x^5 + \ldots\ldots$
$\Rightarrow S(1 - x) = 2x + 4x^2 + 6x^3 + 8x^4 + \ldots\ldots$
$\Rightarrow S(1 - x)x = 2x^2 + 4x^3 + 6x^4 + 8x^5 \ldots\ldots$
$\Rightarrow S(1 - x)(1 - x) = 2x + 2x^2 + 2x^3 + 2x^4 + 2x^5 + \ldots\ldots$

$$\Rightarrow S(1-x)^2 = 2\left(\frac{x}{(1-x)}\right) \Rightarrow S = \frac{2x}{(1-x)^3} = \frac{2\left(\frac{1}{10}\right)}{\left(1-\frac{1}{10}\right)^3}$$

$$\Rightarrow S = \frac{2}{10} \times \frac{1000}{729} = \frac{200}{729}$$

**Alternative solution:**

$S = 0.2 + 0.06 + 0.012 + 0.0020 + 0.00030 + 0.000042 + \ldots\ldots$
$\Rightarrow S = 0.274342 + \ldots\ldots\ldots\ldots\ldots\ldots\ldots$
Going from answer choices, choice (1) = 0.2666.....;
Choice (2) = 0.268888.....; choice (3) = 0.27222.....;
Choice (4) = 0.27434.....; choice (5) = 0.28943
Hence choice (4).

Choice (4)

19. Let $S = (2 - d)\left(\frac{2}{3}\right) + (2 + d)\left(\frac{4}{9}\right) + (2 + 3d)\left(\frac{8}{27}\right)$

$$\therefore S\left(\frac{2}{3}\right) = (2 - d)\left(\frac{4}{9}\right) + (2 + d)\left(\frac{8}{27}\right) + \ldots\ldots\ldots$$

Subtracting,

$$\frac{S}{3} = (2-d)\left(\frac{2}{3}\right) + 2d\left(\frac{4}{9}\right) + 2d\left(\frac{8}{7}\right) + \ldots\ldots$$

$$= (2 - d)\left(\frac{2}{3}\right) + 2d\left[\frac{4}{9} + \frac{8}{27} + \ldots\ldots\right]$$

$$= (2 - d)\left(\frac{2}{3}\right) + (2d)\left[\frac{4}{9}\left(\frac{3}{1}\right)\right] = \frac{4}{3} + 2d$$

$\Rightarrow S = 4 + 6d$. Given $S = \frac{5}{2} - 2 = \frac{1}{2}$ $\therefore d = \frac{-7}{12}$

Choice (2)

20. If there are an odd number of numbers between any two numbers, the two numbers occupy positions of the same parity (i.e. both are in even places or both are in odd places)
There are an odd number of numbers between any two even numbers as well as between any two odd numbers, i.e., the even numbers occupy the even positions and the odd numbers occupy the odd position or vice versa. If $n = 6$, this can be done in 3! 3! + 3! 3! or 72 ways. For other values of $n$, this is not 72.

**Alternative solution:**

If $n$ is even, i.e., say $n = 2m$ then the number of ways is $2 \times m! \times m!$, i.e., $m$ odd numbers in alternate places and $m$ even numbers in alternate places.
If $n$ is odd, i.e., say $n = 2m + 1$, then the number of ways = $m!(m + 1)!$

Hence, either $2(m!)^2 = 72$ or $m!\,(m + 1)! = 72$
If $2(m!)^2 = 72$, $\Rightarrow m! = 6 \Rightarrow m = 3$
for $m!(m + 1)! = 72$, there is no solution.
Hence $m = 3$, and $n = 2m = 6$. Choice (1)

# Logical & Data Interpretation

21. Let the countries to which the persons belong i.e. Australia, Canada, Pakistan, India and Japan be represented by A, C, P, I and J respectively. Let the countries that they are coaching i.e. Australia, Wales, Bangladesh, Bermuda and China be represented by Au, Wa, Ba, Be and Ch respectively.

| Name | Anshuman | | Buchanen | | John | | Whatmore | | Chappel | |
|---|---|---|---|---|---|---|---|---|---|---|
| | × | ✓ | × | ✓ | × | ✓ | × | ✓ | × | ✓ |
| Country of origin | A<br>C<br>P | I or J | - | A | J<br>A<br>P | C | A | J or I | C | P |
| Country he is coaching | Au<br>Wa<br>Ba<br>Be | Ch | Ba<br>Be<br>Au<br>Ch | Wa | Au<br>Wa<br>Ba<br>Ch | Be | Wa | Au | Ch<br>Au<br>Wa<br>Be | Ba |

