CAT Sample Paper 5

By www.collegedunia.com

Section 1- Quantitative Ability

Directions for questions 1 to 6: Answer the question independently of the other questions.

1. What is the minimum value of the sum of the squares of the roots of the equation $x^2 - (\alpha - 2)x + (\alpha - 5) = 0$, where α is a positive number?

(1) 0

(2) 2

(3) 5

(4) Cannot be determined

2. Let S be a set of positive integers such that every element n of S satisfies the conditions
(a) 1000 ~~b) every 200 digit in (is odd.~~ **Then how many elements of S are divisible by 3?**
1) 9
(2) 10
(3) 11
(4) 12

3. When 952 is divided by a number, the remainder left is 124. Find the remainder left if 68 divides the same number.

(1) 14

(2) 26

(3) 40

(4) 56

4. If $x = 2 + 2^{2/3} + 2^{1/3}$, then which of the following is true?

(1) $2x^3 + 6x - 2x^2 + 3 = 0$
(2) $6x^3 + x^2 - 12 + 6 = 0$
(3) $x^3 - 6x^2 + 6x - 2 = 0$
(4) $x^3 - 12x^2 + x - 4 = 0$

5. The function f(x) = | x - 1 | + | 2.8 - x | + | x - 3 |, where x is a real number, can attain a minimum value of

(1) 1

(2) 2

(3) 3

(4) 2.8

6. If f(x) = x^3 – 4x + p, and f (0) and f(1) are of opposite signs, then which of the following is necessarily true?
(1)–1 < p < 2
(2)0 < p < 3
(3)–2 < p < 1
(4)–2 < p < 1

7. A tank can be filled by two taps - Tap I and Tap II. The volume of the tank is 5000 litres. Tap I fills the tank at a rate of 1 litre/second. Tap II fills the tank at a rate of 3 litres in 2 seconds. On a particular day, Tap II is opened $33\frac{1}{3}$ minutes after the time at which Tap I is opened. If after 45 minutes from the time when Tap I was opened, the tank develops a hole which empties the tank at the rate of 2.5 litres/second, how full is the tank in 2 hours from the time when Tap I opened?

(1) $\frac{1}{10}$

(2) full

(3) $\frac{3}{4}$

(4) $\frac{4218}{5000}$

8. The name of 'Modern Food Stores' is displayed on a board at a junction using neon lights. When the board is switched on, the lights in each word follow a cyclic pattern of turning on and off. The first word remains lighted for $1\frac{3}{4}$ seconds and then remains switched off for 2 seconds. The second word remains switched on for $3\frac{2}{3}$ seconds and then remains switched off for 2 seconds. The third word remains switched on for $7\frac{1}{2}$ seconds and then remains switched off for 2 seconds. If the board is switched on, what is the smallest interval, after which the entire display will again turn on simultaneously?

(1) 61.5 seconds

(2) 97.5 seconds

(3) 807.5 seconds

(4) 4845 seconds

Directions for questions 9 and 10: Answer the question on the basis of the information given below.

Triplets consisting of three different numbers are formed from numbers 1 to 10.

9. How many of these triplets are such that the sum of the numbers is divisible by 3?

(1) 37

(2) 42

(3) 36

(4) 48

10. How many of the triplets formed are such that the sum of the numbers is divisible by 9 and they do not have a 9 in them?
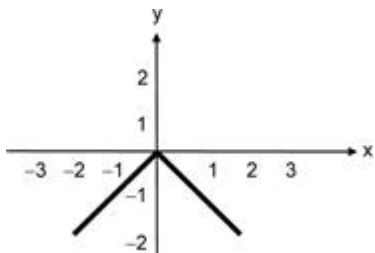
(1) 7

(2) 6

(3) 9

(4) 10

11. What is the value of the expression given below?

$$\cfrac{1}{1^2 - \cfrac{1}{2^2 - \cfrac{1}{3^2 - \cfrac{1}{4^2 - \cfrac{1}{5^2}}}}} + \cfrac{1}{-3 + \cfrac{1}{3^2 - \cfrac{1}{4^2 - \cfrac{1}{5^2}}}}$$

(1) 1.33

(2) 1.25

(3) 1

(4) None of these

12. The graph below gives a function f(x), represented by thickened line segments. From among the choices given, choose the function that best describes f(x).

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

(2) $f(x) = f(-x)$

(3) $f(x) = f(-x) + 2$

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

13. A square PQRS is constructed in an equilateral triangle ABC, such that P and S lie on the sides AB and AC respectively, while Q and R lie on side BC. If ∠ BPC = θ, then

(1) $θ > 105°$

(2) $90° < θ < 105°$

(3) $θ = 90°$

(4) $75° < θ < 90°$

14. Twenty persons went on a picnic. Three out of every five in the group do not like pulav but two out of every four carried pulav with them. Then, we can conclude that

(1) at least two persons who do not like pulav carried pulav with them.

(2) at least eight persons who do not like pulav carried pulav with them.

(3) at the most eight persons who do not like pulav carried pulav with them.

(4) at the most two persons who do not like pulav carried pulav with them.

Directions for questions 15 and 16: Answer the question on the basis of the information given below.

Let $E_n = 2 - 4 + 6 - 8 + 10 -------$ $(-1)^{n+1}. (2n)$ and $F_n = 4 + 1 - 2 + 12 + 3$ $- 6 + 36 + 9 - 18 ------$ n terms.

15. What is the value of E_{110}?

(1) -220

(2) -202

(3) 440

(4) None of these

16. If $2F_n + 3 = 81^6$ then what is the value of n?

(1) 17

(2) 23

(3) 69

(4) 42

Directions for questions 17 to 26: Answer the question independently of the other questions.

17. There are two concentric circles. The radius of the outer circle is 8.5 cm and the length of the longest chord of the outer circle that doesn't cut through the inner circle is 8 cm. What fraction of the bigger circle is not covered by the smaller circle?

(1) $\dfrac{64}{289}$

(2) $\dfrac{8}{17}$

(3) $\dfrac{225}{289}$

(4) $\dfrac{89}{289}$

18. Three numbers in geometric progression are such that if 64 is decreased from the largest, then the three numbers thus obtained would be in arithmetic progression. Further if the middle number of the new set of numbers is reduced by 8, the numbers thus obtained would be in geometric progression. Find the middle term of the original sequence.

(1) 5

(2) 20

(3) $\dfrac{52}{9}$

(4) Cannot be determined

19. Find prt : qsu, given that p : r = 2 : 3, q : s = 4 : 3, r : t = 8 : 9, s : u = 3 : 2 and t : q = 3 : 4

(1) $\dfrac{4}{27}$

(2) $\dfrac{8}{27}$

(3) $\dfrac{16}{27}$

(4) $\dfrac{16}{27}$

20. Find the number of five-digit multiples of 4, which can be formed using the digits from 1 to 7, using each digit at most once.

