Key

SECTION – I

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

SECTION – II

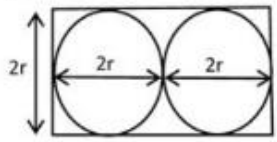
1. A	6. C	11. C	16. C	21. A	26. D
2. B	7. C	12. C	17. A	22. C	27. B
3. D	8. A	13. B	18. B	23. B	28. C
4. C	9. A	14. C	19. A	24. D	29. B
5. B	10. D	15. B	20. B	25. A	30. D

Solutions

SECTION – I

Solutions for questions 1 to 7:

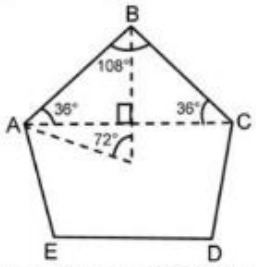
1. In this question, the actual lengths of the paths are not important, since we only need a ratio. Let the radius of each circle = r.



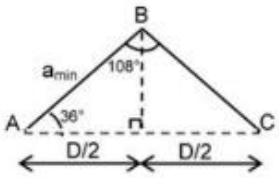
Then, one round of P = 2(2r + 4r) = 12r.
One round of Q = 2 × (2πr) = 4πr.
Ratio of speeds required equals the ratio of distances travelled by Q and P. We know that P covers 5 rounds and Q covers 4 round in same time.

$$\frac{V_Q}{V_P} = \frac{4\times 4\pi r}{5\times 2r} = \frac{16\pi r}{60r} = 4\pi : 15$$ Choice (A)

2. The area of a regular pentagon of side a = ka^2 (where k is a constant).
Consider a regular pentagon ABCDE shown below.



The two given vertices are (10, 20) and (17, 40). Let the distance between these points be D.
There are only 2 possible sizes for such a pentagon. The bigger one would be the pentagon for which the two given points form a side, say AB. The smaller one would the pentagon for which the two given points form a diagonal, say AC. the figure below shows a portion of the pentagon for which AC is a diagonal.



Let the distance between the given points equal D units.
Now the area of the pentagon in the first case = $k(a_{max})^2$
Now, since a_{max} = D, area = kD^2.
In the second case, area = $k(a_{min})^2$

But from figure $a_{min} = \dfrac{\left(\frac{D}{2}\right)}{\cos 36^\circ} = D\times\dfrac{2}{\left(\sqrt{5}+1\right)}$

Hence, area = $\dfrac{k.4}{\left(\sqrt{5}+1\right)^2}\times D^2$

$\therefore$ Required ratio = $\dfrac{\left(k.D^2\right)}{\left(k.\dfrac{4}{\left(\sqrt{5}+1\right)^2}.D^2\right)}$

$= \dfrac{\left(\sqrt{5}+1\right)^2}{4} = \dfrac{3}{2}+\dfrac{\sqrt{5}}{2}$ Choice (C)

3. It can be observed that among the four terms in f(x), the first two involve only p and q, while the last two involve only r and s.
Further, the expression in both sets of terms is exactly the same.
Hence, we can analyse only the first two terms and apply the same result to the last two terms.
Consider $|p+q|-|p-q|$:

First, lets assume p > q, then the expression becomes (p + q) – (p – q) = 2q, i.e., = 2Min(p, q)
Alternatively, the other possibility is that q > p. In which case, the expression becomes (p + q) – (q – p) = 2p, i.e., 2Min(p, q).
Hence, any expression of the form $|a+b|-|a-b|$ is always equal to 2Min(a, b).
Following this result, $|r+s|-|r-s| = 2\text{Min}(r, s)$

$\therefore f(x) = |p+q|-|p-q| + |r+s|-|r-s| = 2\text{Min}(p, q) + 2\text{Min}(r, s)$

Note: It may also be observed from the symmetry of (p, q) and (r, s) in the expression of f(x), that the choice must also be symmetric and hence can be one among (C) or (D) only.

Alternative Solution:

If we assume p, q, r, s as (say) 1, 2, 3, 4 respectively, we calculate f(x), we see that only choices (B) and (D) satisfy. Now, if we assume p, q, r, s and 2, 3, 4, 5, we see that only choices (A) and (D) satisfy. Hence, (D) is the answer.
Note: If we assume p, q, r, s as 3, 4, 5, 6, then we can see that only (D) satisfies. Choice (D)

4. Boys sit on the 5 blue chairs and the girls sit on the 4 pink chairs.
After lunch, there are some changes.
The question is about the arrangement of boys in the 5 chairs and 'derangements' of the 4 girls (i.e., none of the girls sits on the same chain as before)
Arranging boys in 5 chairs can be done in 5! ways.
For girls, it is derangements of 4 objects in 4 places.

$$= 4!\left(\frac{1}{2}-\frac{1}{6}+\frac{1}{24}\right) = 4!\left(\frac{12-4+1}{24}\right) = 9$$

The no. of ways for boys and girls are independent.
∴Total ways of sitting after lunch = 9 (5!) Choice (D)

5. X has 2016 factors

the next best scorer in Ajay's team could have scored a maximum of 59 – 32 = 27 points. Hence, Ajay would have scored the highest in his team.
∴ Statement B alone is sufficient. Choice (B)

Solutions for questions 8 to 10:

8. The billing rate is the highest for client A in 2007 and client E in 2006. However, the number of hours is higher for client A at that billing rate. (32,000 hours at ₹600per hr).
Now we can look at the cases where the number of hours is more than 32,000. For client E in 2008 and 2009. The number of hours are more than 32,000.
Revenues:
A – 32,000 × 600 = ₹1,92,00,000
E – 2008 – 42,000 × 350 = ₹1, 47, 00, 000
E .– 2009 – 36,000 × 450 = ₹1,62, 00, 000
Thus the maximum revenue is earned from A in 2007.
Choice (A)

9. By observation, we can see that the least total revenue was from client D.
The total revenues from each client can be quickly calculated as below (by ignoring the zeroes in the given values), in ₹ lakh:
D → 48 + 45 + 57 + 104 + 110.25 + 110 = 474.25
= ₹ 474.25 ≡ ₹4.74 cr Choice (B)

10. Percentage increase in revenues
A – (30,000 × 550 – 25,000 × 400) / (25,000 × 400) = 65%
B – (29,000 × 500 – 15,000 × 300) / (15,000 × 300) = 222.22%
D –(22,000 × 500 – 16,000 ×300) / (16,000 × 300) = 129.17%
E – (36,000 × 450 – 18,000 × 450) /(18,000 × 450) = 100%
Thus, the percentage increase is the highest for client B
Choice (B)

