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## Test-I: English Language

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**Directions (Q. 1-10) Read the following passage carefully and answer the questions given below it. Certain words are printed in bold to help you locate them while answering some of the questions.**

There can be no two opinions about a self-governing code of behaviour for every member of civil society. Such self-discipline is what makes us worthy of being human beings. The current line of thinking in the US has been that even economists should have a code of ethics. Unlike other professionals, so far, they have had no code of ethics in practice.

Such a code is felt necessary because economists acting as consultants and advisers were found to be instrumental in projecting the economic bubbles (first, of the dotcom companies, and then the betting of collateralised debt obligations) as very good, thus keeping the common man as well as financial institutions in the dark about the dire consequences that did follow in 2008.

The need for the code is also brought to the fore by a documentary film *Inside Job* that won several awards, including the Academy Award. This film shows how the financial crisis took place and, most importantly, how law and economic consulting firms collected large sums as their fees and bonuses. These were the very economists who had advocated for deregulation of the economy and were instrumental in formulating government policies to this effect. A common man can well imagine and understand a lawyer arguing for the innocence of the actual murderer, but it is beyond his **comprehension** that a supposed academic would wrongly advise on policy matters out of sheer self (and hidden) interests.

Renowned economists not disclosing their ties with businesses in their writings in the media (newspapers as well as television) has been pointed out in a very systematic study done by Gerald Epstein and Jessica Carrick-Hagenbarth of the Political Economy Research Institute (PERI) of the University of Massachusetts Amherst. They explored the CVs of 19 well-known economists and established a link between their writings in the media and their affiliations to financial firms as advisers, trustees, members or chairmen of board of directors, etc. In spite of these affiliations, only the academic positions of these economists were stated below their articles in renowned newspapers and in their introductions in television programmes. The study examined a variety of proposals stated by these economists including those put forth by the Obama administration and the US Department of Treasury. Seventeen of these economists were found to have signed on the set of proposals for financial regulation.

The study found that only one of the 19 economists was doing a solely academic job. The rest seemed to have a 'vested' interest in opposing financial regulation, suggest these researchers.

What is applicable to economists is also applicable to management consultants and scientists of all disciplines. It is, however, noteworthy that the Association of Management Consulting Firms has declared, "We will immediately acknowledge any influences on our objectivity to our clients and will offer to withdraw from a consulting engagement when our objectivity or integrity may be impaired."

The American Sociological Association, too, has developed a code of ethics for its members. It makes it obligatory for sociologists "to disclose relevant personal or professional relationships that may have the appearance or potential for a conflict of interest to an employer or client, to the sponsors of their professional work, or in public speeches and writings." The authors suggest that as a first step towards adherence to the ethical code, consultants and economic advisers should disclose their non-academic affiliations in their publications and television appearances (as

discussants).

Human greed has no geographical barriers. Indian academia and consultants, too, would do well in developing a moral code to ensure prevention of conflict of interest.

All types of codes of ethics and oaths can never ensure a perfect sense and practice of morality. Had this been the case, the Hippocratic Oath (developed in the late 5th century BC) would have prevented members of the medical fraternity from indulging in any unethical practice. Yet, the practice of taking this oath has continued in the faith that it will keep the doctors' conscience alive and active. No law has ever eliminated the criminal tendencies among human beings. There can never be a substitute to self-governance. It is just that a formal code of ethics, hopefully, would create awareness about what not to do in the interests of the public and the nation at large.

1. Which of the following is correct in the context of the passage?  
(A) A self-governing code of behaviour is a must only for army personnel, bureaucrats and govt employees.  
(B) Patriotism, obedience, good conduct, high moral values are some of the things that make us worthy of being human beings.  
(C) Professionals other than economists have certain code of ethics in the US.  
1) Only A                                      2) Only B                                      3) Only C  
4) Only A and C                                      5) None of these
2. The film *Inside Job* deals with which of the following?  
(A) It deals with the intricacies of human relationships.  
(B) It depicts the misdeeds of economic consulting firms.  
(C) It shows the extent to which economists damage their country for their vested interests.  
1) Only A                                      2) Only B                                      3) Only C  
4) Only B and C                                      5) None of these
3. Which of the following is not correct in accordance with the studies done by Gerald Epstein?  
(A) There was connivance between the economists and the financial institutions.  
(B) Renowned economists always tried to reflect the picture of the economy through their writings in the media.  
(C) The study found that around 95% economists had vested interests in opposing financial regulations.  
1) Only A                                      2) Only B                                      3) Only C  
4) Both A and C                                      5) Both B and C
4. Which of the following statements is definitely true in the context of the passage?  
1) Self-discipline is what makes us fit as citizens of India.  
2) Formulating a code of ethics can certainly bring about economic prosperity.  
3) The moral of people at large is so degraded that a radical change is a must and for that seminars, religious gospels, sermons etc can be effective measures.  
4) The management consultants, scientists, and the American Sociological Association are trying to ensure certain codes of ethics.  
5) None of these
5. What step(s) does the author suggest?  
(A) Consultants and economic advisers should maintain a record of everyday chores.  
(B) Economic advisers, being very important part of the society, should never disclose their non-academic affiliation in media.