(1) 720

(2) 84

(3) 840

(4) 600

21. In a company, the number of married employees is a prime number. Which of the following cannot be the ratio of the total number of employees and the number of unmarried employees?

(1) 173 : 90
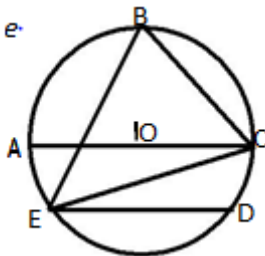(2) 193 : 80
(3) 181 : 32
(4) 201 : 32

22. The speeds of Aniket, Brihat and Chatur are in the ratio of 4 : 3 : 2. If Chatur takes half an hour more than Brihat to travel from P to Q, what is the total time taken by Aniket to travel from P to Q and then back from Q to P?

(1) 120 minutes
(2) 90 minutes
(3) 60 minutes
(4) 45 minutes

23. Let f(x) = max(2x + 1; 3 – 4x), where x is any real number. Then the minimum possible value of f(x) is:
(1)1/3
(2)1/2
(3)2/3
(4)5/3

24. In the adjoining figure, chord ED is parallel to diameter AC of the circle. If CBE=65
Then what is the value of DEC?

(1)35
(2)55
(3)45
(4)25

25. A new flag is to be designed with six vertical stripes using some or all of the colours – yellow, green, blue and red. The number of ways in which this can be done such no two adjacent stripes have the same colours is_____.
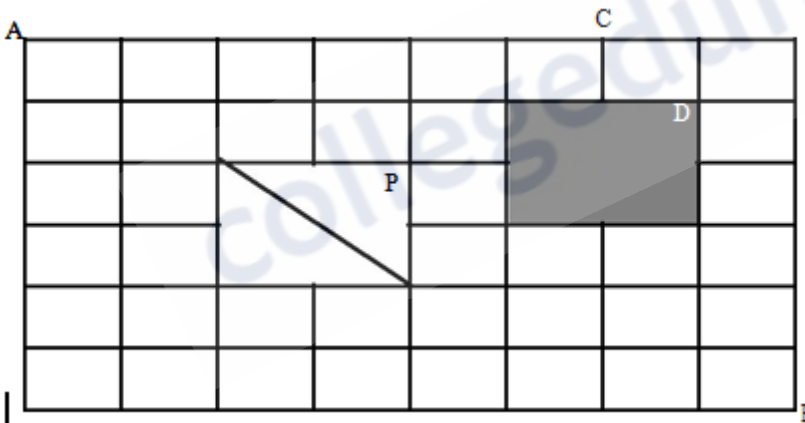
(1)12 × 81
(2) 16 × 192
(3) 20 × 125
(4) 24 × 216

26. How many integers, greater than 999 but not greater than 40000, can be formed with the digits, 0, 1, 2, 3 and 4, if repetition of digit is allowed?
(1)499
(2)500
(3)376
(4)375

Directions for questions 27 and 28: Answer the questions on the information given below:-

The figure below shows the plan of town. The streets are right angles to each other. A rectangular park (P) is situated inside the town with a diagonal road running through it. There is also prohibited region (D) in the town.

27. Neelam rides her bicycle from her house at A to her club at C via B taking as shortest path.Then the number of shortest paths that can be chosen is
(1)1170
(2)630
(3)792
(4)1200

28. Neelam rides her bicycle from her house at A to her office at B taking the shortest path. Then the number of possible shortest paths she can choose is
(1)60
(2)75
(3)45
(4)90

Directions for questions 29 to 34: Answer these questions which are independent of each other

29. In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?

(1)30%

(2)70%

(3)100%

(4)250%

30. A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?

(1)3

(2)4

(3)5

31. A and B together have Rs. 1210. If 4/15 of A's amount is equal to2/5 of B's amount, how much amount does B have

(1)Rs 460

(2)Rs 484

(3)Rs 550

(4)Rs 664

32. What is the sum of all the two-digit numbers which when divided by 7 gives a remainder 3?

(1)234

(2)676

(3)1121

(4)636

33. Let A and B be two solid spheres such that the surface area of B is 300% higher than the surface area of A. The volume of A is found to be k% lower than the volume of B. The value of k must be

(1)85.5

(2)92.5

(3)90.5

(4)87.5

34. In a 4000 meter race around a circular stadium having a circumference of 1000 meters, the fastest runner and the slowest runner reach the same point at the end of the 5th minute, for the first time after the start of the race. All the runners have the same starting point and each runner maintains a uniform speed throughout the race. If the fastest runner runs at twice the speed of the slowest runner, what is the time taken by the fastest runner to finish the race?

(1)20 min

(2)15 min

(3)10 min

(4) 5 min

Section 2- Logical Reasoning & Data Interpretation

Directions for questions 35 to 38: Answer the question on the basis of the information given below.

A company has six production units, seven godowns and nine sales distributors. The production units are PA, PB, PC, PD, PE and PF. The godowns are GA, GB, GC, GD, GE, GF and GG. The sales distributors are SAA, SAB, SAC, SAD, SAE, SAF, SAG, SAH and SAI. Table I gives the cost (in Rs.) of transporting one unit from different production units to the godowns. Table II gives the cost (in Rs.) of transporting one unit from different godowns to the sales distributors.

Table – I

	PA	PB	PC	PD	PE	PF
GA	724.5	471.3	423.7	441.3	461.5	627.5
GB	213.2	507.8	681.3	628.5	628.5	523.4
GC	347.6	347.6	0	492.3	688.5	806.1
GD	310.2	121.3	206.3	687.4	502.3	752.4
GE	934.6	187.6	278.2	921.1	931.6	826.3
GF	543.2	386.5	562.8	858.3	0	296.4
GG	587.6	287.9	478.3	821.4	921.5	478.5

Table – II

	GA	GB	GC	GD	GE	GF	GG
SAA	421.4	731.5	231.4	761.1	0	648.2	471.4
SAB	436.5	721.3	264.1	703.4	121.3	591.4	402.5
SAC	391.5	703.4	291.3	331.4	191.2	543.4	363.4
SAD	178.6	256.3	273.4	291.6	431.5	481.3	521.3
SAE	231.4	201.4	0	161.5	381.7	406.4	193.4
SAF	323.1	456.5	431.6	253.8	761.8	396.1	281.5
SAG	479.6	231.7	543.4	171.8	639.4	0	234.3
SAH	631.4	161.8	581.4	250.7	941.5	273.4	367.2
SAI	547.0	192.0	381.5	107.5	641.3	196.3	121.5

35. What is the least cost (in Rs.) of transporting one unit from any production unit to any sales distributor?

(1) 187.6

(2) 121.3

(3) 0

(4) 347.6

36. What is the least cost (in Rs.) of transporting one unit from the production unit PD to the sales distributor SAA?

(1) 921.1

(2) 862.7

(3) 723.7

(4) None of these

37. How many possible ways are there for transporting the goods from any production unit to any sales distributor?

(1) 42
(2) 63
(3) 105
(4) 378

38. What is the maximum cost (in Rs.) of transporting one unit from any production unit to any sales distributor?

(1) 1873.1
(2) 1876.1km
(3) 9921.1
(4) 862.7
(5) 723.7
(6) None of these
(7) 1861.4
(8) None of these

Directions for question 39: The question has a set of four statements. Each statement has three segments. Choose the alternative where the third segment can be logically deduced using both the preceding two, but not just one of them.