$\Rightarrow (p+1)(q+1)(r+1)(s+1) = 2016$ .... (1)
Y has 168 factors
$\Rightarrow (p+1)(q+1)(s+1) = 168$ .... (2)
$\frac{(1)}{(2)} \Rightarrow r+1 = 12 \Rightarrow r = 11$
Z has 288 factors
$\Rightarrow (q+1)(r+1)(s+1) = 288$ .... (3)
$\frac{(1)}{(3)} \Rightarrow p+1 = 7 \Rightarrow p = 6$
Substituting $p + 1 = 7$ in (2),
$(q+1)(s+1) = 24$
Possible cases for

q + 1	s + 1
1	24
2	12
3	8
4	6

p + q +r +s will be minimum when q + s is minimum
Min value of q + s = (4 – 1) + (6 – 1) = 8
∴min value of p + q + r + s is 6 + 3 + 11 + 5 = 25
Choice (C)

6. Let each instalment of be ₹x.
Amount at the end of first year = $(21{,}000 \times 1.1)$
Amount at the second year = $[(21{,}100 \times 1.1) - x] \times 1.1$
$= 21{,}000 \times 1.21 - 1.1x$
We know that $21{,}000 \times 1.21 - 1.1x = x$
$\Rightarrow 21{,}000 \times 1.21 = 2.1x \Rightarrow x = ₹12{,}100$ Choice (A)

7. From statement A, as the team scored only 74 points in total and all the seven players scored points, the next best score of any player of the team can only be 74 – 5 (one point for each player except Ajay and the next highest scores) – 35 (i.e., Ajay's score) = 34. Hence, Ajay would have scored the highest number of points in his team.
∴ Statement A alone is sufficient.
As the team for which Ajay played scored less than 60 points (as they lost and their opponents scored 60 points),

Solutions for questions 11 to 17:

11. Let A do 'a' amount of work per day.
Let B do 'b' amount of work per day.
The work done in 17 days when A started is 9a + 8b.
When B started, the work done in $17\frac{3}{4}$ days is $9b + 8\frac{3}{4}a$
$\therefore 9a + 8b = 8\frac{3}{4}a + 9b \Rightarrow a = 4b \rightarrow$ (1)
A does 4 times the work that B does in the same time.
∴ A will take $9 + \frac{8}{4}$ (days taken by B) or 11 days
To complete the work individually.
B takes 4 times the time A takes = 44 days
Hence, A and B together will take $\frac{1}{\left(\frac{1}{11}+\frac{1}{44}\right)} = 8\frac{4}{5}$ days

Alternately from (1)
The total amount of work = 9a + 8b = 9(4b) + 8b = 44b.
The amount of work done by A and B together in one day
= a + b
= 4b + b = 5b.
∴ The time taken by A and B together to complete the job
$= \frac{44b}{5b} = 8\frac{4}{5}$ days. Choice (C)

12. $(24)^t = 25$
$(23)^{st} = 25$
$(22)^{rst} = 25$
.
.
.
$5^{abc.....t} = 5^2$
abc .....t = 2

Alternative Solution:

$a = \frac{\log 6}{\log 5}$; $b = \frac{\log 7}{\log 6}$ ..... $t = \frac{\log 25}{\log 24}$

Now, the product abcd ..... st

$= \frac{\log 6}{\log 5} \times \frac{\log 7}{\log 6} \times \frac{\log 8}{\log 7} \ldots\ldots\ldots \frac{\log 24}{\log 23} \times \frac{\log 25}{\log 24}$

$= \log_5 25 = 2$ Choice (D)

13. Let Sheldon notice the empty shelf on the $(k + 1)^{th}$ day.
Hence, total amount saved by Sheldon = ₹(41k)
Total amount taken by Cooper = ₹(41k + 1) (∵ ₹1 was already there on day 1)
But Cooper took the amount only in multiples of ₹100
Let Cooper have taken ₹100 on 'L' occasions.
$\Rightarrow 41k + 1 = 100L = A$(say) $\rightarrow$ (1)
Now the remainder when A (=100L) is divided by 41 is 1.

$\Rightarrow$ Rem of $\left[\frac{100L}{41}\right] = 41M + 1$ (where M is some natural number)

$\Rightarrow 18L = 41M + 1 \rightarrow$ (2)
$\Rightarrow 41M + 1$ is divisible by 18

$\Rightarrow R\left[\frac{41M+1}{18}\right] = 0$

$\Rightarrow 5M + 1 = 18N \rightarrow$ (3) (where N is some natural number)
By simple observation, M = 7 (and N = 2) is the least solution possible.
$\Rightarrow 41M + 1 = 288 = 18L$ (from 2) $\Rightarrow L = 16$
$\Rightarrow$ Total amount taken by Cooper = ₹100L = ₹1600

Alternate Solution 1:

∴ The time he takes (in seconds) is

$\left(\frac{100}{5}\right), \left(\frac{50}{5}\right), \left(\frac{25}{5}\right) \ldots\ldots\ldots$

i.e., 20 + 10 + 5 + ... or $\frac{20}{\left(1-\frac{1}{2}\right)} = 40$ seconds

Also, the distance covered by Gautam on the train (in metres)

$= (100 - 50 + 25 - 12.5 + ...) = \frac{100}{\left(1-\left(-\frac{1}{2}\right)\right)}$ (in the direction of movement of the train)

$= 66\frac{2}{3}$ m (towards the engine)

Now, the distance travelled by the train in 40 sec
= speed x time
= 45 km/hr x 40 sec

$= 45\left(\frac{5}{18}\right)(40)$ m = 500 m

The train itself has moved 500 m.
∴ The distance of Gautham from the pole (in metres)

$= 500 + 66\frac{2}{3} = 566\frac{2}{3}$ Choice (D)

16. Investments of Ram and Shyam are in ratio
36000 : 54000 = 2 : 3
Let the total profit be P and let the salary which Ram got be S.
After the salary, the remaining profit is distributed in the ratio 2 : 3

If the total amount taken by Cooper is (say) A, then A is a multiple of hundred and (A – 1) is a multiple of 41. Applying both criteria to the given choices, only choices (B) and (C) satisfy. However, since it is mentioned that Sheldon notices an empty shelf for the first time, (and stops saving after that), the lesser of the two amounts needs to be chosen as the answer. Hence, ₹1600, i.e., choice (C).

