Part 1 English Language

1. The constable said that (1)/the prisoner seize a (2)/fully loaded gun from a policeman (3)/and shot the prosecutor. (4)/No error (5)

2. It will not be possible for you (1)/to catch the train on time (2)/because the nearest railway station (3)/is at ten kilometres away. (4)/No error (5)

3. Each of the survivors of the Tsunami (1)/have been offered free (2)/psychological consultation to ease their trauma, (3)/by some of the top consultants. (4)/No error (5)

4. Considering about her good credentials(1)/the manager offered her a job (2)/in his organization (3)/despite the lack of experience. (4)/No error (5)

5. Although he has been (1)/winning the elections (2)/all years, this year his popularity (3)/has substantially reduced. (4)/No error (5)

A. The woodcutter thankfully broke off from work and sat down to eat the delicious meal that his wife had sent for him.

B. He was in a good mood that particular morning and soon started singing as he swung his axe at the log of wood in front of him.

C. After he had eaten his meal and taken rest for a while, the woodcutter got back to work.

D. The hours passed and the Sun became hotter than ever and very soon perespiration started breaking out on the woodcutter's hands and face.

E. One hot summer's morning a woodcutter was hard at work, chopping wood into small pieces, so that he could sell them in the market.

F. As it neared afternoon, his wife sent their little son to him with food for the afternoon.

6. Which of the following should be the **FOURTH** sentence after rearrangement?
(1) F (2) E (3) D
(4) C (5) B

7. Which of the following should be the **FIRST** sentence after rearrangement?
(1) A (2) B (3) C
(4) D (5) E

8. Which of the following should be the **SECOND** sentence after rearrangement?
(1) A (2) B (3) C
(4) D (5) F

9. Which of the following should be the last **SIXTH** (LAST) sentence after rearrarngement?
(1) A (2) B (3) C
(4) D (5) E

10. Which of the following should be the **THIRD** sentence after rearrangement?
(1) A (2) B (3) C
(4) D (5) E

11. **Their** (1)/has been a series of **abductions** (2)/of young **children** (3)/of the schools in the **area**. (4)/ All correct (5)

12. The **council** (1)/denied having any **hand** (2)/in the **recently** (3)/unearthed **scandle**. (4)/ All correct (5)

13. He was **unable** (1)/to give a **satisfactory** (2)/ explanation for his **absense** (3)/from the **meeting.** (4)/ All correct (5)

14. As the ship was **sinking** (1)/fast, the **captain** (2)/ gave orders to **abandon** (3)/it **immediately.** (4)/ All correct (5)

15. **Much** (1)/countries are starting to **turn** (2)/their **attention** (3)/to new **sources** (4)/of energy. All correct (5)

Directions (Q. Nos. 16-25) *Read the following passage carefully and answer the questions given below it.*

Passage

Rural India faces serious shortages–power, water, health facilities, roads, etc, these are known and recognized. However, the role of technology in solving these and other problems is barely acknowledged and the actual availability of technology in rural areas is marginal. The backbone of the rural economy is agriculture, which also provides sustenance to over half the country's population. The 'green revolution' of the 1970s was, in fact, powered by the scientific work in various agricultural research institutions. While some fault the green revolution for excessive exploitation of water and land resources through overuse of fertilizers, it did bring about a wheat surplus and prosperity in certain pockets of the country.

In rural India today, there is a dire inadequacy of both science (*i.e.*, knowledge) and technology (which derives from science and manifests itself in physical form). The scope to apply technology to both farm and non-farm activities in rural areas is huge, as are the potential benefits. In fact, crop yields are far lower than what they are in demonstration farms, where science and technology are more fully applied. Technologies that reduce power consumption of pumps are vital, unfortunately, their use is minimal, since agricultural power is free or largely subsidized. Similarly, there is little incentive to optimise through technology or otherwise-water use, especially in irrigated areas (a third of total arable land), given the water rates, Post-harvest technologies for processing and adding value could greatly enhance rural employment and incomes but at present deployment of technology is marginal. Cold storage and cold chains for transportation to market is of great importance for many agricultural products-particularly, fruits and vegetables, but are non-existent. These are clearly technologies with an immediate return on investment, and benefits for all, the farmer, the end-consumer, the technology provider.

However, regulatory and structural barriers are holding back investments. Power is a key requirement in rural areas, for agricultural as well as domestic uses. Technology can provide reliable power at comparatively low cost in a decentralized manner. However, this needs to be upgraded and scaled in a big way, with emphasis on renewable and non-polluting technologies. Reliable and low cost means of transporting goods and people is an essential need for rural areas. The bullock-cart and the tractor-trailer are present vehicles of choice. Surely, technology can provide a better, cheaper and more efficient solution? Information related to commodity prices, agricultural practices, weather, etc, are crucial for the farmer. Technology can provide these through mobile phones, which is a proven technology however, the challenge to ensure connectivity remains. Thus, there is a pressing need for technology as currently economic growth-though skewed and iniquitous-has created an economically attractive market in rural India.