39. I. No crackers sparkle. Some which sparkle are electric bombs. Some electric bombs are not crackers.

II. All volcanoes are twisters. Some volcanoes do not burst. Some twisters do not burst.

III. All gamblers play cricket. Those who play cricket are players. Some gamblers are not players.

IV. Some lunatic people are mentally handicapped. All lunatic people are lucky. Some mentally handicapped are lucky.

(1) I, II only

(2) III, IV only

(3) I, III, IV only

(4) I, II, IV only

Directions for questions 40 and 41: The question given below is followed by two statements, I and II. Study the information given in the two statements. Assess whether the statements are sufficient to answer the question and choose the appropriate option among the given choices.

40. Is a > b?
I. 8 - (a - b)^3 is a positive number.
II. 4 - (a - b)^2 is a negative number.

(1) The question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

(2) The question can be answered by using either statement alone.

(3) The question can be answered by using both statements together, but cannot be answered by using either statement alone.

(4) The question cannot be answered even by using both the statements together.

41. a, b, and c are three distinct integers. Is b the greatest of the three?

I. a is less than at least one of the two integers b and c. II. c is less than at least one of the two integers a and b.
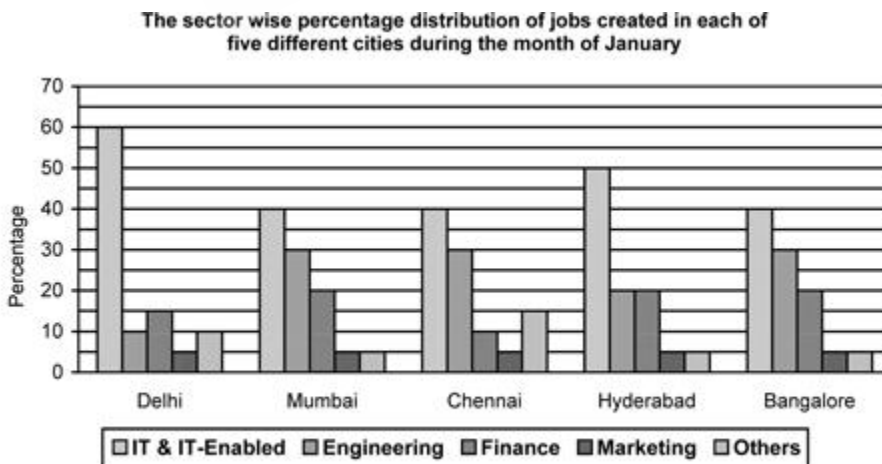
(1) The question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

(2) The question can be answered by using either statement alone.

(3) The question can be answered by using both statements together, but cannot be answered by using either statement alone.

(4) The question cannot be answered even by using both the statements together.

Directions for questions 42 to 45: Answer the question on the basis of the information given below

The sector wise percentage distribution of jobs created in each of five different cities during the month of January

□ IT & IT-Enabled   □ Engineering   ▨ Finance   ■ Marketing   □ Others

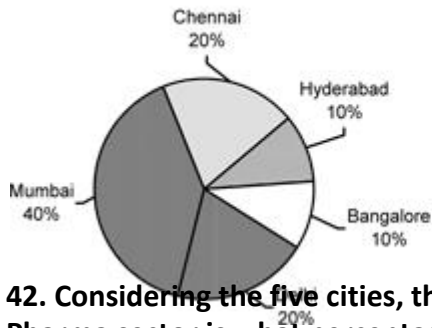**Note:** The total number of jobs created during the month of January in all the five cities together is 10,000.
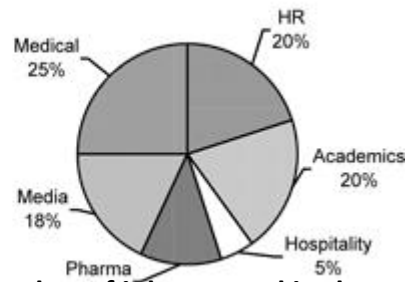
The following two pie-charts give further information regarding the total jobs mentioned in the above bar graph. Pie chart - I gives the city wise percentage distribution of the total number of jobs created in the month of January. Pie chart - II gives the sector wise percentage distribution of the

total number of jobs created in the "Others" category in the month of January across all the five cities together.

PIE CHART – I

PIE CHART – II

42. Considering the five cities, the total number of jobs created in the Pharma sector is what percentage of the total number of jobs created in the Engineering sector?

(1) 3.84%

(2) 38.4%

(3) 0.384%

(4) None of these

43. The number of HR jobs created in Mumbai is what percentage more than the number of Media jobs created in Bangalore?

(1) 10%

(2) 25%

(3) 20%

(4) Cannot be determined

44. The difference between the total number of Finance jobs and Marketing jobs created in all the five cities together is

(1) 1200

(2) 1000

(3) 2500

(4) 2000

45. The total number of Hospitality jobs created in all the five cities together is what percentage of the total number of jobs created in Hyderabad?

(1) 4%

(2) 0.25%

(3) 40%

(4) 25%

Directions for questions 46 and 47: Answer the question independently of the other questions

46. A dealer purchased a total of 60 pairs of coloured and white shoes, all either Reebok shoes or Adidas shoes. The dealer arranged these pairs of shoes by different categories and found the following. The number of pairs of white casual Adidas shoes is a two-digit positive number. The number of pairs of white casual Adidas shoes equals the number of pairs of white casual Reebok shoes. All non-white Adidas shoes were formals and there are four times as many of them as there are white formal Adidas shoes. There are no casual Reebok shoes that are not white. There are exactly 10 pairs of white formal Reebok shoes. There are exactly 20 pairs of Reebok shoes that are neither casuals nor white coloured. Find the number of white formal Adidas shoes.