Alternate Solution 2:

We know that
1 + 41k = 100P
The right most two digits of 41k (ten's digit and unit's digit) have to be 99 for (1 + 41k) to be divisible by 100.
Let the no.of days (k) be a two digit number ab.
Total money saved will be 41(ab)
The unit's digit is (1)(b) $\Rightarrow$ b = 9
Further, (41) (a9) =

$$\begin{array}{r} 4 \quad 1 \\ \times \; a \quad 9 \\ \hline 3 \quad 6 \quad 9 \\ 4a \quad a \end{array}$$

$\Rightarrow$ a + 6 = 9 $\Rightarrow$ a = 3
$\therefore$ Cooper will empty the shelf on 39th day and would have taken a total amount of ₹(41 × 39 + 1) = ₹1600

Choice (C)

14. A = {1, 2, 3, ...20}
Total Number of subsets = 2^{20}
The product of all the elements of any subset will be even if the subset has at least one even number.
So, only if the subset has all odd numbers, the product will not be even.
Now, total number of subsets with all elements odd
= 2^{10} ($\because$ There are 10 odd numbers) (Including null set)
$\therefore$ Total number of subsets whose product of elements is even = $2^{20} - 2^{10}$.

Choice (C)

15. Gautham, travels distances of 100 m, 50 m, 25 m and so on, but in different directions, at a speed of 5 m/sec.

Ram receives $\frac{2}{5}(P - S)$

Shyam receives $\frac{3}{5}(P - S)$

The total amounts received are in ratio 3 : 2

$$\frac{\left(S+\frac{2}{5}(P-S)\right)}{\left(\frac{3}{5}(P-S)\right)} = \frac{3}{2} \text{ (given)}$$

$$S + \frac{2}{5}(P - S) = \frac{3}{2} \times \frac{3}{5}(P - S)$$

$\Rightarrow$ S + 0.4P – 0.4S = 0.9P – 0.9S
$\Rightarrow$ 1.5S = 0.5P

$\Rightarrow$ S = $\frac{P}{3}$ or 33.33% of P.

Alternative Solution:

Given Ram and Shyam received amounts in the ratio of 3 : 2 and their investments were in the ratio of 2 : 3.
Let the total profit = 5 units. Therefore, Shyam received 2 units based on investment alone, i.e., Ram received $\frac{2}{3} \times 2$

= $\frac{4}{3}$ units based on investment alone.

Hence, Ram received $3 - \frac{4}{3} = \frac{5}{3}$ units as salary. Therefore,

Ram's salary is $\left(\frac{1}{3}\right)^{rd}$ of total profit, i.e., $33^1/_3$ %.

Choice (B)

17. When 1000 is divided by 1001, it leaves a remainder of –1
Now, 853853 ..... (100 digits) = 8,538, ..., 538

Can be written as

$$8\left(10^{99}\right)+538\left(10^{96}\right)+538\left(10^{93}\right)+538\left(10^{90}\right)+538\left(10^{3}\right)+538$$

$= 8(1000)^{33} + 538(1000)^{32} + ... + 538(1000)^2 + 538(1000) + 538$

When this is divided by 1001, we get a remainder of

$8(-1)^{33} + 538(-1)^{32} + 538(-1)^{31} + 538(-1)^{30} + ... + 538$

$= -8 + (538 - 538) + ...(538 - 538) + 538 = 530$

$\therefore$ The remainder is 530

Alternative Solution:

Since any six-digit number of the form xyzxyz is divisible by 1001, any number (whose number of digits is a multiple of six) of the form xyzxyzxyz..... upto, say, 6k digits will be divisible by 1001. Hence, 853853 ..... upto 96 digits will be divisible by 1001.
Now, the required remainder is simply that of 8538 dividied by 1001, i.e., 530. Choice (D)

Solutions for questions 18 and 19:

Some of the missing values in the table can be filled up as under.

Department	Coffee	Tea	No. of employees
Accounts	0.3	0.7	6k = 180
Strategy	0.4	0.6	3k = 90
IT	0.5	0.5	7k = 210
Administration	α	β	4k = 120
Total	0.415	0.585	20k = 600

Since the proportion of all employees who prefer tea is known, β can be obtained and then α can be obtained.

$6k \times 0.7 + 3k \times 0.6 + 7k \times 0.5 + 4k \times \beta = 20k \times 0.585$

$\Rightarrow 4.2 + 1.8 + 3.5 + 4\beta = 11.7$

$\Rightarrow \beta = \frac{2.2}{4} = 0.55 \Rightarrow \alpha = 1 - 0.55 = 0.45$

The number of employees who prefer coffee and those who prefer tea can be obtained since the number of employees in each department is known.

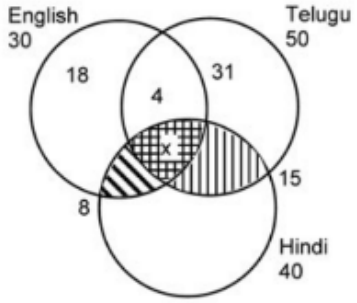
Department	Coffee	Tea
Accounts	$0.3 \times 180 = 54$	$0.7 \times 180 = 126$
Strategy	$0.4 \times 90 = 36$	$0.6 \times 90 = 54$
IT	$0.5 \times 210 = 105$	$0.5 \times 210 = 105$
Administration	$0.45 \times 120 = 54$	$0.55 \times 120 = 66$
Total	249	351

18. The number of employees who prefer coffee is the least in strategy department. Choice (B)

The total number of people in the society = a + b + c + d + e + f + g
($\because$ each person knows at least one language)
Total number of people in the society
= (A + B + C) – (D + E + F) + G ----- (1)
Where A = a + d + f + g
B = b + d + e + g
C = c + f + e + g
D = d + g
E = e + g
F = f + g
G = g
Given no. of people who know Telugu (A) = 50
Number of people who know Hindi (B) = 40
Number of people who know English (C) = 30
Number of people who know both Telugu and Hindi = (D) = 15
Number of people who know both Hindi and English (E) = 8
Number of people who know only Telugu and English (f) = (F – G) = 4.
When we substitute these values in equation (1) we get
(A + B + C) – (D + E + F) + G
= (A + B + C) – (D + E + F – G)
= 50 + 40 + 30 – (15 + 8 + 4) = 93

Alternative Solution:

Let the number of people who know all 3 languages be x, as show below.