Whatmore can be from India or Japan. Choice (4)

22. Let the countries to which the persons belong i.e. Australia, Canada, Pakistan, India and Japan be represented by A, C, P, I and J respectively. Let the countries that they are coaching i.e. Australia, Wales, Bangladesh, Bermuda and China be represented by Au, Wa, Ba, Be and Ch respectively.

| Name | Anshuman | | Buchanen | | John | | Whatmore | | Chappel | |
|---|---|---|---|---|---|---|---|---|---|---|
| | × | ✓ | × | ✓ | × | ✓ | × | ✓ | × | ✓ |
| Country of origin | A<br>C<br>P | I or J | - | A | J<br>A<br>P | C | A | J or I | C | P |
| Country he is coaching | Au<br>Wa<br>Ba<br>Be | Ch | Ba<br>Be<br>Au<br>Ch | Wa | Au<br>Wa<br>Ba<br>Ch | Be | Wa | Au | Ch<br>Au<br>Wa<br>Be | Ba |

Buchanen is from Australia. Choice (1)

23. Let the countries to which the persons belong i.e. Australia, Canada, Pakistan, India and Japan be represented by A, C, P, I and J respectively. Let the countries that they are coaching i.e. Australia, Wales, Bangladesh, Bermuda and China be represented by Au, Wa, Ba, Be and Ch respectively.

| Name | Anshuman | | Buchanen | | John | | Whatmore | | Chappel | |
|---|---|---|---|---|---|---|---|---|---|---|
| | × | ✓ | × | ✓ | × | ✓ | × | ✓ | × | ✓ |
| Country of origin | A<br>C<br>P | I or J | - | A | J<br>A<br>P | C | A | J or I | C | P |
| Country he is coaching | Au<br>Wa<br>Ba<br>Be | Ch | Ba<br>Be<br>Au<br>Ch | Wa | Au<br>Wa<br>Ba<br>Ch | Be | Wa | Au | Ch<br>Au<br>Wa<br>Be | Ba |

Wales had Buchanen, who is from Australia, as their coach. Choice (2)

24. Given that the ratio of the number of cars of brand A and B sold in the last year is 3 : 2

| Last year | A | | B |
|---|---|---|---|
| | 3 | : | ② |

| | Last year | | Present year |
|---|---|---|---|
| A | 2 | : | 3 |
| B | ② | : | 5 |

In the above numbers, the underlined numbers represent the same value. Similarly the encircled numbers also represent the same value. So make them same.

| | A | | B |
|---|---|---|---|
| Last year | 6 | : | 4 |
| | Last year | | Present year |
| A | 6 | : | 9 |
| B | 4 | : | 10 |
| C | – | | 81 |

From the above ratio it is clear that for every 6 cars of A sold last year, 19 cars of A and B are sold this year and 81 cars of C are sold this year.

∴ Number of cars of 'C' sold this year is $\frac{24}{6} \times 81 = 324$ Choice (1)

25. Given that the ratio of the number of cars of brand A and B sold in the last year is 3 : 2

| Last year | A | | B |
|---|---|---|---|
| | 3 | : | ② |

| | Last year | | Present year |
|---|---|---|---|
| A | 2 | : | 3 |
| B | ② | : | 5 |

In the above numbers, the underlined numbers represent the same value. Similarly the encircled numbers also represent the same value. So make them same.

| | A | | B |
|---|---|---|---|
| Last year | 6 | : | 4 |
| | Last year | | Present year |
| A | 6 | : | 9 |
| B | 4 | : | 10 |
| C | – | | 81 |

From the previous question and the given ratios, it is clear that for every 10 cars sold last year, 100 cars are sold this year.