16. According to the author, which of the following is/are the problem/s facing India's rural population?
(A) Unavailability of healthcare facilities.
(B) The technological advancements which have been borrowed from abroad have not been suitably adapted to the Indian scenario.
(C) Lack of awareness about the importance of utilising technology in the agricultural sector.
(1) Only (A)   (2) Only (C)   (3) (A) and (B)
(4) (A) and (C)   (5) None of these

17. Which of the following is not an impact of the green revolution?
(1) Over utilization of water resources
(2) Application of scientific research only in demonstration farms
(3) Wealth creation restricted to creation areas
(4) Damage caused to land by inordinate use of fertilizers
(5) Supply of wheat surpassed demand

18. Why is there no motivation to reduce power consumption?
(1) Freely available sources of energy
(2) Government will have to subsidise the cost of technology required to reduce power consumption
(3) Power distribution has been decentralized
(4) The cost of implementing power saving technology is exorbitant for the customer
(5) None of the above

19. What effect will the implementation of post harvest technologies such as cold storages have?
(1) Regulatory procedures will have to be more stringent
(2) Prices of commodities like fruits and vegetables will fall since there is no wastage from spoilage

(3) Incomes of rural population will fall
(4) Pollution of the environment
(5) None of the above

20. The author's main objective in writing the passage is to
(1) censure scientists for not undertaking research
(2) criticise farmers for not utilising experimental low cost post harvesting technology
(3) exhort the government subsidise the cost of utilising technology
(4) promote a second green revolution
(5) advocate broadening the scope of research and use of technology in agriculture

21. Which of the following is not true in the context of the passage?
(A) In recent times, the benefits of science and technology have not been felt in agriculture.
(B) The current means of rural transportation are ideal *i.e.*, low cost and non-polluting.
(C) Agriculture provides livelihood to over 50% of the Indian population.
(1) (A) and (B)   (2) Only (B)
(3) Only (C)   (4) (A) and (C)
(5) None of these

22. What has hampered investment in post harvest technologies?
(1) Cost of implementing such technology is higher than the returns
(2) No tangible benefits to technology suppliers
(3) Obstacles from statutory authorities
(4) Rapid economic growth has drawn investors away from agriculture to more commercially viable sectors
(5) None of the above

23. What is the role of mobile technology in the rural economy?
   (A) It will not play a large role since the technology is largely untested.
   (B) It provides opportunities for farmers manipulate commodity prices.
   (C) It will largely be beneficial since such technology is cheap.
   (1) (A) and (C)   (2) Only (A)
   (3) (B) and (C)   (4) Only (B)
   (5) None of these

24. Which of the following is currently not a threat to the rural economy?
   (A) Inadequate rural infrastructure such as roads.
   (B) Excessive utilisation of technology.
   (C) Fluctuating power supply.
   (1) Only (C)   (2) Only (A)
   (3) (B) and (C)   (4) Only (B)
   (5) None of these

25. Which of the following is true in the context of the passage?
   (A) About 33% of arable land in India is irrigated.
   (B) There is hardly any motivation to utilise technology to optimise water usage among farmers.
   (C) Climatic information can easily be made available to farmers.
   (1) All (A), (B) and (C)   (2) (A) and (B)
   (3) Only (A)   (4) (B) and (C)
   (5) None of these

Directions (Q. Nos. 26-30) *In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.*

Passage

Hundreds of plants and animals are (26) every day due to deforestation and urbanization, what might happen if this continues in the future? The last mass extinction of plant and animal species occurred 65 million years ago with the Dinosaurs. In all, five mass extinctions have occurred and scientists (27) earth is in the sixth mass extinction. The world as it is now is threatened, including people, who are responsible for earth's (28). Pesticides contaminating water; overharvesting of animals and plants; air pollution; illegal fishing and the clearing of land are direct results of urbanization and deforestation. People have (29) and damaged almost half of earth's land, at a very unsustainable rate.

Global warming is having a serious impact as well. A six-degree Celsius increase in global temperature killed 95% of all species on Earth 251 million years ago. An increase of six-degrees Celsius is forecast this century if a change is not made to (30) the damage done to earth. Humans will be one of the 95% of species lost.

26. (1) killing   (2) alive   (3) born
       (4) left   (5) lost

27. (1) speak   (2) told   (3) estimation
       (4) believe   (5) consider

28. (1) shape   (2) development   (3) deterioration
       (4) warmth   (5) expansion

29. (1) altered   (2) created
       (3) produced   (4) made
       (5) brought

30. (1) void   (2) dissipate
       (3) augment   (4) reverse
       (5) increase

⊗ Part 2 Numerical Ability

Directions (Q. Nos. 31-35) *What will come in place of question mark (?) in the given number series?*

31. 29, 31, 37, 49, 69, ?
       (1) 108   (2) 99   (3) 94
       (4) 103   (5) 88

32. 13, 13, 20, 37.5, 83, ?
       (1) 233   (2) 216   (3) 234
       (4) 235   (5) 239

33. 17, 16, 30, 87, 344, ?
       (1) 1735   (2) 1760   (3) 1660
       (4) 1685   (5) 1715

34. 8, 9.4, 12.2, 17.8, 29, ?
       (1) 53.6   (2) 51.4   (3) 52.1
       (4) 48.6   (5) 49.8

35. 26, 12, 11, 15.5, 30, ?
       (1) 72   (2) 68   (3) 74
       (4) 82   (5) 78

Directions (Q. Nos. 36-45) *What will come in place of question mark (?) in the given questions?*

36. $54.2 + 13.52 - 0.52 - 0.5656 - 0.07 = ?$
       (1) 85.44   (2) 72.12   (3) 68.32
       (4) 76.14   (5) 66.57

37. $\sqrt{1024} \times 40 + 448 = (?)^3$
       (1) 8   (2) 14
       (3) 16   (4) 12
       (5) 22

38. $(24 \times 16/15 + 32.4)/? = 4$
       (1) 18   (2) 14.5
       (3) 12   (4) 16.5
       (5) 15.5