(1) 2
(2) 4
(3) 10
(4) 20

47. Four officers, designated as CEO, COO, CFO, and CIO, read a certain number of newspapers early in the morning. One of them reads four newspapers, another reads three newspapers, the third reads two newspapers while the fourth one reads one newspaper. Below are some additional facts regarding the names of these officers.
i) Michael isn't the CFO.
ii)   John is the CIO.
iii)   Michael isn't the CEO and he reads more number of newspapers than Patterson.
iv)   The one who is the CEO reads more number of newspapers than Patterson.
v) The person who is the COO reads the maximum number of newspapers.
vi)   Anderson doesn't read two newspapers.
Which of the following statements is necessarily true?

(1) John is the CIO and reads 2 newspapers.
(2) Patterson is the CFO and reads 1 newspaper.
(3) Anderson is the CEO and reads 3 newspapers.
(4) Michael is the CFO and reads 4 newspapers.

Directions for questions 48 and 49: The question given below is followed by two statements, I and II. Study the information given in the two statements.

Assess whether the statements are sufficient to answer the question and choose the appropriate option among the given choices

48. The centre of the circle is at O (0, 0). Points A and B lie on the circle and also on the y-axis. P is a point on the positive x-axis. Radius of the circle is $\sqrt{8}$. Is ∠OAP > 45°?
I. OP > 3
II. OP < 5

(1) The question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

(2) The question can be answered by using either statement alone.

(3) The question can be answered by using both statements together, but cannot be answered by using either statement alone.

(4) The question cannot be answered even by using both the statements together.

49. Each of the four boys named M, N, O and U has a different fruits among guava, apple, orange and apricot. Between M and N, one person had apple and the other one had apricot. Which boy has which fruit?

I. M has the apple. II.
O has the guava.

(1) The question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

(2) The question can be answered by using either statement alone.

(3) The question can be answered by using both statements together, but cannot be answered by using either statement alone.

(4) The question cannot be answered even by using both the statements together.

Directions for question 50: Answer the question independently of the other questions.

50. Eight persons - A, B, C, D, E, F, G and H - sit in a row facing the same direction, not necessarily in the same order. These eight persons belong to two different families. Each family comprises a father, a mother, a son and a daughter. The persons sit such that no two members of the same family are next to each other and the two fathers sit at either ends of the row. Further, the following information is available:
(i) A is the father of C, whose mother is G.
(ii) H and E belong to different families and are of different genders.
(iii) B is the brother of E.
(iv) G and F are of the same gender
(v) A sits at the left end of the row.

(vi)   Each child is sitting next to at least one mother and each mother is sitting next to at least one child.
(7) F and B belong to the same family.
In how many different ways can these eight people sit?

(1) Two

(2) Four

(3) Six

(4) Eight

Directions for questions 51 to 54: Answer the question on the basis of the information given below.

   In an examination there are five questions - Q.1, Q.2, Q.3, Q.4 and Q.5 - each with five choices (a), (b), (c), (d) and (e). Five students - A, B, C, D and E - wrote the exam. The choices opted by the students for the questions 1, 2, 3, 4 and 5 are shown in the table below. One mark is awarded for a right answer and no mark is awarded for a wrong answer. No two students got the same total marks in these five questions.

Name	Choice opted for				
	Q.1	Q.2	Q.3	Q.4	Q.5
A	b	c	a	d	e
B	c	d	a	e	b
C	c	d	a	b	e
D	e	a	c	b	d
E	b	c	a	e	d

It is observed that no two questions have the same choice as the right answer.

51. Who scored the least total marks?

(1) B

(2) A

(3) D

(4) E

52. What is correct answer choice for Q.3?

(1) a

(2) b

(3) c

(4) Cannot be determined

53. If A's score is more than E's score, then what is the score of B?

(1) 3

(2) 2

(3) 1

(4) Cannot be determined

54. If C's score is less than B's score, then what is the score of E?

(1) 1

(2) 0

(3) 3

(4) 2

Directions for questions 55 to 57: Answer the questions on the basis of the information given below.
The table below provides certain demographic details of 30 respondents who were part of a survey. The demographic characteristics are: gender, number of children, and age of respondents. The first number in each cell is the number of respondents in that group. The minimum and maximum age of respondents in each group is given in brackets. For example, there are five female respondents with no children and among these five, the youngest is 34 years old, while the oldest is 49

No. of Children	Male	Female	Total
0	1 (38, 38)	5 (34, 49)	6
1	1 (32, 32)	8 (35, 57)	9
2	8 (21, 65)	3 (37, 63)	7
3	2 (32, 33)	2 (27, 40)	11
Total	12	18	4

55. The percentage of respondents aged less than 40 years is at least
(1)10%
(2)16.67%
(3)20.0%
(4)30%

56. Given the information above, the percentage of respondents older than 35 can be at   most

(1)30%
(2)73.33%
(3)76.67%
(4) 90%

57. The percentage of respondents that fall into the 35 to 40 years age group (both inclusive) is at least
(1)6.67%
(2)10%
(3)13.33%
(4)26.67%

Directions for 58 to 60: Answer the following questions on the basis of information provided below:-
Rang Barsey Paint Company (RBPC) is in the business of manufacturing paints. RBPC buys RED, YELLOW, WHITE, ORANGE, and PINK paints. ORANGE paint can be also produced by mixing RED and YELLOW paints in equal proportions. Similarly, PINK paint can also be produced by mixing equal amounts of RED and WHITE paints. Among other paints, RBPC sells CREAM paint, (formed by mixing WHITE and YELLOW in the ratio 70:30) AVOCADO paint (formed by mixing equal amounts of ORANGE and PINK paint) and WASHEDORANGE paint (formed by mixing equal amounts of ORANGE and WHITE paint). The following table provides the price at which RBPC buys paints.

Color	Rs/litre
Red	20
Yellow	25
White	15
Orange	22
Pink	18

58. The cheapest way to manufacture AVOCADO paint would cost
(1)Rs.19.50 per litre
(2)Rs.19.75 per litre
(3)Rs.20.00 per litre
(4) Rs.20.25 per litre

59. WASHEDORANGE can be manufactured by mixing
(1)CREAM and RED in the ratio 14:10
(2)CREAM and RED in the ratio 3:1
(3)YELLOW and PINK in the ratio 1:1
(4)RED, YELLOW, and WHITE in the ratio 1:1:2

60. Assume that AVOCADO, CREAM, and WASHEDORANGE each sells for the same price. Which of the three is the most profitable to manufacture?
(1)AVOCADO
(2) CREAM
(3)WASHEDORANGE
(4)Sufficient data is not available

Directions for 61 to 63: Answer the questions on the basis of the information given below.