1) Only A                      2) Only B                      3) Only C  
4) Either B or C              5) None of these

- Directions (Q. 11-15):** Following questions consist of a single sentence with one blank only. You are given six words as answer choices and from the six choices, you have to pick up two correct answers, either of which will make the sentence meaningfully complete.

11. We need to define the problem before we can \_\_\_\_\_ to solve it.
- |                |                |                |
|----------------|----------------|----------------|
| (A) attempt    | (B) watch      | (C) try        |
| (D) imagine    | (E) wait       | (F) study      |
| 1) (A) and (F) | 2) (B) and (C) | 3) (A) and (C) |
| 4) (D) and (F) | 5) (E) and (F) |                |

12. They are very \_\_\_\_\_ to change.  
 (A) kind (B) prosperous (C) hostile  
 (D) cruel (E) weak (F) keen  
 1) (A) and (B) 2) (C) and (F) 3) (D) and (E)  
 4) (B) and (F) 5) (A) and (D)
13. Fans of the losing team \_\_\_\_\_ that the match had been fixed.  
 (A) suspected (B) believed (C) doubted  
 (D) expected (E) calculated (F) prompted  
 1) (A) and (C) 2) (A) and (B) 3) (C) and (D)  
 4) (D) and (E) 5) (A) and (E)
14. There are millions of people in this country who are living in \_\_\_\_\_.  
 (A) platform (B) poverty (C) schools  
 (D) villages (E) caves (F) space  
 1) (A) and (B) 2) (B) and (C) 3) (B) and (F)  
 4) (C) and (D) 5) (B) and (D)
15. We had \_\_\_\_\_ weather on holiday.  
 (A) attractive (B) lousy (C) rainy  
 (D) pleasant (E) difficult (F) pretty  
 1) (A) and (E) 2) (E) and (F) 3) (B) and (C)  
 4) (B) and (D) 5) (B) and (F)

**Direction (Q. 16-20): Read each sentence to find out whether there is any error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is no error, the answer is (5). (Ignore errors of punctuation, if any.)**

16. 1) Present-day parents have / 2) underwent a radical shift in / 3) attitude compared to / 4) their earlier counterparts. / 5) No error
17. 1) He went on attacking her / 2) when other passengers arrived / 3) and told him / 4) to lay off. / 5) No error
18. 1) Get rid of all cigarettes / 2) and ashtrays and / 3) other paraphernalia / 4) associated to smoking. / 5) No error
19. 1) John's soldiers / 2) were readying / 3) themselves for / 4) the final assault. / 5) No error
20. 1) There is a perception that / 2) the civilian authority does not / 3) fully appreciate the gravity of / 4) threats of national security. / 5) No error

**Directions (Q. 21-25): Rearrange the following six sentences (A), (B), (C), (D), (E) and (F) in a proper sequence to form a meaningful paragraph; then answer the questions given below them.**

- (A) It is no wonder that a majority of these excluded and low-achievers come from the most deprived sections of the society.  
 (B) They are precisely those who are supposed to be empowered through education.  
 (C) With heightened political consciousness about the plight of these to-be-empowered

people, never in the history of India has the demand for inclusive education been as fervent as today.

(D) They either never enrol or they drop out of schools at different stages during these eight years.

(E) Of the nearly 200 million children in the age group between 6 and 14 years, more than half do not complete eight years of elementary education.

(F) Of those who do complete eight years of schooling, the achievement levels of a large percentage, in language and mathematics, is unacceptably low.

21. Which of the following should be the **THIRD** sentence after rearrangement?

- 1) A                      2) B                      3) C                      4) D                      5) F

22. Which of the following should be the **FIRST** sentence after rearrangement?

- 1) A                      2) B                      3) C                      4) D                      5) E

23. Which of the following should be the **SECOND** sentence after rearrangement?

- 1) F                      2) E                      3) D                      4) C                      5) B

24. Which of the following should be the **FOURTH** sentence after rearrangement?

- 1) A                      2) B                      3) C                      4) D                      5) E

25. Which of the following should be the **FIFTH** sentence after rearrangement?

- 1) F                      2) E                      3) D                      4) B                      5) A

**Directions (Q. 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.**

All over the world, rights related to information technology that are already legally recognised are daily being violated, (26) in the name of economic advancement, political stability or for personal greed and interests. Violations of these rights have (27) new problems in human social systems, such as the digital divide, cybercrime, digital security and privacy concerns, all of which have affected people's lives either directly or indirectly.