39. $255.4 + 542.3 - ? = 1014.3 - 499.4$
       (1) 271.5   (2) 290.5
       (3) 220.1   (4) 244.8
       (5) 282.8

40. $2\dfrac{1}{5} \times \dfrac{1\dfrac{2}{5}}{4\dfrac{2}{5}} = ?$

   (1) $\dfrac{5}{14}$ (2) $\dfrac{5}{8}$ (3) $\dfrac{3}{10}$

   (4) $\dfrac{8}{25}$ (5) $\dfrac{14}{20}$

41. $0.5 \times 5.6 + 2.5 \times 8.5 + 164.85 = ?$
   (1) 186.95   (2) 188.9   (3) 182.35
   (4) 183.8   (5) 185.6

42. $(0.3 + 0.9 + 0.06)(0.1 + 0.4 + 0.05) = ?$
   (1) 0.936   (2) 0.693   (3) 0.369
   (4) 0.963   (5) 0.639

43. 120% of $675 + 92 = ?$ % of $1240 + 716$
   (1) 20   (2) 15   (3) 16
   (4) 10   (5) 12

44. $\dfrac{\left(\sqrt{\left(\dfrac{81}{25}\right)} - \sqrt{\left(\dfrac{144}{121}\right)}\right)}{\left(\sqrt{\left(\dfrac{1681}{484}\right)}\right)} = ?$
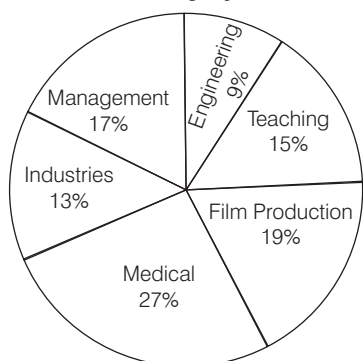
   (1) $\dfrac{1}{25}$ (2) $\dfrac{3}{11}$ (3) $\dfrac{1}{5}$

   (4) $\dfrac{2}{5}$ (5) None of these

45. $\dfrac{(0.6)^3 - (0.4)^3}{(0.6)^3 + (0.4)^3} = ?$

   (1) $\dfrac{19}{36}$ (2) $\dfrac{18}{35}$ (3) $\dfrac{19}{35}$

   (4) $\dfrac{18}{37}$ (5) $\dfrac{20}{37}$

Directions (Q. Nos. 46-50) *Study the following pie chart and answer the following questions.*

Percentage-wise Distribution of Employees in
Six different Professions
Total Number of Employees = 26800

46. What is the difference between the total number of employees in teaching and medical profession together and the number of employees in management profession?
   (1) 6770   (2) 7700   (3) 6700
   (4) 7770   (5) 7670

47. In management profession three-fourth of the number of employees are female. What is the number of male employees in management profession?
   (1) 1239   (2) 1143   (3) 1156
   (4) 1289   (5) 1139

48. 25% of employees from film production profession went on a strike. What is the number of employees from film production who have not participated in the strike?
   (1) 3271   (2) 3819   (3) 3948
   (4) 1273   (5) 1246

49. What is the total number of employees in engineering profession and industries together?
   (1) 5698   (2) 5884   (3) 5687
   (4) 5896   (5) 5487

50. In teaching profession if three-fifth of the teachers are not permanent, what is the number of permanent teachers in the teaching profession?
   (1) 1608   (2) 1640   (3) 1764
   (4) 1704   (5) 1686

51. The average age of a man and his son is 35 yr. The ratio of their ages is 5 : 2, respectively. What is the son's age?
   (1) 50 yr   (2) 35 yr   (3) 15 yr
   (4) 20 yr   (5) None of these

52. What is the least number to be added to 1500 to make it a perfect square?
   (1) 21   (2) 35   (3) 43
   (4) 59   (5) None of these

53. What would be the simple interest obtained on an amount of ₹ 6535 at the rate of 10% per annum after 6 yr?
   (1) ₹ 3414   (2) ₹ 3921   (3) ₹ 3807
   (4) ₹ 3149   (5) None of these

54. If $(89)^2$ is added to the square of a number, the answer. So obtained is 16202. What is the number?
   (1) 91   (2) 8281   (3) 8649
   (4) 93   (5) None of these

55. What would be the compound interest obtained on an amount of ₹ 7800 at the rate of 5% per annum after 3 yr?
   (1) ₹ 1235.685   (2) ₹ 1229.475
   (3) ₹ 1287.68   (4) ₹ 1248.750
   (5) None of these

56. What approximate value should come in place of the question mark (?) in the following question?
$4444 \div 56 \times (23)^2 + 63 = ?$
   (1) 45670   (2) 46290
   (3) 44630   (4) 43530
   (5) 42050

57. The product of two consecutive even numbers is 12768. What is the greater number?
   (1) 110   (2) 108
   (3) 114   (4) 112
   (5) None of these

58. If an amount of ₹ 198011 is distributed equally amongst 47 persons. How much amount would each person get?
   (1) ₹ 4123   (2) ₹ 4231
   (3) ₹ 4213   (4) ₹ 4132
   (5) None of these

59. In an annual examination Harish scores a total of 421 marks out of 675. What is his approximate percentage in the annual examination?

(1) 56   (2) 72
(3) 92   (4) 88
(5) 62

60. Mr. Anurag Awasthi deposits an amount of ₹ 56500 to obtain a simple interest at the rate of 12% per annum for 3 yr. What total amount will Mr. Anuraag Awasthi get at the end of 3 yr?