∴ The percentage increase is 900%. Choice (3)

26. Given that the ratio of the number of cars of brand A and B sold in the last year is 3 : 2

| Last year | A | | B |
|---|---|---|---|
| | 3 | : | ② |

| | Last year | | Present year |
|---|---|---|---|
| A | 2 | : | 3 |
| B | ② | : | 5 |

In the above numbers, the underlined numbers represent the same value. Similarly the encircled numbers also represent the same value. So make them same.

| | A | | B |
|---|---|---|---|
| Last year | 6 | : | 4 |

| | Last year | | Present year |
|---|---|---|---|
| A | 6 | : | 9 |
| B | 4 | : | 10 |
| C | – | | 81 |

For every 10 cars sold last year, 100 cars are sold this year and he wants to sell 180 cars in the next year. It is clear that out of this 180, 80 cars will be of brand D.
∴ Number of cars to be sold in the next year will be 700% more than the total sales of last year. Choice (4)

27. Given that the ratio of the number of cars of brand A and B sold in the last year is 3 : 2

| Last year | A | | B |
|---|---|---|---|
| | 3 | : | ② |

| | Last year | | Present year |
|---|---|---|---|
| A | 2 | : | 3 |
| B | ② | : | 5 |

In the above numbers, the underlined numbers represent the same value. Similarly the encircled numbers also represent the same value. So make them same.

| | A | | B |
|---|---|---|---|
| Last year | 6 | : | 4 |

| | Last year | | Present year |
|---|---|---|---|
| A | 6 | : | 9 |
| B | 4 | : | 10 |
| C | – | | 81 |

Given that a total of 380 cars are sold this year. From the above ratios it is clear that for every 19 cars sold this year 6 cars of brand A were sold in the last year.
∴ Number of cars of brand A sold last year is $\frac{380}{19} \times 6 = 120$ Choice (2)

28. Given Tarun scored the highest number of centuries among Tarun, Rajan and Pavan.
∴ From I, we can say that Pavan scored more runs than Tarun and is one of the persons selected
But we cannot say who is the other person selected.
∴ I alone is not sufficient.
From II, we can only say that, Pavan is not the person who scored the highest number of centuries between the persons selected.
∴ II is not sufficient.
Using both the statements Tarun or Rajan is one of the other persons selected.
∴ Either Tarun or Rajan is not selected. Choice (4)

29. Either statement alone will not give the answer. Combining both the statements we can find AB + BC.

Let $c$ and $a$ be AB and BC, then $\left(\frac{a+b+c}{2}\right)$ in radius $= \frac{1}{2}ac$

And $a^2 + c^2 = b^2$

Given inradius $= \frac{10}{2}$, and $a = 2x$ circumradius, $(b + c)$ can be solved for. Choice (3)

30. Companies for which the expenses are less than 60% of the sales, will have a profit more than 40% of the sales. There are six such companies. Choice (3)

31. Only for three software companies the sales, are over Rs.2500 crore and expenses are less than Rs.2100 crore. Choice (2)

32. The conditions related to G are, if G is included, F also must be included and C and I cannot be included. There are no other conditions related to G. Hence, a team that includes G can be
(1) AEJGDF (2) ADGFE (3) EGFH
More arrangements are also possible. Hence, the number of members in the team is not unique. Choice (4)

33. The largest possible team can have six members. As one of, (E, B) and (D, H) and two of (C, G, I) must definitely be excluded. Hence, a minimum of four members must be excluded. Choice (3)

34. If a team includes H, neither A nor D can be included in that team and further one of (E, B) and two of (C, G, I) must be excluded making the size of the team as 5.
Choice (2)

35. If C is included, G, I and F must be excluded.
As F is excluded, J also must be excluded.
As F and I are excluded, the only remaining defender D must be included.
As D is included, A must be included and thus H must be excluded.
As G and H are excluded, the only remaining point guard B must be selected.
As B is included, E must be excluded.
$\therefore$ The team is (A, B, C, D) Choice (2)

36. From statement I, we cannot determine the total percentage of questions attempted by Ramya as we do not know the % of questions attempted by Ramya but not by Swathi.
From statement II, the number of questions attempted by both Ramya and Swathi together is not known.
But by combining both the statements, If $x$ is the percentage of questions attempted by Ramya $\frac{3}{8} \times x = 30 \Rightarrow x = 80$

$\therefore$ 80% of the questions are attempted by Ramya. Choice (3)

37. Neither of the statements alone is sufficient, as each statement gives only partial information.
Combining both the statements, if Ankit is a truth teller, Bhanu cannot be a truth teller.
$\therefore$ Bhanu is a liar.
If Ankit is a liar, then Bhanu can be a truth teller or a liar.
$\therefore$ We cannot answer the question. Choice (4)