Now we can easily find out that those who only English = 30 – (4 + 8) = 18
And those who know only Telugu = 50 – (4 + 15) = 31
Clearly, the required total as can be seen from the figure is simply 18 + 4 + 31 + 40 = 93 Choice (A)

21. $T = 2\cos^4\theta + \sin^2\theta + 3$

$T = 2\cos^4\theta + 1 - \cos^2\theta + 3$

$T = 2\cos^4\theta - \cos^2\theta + 4$

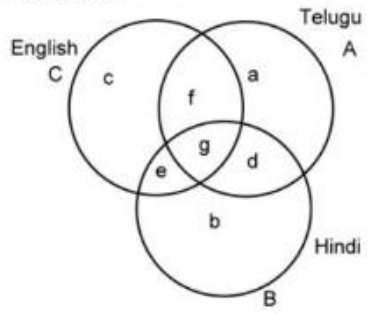
$T = 2[\cos^4\theta - \frac{1}{2}\cos^2\theta + 2]$

18. The number of employees who prefer coffee is the least in strategy department. Choice (B)

19. The highest difference in the number of employees who prefer tea, across any two departments, is 126 – 54 = 72
Choice (D)

Solutions for questions 20 to 23:

20. The following venn diagram can be drawn to represent the information given:



$$T = 2[\cos^4\theta - \frac{1}{2}\cos^2\theta + 2]$$

$$T = 2[(\cos^2\theta - \frac{1}{4})^2 + 2 - \frac{1}{16}]$$

$$0 \le \cos^2\theta \le 1$$

$$\frac{-1}{4} \le \cos^2\theta - \frac{1}{4} \le \frac{3}{4}$$

$$0 \le (\cos^2\theta - \frac{1}{4})^2 \le \frac{9}{16}$$

$$2\left[2 - \frac{1}{16}\right] \le T \le 2\left[\frac{1}{16} + 2 - \frac{1}{16}\right]$$

$$\frac{31}{8} \le T \le 5$$

$$T \in \left[\frac{31}{8}, 5\right]$$

Alternative Solution:

By inspection, it can be observed that for $\cos\theta = 1$, the expression can be equal to 5. Also, since $\cos^4\theta$ and $\sin^2\theta$

are both positive, the expression cannot be less than 3. By observing the choices, only choice (C) can be the answer.
Choice (C)

22. The given data is tabulated below:

	Mangoes	Bananas	Oranges
Price	10	12	16
Number	6x	≥3x	≥x

Let the number of mangoes be 6x. (x may or may not be an integer)
∴ The number of bananas is 3x or more and the number of oranges is x or more. To minimize the average price, the number of oranges has to be x and that of bananas has to be 3x. If they are not integers, we would have to buy > x oranges and >3x bananas. But in such a case, the average cost would be greater than what it would be if we take exactly x oranges and 3x bananas.
∴ To minimize the average price, we should make sure that x (and hence even 3x) is an integer, i.e., the number of mangoes is a multiple of 6. The total number of mangoes, bananas and oranges would be 10x, i.e., a multiple of 10. Among the given options, only 70 is a multiple of 10.
Choice (B)

23. After a markup of x%, the marked price becomes ₹(1000 + 10x)

After a discount of $\frac{2x}{5}$%, the selling price becomes

$$(1000 + 10x)\left(1-\frac{2x}{500}\right) = 1000 + 6x - \frac{x^2}{25} \quad \rightarrow \quad (1)$$

Given, final profit = $\frac{2x}{5}$%

$$\Rightarrow \text{Selling Price} = 1000 + 1000 \times \frac{2x}{500}$$

$= 1000 + 4x \quad \rightarrow \quad (2)$
Solving (1) = (2) gives x = 50
⇒ discount = MP – SP = (1000 + 10x) – (1000 + 4x) = 6x
= ₹300

26. Here, we have to find the maximum number of passengers who got down at the immediately next stop. Of the 16 who boarded at WBS, 8 got down at the next stop. Of the 11 who boarded at Bandra, all of them would have got down at the next stop, 9 of who boarded at Andheri would have got down at Borivili. Same is the case with 16 of those who boarded at Borivili, 13 who boarded at Juhu and 8 of them who boarded at Goregaon. i.e., a total of 8 + 11 + 9 + 16 + 13 + 8 = 65 passengers would have got off the bus at the immediately next stop.
Choice (C)

27. Here, we have to find the maximum number of passengers who got down at the third stop after the stop where they boarded, the pair of stops would be WBS – Borivili, Bandra – Juhu, Andheri – Goregaon and Borivili – TBS.
The maximum number of passengers from
WBS – Borivili – 5
Bandra – Juhu – 0
Andheri – Goregaon – 10
Borivili – TBS – 0
i.e., a total of 15 passengers
Choice (A)

Solutions for questions 28 to 30:

28. The given equation can be rewritten as

$$\log_2\left(\frac{a-b}{2}\right)\log_2 2 = \log_2\left(\sqrt{a}-\sqrt{b}\right)^2 + \log_2 2$$

$$\Rightarrow \frac{a-b}{2} = 2\left(\sqrt{a}-\sqrt{b}\right)^2$$

$$\Rightarrow \sqrt{a}+\sqrt{b} = 4\left(\sqrt{a}-\sqrt{b}\right) \left(\because \sqrt{a}-\sqrt{b} \neq 0\right)$$

$$\Rightarrow 3\sqrt{a} = 5\sqrt{b}$$

$\Rightarrow \frac{b}{a} = \frac{9}{25} = \frac{36}{100}$ i.e., b is 36% of a.
Choice (B)

29. $S = \frac{1}{\sqrt{1}+\sqrt{3}} + \frac{1}{\sqrt{2}+2} \ldots\ldots \frac{1}{\sqrt{119}+\sqrt{121}}$ Rationalizing each term with the respective rationalizing factor $\sqrt{3} - 1$, $2 - \sqrt{2}$, ... $\sqrt{121} - \sqrt{119}$

Alternative Solution:

Since CP = 1000, and MP = 1000 + 10x and SP = 1000 + 4x, discount was MP – SP = 6x.

If, 6x (discount) = D, then $x = \frac{D}{6}$ and $10x = \frac{5}{3} \times D$, and

discount $\frac{2x}{5}$% of M.P. $= \left(\frac{2}{500}\right)\left(\frac{D}{6}\right) \times \left(1000 + \frac{5D}{3}\right) = D$

From the choices, only D = 300 satisfies the above equation. Choice (B)

Solutions for questions 24 to 27:

24. For maximum number of passengers to travel from WBS to TBS, wherever possible we have to make sure that passengers who got out at intermediate stops had boarded the bus from other stations. Among those who boarded at WBS, eight got out at Bandra and of the 14 who got out at Andheri, at least three of them boarded at WBS. Passengers who got down at other stops could have boarded from other stops and so at most 16 – (8 + 3) = 5 passengers and Raman, i.e., a total of six passengers travelled from WBS to TBS in that trip. Choice (A)

25. When the bus reached Andheri there were five passengers already in the bus and 15 got in at Andheri. Of the 9 passengers who got down at Borivili at least four of them would have boarded at Andheri and at most 11 of them would have travelled from Andheri to Juhu.