(1) ₹ 75680   (2) ₹ 77540
(3) ₹ 76840   (4) ₹ 73420
(5) None of these

61. A canteen requires 798 bananas for a week. Totally how many bananas will it require for the months of January, February and March, 2008?

(1) 10480
(2) 10277
(3) 10586
(4) 10374
(5) None of the above

62. There are 1225 employees in an organization. Out of which 40% got transferred to different places. How many such employees got transferred?

(1) 540   (2) 490   (3) 630
(4) 710   (5) None of these

63. The average of 5 consecutive odd numbers *A, B, C, D* and *E* is 45. What is the product of *B* and *D*?

(1) 2107   (2) 2205   (3) 1935
(4) 2021   (5) None of these

64. The total number of students in a school is 1224. If the number of girls in the school is 600, then what is the respective ratio of the total number of boys to the total number of girls in the school?

(1) 26 : 25   (2) 21 : 17   (3) 18 : 13
(4) 5 : 4   (5) None of these

65. In an examination it is required to get 270 of the aggregate marks to pass. A student gets 216 marks and is declared failed by 8% marks. What are the maximum aggregate marks, a student can get?

(1) 825   (2) 675   (3) 750
(4) Can't be determined   (5) None of these

▶ Part 3 Reasoning Ability

66. In a certain code, 'RAISE' is coded as 'SBJTF' and 'LEASE' is coded as 'MFBTF'. How will 'FLOWN' be coded in the same code?

(1) PXMGO   (2) GXMPO
(3) GMPXO   (4) PXOGM
(5) XOPGM

67. Starting from point X, Joy walked 15 m towards the West. He turned left and walked 20 m. He took another left turn and walked 15 m. After which he took a right turn and walked for another 12 m. How far is Joy from point X, if he faces North?

(1) 27 m   (2) 35 m
(3) 32 m   (4) 42 m
(5) None of these

68. In a class of 40 children, Saurabh's rank is 8th from the top. Mamta is five ranks below Saurabh. What is Mamta's rank from the bottom?

(1) 27th   (2) 29th   (3) 28th
(4) 26th   (5) Cannot be determined

69. If it is possible to make only one meaningful word from the fourth, sixth, ninth and eleventh letters of the word 'CONTAMINATE', then the second letter from the left is your answer. If no such word can be formed, then your answer is X and if more than one such word can be formed your answer is Y.

(1) X   (2) T   (3) M
(4) A   (5) Y

70. How many such pairs of letters are there in the word 'PRODUCTION' each of which has as many letters between them (in both forward and backward directions) in the word, as they have between them in the English alphabetical series?

(1) None   (2) One   (3) Two
(4) Three   (5) Four

Directions (Q. Nos. 71-74) *Study the information carefully and answer the given questions.*

A, D, E, F, H, J and K are sitting in a straight line facing North. (not necessarily in the same order)

(i) D sits fourth to the right of A.
(ii) E is on the extreme left end of the line. There are five persons between E and K.
(iii) J sits third to the left of K. F is not an immediate neighbour of D.

71. Which of the following represents the person sitting exactly in the middle of the line?

(1) J   (2) F   (3) H
(4) A   (5) None of these

72. How many persons sit between A and H?

(1) One   (2) Two   (3) Three
(4) Four   (5) More than four

73. Four of the following are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which pair does not belong to that group?

(1) AF   (2) JH   (3) EA
(4) DK   (5) FH

74. What is the position of F with respect to H?

(1) Second to the right   (2) Immediate to the right
(3) Immediate to the left   (4) Third to the right
(5) Second to the left

Directions (Q. Nos. 75-77) *In each question below is given a group of letters followed by five combinations of number / symbol codes numbered (1), (2), (3), (4) and (5). You have to find out which of the combinations correctly represents the group of letters based on the following coding system and the conditions and mark the number of that combination as your answer? Two or more conditions may be applicable to a single combination.*

Letter	P M A C X E D O U H B N Z Y G
Number/Symbol Code	3 $ 4 7 9 β 6 2 # © 8 1 % 5 ?

Conditions

(i) If both the first and the last elements are vowels, the codes for the vowels are to be interchanged.

(ii) If the group of elements contains a single vowel, that vowel is to be coded as the code for the element following it.

(iii) If the second element is a vowel and the fifth element is a consonant, the vowel is to be coded as the code for the consonant.

75. PXUNCM
(1) $9#173 (2) $91173 (3) 39717$
(4) 39117$ (5) 39#17$

76. DEHAZN
(1) 6β©441 (2) 6©%4%1 (3) 11©4%6
(4) 6β©4β7 (5) 6%©4%1

77. MHCYBG
(1) $©758? (2) ?©758$ (3) $©?758
(4) 758$©? (5) ?©57$8

Directions (Q. Nos. 78-82) *Read the information/ statement given in each question carefully and answer the questions.*

78. In which of the following expressions will the expression 'H < J' be definitely true?
(1) G < H ≥ I = J (2) H > G ≥ I = J
(3) J = I ≥ G > H (4) H ≥ G > I < J
(5) None of these

79. Which of the following expressions will be true if the expression 'K ≥ L > M ≥ N' is definitely true?
(1) N ≤ K (2) K = M (3) K < N
(4) L ≥ N (5) None is true

80. Which of the following expressions will be true if the expression 'M ≥ K < T = Q' is definitely true?
(1) Q < K (2) M ≥ T (3) M < Q
(4) T = M (5) None is true