Five women decided to go shopping to M.G. Road, Bangalore. They arrived at the designated meeting place in the following order: 1. Archana, 2. Chellamma, 3. Dhenuka, 4. Helen, and 5. Shahnaz. Each woman spent at least Rs.1000. Below are some additional facts about how much they spent during their shopping spree.

   i. The woman who spent Rs. 2234 arrived before the lady who spent Rs. 1193.
   ii. One woman spent Rs. 1340 and she was not Dhenuka.
   iii. One woman spent Rs. 1378 more than Chellamma.
   iv. One woman spent Rs. 2517 and she was not Archana.
   v. Helen spent more than Dhenuka.
   vi. Shahnaz spent the largest amount and Chellamma the smallest

61. The woman who spent Rs. 1193 is
   (1) Archana
   (2) Chellamma
   (3) Dhenuka
   (4) Helen

62. What was the amount spent by Helen?
   (1) Rs. 1193.
   (2) Rs. 1340.
   (3) Rs. 2234.
   (4) Rs. 2517

63. Which of the following amounts was spent by one of them?
   (1) Rs. 1139.
   (2) Rs. 1378.
   (3) Rs. 2571.
   (4) Rs. 2718

Directions for 64 to 66: Answer the questions based on the following information. Following are the essential details of a new postpaid billing plan called 'Airtel one' which is introduced by Airtel (a GSM mobile service provider)

Pulse Rate	60 secs		
Free Airtime on Plan	Nil		
Price of plan	Rs. 99		
Incoming Calls (in Rs/min)	FREE		
Outgoing Calls (in Rs/min)	Airtel	GSM/CDMA	Landline/WLL
Local Rates	Rs. 1	Rs. 1	Rs. 2
STD Rates			
50-200 km	Rs 1.50	Rs 1.50	Rs 2
200-500 km	Rs 1.50	Rs.2.50	Rs.2.50
More than 500 km	Rs.1.50	Rs.3.00	Rs. 3.50
ISD Rates			
USA,Canada,Europe (fixed line)	Rs 7		
Gulf,Europe (Mobile),SAARC	Rs 10		
Rest of the world	Rs 40		
SMS Rates			
Local	Rs 1.50		
National	Rs. 2		
International	Rs. 5		
Value Added Services(Rs.)	Rs. 3 & Rs. 6 depending on the servics		

64. In a month Abhishek spent 150 min on local(GSM),50 min (WLL) on national (above 700 km) and 25 min on international (USA) calls and sent 14 international and 15 national SMSs,then what is the amount of his bill for that month?
(1)Rs 500
(2)Rs 599
(3)Rs 699
(4)Rs 799

65. If the Government imposes 12% service tax only on all international calls ,then in the previous question what will be the amount Abhishek would have paid for the same month
(1)Rs 699
(2)Rs 720
(3)Rs 820
(4)Rs 790

66.A new SMS scheme was introduced at a rate of 60 paise for one local SMS with an additional monthly charge of Rs 35 .Who will be benefit from the scheme?A person sending
(1)38 local SMS a month
(2)40 local SMS a month
(3)60 local SMS a month
(4)50 local SMS a month

Section 3- Verbal Ability & Reading Comprehension

Directions for questions 67and 68: The following question has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

67. The problem of unwarranted increase in the healthcare costs has arisen because the state has completely abdicated its responsibilities. If the government could get a functioning state-owned healthcare system going, competition would force the private sector to put its house in order. And the strength of the government network could be leveraged to procure drugs at negotiated price, obviating the need for any price controls. As a second line of defence, the state must invest in capacity-building to empower the consumer, which should include a framework for making the entire health care industry, including doctors and drug companies, more accountable. It could also reduce the information asymmetry by providing a list of alternatives to various branded drugs. And lastly, it must strive to make health insurance more pervasive.

_____

(1) This would put an end to the unethical industry-doctor nexus which may further lower the cost.

(2) This would make healthcare affordable and also bring upon healthcare providers pressure from insurance companies to lower costs.

(3) This would lead the big pharmaceutical companies to respond to price control.

(4) This would force the pharma companies to pressurize the insurance companies to reduce the premium on healthcare insurance.

68. We are obsessed with prices. We are particularly paranoid about rising prices. A charming exception is the stock price. We wish the price to go up and up, perpetually. Governments may fall if this price plunges sharply. It is a barometer, of the whole economy, present and future, not just of the stock market. It eclipses other developments in the stock market. _____

(1) No diagnostic study or analysis of the stock market is complete without the use of this barometer.

(2) The stock index is a better barometer today in comparison to what it was a decade ago.

(3) A stock price index reveals the health of companies and the economy.

(4) A stock price index hides more than it reveals

Directions for questions 69 and 70: In each of the following questions, the word at the top is used in four different ways. Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE:

69. REACH
(1) Home loans have brought houses within the reach of the common man.

(2) The boat reached the island under the cover of darkness.

(3) The union and the management failed to reach an agreement.

(4) Modern psychology seeks to explore the deep reach of the human mind.

70. FILTER
(1) Most of the vehicles filtered to the left.

(2) The preliminary test filters out those students who are not good at mathematics.

(3) The new policies adopted by the management have not yet filtered down to the staff.

(4) As soon as the doors of the museum were opened the people started filtering through.

Directions for questions 71 and 72: Each question has a sentence with two blanks followed by four pairs of words as choices. From the choices, select the pair of words that can best complete the given sentence.

71. Satire is a marvellous reflection of the spirit of an age; the subtle _____ of Swift's epistles mirrored the eighteenth century's delight in elegant _____.

(1) profundity . . . ditties

(2) vitriol . . . disparagement

(3) contempt . . . anachronisms

(4) provinciality . . . rusticity

72. The fundamental _____ between dogs and cats is for the most part a myth; members of these species often coexist _

(1) antipathy . . . amicably

(2) disharmony . . . easily

(3) animosity . . . amiably

(4) relationship . . . peacefully

Directions for questions 73 to 75: Each question consists of a few sentences on a topic. Some sentences are grammatically incorrect or inappropriate. Select the option that indicates the grammatically CORRECT and APPROPRIATE sentence (s).

73. a. T.S. Eliot was a versatile writer.

b. In his long creative career, he wrote poetry, prose, drama and critical essays.

c. He worked also as a journalist and editor.

d. His writing can be divided into five periods.

(1) a and d

(2) c and d

(3) Only a

(4) b and c

74. a. There is an ugly side of the noble gesture of organ donation.

b. Organ thefts of poor patients who come to the hospital for other treatments are frequently reported.

c. However, the success rate of such cases is very low.

d. This is due to the mismatch between the tissues of the donor and the recipient.

(1) a and b

(2) Only d

(3) b and d

(4) c and d

75. a. A child's baby teeth may be worth lots in medical research.

b. American scientists discovered that pulp inside baby teeth contains fast-growing stem cells.

c. These trigger bone and neural cell formation.

d. They also have potential to develop into different body cell types.

(1) a and d
(2) c and d
(3) Only c
(4) b and d

Directions for questions 76 and 77: The sentences given in each of 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.