38. To find the least number of states in which company A sold cement, we have to assume that company A had its sales in states in which the total sales were the maximum. Even if we assume company A had 50% market share in the states with maximum sales, there must be at least 5 states where company A sold cement.
Choice (2)

39. To find the maximum number of states where company E was present, we have to assume it had sales in the states where the total sales are minimum and it had a share of only 25% in the states.
$\therefore$ Company E had its sales in at most 7 states (S, U, X, T, Q, W and Y). It cannot include R also as 25% of sales in R is 2.5% of total and already at least 25% of 51% = 12.75% is accounted by the seven states. Choice (3)

40. For the minimum number of companies with sales in more than two states, the sales of the companies can be as follows:
B(17%) – W(9%) + T(8%)
C(18%) – Y(9%) + Q(9%)
D(23%) – Z(13%) + R(10%)
E(14%) – V(14%)
Only company A has sales in more than two states. Choice (1)

# Verbal Ability

41. A. Though second half of the sentence is a fact (given it is so), the author is clearly approving of corporate interest in the power sector. Therefore a judgement – J.
B. This is a fact since the author says this is what is reported – F.
C. This is the author's opinion, hence judgement – J.
D. The author infers what the current tendency is, based on what the latest economic survey and the earlier one said or remainder silent on – I.
E. This is the author's opinion, his view on what we should do – J. Hence JFJIJ
Choice (4)

42. Statement A can be ruled out firstly due to a discord between the subject and the verb. The subject of the sentence is 'inflexibility', hence 'prevents' is the right from of the verb. (When the subject is singular the verb takes 's').
Further, A, B and D have a prepositional error i.e., 'adapted for'. The correction is 'adapted to' 'something is adapted for something' but the given sentence does not express this idea. Hence 'adapted to something' is the correction. Besides the above mentioned errors, the use of 'thereby causes the ruin' is incorrect as it disrupts the parallelism. The correction is 'the inflexibility of the laws …may in certain cases render … and thereby 'cause' not 'causes'. (According to the rule of parallelism when two or more sentences, phrases, clauses or words are joined using connectives all of them must belong to the same grammatical form.) Thus, only statement C is free of errors.
Choice (3)

43. Statements B and C are incorrect due to the incorrect preposition used after the word 'characteristic'. 'Characteristic' takes the preposition 'of'. 'Characteristic of the species' is the correction. Further, in B the use of 'which' is incorrect. It should be replaced with a demonstrative adjective 'that', which refers to the considerable variation of human talents. This renders B and D incorrect. Besides the above mentioned errors the absence of the definite article 'the' before 'achievements' makes C and D incorrect. Hence, only A is free of errors. Choice (1)

44. The opening sentences tell us about 'nuclear renaissance' and the claim that nuclear energy would encourage a green and carbon-free environment. This claim is only partly true, as stated in D. Hence D follows A. The word 'claim' in D refers to the 'assertion' in A. D explains how the 'nuclear cycle; can be hazardous to the environment. 'At every stage of the cycle' is a continuation of this idea, the 'cycle' referring to the 'nuclear cycle' mentioned in D. Hence C follows D. C tells us about the 'stages' and E tells us about what happens once the power plant starts functioning and B concludes stating that the assertion made in A is 'untrue'. Thus the proper sequence of the sentences would be DCEB. Choice (1)

45. The given para is about Jawaharlal Nehru – what he was and now he was different from his country men – a rationalist in the midst of spiritualists. choices 3 and 4 can be ruled out since they talk of Gandhi not mentioned in the para. Choices 1 and 2 appear close of the two. Choice 2 is better since it continues telling us about Nehru and how he felt. Choice 1 changes stand to what the people thought of Nehru. Choice (2)

46. The para talks of falling birth rate – not due to coercion but through choice. It gives the example of Bangladesh to show that if people have the knowledge and access to birth control measures, births will fall dramatically. Choice 4 cannot conclude the para because its tone is not in keeping with the positive tone of the para. Choice 3 talks of what governments want and why and so is not relevant. Choice 1 and 2 are possible choices. Choice 1 is not very clear where as 2 concludes the idea in the para.
Choice (2)

47. A councillor is a member of a municipal council etc whereas a counsellor is an advisor. Only the former is apt here. Hence A. Someone's adoptive parents are those who have adopted them. To adopt a child is to adopt someone else's child and take it into your own family Therefore B.
Venal means corrupt. Venial is minor offence. Only A makes sense here.
The word farther which means a greater distance than something else, is apt here. Hence A.