81. Which of the following expressions may not be true if the expression 'Z ≥ Y = W ≤ X' is definitely true?
(1) W ≤ Z (2) X ≥ Z (3) Y ≤ X
(4) Only (2) and (3) (5) All are true

82. In which of the following expressions does the expression 'A > D' hold true?
(1) A = B < C ≤ D (2) D ≥ B > C > A
(3) B = D > C ≥ A (4) A ≥ C > B = D
(5) D ≤ B > A > C

Directions (Q. Nos. 83-87) *In each question below are three statements followed by two Conclusions numbered I and II. You have to take the three given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusions logically follows from the three statements disregarding commonly known facts.*

Give answer
(1) If only Conclusion I follows
(2) If only Conclusion II follows
(3) If either Conclusion I or Conclusion II follows
(4) If neither Conclusion I nor Conclusion II follows
(5) If both Conclusions I and II follow

83. **Statements** No post is a mail. All mails are letters. Some posts are offices.
Conclusions
I. Some offices are letters.
II. No letter is a post.

84. **Statements** All numbers are digits. Some digits are letters. All letters are alphabets.
Conclusions
I. All numbers are alphabets.
II. Atleast some alphabets are digits.

85. **Statements** Some cells are tissues. All tissues are bones. No bone is a ligament.
Conclusions
I. No ligament is a cell.
II. Atleast some bones are cells.

86. **Statements** Some schools are colleges. No school is a nursery. All nurseries are playgrounds.
Conclusions
I. No playground is a school.
II. Atleast some colleges are playgrounds.

87. **Statements** All metals are plastics. All plastics are cloth. All cloth are threads.
Conclusions
I. All metals are threads.
II. All plastics are threads.

Directions (Q. Nos. 88 and 89) *Read the following information carefully and answer the questions which follow.*

If 'A × B' means 'A is to the South of B'.
If 'A + B' means 'A is to the North of B'.
If 'A % B' means 'A is to the East of B'.
If 'A − B' means 'A is to the West of B'.

88. Which of the following means 'P is to the East of Q'?
(1) H % P − S + Q (2) Q + R × S − P
(3) P % A − Q + B (4) Q − Z % S × P
(5) None of these

89. In the equation F % Q + R − S , S is in which direction with respect to Q?
(1) East (2) South (3) West
(4) South-West (5) South-East

Directions (Q. Nos. 90-93) *Study the following information carefully and answer the given questions.*

A,B,C,D,F,G,H and J are sitting around a circular table facing the centre.

(i) D sits exactly between J and F.

(ii) J sits second to the left of F and second to the right of B.

(iii) H sits third to the left of G.

(iv) A is not an immediate neighbour of B.

90. How many people sit between G and H when counted in an anti-clockwise direction from G?
(1) One (2) Two
(3) Three (4) Four
(5) Five

91. If H : F then J : ?
(1) B (2) F (3) H
(4) G (5) None of these

92. If all the persons are made to sit in alphabetical order in anti-clockwise direction, starting from A, the positions of how many (excluding A) will remain unchanged as compared to their original seating positions?
(1) None   (2) One   (3) Two
(4) Three   (5) Four

93. In which of the following pairs, is the second person sitting to the immediate left of the first person?
(1) GJ   (2) FA   (3) CH
(4) AH   (5) DF

Directions (Q. Nos. 94-97) *The following questions are based on the five four digit numbers given below.*

3475 2791 6458 1826 7534

94. If one is added to the last digit of each of the numbers , in how many numbers thus formed will the last digit be a perfect square? (One is also a perfect square.)
(1) None   (2) One   (3) Two
(4) Three   (5) Four

95. If the first and third digits of each of the numbers are interchanged, what will be the sum of the second digit of the lowest number and the third digit of the highest number of the new numbers thus formed?
(1) 7   (2) 10
(3) 13   (4) 5
(5) 8

96. What will be the resultant if the second digit of the highest number is subtracted from the third digit of the second lowest number?
(1) 1   (2) 2   (3) 3
(4) 6   (5) 4

97. If all the digits in each of the numbers are arranged in descending order from left to right within the number, which of the following will be the sum of all the four digits of the number which is third highest in the new arrangement?
(1) 19   (2) 18   (3) 22
(4) 17   (5) 23

Directions (Q.Nos. 98-100) *The letters in the word PROTEIN are rearranged in such a way that the consonants are arranged alphabetically and then the vowels are arranged alphabetically.*

98. How many letters will be there between R and I after the rearrangement?
(1) None   (2) One   (3) Two
(4) Three   (5) More than three

99. Which of the following will be the third from right after the rearrangement?
(1) T   (2) O   (3) R
(4) I   (5) None of these

100. Which of the following will be the third from left after the rearrangement?
(1) R   (2) N   (3) O
(4) P   (5) None of these