76. a. It is humanly impossible to read the hundreds of books which come out every month.

b. By going through book covers, reviews and gossips about authors anyone can take part in any literary discussion.

c. All of us like to be, or pretend to be well read, take part in literary proceedings and pepper our conversations with quotes.

d. The trick is to understand that even a slight familiarity with books and authors is enough to put on a show of enlightenment.

e. No one is obliged to read all the books, yet we can talk and argue about them.

f. We can even have passionate literary exchanges on books we have not read at all.

(1) cdefab
(2) cefdba
(3) efdcba
(4) caefbd

77. a. There are additional benefits in the form of reduced travel time, fuel use and pollution.

b. This is not surprising given the unsustainable levels of peak hour vehicle use particularly in big cities, and the rise in the price of fuel.

c. But with the support of the local government and the public sector it can become a part of public transport.

d. Informal car-sharing has always been popular with the middle class but a more organized and a formal system of sharing vehicles is taking shape.

e. What it can do is improve the efficiency of unavoidable car use by distributing the cost of travel and easing congestion.

f. Yet, according to many, car-sharing cannot totally replace the reliable, comfortable, safe, and affordable public transport.

(1) defbac
(2) dfcabe
(3) dbfea
(4) adcbef

Directions for questions 78 to 80: Read the following passage carefully and answer the questions that follow it.

The sociological imagination is a special way to engage the world. To think sociologically is to realize that what we experience as personal problems are often widely shared by others like ourselves. Thus, many personal problems are actually social issues. For Mills, one of sociology's most outspoken activists, the sociological imagination encouraged collective action to change the world in some way.

Nowadays men often feel that their private lives are a series of traps. They sense that within their everyday worlds, they cannot overcome their troubles and in this feeling they are often quite correct: what ordinary men are directly aware of and what they try to do are bounded by the private orbits in which they live; their visions and their powers are limited to the close-up scenes of job, family, neighbourhood: in other milieu, they move vicariously and remain spectators. And the more aware they become, however vaguely, of ambitions and of threats which transcend their immediate locales, the more trapped they seem to feel.

Underlying this sense of being trapped are seemingly impersonal changes in the very structure of continent-wide societies. The facts of contemporary history are also facts about the success and the failure of individual men and women. When a society is industrialized, a peasant becomes a worker; a feudal lord is liquidated or becomes a businessman. When classes rise or fall, a man is employed or unemployed: when the rate of investment goes up or down, a man takes new heart or goes broke. When wars happen, an insurance salesman becomes a rocket launcher; a store clerk, a radar man; a wife lives alone; a child grows up without a father. Neither the life of an individual nor the history of a society can be understood without understanding both.

Yet men do not usually define the troubles they endure in terms of historical change and institutional contradiction. The well-being they enjoy, they do not usually impute to the big ups and downs of the societies in which they live. Seldom aware of the intricate connection between the patterns of their own lives and the course of world history, ordinary men do not usually know what this connection means for the kinds of men they are becoming and for the kinds of history-making in which they might take part. They do not possess the quality of mind essential to grasp the interplay of man and society, of biography and history, of self and world. They cannot cope with their personal troubles in such ways as to control the structural transformations that usually lie behind them.

Surely it is no wonder. In what period have so many men been so totally exposed at so fast a pace to such earthquakes of change? That Americans have not known such catastrophic changes as have the men and women of other societies is due to historical facts that are now quickly becoming "merely history." The history that now affects every man is world history. Within this scene and this period, in the course of a single generation, one-

sixth of mankind is transformed from all that is feudal and backward into all that is modern, advanced, and fearful. Political colonies are freed; new and less visible forms of imperialism installed. Revolutions occur; men feel the intimate grip of new kinds of authority. Totalitarian societies rise, and are smashed to bits - or succeed fabulously. After two centuries of ascendancy, capitalism is shown up as only one way to make society into an industrial apparatus. After two centuries of hope, even formal democracy is restricted to a quite small portion of mankind. Everywhere in the underdeveloped world, ancient ways of life are broken up and vague expectations become urgent demands. Everywhere in the overdeveloped world, the means of authority and of violence become total in scope and bureaucratic in form. Humanity itself now lies before us, the super-nation at either pole concentrating its most coordinated and massive efforts upon the preparation of World War III.

The very shaping of history now outpaces the ability of men to orient themselves in accordance with cherished values. And which values? Even when they do not panic, men often sense that older ways of feeling and thinking have collapsed and that newer beginnings are ambiguous to the point of moral stasis. Is it any wonder that ordinary men feel they cannot cope with the larger worlds with which they are so suddenly confronted? That they cannot understand the meaning of their epoch for their own lives? That - in defense of selfhood - they become morally insensible, trying to remain altogether private men?

It is not only information that they need - in this Age of Fact, information often dominates their attention and overwhelms their capacities to assimilate it. It is not only the skills of reason that they need - although their struggles to acquire these often exhaust their limited moral energy. What they need, and what they feel they need, is a quality of mind that will help them to use information and to develop reason in order to achieve lucid summations of what is going on in the world and of what may be happening within themselves. It is this quality, I am going to contend, that journalists and scholars, artists and publics, scientists and editors are coming to expect of what may be called the sociological imagination.

78.'Men feel that their private lives are a series of traps' because
(1)   they tend to compare their own goals, achievements etc. with those of men occupying different strata of society.

(2)   they fail to connect the dots of society, self and history.

(3)   they have no control over the structural changes that take place in their society.

(4)   the values they have nurtured since childhood are no longer able to help them cope with their personal worlds.

79. Which of the following can qualify as an example/examples of the tension between private options and public issues, where changes in society play an important role?

(1) Women trying to play the roles of cultural stereotype and satisfying their own career goals.

(2) Man caught between the roles of a bread winner and an active participant in child rearing.

(3) The increasing trend of grandparents being forced to play the role of parents to their grandchildren.

(4) All the above three qualify as examples.

80. The benefit of sociological imagination, according to a well-known sociologist, is that it can

(1) help us empathise more with the personal problems of others.

(2) force us to look at the larger picture thereby identifying the roots of a problem.

(3) pave way for a cooperative effort to tackle societal problems.

(4) help man come to terms with the pace of changes in his society and his personal life.

Directions for questions 81 to 83: Read the following passage carefully and answer the questions that follow it.

A person's religion need not be his or her all-encompassing and exclusive identity. In particular, Islam, as a religion, does not obliterate responsible choice for Muslims in many spheres of life. Indeed, it is possible for one Muslim to take a confrontational view and another to be thoroughly tolerant of heterodoxy without either of them ceasing to be a Muslim for that reason alone.