Choice (B)

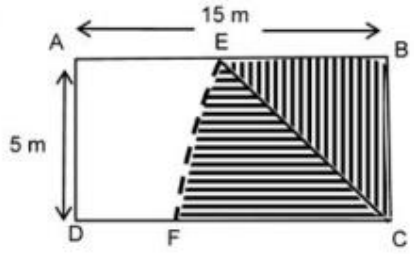
We get, $S = \frac{\sqrt{3}-\sqrt{1}}{3-1} + \frac{\sqrt{4}-\sqrt{2}}{4-2} + \frac{\sqrt{5}-\sqrt{3}}{5-3} + \frac{\sqrt{6}-\sqrt{4}}{6-4} \ldots\ldots \frac{\sqrt{121}-\sqrt{119}}{121-119}$

$S = \frac{\sqrt{3}-\sqrt{1}}{2} + \frac{\sqrt{4}-\sqrt{2}}{2} + \frac{\sqrt{5}-\sqrt{3}}{2} \ldots \frac{\sqrt{120}-\sqrt{118}}{2} + \frac{\sqrt{121}-\sqrt{119}}{2}$

$= -\frac{\sqrt{1}}{2} - \frac{\sqrt{2}}{2} + \frac{\sqrt{120}}{2} + \frac{\sqrt{121}}{2}$

$= \frac{10+2\sqrt{30}-\sqrt{2}}{2} = 5 + \frac{2\sqrt{15}-1}{\sqrt{2}}$ Choice (C)

30.



ABCD be the rectangular field and let the goat be tied at vertex C with rope CE of length 10 m.

The area accessible to the goat is
Total Area = Area of sector ECF + Area of right ΔECB
So, first we need to calculate BE
Since BEC is a right angled Δ,
$BE^2 + BC^2 = EC^2$
$\Rightarrow BE^2 + 5^2 = 10^2$
$\Rightarrow BE^2 = 100 - 25 = 75$
$\Rightarrow BE = 5\sqrt{3}$ m

Now, $\tan(\angle ECB) = \frac{BE}{BC} = \frac{5\sqrt{3}}{5} = \sqrt{3}$

$\Rightarrow \angle ECB = 60^\circ$

$\therefore \angle ECF = 30^\circ$ (i.e., angle of sector ECF)

$$\text{Total area} = \left(\frac{30^\circ}{360^\circ}\right)(\pi r^2) + \frac{1}{2}(BE)(BC)$$

$$= \frac{\pi(100)}{12} + \frac{1}{2}\left(5\sqrt{3}\right)(5)$$

$$= \frac{100\pi + 150\sqrt{3}}{12}$$

Choice (C)

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

SECTION – II

Solution for question 1:

addressed a predominantly Egyptian public for much of his life...." He could have helped focus public attention on any aspect other than Egypt's social, economic and political ills. We can only understand that Mahfouz's writing excluded the multicultural and borderless aspect that the author associates with the "global novel." In any case Choices (A) and (C) may be true but do not answer the question. From the last sentence of the second paragraph, "a superficial multicultural aspect of this year's Man Booker shortlist conceals a specifically North American taste" and the first sentence of the third paragraph "blame such fears.....on a condescending Little-Englandism", choice (D) may be inferred to be true but is again not the focus of the author in mentioning Mahfouz. So only choice (B) is the reason for discussing Mahfouz. Choice (B)

3. The "global novel" is associated with homogenising and depoliticising effects which can be exaggerated. A non-western writer seems to be vending a consumable-cultural otherness and not a challenging-cultural otherness. So (A) and (B) put the spotlight only on "Benettonish cosmopolitanism" and "self-identifications like Afropolitan". These are not summation statements and are mentioned by the author to exemplify the main point. Choice C is extreme and seems to go against the main thesis of the passage – that the global novel embodies the bland consensus of transnational elitism and western-style pedagogy. There is no data in the passage to say that the opposite extreme (diversity and non-boosting of the west's flattering self-images) is happening in the Asian and African intelligentsia today. Choice D is the best summary of the penultimate paragraph. One can only say that the exaggeration of the homogenising and depoliticising effects of the "global novel" ..... risks obscuring the traumas of the postcolonial world (military coups, civil wars, despotic regimes.....) which still mould the themes of some African and Asian writers. Choice (D)

1. On reading the sentence, we realize that the 1st blank is to be filled by a synonym of 'insincere'. 'Blatant', meaning, 'brazenly obvious', is contextually inappropriate. Also 'faked' would need the preposition 'up' after it. So option D can be eliminated. 'eponymous' is also out of context here. Eponymous (of a person) means the person after whom a literary work or film is named. Eponymous (of a literary work, film etc.) means named after its central character or creator. Option B can be eliminated. We see that the other options for the first blank are contextually appropriate, so we attempt to fill the second blank. We realize that it is to be filled by a word that means, 'encouraged (the celebration of)'. 'Bolstered', meaning, 'supported' and 'advocated', meaning, 'supported or urged by argument', are contextually inappropriate. Therefore, the 2nd blank is filled by 'promoted' and the 1st blank is filled by 'meretricious' (plausible but false or insincere; specious). 'vicissitudinous' refers to variation or mutability in nature or life, especially successive alternation from one condition or thing to another (variation in circumstance, fortune, character, etc). The answer option is, thus, A (meretricious ..... promoted). Choice (A)

Solutions for questions 2 to 5:

Number of words and Explanatory notes for RC:

Number of words : 701

2. Refer to the third paragraph of the passage where Naguib Mahfouz is mentioned. The third sentence of the passage, "Today it is the prospect of international success that tempts.....shapes the work of many aspiring (postcolonial) writers from Asia and Africa (unlike Mahfouz)." The fourth sentence states that these writers "appear to embody the bland consensus of transnational elites." The remaining sentences also help us infer choice (B) as true. Choice (C) may be true (....little read in the Anglophone world before his 1988 Nobel Prize in Literature....) but is not the main reason that the author mentions Mahfouz. Choice (A) cannot be inferred though it is mentioned that "he

4. "Multiculturalism" and "translatable literariness" have been mentioned in the second paragraph of the passage as attributes of the "global novel." "Political correctness" can be inferred given "cuddly-bear politics." But "native idioms" cannot be a feature of the "global novel" which erases national and historical specificity. So choice (A) is not true. There is no data in the passage to suggest that the author's profession is that of a political leader in exile. Most likely, the author is a postcolonial writer and this can be inferred from information in the first paragraph and the rest of the passage, where he talks about "postcolonial dysfunction", the changes in the literary world today and mentions the role of Asian and African writers. Also terms like "condescending Little-Englandism" and "a specifically North-American taste" helps us infer that the author is referring to postcolonial times. The author is also being critical of writing throughout the passage. Hence (B) is not correct. The author's main premise in the first paragraph is that literature rarely restricts itself to political boundaries today and even literary prizes show signs of a steady erasure of national and historical specificity. Choice (D) is irrelevant. Choice (C) is true from para 4. Choice (C)