Answers

1. (2)	2. (4)	3. (2)	4. (1)	5. (4)	6. (1)	7. (5)	8. (2)	9. (3)	10. (4)
11. (1)	12. (4)	13. (3)	14. (5)	15. (1)	16. (2)	17. (2)	18. (5)	19. (2)	20. (5)
21. (2)	22. (3)	23. (3)	24. (4)	25. (1)	26. (5)	27. (5)	28. (3)	29. (1)	30. (2)
31. (2)	32. (2)	33. (5)	34. (2)	35. (3)	36. (5)	37. (4)	38. (2)	39. (5)	40. (5)
41. (2)	42. (2)	43. (2)	44. (5)	45. (3)	46. (3)	47. (5)	48. (2)	49. (4)	50. (1)
51. (4)	52. (1)	53. (2)	54. (1)	55. (2)	56. (5)	57. (3)	58. (3)	59. (5)	60. (3)
61. (4)	62. (2)	63. (4)	64. (1)	65. (2)	66. (3)	67. (3)	68. (3)	69. (5)	70. (4)
71. (1)	72. (2)	73. (5)	74. (5)	75. (4)	76. (5)	77. (1)	78. (3)	79. (5)	80. (5)
81. (2)	82. (4)	83. (4)	84. (2)	85. (2)	86. (4)	87. (5)	88. (5)	89. (5)	90. (4)
91. (1)	92. (2)	93. (3)	94. (2)	95. (2)	96. (5)	97. (4)	98. (3)	99. (5)	100. (1)

Hints and Solutions

1. It should be 'seized' or 'snatched'. The sentence is in past tense.

2. Remove 'at'.

3. Use 'has' in place of 'have'.

4. Remove 'about'.

5. It should be 'has decreased substantially'.

31. The sequence of series is as follows
$29 + 2 \times 1 = 31, 31 + 3 \times 2 = 37$
$37 + 4 \times 3 = 49, 49 + 5 \times 4 = 69$
$69 + 6 \times 5 = 99$
Hence, 99 will be come in place of question mark (?).

32. The sequence of series is as follows
$13 \times \dfrac{1}{2} + 6.5 = 13, 13 \times 1 + 7 = 20$
$20 \times \dfrac{3}{2} + 7.5 = 37.5, 37.5 \times 2 + 8 = 83$
$83 \times \dfrac{5}{2} + 8.5 = 216$
Hence, 216 will be come in place of question mark (?).

33. The sequence of series is as follows.
$17 \times 1 - 1 = 16$
$16 \times 2 - 2 = 30$
$30 \times 3 - 3 = 87$
$87 \times 4 - 4 = 344$
$344 \times 5 - 5 = 1715$
Hence, 1715 will be come in place of question mark (?).

34. Hence, 51.4 will come in place of question mark (?).

35. The sequence of series is as follows.
$26 \times \dfrac{1}{2} - 1 = 12, 12 \times 1 - 1 = 11$
$11 \times \dfrac{3}{2} - 1 = 15.5, 15.5 \times 2 - 1 = 30$
$30 \times \dfrac{5}{2} - 1 = 74$
Hence, 74 will be come in palce of question mark (?).

36. $? = 54.2 + 13.52 - 0.52 - 0.5656 - 0.07$
$? = 67.72 - 1.1556$
$? = 66.5644 = 66.57$

37. $(?)^3 = \sqrt{1024} \times 40 + 448$
$\Rightarrow (?)^3 = 32 \times 40 + 448$
$\Rightarrow (?)^3 = 1280 + 448$
$\Rightarrow (?)^3 = 1728 \Rightarrow ? = \sqrt[3]{1728} = 12$

38. $\dfrac{\left(24 \times \dfrac{16}{15} + 32.4\right)}{?} = 4$
$\Rightarrow \dfrac{\left(\dfrac{384}{15} + 32.4\right)}{?} = 4$

$\Rightarrow \dfrac{384 + 486}{15} = 4 \times ? \Rightarrow 60 \times ? = 870$
$\therefore ? = \dfrac{870}{60} = 14.5$

39. $255.4 + 542.3 - ? = 1014.3 - 499.4$
$\Rightarrow 797.7 - ? = 514.9$
$\therefore ? = 797.7 - 514.9 = 282.8$

40. $\dfrac{11}{5} \times \dfrac{\dfrac{7}{5}}{\dfrac{22}{5}} = ? \therefore ? = \dfrac{11}{5} \times \dfrac{7}{5} \times \dfrac{5}{22} = \dfrac{7}{10} = \dfrac{14}{20}$

41. $0.5 \times 5.6 + 2.5 \times 8.5 + 164.85 = ?$
$\therefore ? = 2.8 + 21.25 + 164.85 = 188.9$

42. $? = (0.3 + 0.9 + 0.06)(0.1 + 0.4 + 0.05)$
$= 1.26 \times 0.55 = 0.693$

43. ? % of $1240 + 716 = 120\%$ of $675 + 92$
$\Rightarrow \dfrac{?}{100} \times 1240 + 716 = \dfrac{120}{100} \times 675 + 92$
$\Rightarrow \dfrac{?}{100} \times 1240 + 716 = 810 + 92$
$\Rightarrow \dfrac{?}{100} \times 1240 + 716 = 902$
$\Rightarrow \dfrac{?}{100} \times 1240 = 902 - 716 = 186$
$? = \dfrac{186 \times 100}{1240} = 15$

44. $? = \dfrac{\sqrt{\left(\dfrac{81}{25}\right)} - \sqrt{\left(\dfrac{144}{121}\right)}}{\sqrt{\left(\dfrac{1681}{484}\right)}}$

$? = \dfrac{\dfrac{9}{5} - \dfrac{12}{11}}{\dfrac{41}{24}}; ? = \dfrac{\dfrac{99 - 60}{55}}{\dfrac{41}{24}}$

$? = \dfrac{39}{55} \times \dfrac{24}{41}; ? = \dfrac{936}{2255}$

45. $? = \dfrac{(0.6)^3 - (0.4)^3}{(0.6)^3 + (0.4)^3}$

$? = \dfrac{(0.6)(0.4)\{(0.6)^2 + 0.6 \times 0.4 + (0.4)^2\}}{(0.6 + 0.4)\{(0.6)^2 - 0.6 \times 0.4 + (0.4)^2\}}$