The word descent which refers to family origin is apt in the context. Dissent meaning disagreement does not make sense here. Hence B. Therefore the correct sequence is ABAAB. Choice (4)

48. The word precedence which means the condition of being dealt with before other things or of being considered more important than other things is apt in the given context. Hence A.
Alternately means alternating between two things. Alternatively which is used to suggest another possibility is apt in the context. Hence B. Compliment is a remark that expresses approval admiration or respect. Complement which means to make something else seem better or more attractive when combining with it. Only B is apt here
Notable means important and demanding attention. Noticeable means easy to see or recognize. Only A is apt
The word discreet means to keep something several Discrete means having a clear, independent shape or from. Only the former makes sense here. Hence the correct sequence is ABBAA. Choice (4)

49. Choice 2 is erroneous. 'Pull away from…' is an incorrect expression in this context. The correction is '….pull out of' or 'from'. To pull out of something is to move away from something or stop being involved in it. Choice (2)

50. The usage of shade is incorrect in choice 4. Here the usage of shade is incorrect. You live in the shadow of something and not in the shade of something. Choice (4)

51. **Number of words and Explanatory notes for RC:**

Number of words : 808

Choice (3) is the finding of a study, not the author's view. The first and the last paras support other options. Choice (3)

52. **Number of words and Explanatory notes for RC:**

Number of words : 808

Paras (5) and (6) point to choice (2) as the answer. Although other aspects have been called into question, the health benefits that organic food supposedly provides has been questioned by the study. Choice (2)

53. **Number of words and Explanatory notes for RC:**

Number of words : 808

Refer to paras 9, 10 and 11. Choice (1) can't be supported. There is no mention of the study not being scientific. Choice (2) has not been suggested. Choice (3) the second half is inapt. Choice (4) is correct. Choice (4)

54. **Number of words and Explanatory notes for RC:**

Number of words : 808

In this passage, the author reports the findings of a study and discusses the debate that it (the study report) has raised. So, choice (4) is the best answer. The reason for and against promoting organic food has not been discussed. Choice (1) is incorrect. Choices (2) and (3) are easy eliminations. Choice (4)

55. **Number of words and Explanatory notes for RC:**

Number of words : 754

Choice (1) can be inferred from the last paragraph – '18th century French painter ---- Fragonard' (2) can be inferred from 'amalgam of the antique and the modern' in paragraph 7. (4) can be inferred from 'call post - Impressionism ---- anxiety ---- Gauguin searched for an art' in paragraph 4. Choice (3) is negated by sentence (2) of para (3). Choice (3)

56. **Number of words and Explanatory notes for RC:**

Number of words : 754

Refer to paragraph 2, 'Picasso ---- women ---- indebted to Renior -------- So was Matisse ---- produced his odalisques', which means that the women in the works of Picasso and Matisse resembled Renior women' Hence, other choices are rendered incorrect. Choice (4)

57. **Number of words and Explanatory notes for RC:**

Number of words : 754

Refer to para (1). Work of Renoir's final decades were considered 'kitsch', and is the subject of this passage. Not all his work was misunderstood. Besides, the option fails to include the crucial word 'art' and incorrectly suggests Renior, the person. Choice (4) is not completely correct, as Picasso was influenced by Renoir's works. (3) is also incorrect, as the last sentence in paragraph (1) suggests that modern eyes 'found' it difficult to digest late Renoir works. (2) is the answer, as can be inferred 'a ----- classicism, modern eyes ---- awfully hard to take'. Choice (2)

58. **Number of words and Explanatory notes for RC:**

Number of words : 498

Choice (4) is the best pick. Refer to the last para. The phrase 'modern scientific' renders choice (1) incorrect. The book does not explore the 'spiritual unknown in the scientific quest'. It is science fiction with explicit spiritual dimensions'. Choice (3) can be easily ruled out. Choice (4)

59. **Number of words and Explanatory notes for RC:**

Number of words : 498

The author does not say that the search is a vain attempt. So, choice (1) is ruled out. Choices (2) and (4) are not the author's view. Refer to para (4). They are science fiction writer Michael Crichton's view. Para (3) points to option (3) as the answer.
Choice (3)

60. **Number of words and Explanatory notes for RC:**

Number of words : 498

Para (2) clearly points to option (2). Ideas suggested in other options are distorted and can't be supported. Choice (2)