5. (A) has already been answered affirmatively in the passage, in the third paragraph. Books and writing are hostage to marketing ploys and dubiously judged literary awards. The prospect of international success and an inclination to embody the bland consensus of transnational elites often shape the work of many aspiring writers. From the third paragraph (..... denuded of the differences and antagonisms that define a genuinely pluralist culture) and the fifth paragraph (Bennettonish cosmopolitanism ascribed to the global novel .....), choice (D) is also answered by the author sardonically. (C) has been answered in the third paragraph. (The literary festivals have flourished ....., ... cerebral cornucopia ....., ... authors are quizzed ..... meaning of their stories). Throwing writers into the global mixer and shoving cocktails in their hands is generating a homogenized literary product. So a writer today needs to

fulfill certain set standards or expectations, as in a catwalk. In the last paragraph, the author seems to give us a lesson that writing should focus on artistic vitality and diversity and articulate the ironies of class, race, religion, gender and nation i.e. explore social and intimate relationships (....last sentence of fifth para) within finite borders. This will result in a bolder cartography of the imagination..... from these revelatory conjunctures of countries "poised" at historical crossroads. The author would prefer a "challenging-cultural otherness" and not a "naive multiculturalism". The writer should not seem to be vending a consumable – but a challenging cultural otherness. However, in the absence of cultural diversity or themes that confront the ironies of class, race, gender, nation or geographical locale (placid circumstances), a writer may face "the closure of horizons and may give in to naïve multiculturalism and stereotype without any artistic vitality in exploring social relationships. So one can put choice B to the author as a follow-up question. Choice (B)

Solutions for Questions 6 to 8:

The following table can be drawn based on the given conditions

Item	Vegetables	Motor Cycle	Computer	Magazine	Textiles
Booked to		Bangalore	Hyderabad		
Reached		Delhi			
Train Loaded into	Shatabdi				Himsagar

From condition (ii) as the Motor Cycle reached Delhi, it should have been loaded into Duronto or A.P Express and as A.P. Express goes to Hyderabad, it should have been loaded into Duronto Express. As no parcel was loaded into the correct train, Computer should have been loaded into Rajadhani Express and Magazines into A.P. Express. ⇒ Computer reached Bangalore and Magazines reached Hyderabad.

From the above table and from conditions (i) and (iv), Vegetables should have been booked to Delhi and the original train into which the package should have been loaded is Duranto Express.

Thus the final table looks like the following.

Item	Vegetables	Motor Cycle	Computer	Magazine	Textiles
Booked to	Delhi	Bangalore	Hyderabad	Mumbai/Chennai	Chennai/Mumbai
Reached	Chennai/Mumbai	Delhi	Bangalore	Hyderabad	Mumbai/Chennai
Train Loaded into	Shatabdi	Duranto	Rajadhani	A.P Express	Himsagar

6. If Shatabdi express goes to Chennai, then from the table, the bundle of textiles was unloaded at Mumbai.
Choice (C)

7. If the parcel booked for Mumbai reached Hyderabad
⇒ Textiles are booked for Chennai and reached Mumbai
⇒ Vegetables reached Chennai. Choice (C)

8. Textiles can be booked for Chennai or Mumbai.
Textiles booked for Chennai ⇒ Textiles reached Mumbai and Vegetables reached Chennai.
Textiles booked for Mumbai ⇒ Textiles reached Chennai and Vegetables reached Mumbai.
Thus, in either case, Vegetables reached the station for which Textiles are booked. Choice (A)

Solution for question 9:

9. In part (a), the word 'sweltering' is incorrectly spelt. Here the reference is 'heat', so 'sweltering' is correct. The intransitive verb 'swelter' means to suffer under oppressive heat while the transitive form means to affect with oppressive heat. 'Svelter' means slender or graceful in figure or outline (slim) and is incorrect here. In part (b), the adverb of frequency 'usually' has to be placed after the verb 'keep'. Also the preposition 'to' has to be used in placed of 'at'. So part (b) should read 'usually keep visitors to a minimum'. Part 'c' is correct. In part (d), the preposition 'in' has to be replaced with 'on' (descended on the city). Also the word 'State' should not be capitalized. It should read '**last week on the city** to investigate what state media.' In part (e) there is an error of 'subject-verb agreement'. 'Media' takes a plural verb 'have' and not the singular verb 'has'. So only part (c) is correct.
Choice (A)

Solutions for questions 10 to 12:

10. The paragraph compares and contrasts the fuzzy brain of a human with the locked-on brain of an animal, which then yield the corresponding action or reaction. Precise recognition and the release of appropriate action are associated with the incisive and locked-on brain of an animal. In contrast, in the human's fuzzy and blurry brain, there is a considerable lag time between recognition of the situation and the eliciting of the response. Only choice D elaborates on the contrast and brings the thought flow to a conclusion. Here 'fawn' refers to the young deer in its first year. Choice C talks about the evolution of human thinking and highlights that further progress of some features of human thinking are impeded in today's complex world. This choice is out of scope. Choice A while in sync with the fact that the human brain might be complicated brings in some new points which need elaboration. Also the discussion in the paragraph is on a faulty gene (an, inherent, physiological cause) and not about external (social or environmental) circumstance. The first part of choice B echoes the view mentioned in the paragraph but the second part goes off-tangent with 'man's relative stupidity'.
Choice (D)

11. The paragraph suggests that a typical business will be knowledge or information based. Also information technology demands the shift. Currently computer users use technology to crunch numbers only. But advanced data-processing technology can lead to a transformation of its decision processes, management structure etc. The last two sentences of the paragraph, just before the blank, seem to focus on a transformation of the capital-investment decision in a business. Opinions and data will not do, one must weigh alternative assumptions of a decision. So number crunching for a financial decision is now superceded by number analysis for a business decision keeping in mind alternative strategic assumptions. This also emphasizes the importance of knowledge over a simplistic command-and-control model, as discussed in the second sentence of the para. Choice C concludes the paragraph appropriately as it links with the penultimate sentence. An alternative strategy and its assumption need to be analyzed and challenged. "The decision" in choice C corresponds to

(d) The greatest asset that Alibaba has is the online platform to deliver insurance products.
(e) Alibaba's greatest strength is its shift to the consumption driven business model which China follows.

(A) a, b and d (B) c and e
(C) Only c (D) a and b

DIRECTIONS *for questions 17 to 20:* Answer the questions on the basis of the information given below.

Raju sells only four types of items – Pencils, Erasers, Sharpeners and Rulers. Exactly four customers – A, B, C, D – visited the shop today. Raju sold at least one item of each of the four types of items today and the number of types of items purchased by each customer was the same. The following are some observations made by Raju at the end of the day:

(i) Exactly one pair of customers purchased the same types of items.
(ii) Exactly one pair of customers purchased no type of item in common.
(iii) If a customer purchases a Sharpener, then he also purchases a Pencil.
(iv) Erasers were purchased by both B and C.

DIRECTIONS *for question 21:* The following question presents four statements, of which three, when placed in appropriate order, would form a contextually complete paragraph. Pick the statement that is not part of that context.