$? = \dfrac{0.2(0.36 + 0.24 + 0.16)}{1(0.36 - 0.24 + 0.16)}$
$= \dfrac{0.2 \times 0.76}{0.28} = 0.543 = \dfrac{543}{1000} = \dfrac{19}{35}$

Shortcut Method
$\dfrac{(0.6)^3 - (0.4)^3}{(0.6)^3 + (0.4)^3} = \dfrac{0.216 - 0.064}{0.216 + 0.064}$
$= \dfrac{0.152}{0.216 + 0.064} = \dfrac{0.152}{0.28} = 0.543$
$= \dfrac{543}{1000} = \dfrac{19}{35}$

46. Employees in teaching
$= 26800 \times \dfrac{15}{100} = 4020$
Employees in medical
$= 26800 \times \dfrac{27}{100} = 7236$
and employees in management
$= 26800 \times \dfrac{17}{100} = 4556$
As per the question,
Total employees in teaching and medical
$= 4020 + 7236 = 11256$
Now, difference between total employees in teaching and medical and total employees in management
$= 11256 - 4556 = 6700$

47. Total employees in management
$= 26800 \times \dfrac{17}{100} = 268 \times 17 = 4556$
$\therefore$ Female employees
$= 4556 \times \dfrac{3}{4} = 3417$
$\therefore$ Male employees
$= 4556 - 3417 = 1139$

48. Total employees in film production
$= 26800 \times \dfrac{19}{100} = 5092$
Number of employees went on strike
$= 5092 \times \dfrac{25}{100} = 1273$
$\therefore$ Number of employees not go to strike
$= 5092 - 1273 = 3819$

49. Total employees in engineering
$= 26800 \times \dfrac{9}{100} = 2412$
Total employees in industries
$= 26800 \times \dfrac{13}{100} = 3484$
$\therefore$ Total employees in engineering and industries $= 2412 + 3484 = 5896$

50. Total number of teachers
$= 26800 \times \dfrac{15}{100} = 4020$
Number of temporary teachers
$= 4020 \times \dfrac{3}{5} = 2412$
$\therefore$ Number of permanent teachers
$= 4020 - 2412 = 1608$

51. Total age of the man and his son
$= 35 \times 2 \text{ yr} = 70 \text{ yr}$
The age of son $= \dfrac{2}{7} \times 70 = 20$ yr

52. Since,
$$(38)^2 < 1500 < (39)^2$$
Therefore, the least number
$$= (39)^2 - 1500$$
$$= 1521 - 1500 = 21$$

53. Simple interest $= \dfrac{6535 \times 10 \times 6}{100} = ₹3921$

54. $x^2 + (89)^2 = 16202$
$$\Rightarrow \qquad x^2 = 16202 - 7921$$
$$\Rightarrow \qquad x = \sqrt{8281} = 91$$

55. Compound interest
$$= ₹7800\left[\left(1 + \frac{5}{100}\right)^3 - 1\right]$$
$$= ₹7800\left[\left(\frac{21}{20}\right)^3 - 1\right]$$
$$= ₹7800\left[\frac{9261 - 8000}{8000}\right]$$
$$= ₹7800 \times \frac{1261}{8000} = ₹1229.475$$

56. $4444 \div 56 \times (23)^2 + 63 = ?$
$$\approx 4444 \times \frac{1}{56} \times (23)^2 + 63$$
$$\approx 41980 + 63$$
$$\approx 42043 \approx 42050$$

57. Let the two consecutive even numbers are x and x − 2.
Therefore,
$$x(x - 2) = 12768$$
$$\Rightarrow \qquad x^2 - 2x - 12768 = 0$$
$$\Rightarrow x^2 - 114x + 112x - 12768 = 0$$
$$\Rightarrow \qquad (x - 114)(x + 112) = 0$$
$$\Rightarrow \qquad x - 114 = 0$$
$$\text{or} \qquad x + 112 = 0$$
$$\Rightarrow \qquad x = 114$$
$$\text{or} \qquad x = -112$$

58. The amount $= \dfrac{198011}{47} = ₹4213$

59. Percentage of Harish $= \dfrac{421}{675} \times 100$
$$= 62.37\% \approx 62\%$$

60. Anurag Awasthi got
$$= ₹56500\left[1 + \frac{12 \times 3}{100}\right]$$
$$= ₹56500\left[\frac{34}{25}\right]$$
$$= ₹76840$$

61. The number of days in January, February and
March 2008 = 31 + 29 + 31 = 91 days
For one week, canteen requires = 798 bananas.
∴ For 91 days, canteen requires
$$= \frac{798}{7} \times 91 \text{ bananas} = 10374 \text{ bananas}$$

62. The number of the employees
$$= 40\% \text{ of } 1225$$
$$= 40 \times \frac{1225}{100} = 490$$

63. Let the numbers A, B, C, D and E are
x − 4, x − 2, x, x + 2 and x + 4 respectively.
According to the question,
$$\frac{(x - 4) + (x - 2) + x + (x + 2) + (x + 4)}{5}$$
$$= 45$$
$$\Rightarrow \qquad \frac{5x}{5} = 45 \Rightarrow x = 45$$
Therefore,
$$B \times D = (x - 2)(x + 2)$$
$$= x^2 - 4 = (45)^2 - 4$$
$$= 2025 - 4 = 2021$$