The response to Islamic fundamentalism and to the terrorism linked with it also becomes particularly confused when there is a general failure to distinguish between Islamic history and the history of Muslim people. Muslims, like all other people in the world, have many different pursuits, and not all of their priorities and values need be placed within their singular identity of being Islamic. It is, of course, not surprising at all that the champions of Islamic fundamentalism would like to suppress all other identities of Muslims in favour of being only Islamic. But it is extremely odd that those who want to overcome the tensions and conflicts linked with Islamic fundamentalism also seem unable to see Muslim people in any form other than their being just Islamic, which is combined with attempts to redefine Islam, rather than seeing the many-dimensional nature of diverse human beings who happen to be Muslim.

People see themselves - and have reason to see themselves - in many different ways. For example, a Bangladeshi Muslim is not only a Muslim but also a Bengali and a Bangladeshi, typically quite proud of the Bengali language, literature, and music, not to mention the other identities he or she may have connected with class, gender, occupation, politics, aesthetic taste, and so on. Bangladesh's separation from Pakistan was not based on religion at all, since a Muslim identity was shared by the bulk of the population in the two wings of undivided Pakistan. The separatist issues related to language, literature, and politics.

Similarly, there is no empirical reason at all why champions of the Muslim past, or for that matter of the Arab heritage, have to concentrate specifically on religious beliefs only, and not also on science and mathematics, to which

Arab and Muslim societies have contributed so much, and which can also be part of a Muslim or an Arab identity. Despite the importance of this heritage, crude classifications have tended to put science and mathematics in the basket of "Western science," leaving other people to mine their pride in religious depths. If the disaffected Arab activist today can take pride only in the purity of Islam, rather than in the many-sided richness of Arab history, the unique prioritization of religion, shared by warriors on both sides, plays a major part in incarcerating people within the enclosure of a singular identity.

Even the frantic Western search for "the moderate Muslim" confounds moderation in political beliefs with moderateness of religious faith. A person can have strong religious faith - Islamic or any other - along with tolerant politics. Emperor Saladin, who fought valiantly for Islam in the Crusades in the twelfth century, could offer, without any contradiction, an honoured place in his Egyptian royal court to Maimondies as that distinguished Jewish philosopher fled an intolerant Europe. When, at the turn of the sixteenth century, the heretic Giordano Bruno was burned at the stake in Campo dei Fiori in Rome, the Great Mughal emperor Akbar (who was born a Muslim and died a Muslim) had just finished, in Agra, his large project of legally codifying minority rights, including religious freedom for all.

The insistence, if only implicitly, on a choiceless singularity of human identity not only diminishes us all, it also makes the world much more flammable. The alternative to the divisiveness of one pre-eminent categorization is not any unreal claim that we are all much the same. That we are not. Rather, the main hope of harmony in our troubled world lies in the plurality of our identities, which cut across each other and work against sharp divisions around one single hardened line of vehement division that allegedly cannot be resisted. Our shared humanity gets savagely challenged when our differences are narrowed into one devised system of uniquely powerful categorization.

Perhaps the worst impairment comes form the neglect - and denial - of the role of reasoning and choice, which follows from the recognition of our plural identities. The illusion of unique identity is much more divisive than the universe of plural and diverse classifications that characterize the world in which we actually live. The descriptive weakness of choiceless singularity has the effect of momentously impoverishing the power and reach of our social and political reasoning. The illusion of destiny exacts a remarkably heavy price.

81. A mistake made by the West in relation to the Muslim is

(1) ignoring the fact that, historically, some Christians have been as fanatical as some Muslims.

(2) the belief that no famous Muslim ruler has given due recognition to people of other faiths.

(3) the assumption that the strength of political belief and religious faith go hand in hand.

(4) the tendency to believe that Islam ordains its followers to persecute non-Muslims.

82. Identify the statements that are true, according to the passage.

a. If the Muslims were to focus on their other achievements, tensions and wars involving them would be greatly diminished.

b. Religious conflicts tend to imprison people within the confines of religion.

c. Education is the only way to overcome religious extremism.

d. There are a lot of things, apart from religion, of which the Muslims can rightly be proud of.

e. The West is guilty of appropriating to itself progress in science and mathematics in other part of the world.

(1) Only a and e

(2) Only b, d and e

(3) Only c, d and e

(4) Only a, b and c

83. The author firmly believes that

(1) our recognition of our multiple identities will help us to be more reasonable.

(2) the West is at least partially responsible for the fanaticism of the Muslims.

(3) prioritizing any of our other identities will solve the problem of religious terrorism.

(4) a deeply religious person is incapable of moderation in political or social life.

Directions : Read the following passage carefully and answer the questions that follow it.

Imagine trying to live in a world dominated by dehydrogen oxide, a compound that has no taste or smell and is so variable in its properties that it is generally benign but at other times swiftly lethal. Depending on its state, it can scald you or freeze you. In the presence of certain organic molecules it can form carbonic acids so nasty that they can strip the leaves from trees and eat the faces of statuary. In bulk, when agitated, it can strike with a fury that no human edifice could withstand. Even for those who have learned to live with it, it is an often murderous substance. We call it water.

Water is everywhere. A potato is 80 per cent water, a cow 74 per cent, a bacterium 75 per cent. A tomato, at 95 per cent, is little but water. Even humans are 65 per cent water, making us more liquid than solid by a margin of almost two to one. Water is a strange stuff. It is formless and transparent and yet we long to be beside it. It has no taste and yet we love the taste of it. We will travel great distances and pay small fortunes to see it in sunshine. And even though we know it is dangerous and drowns tens of thousands of people every year, we can't wait to frolic in it.

Because water is so ubiquitous we tend to overlook what an extraordinary substance it is. Almost nothing about it can be used to make reliable

predictions about the properties of other liquids, and vice versa. If you knew nothing of water and based your assumptions on the behaviour of compounds most chemically akin to it - hydrogen selenide or hydrogen sulphide, notably - you would expect it to boil at minus 93 degree Celsius and to be a gas at room temperature.

Most liquids when chilled contract by about 10 per cent. Water does too, but only down to a point. Once it is within whispering distance of freezing, it begins - perversely, beguilingly, extremely improbably - to expand. By the time it is solid, it is almost a tenth more voluminous than it was before. Because it expands, ice floats on water - 'an utterly bizarre property', according to John Gribbin. If it lacked this splendid waywardness, ice would sink, and lakes and oceans would freeze from the bottom up. Without surface ice to hold heat in, the water's warmth would radiate away, leaving it even chillier and creating yet more ice. Soon, even the oceans would freeze and almost certainly stay that way for a very long time, probably forever - hardly the conditions to nurture life. Thankfully for us, water seems unaware of the rules of chemistry or laws of physics.