21. (A) What makes it seem fresh is the insight and thoroughness of his analytical directions.
(B) Bhaskar's writing is not always very accessible.
(C) Hence Andrew Collier's Critical Realism should play an important role in popularising the work of Bhaskar to the wider audience it deserves.
(D) His dense use of technical terms along with his own considerable vocabulary of neologisms and acronyms mean that his works need to be read at a rather gradual pace in order to be absorbed.

DIRECTIONS *for questions 22 to 24:* The sentences given in the following questions, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. From among the four choices given below each question, choose the most logical order of sentences that constructs a coherent paragraph.

17. If A purchased Sharpeners, then which of the following can be the pair of customers who have purchased no type of item in common?
(A) A and B
(B) B and D
(C) D and C
(D) More than one of the above

18. Which of the following statements (taken one at a time) will help determine the types of items purchased by all the four customers?

(I) D purchased Sharpeners and A purchased Pencils.
(II) B purchased Pencils and A purchased Sharpeners.
(III) C purchased Rulers and D purchased Sharpeners.

(A) Both I and II
(B) Only III
(C) Only II
(D) Both II and III

19. Which of the following statements is definitely true?
(A) If D purchased Sharpeners, then A purchased Erasers.
(B) If D purchased Pencils, then B purchased Pencils.
(C) If D purchased Pencils, then C purchased Rulers.
(D) If D purchased Sharpeners, then A purchased Pencils.

20. Which of the following statements is false?
(A) At least one customer purchased Pencils and Erasers.
(B) At least one customer purchased Pencils and Rulers.
(C) At least one customer purchased Erasers and Rulers.
(D) At least one customer purchased Sharpeners and Pencils.

22. (a) Each conception of a super-industrial utopia or anti-utopia needs to be embodied in many forms – films, plays, novels and works of art – rather than a single work of fiction.
(b) These concepts, however, can no longer be produced in the old way.
(c) Today we need powerful new utopian and anti-utopian concepts that look forward to super-industrialism rather than backward to simpler societies.
(d) We therefore need a revolution or collaborative utopianism in the production of utopias; we need to construct "utopia factories."
(e) It may also be too difficult for any individual writer, no matter how gifted, to describe a convincingly complex future.
(f) No book, by itself, is adequate to describe a super-industrial future in emotionally compelling terms.
(A) cfbeda (B) cbefad
(C) cbfaed (D) afbecd

23. (a) Everything else is subordinate to that.
(b) They can then lean on the administration by threatening to cut off funds if the professors don't say what they want to hear and that happens too.
(c) Normally the goal is in no conflict with the location goal of improving the citizenry, but on occasion some conflict arises, as in the case of Socrates himself.
(d) Conflict arises when trustees and legislators who've contributed large amounts of time and money to the location take points of view in opposition to the professors' lectures or public statements.
(e) The primary goal of the Church of reason is always Socrates' old goal of truth, in its ever changing forms, as it's revealed by the process of rationality.
(A) dbeac (B) eacdb
(C) ceadb (D) ecdba

17. Since A purchased Sharpeners, he is the only one to buy the pair (P, S). The following possibilities arise:

Pair of items		(P, S)	(P, E)	(E, R)
No. of customers		1	2	1
Names of customers	Case (i)	A	B & C	D
	Case (ii)	A	B & D	C
	Case (iii)	A	C & D	B

Now, the possible pairs who purchased no items in common can be (A and D), (A and C) and (A and B).
From the given choices, only (A and B) is possible.

(Alternatively, once it is known that A purchased Sharpeners, and we conclude that A bought (P, S) then the pair of customers that purchased no item in common must include A. Using this conclusion, we can easily observe that only the first choice satisfies) Choice (A)

18. Using statement I:
We get the two cases listed below:
Case (i): (P, E) bought by A and B; (P, S) by D; (E, R) by C.
Case (ii): (P, E) bought by A and C; (P, S) by D; (E, R) by B.

Using statement II:
We get the two case listed below:
Case (i): (P, E) bought by C and B; (P, S) by A; (E, R) by D.
Case (ii): (P, E) bought by D and B; (P, S) by A; (E, R) by C.

Using statement III:
We get only one possible case:
(P, E) bought by A and B; (P, S) by D; (E, R) by C.

Hence only statement III gives a unique distribution.
Choice (B)

In choice A, statement 'f' is wrongly inserted between the mandatory pair of sentences i.e., 'cb' and sentence (a) is wrongly placed at the end. Choice B disrupts the 'faed' continuity. In choice D, statement (a) is incorrectly placed as the topic sentence, before statements (f) and (b). Also the order of sentences 'fb' is wrongly reversed.
Choice (C)

23. On a careful reading of the paragraph, one can infer that only statement (e) serves as an opening sentence with its general points like "primary goal", "always Socrates' old goal of truth", "Church of reason" and "process of rationality". Statement 'd' cannot begin the paragraph. Statement (d) which has the reference to ".....the location....." can only be placed after statement (c) (....conflict with the location goal.....). ". Statement (c) also cannot begin the paragraph because the reference to "the goal" needs a precedent. So statement (e) which has the reference to "...primary goal of the Church of reason...." has to precede statement (c). So choices A and C are incorrect. Statements 'ea' form a mandatory pair. 'that' in statement (a) links with 'primary goal' which is "Socrates' old goal of truth". So (a) follows (e). Statement (c) follows statement (a). "The goal" in statement (c) refers to the "primary goal" in statement (e) and this is contrasted with the "location goal". Statements 'cd' also form a mandatory pair. "location goal" and "some conflict arises" as given in statement (c) link with "Conflict arises" and ".....to the location take points of view in opposition" as given in statement (d). Statement (b) concludes the paragraph. The "they" in statement (b) refers to "trustees and legislators" who oppose the professors' statements. So 'eacdb'. Choice D disrupts the thought flow with statement (a) wrongly placed at the end of the para. Choice (B)

19. Going from the answer choices.
If D purchased Sharpeners, then D purchased the pair (P, S). Since we know that only one customer purchased the pair (P, S), A must have purchased one of the other pairs, i.e., (P, E) or (E, R). In either case, A purchases Erasers. Hence, choice (A) is definitely true.
It can be observed that all other choices need not be true.
Choice (A)

20. From the conclusion arrived at in the first table, no one purchased Pencils and Rulers.
Hence, choice (B) is false. Choice (B)

Solution for question 21:

21. It can be observed that there are two sentences B and C having the name Bhaskar. The other sentences have the pronouns 'it' and 'his'. On a close reading of the paragraph, it can be observed that sentence B begins the paragraph. His writing is not accessible. The reason for this is given in sentence D. Sentence D is then followed by sentence C. 'Play a role in popularising the work' will take care of the problem of the writing being non-accessible to readers. So, BDC. Sentence A stands as the odd man out.
Choice (A)