64. The ratio = (1224 − 600) : 600
$$= 624 : 600 = 26 : 25$$

65. Let the maximum aggregate marks a student can get is x.
Therefore, 270 − 216 = 8% of x
$$\Rightarrow \qquad 54 = x \times \frac{8}{100}$$
$$\Rightarrow \qquad x = \frac{5400}{8} = 675$$

66. As,

And

Similarly,

67. According to the question,

∴ Required distance = 20 + 12 = 32 m

68. Saurabh's rank → 8th from the top.
∴ Mamta's rank → (8 + 5)
= 13th from the top
So, Mamta's rank from the bottom
= (40 − 13) + 1 = 28th

69. Given word,

Selected letters, T, M, A, E
∴ Meaningful words
→ MEAT, TEAM, TAME and MATE

70. Required pairs

Hence, such pairs are RU, NO and IP.

Sol. (Q. Nos. 71-74)
By question,

71. J sits exactly in the middle of the line.

72. Only 2 persons are between A and H.

73. Except FH, all others are neighbour to each other.

**74.** F sits second to left of H.

75. P X U N C M

[Condition (ii)]

76. D E H A Z N

[Condition (iii)]

77. M H C Y B G

[None condition follows]

78. In the expression J = I ≥ G > H, expression H < J is definitely true.

79. None of the given expression is definitely true from the expression, K ≥ L > M ≥ N.

80. None of the given expression is definitely true from the expression M ≥ K < T = Q

81. Expression X ≥ Z is definitely false within the expression Z ≥ Y = W ≤ X

**82.** In the expression A ≥ C > B = D, expression A > D hold true.

83. According to statements, venn diagram is as,

Conclusions I. ✗ II. ✗
Hence, neither Conclusion I nor II follows.

84. According to statements, venn diagram is as,


Number   Digit   Letter   Alphabets
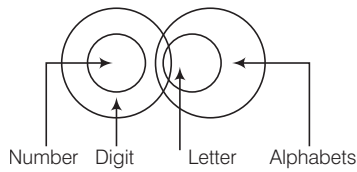
Conclusions I. ✗   II. ✓
Hence, only Conclusion II follows.

85. According to statements, venn diagram is as,

Cell   Bones   Tissue   Ligament
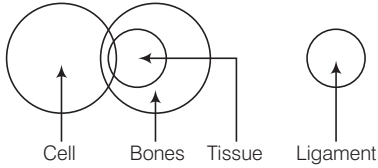
Conclusions I. ✗   II. ✓
Hence, only Conclusion II follows.

86. According to statements, venn diagram is as,

Playground

School   College   Nursery
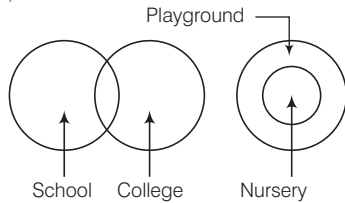
Conclusions I. ✗   II. ✗
Hence, neither Conclusion I nor II follows.

87. According to statements, venn diagram is as,

Thread
Clothes
Plastic
Metal
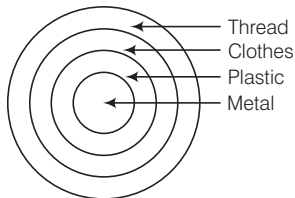
Conclusions ✓   ✓
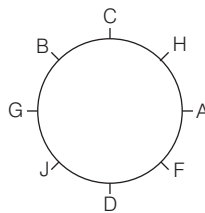Hence, both Conclusions I and II follow.

88. None of the given expression express that P is to the East of Q.

89. Given expression F % Q + R – S
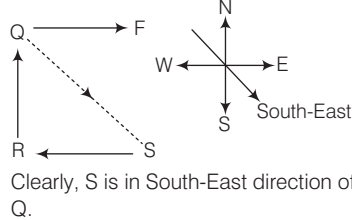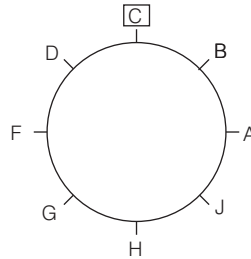

Clearly, S is in South-East direction of Q.

Sol. (Q. Nos. 90-93) *Sitting arrangement*

90. Only four people (J, D ,F, A) sit between G and H.

91. As, H : F → H, sits second to right of F. Same as,
J : B → J, sits second to right ot B.

92. According to question,

Hence, the position of C will remain unchanged.

93. H, sits immediate left of C.

94. According to question,

3475   2791   6458   1826   7534
+1   +1   +1   +1   +1
3476   2792   6459   1827   7535

Hence, in only one number (6459) last digit will be perfect square.

95. According to question,

3 4 7 5   2 7 9 1   6 4 5 8   1 8 2 6   7 5 3 4
7 4 3 5   9 7 2 1   5 4 6 8   2 8 1 6   3 5 7 4

∴ Required sum = 8 + 2 = 10

96. Highest number = 7 5 34 and second lowest number 27 9 1

∴ Required resultant = 9 – 5 = 4

97. According to question,
7543 9721 8654 8621 7543
Third highest number in new arrangement = 8621
∴ Sum of all the four digits
= 8 + 6 + 2 + 1 = 17

Sol. (Q.Nos. 98-100)
Given, word → P R O T E I N
New formation → N P R T E I O

98. Two letters (T, E) will be between R and I after the rearrangement.

99. E will be the third from right after the rearrangement.

100. R will be the third from left after the rearrangement.