Everyone know that water's chemical formula in H_2O, which means that it consists of one largish oxygen atom with two smaller hydrogen atoms attached to it. The hydrogen atoms cling fiercely to their oxygen host, but also make casual bonds with other water molecules. The nature of a water molecule means that it engages in a kind of dance with other water molecules, briefly pairing and then moving on, like the ever-changing partners in a quadrille, to use Robert Kunzing's nice phrase. A glass of water may not appear terribly lively, but every molecule in it is changing partners billions of times a second. That's why water molecules stick together to form bodies like puddles and lakes, but not so tightly that they can't be easily separated as when, for instance, you drive into a pool of them. At any given moment only 15 per cent of them are actually touching.

In one sense the bond is very strong - it is why water molecules can flow uphill when siphoned and why water droplets on a car bonnet show such a singular determination to bead with their partners. It is also why water has surface tension. The molecules at the surface are attracted more powerfully to the like molecules beneath and beside them than to the air molecules above. This creates a sort of membrane strong enough to support insects and skipping stones. It is what gives the sting to a belly-flop.

I hardly need point out that we would be lost without it. Deprived of water, the human body rapidly falls apart. Within days, the lips vanish 'as if amputated, the gums blacken, the nose withers to half its length, and the skin so contracts around the eyes as to prevent blinking', according to one account. Water is so vital to us that it is easy to overlook that all but the smallest fraction of the water on Earth is poisonous to us - deadly poisonous - because of the salts within it.

84. The author is thankful that water is unaware of 'the rules of chemistry or the laws of physics' because

(1) that is what makes it so interesting.
(2) that helps in distinguishing it from the other chemicals akin to it.

(3) had it been otherwise, all aquatic life would have been threatened.

(4) it defies all the laws in blissful ignorance.

85. How is water an extraordinary substance?

(1) It is found nearly everywhere on planet earth.

(2) It can be both life giving and life threatening.

(3) It attracts people even though it is known to be dangerous, even fatal.

(4) It has unique properties that benefit life on the planet.

86. How does the author talk about water in the passage?

(1) In a deeply involved and passionate manner

(2) In an analytical and dispassionate manner

(3) Through a series of mutually contradictory phrases and clauses

(4) By building up to a climax and then crashing to an anti-climax

87. In each of the following questions find out the alternative which will replace the question mark

Paw: Cat :: Hoof : ?

(1)Lamb
(2)Elephant
(3)Lion
(4)Horse

88. Read the each sentence to find out whether there is any grammatical error in it. The error, if any will be in one part of the sentence. The letter of that part is the answer. If there is no error, the answer is '4'. (Ignore the errors of punctuation, if any).

(1) We discussed about the problem so thoroughly

(2) on the eve of the examination

(3) that I found it very easy to work it out

(4) No error.

Directions for questions 89 to 93: In each of the questions, four different ways of presenting an idea are given. Choose the one that conforms most closely to standard English usage.

89. A. We are forced to fall back on fatalism as an explanation of irrational events.

B. We are forced to falling back on the fatalism as an explanation of irrational events.

C. We are forced to fall back on fatalism as explanations of irrational events.

D. We are forced to fall back to fatalism as an explanation of irrational events.

    (1)A
    (2)B
    (3)C
    (4)D

90. A. Creativity in any field is regarded not only as valuable for itself but also as a service to the nation.

   B. Creativity in any field is not regarded only as valuable on its own, but also as a service to the nation.

   C. Creativity, in any field, is not only regarded as valuable, but also as a service to the nation.

   D. Creativity in any field is regarded not only as valuable in itself but also as a service to the nation.

     (1) A

     (2)B

     (3)C

     (4)D

91. A. **The running of large businesses consist of getting somebody to make something that somebody else sold to somebody else for more than its cost.**

   B. The running of a large business consists of getting somebody to make something that somebody else will sell to somebody else for more than it costs.

   C. The running of a large business consists of getting somebody to sell something that somebody else made for more than it cost.

   D. The running of large businesses consist of getting somebody to make something else that somebody else will sell to somebody else for more than it costs.

     (1) A

     (2) B

     (3)C

     (4)D

92. A. **From the sixteenth century onwards, people started feeling disdainful and self-conscious about their body and its products that led to a heightened focus on emotional and bodily regulations.**

   B. The heightened focus on controlling the body and emotions comes from disdain and self-consciousness about the body and its products, found in the sixteenth century.

   C. From the sixteenth century onwards, a growing disdain for and self-consciousness about the body and its products took hold, leading to a heightened focus on emotional and bodily regulation.

   D. The heightened focus on emotional and bodily regulations started from the sixteenth century onwards, when people felt disdain and self-consciousness about the body and its products.

     (1)A

     (2)B

     (3)C

     (4)D

93. A. If precision of thought had facilitated precision of behaviour, and if reflection had preceded action, it would be ideal for humans.

   B. It would be ideal for humans if reflection preceded action and precision of thought facilitated precision of behaviour.

   C. It would be ideal for humans if precedence of reflection was followed by action and precision of thought, by precise behaviour.

   D. It would have been ideal for humans, if precise action and behaviour preceded precise reflection.

     (1)A

     (2)B

(3)C
(4) D

Directions for 94 & 95: Fill in the blanks with appropriate answer

94. "You can have _ the chicken dish __ the fish dish for dinner tonight."
(1) whether, or
(2) as, as
(3) either, or
(4) nor, not

95. She led the team __ in statistics __ by virtue of her enthusiasm."
(1) neither, nor
(2)not only, but also
(3)Both, and
(4)either, or

Directions for 96 and 97: Fill in the blanks with the appropriate options

96. North Korea has angrily denied _____ that it _____some of its citizens for inadquently mourning the death of its late leader Kim Jong II
(1)allegations, punished
(2)avowals, hanged
(3)asservations, chastised
(4)tales, corrected

97. The _____ about   transparency is that it works best in an _____that is fundamentally honest .Honesty ,in a system depends on its prior existence
(1)anamoly, aura
(2)oddity, domain
(3)enigma,milieu
(4)paradox,environment

Directions for Questions 98 to 100: In each question, the word at the top of the table is used in four different ways, numbered 1 to 4. Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE

98. Bundle

[1]	The newborn baby was a bundle of joy for the family.
[2]	Mobile operators are offering a bundle of additional benefits.
[3]	He made a bundle in the share market.
[4]	It was sheer luck that brought a bundle of boy-scouts to where I was lying wounded.

99. Host

[1]	If you host the party, who will foot the bill?
[2]	Kerala's forests are host to a range of snakes.
[3]	Ranchi will play the host to the next national film festival.
[4]	A virus has infected the host computer.

100. Distinct

[1]	He is distinct about what is right and what is wrong.
[2]	Mars became distinct on the horizon in the month of August.
[3]	The distinct strains of Ravi's violin could be heard above the general din.
[4]	Ghoshbabu's is a distinct case of water rising above its own level.