Solutions for questions 22 to 24:

22. On a close reading of the paragraph, one may infer that statement (c) is the introductory sentence of the paragraph and statement (d) (We **therefore** need.... collaborative utopianism) is the conclusion sentence. Statements 'cb' form a mandatory pair. '**These concepts**' in statement (b) link with 'new utopian and anti-utopian **concepts**' given in statement (c). Statements 'fa' also form a mandatory pair. 'No book is adequate .....' in sentence (f) links with 'single work of fiction' and the requirement of other forms as mentioned in sentence (a). Statement (e) continues the idea. It can be observed that 'It **may also be** too difficult for any individual writer' (Sentence 'e') can be placed only after sentences (f) and (a). Sentences 'ed' form another mandatory pair. 'any individual writer.... is not adequate' as given in sentence (e) and so we need *a* "revolution or collaborative utopianism" (sentence 'd'). Sentence 'd' concludes the thought flow. So, cbfaed.

24. It can be observed on a close reading of the paragraph that statement (c) (In this way.....) and statement (e) (.....might **eventually**....) are conclusive in nature and can be best placed at the end of the para. Statement (b) cannot begin the paragraph as it can be placed only after statement (f). Also statement (d) (In other cases.....) cannot begin the paragraph as it can be placed only after statement (a) (In the case of.....). Between statements (f) and (a), statement (f) is a better opener as "the technological appraisal agency" given in statement (a) needs a precedent and is mentioned in statement (f). So statement (f) begins the paragraph and is followed by statement (b). "probable strength of its social impact (as studied by behavioural scientists)" given in statement (f) links with "social cost-benefit accounting procedure (which will weigh the seriously disruptive consequences unrestrained accelerative pressures of innovations) as given in statement (b). Statements (a) and (d) follow next with the focus on "some high-impact innovations" which might be restrained (as mentioned in (a)) or released provided the negative consequences are well taken care of (as given in (d)). Statements 'dc' form a mandatory pair. (d) provides the reason (such innovations might still be released .....) for the point mentioned in (c) (....society would not need to wait). Statement (e) concludes the para. So, fbadce. The other choices disrupt the thought flow. Choice (B) is close as the 'adec' link is given correctly here. But as mentioned earlier, statement (b) cannot be placed before statement (f). 'At the level of social consequences' given in (f) is more general than, 'social cost-benefit accounting procedure' given in statement (b). Also 'the panel of behavioural scientists', given in (f) would be weighing the facts of the new innovation as mentioned in (b). Also 'social impact' has to be mentioned first and then the (specific) disruptive consequences. So (f) has to precede (b). Choice (D)

Solutions for questions 25 to 27:

Number of words and Explanatory notes for RC:

Number of words : 741

25. Refer to the last two sentences of para 2 and the third para. History and ethnography studies can unsettle the

categories....., challenge the categories used to frame lines of scientific inquiry....., are sites at which new concepts are forged. Kuhn believed that these studies can change the way by which we are held. So scientific fields can undergo paradigm shifts and affect our understandings of scientific theories and fundamentals. Both statements (a) and (b) are not inferrable, they are not Kuhn's claims. With reference to Briggs' study, the context refers to "imaginative identification" with "very different societies" as "a vantage point.....to think about (our own societies)". So statement (c) cannot be inferred. Statement (e) is not true. 'over-generalizations' have not been targeted. Science often foregoes generality to achieve a precise and accurate answer to a specific question. Refer to the last four sentences of the first paragraph. Statement (d) can be inferred from the last paragraph. Returning to the same materials (not new sources of history) is valuable when historians ..... impact that his monumental history made on his many readers. Statement f can be understood from the lines in the second para (..... to show the readers what it is like to live ..... Imaginative identification). Choice (A)

26. Refer to the last paragraph of the passage. The answer is inferred from "intertwining of human inquiry with social change"... "why history ... constant rewriting ...". "changes in our ... society make new aspects of the past pertinent (and old aspects irrelevant)", as given in (D). Also refer to " ..... in the light of newer conceptions contemporary historians may view different questions as significant". (newer styles of social thought). (C) is unsubstantiated. (A) and (B) are not true. Thus, (D) is the answer.

Choice (D)

27. Refer to the sixth sentence of the last para. The reference to the enterprise is one which is not progressive, which does not yield a finality. But this impression is incorrect. The previous lines of the last paragraph have already reiterated the need for the constant **rewriting** of history and ethnography. When the author talks about Gibbon, he's telling us that, while our beliefs and opinions may, because of our changed circumstances, be different from those of Gibbon, the accuracy and understanding of historical fact that he presented to us remains our basis. Also refer to the last sentence of the passage "If our questions are **different** ..... one that Gibbon's history **helped to bring about.**" So statement 'e' is the assumption. Even if Gibbon has been superceded (through **further studies** in the field .....), we should be grateful for the impact that his monumental history made on many readers.

With reference to statement 'b', the above explanation would not support the term 'grand doctrine' because that term would being to mind complete sets of beliefs, and if the word 'perennial' is used to mean 'constant', unchanging' then that is inappropriate too. Contemporary historians may view different questions as significant. So statement 'b' is not correct.
Statement 'a' is stated – nothing ever accumulates. So it is not an assumption. Statement 'c' is out of scope. Statement 'd' is the author's contention. Hence, statement 'e' is the assumption. Choice (B)

Solutions for questions 28 to 30:

No two consecutive cars are of the same colour means that there are four blue cars and four red cars.
Since, no two consecutive cars are of the same company, the maximum number of cars of a company can be four.
Given the fourth car from the left is a red Ronda.

Company				Ronda				
Colour	B	R	B	R	B	R	B	R

The number of cars of the company Ronda is same as the number of cars of the company MBW. This implies the number of cars of each of these companies is either 2 or 3. → (1)

Since there is only one Red Ronda car, the second car from the left and the third car from the right has to be either an ODI or an MBW.

Since, the fourth car is Ronda, the third car and the fifth car have to be either an MBW or an ODI depending upon the adjacent car.

Company		M/O	O/M	R	O/M	M/O		
Colour	B	R	B	R	B	R	B	R

Since neither the first car nor the last car is a Ronda, and from statement (1) the minimum number of Ronda cars is two ⇒ the second car from the right is a blue Ronda and the number of MBW cars is two.
The first car from left is an ODI.
Filling the arrangement we get

Company	O	M	O	R	O	M	R	O
Colour	B	R	B	R	B	R	B	R

28. The third car from the right is a red MBW.

Choice (C)

29. Red Ronda, Blue Ronda and Red ODI are the only cars which are unique. Choice (B)

30. There are three cars between Red Ronda car and Red ODI car. Choice (D)

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