It is important that countries come up with the guidelines for action to (28) the incidences of malicious attacks on the confidentiality, integrity and availability of electronic data and systems, computer-related crimes, content-related offences and violations of intellectual property rights. (29), threats to critical infrastructure and national interests arising from the use of the internet for criminal and terrorist activities are of growing concern. The harm incurred to businesses, governments and individuals in those countries in which the internet is used widely is gaining in (30) and importance, while in other countries, cybercrime threatens the application of information and communication technology for government services, health care, trade, and banking. As users start losing confidence in online transactions and business, the opportunity costs may become substantial.

26. 1) scarcely            2) whether            3) and                    4) for                    5) hardly

27. 1) created            2) bent                    3) pressured            4) risen                    5) stopped

28. 1) engage            2) conflict                3) war                    4) combat                5) struggle



29. 1) But                      2) More                      3) Addition                      4) Beside                      5) Further
30. 1) fear                      2) days                      3) positivity                      4) width                      5) scope

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### Test-II: Quantitative Aptitude

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**Directions (Q. 31-35):** What approximate value should come in place of question mark (?) in the following equations?

31.  $172\% \text{ of } 1155 + 2.75\% \text{ of } 275 = ?$   
 1) 1990                      2) 1994                      3) 1998                      4) 2040                      5) 1986
32.  $7130 \times 19.87 + 13.06 \times 1921 = ?$   
 1) 167560                      2) 169120                      3) 187340                      4) 207940                      5) 268100
33.  $18940 \div 45 + 2.39 \times 75 = ?$   
 1) 580                      2) 600                      3) 640                      4) 680                      5) 720
34.  $\sqrt[3]{54870} = ?$   
 1) 34                      2) 36                      3) 38                      4) 32                      5) 42
35.  $\sqrt{2300} \div \frac{6.06}{11.11} = ?$   
 1) 72                      2) 78                      3) 82                      4) 88                      5) 94

**Directions (Q. 36-40):** Find the next number in the place of question mark (?) in the following number series.

36. 4, 13, 54, 273, 1642, ?  
 1) 10432                      2) 10968                      3) 11120                      4) 11499                      5) 11562
37. 3, 14, 66, 312, 1640, ?  
 1) 9950                      2) 9960                      3) 9970                      4) 9980                      5) 9990
38. 3, 8, 16, 15, 42, 29, 81, ?  
 1) 50                      2) 54                      3) 72                      4) 78                      5) 96
39. 6, 42, 114, 258, 546, ?  
 1) 1116                      2) 1118                      3) 1120                      4) 1122                      5) 1124
40. 484, 729, 1024, 1369, 1764, ?  
 1) 2204                      2) 2206                      3) 2209                      4) 2212                      5) 2215

**Directions (Q. 41-45):** In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer

- 1) if  $x > y$                       2) if  $x \geq y$                       3) if  $x < y$                       4) if  $x \leq y$   
 5) if  $x = y$  or no relation can be established between 'x' and 'y'.
41. I.  $x^2 + 3x - 28 = 0$                       II.  $y^2 - 11y + 28 = 0$
42. I.  $6x^2 - 17x + 12 = 0$                       II.  $6y^2 - 7y + 2 = 0$
43. I.  $x = \frac{\sqrt{256}}{\sqrt{576}}$                       II.  $3y^2 + y - 2 = 0$
44. I.  $x^2 = 64$                       II.  $z^2 = 9y$

45. I.  $x^2 + 6x - 7 = 0$

II.

$41y + 17 = 140$

46. How many numbers between 300 and 800 can be made by using digits 2, 4, 5, 6 and 0?

- 1) 36                      2) 72                      3) 144                      4) 108                      5) None of these

47. If two dice are thrown simultaneously, what is the probability that the sum of the numbers appeared is less than seven?

- 1)  $\frac{7}{12}$                       2)  $\frac{5}{12}$                       3)  $\frac{7}{36}$                       4)  $\frac{5}{18}$                       5)  $\frac{5}{36}$

48. The simple interest on a sum of money will be ₹2940 after 12 years. If the principal is increased five times after six years, what will be the total interest after 12 years?

- 1) ₹8820                      2) ₹8720                      3) ₹7350                      4) ₹7320                      5) None of these

49. On a certain sum, the compound interest accrued in the first two years is ₹5520 and that in the first three years is ₹9576. What is the rate of interest?

- 1) 15%                      2) 20%                      3) 25%                      4) 30%                      5) 35%

50. Two numbers A and B are 20% and 45% more than a third number C, respectively. What percentage is the first number of the second number?

- 1) 25%                      2) 65%                      3) 75%                      4)  $37\frac{1}{2}\%$                       5) None of these

51. A shopkeeper bought a cycle at 40% discount on its original price. He sold it at a price 50% higher than in the original price. What percentage profit did he make?

- 1) 10%                      2) 90%                      3) 120%                      4) 150%                      5) 180%

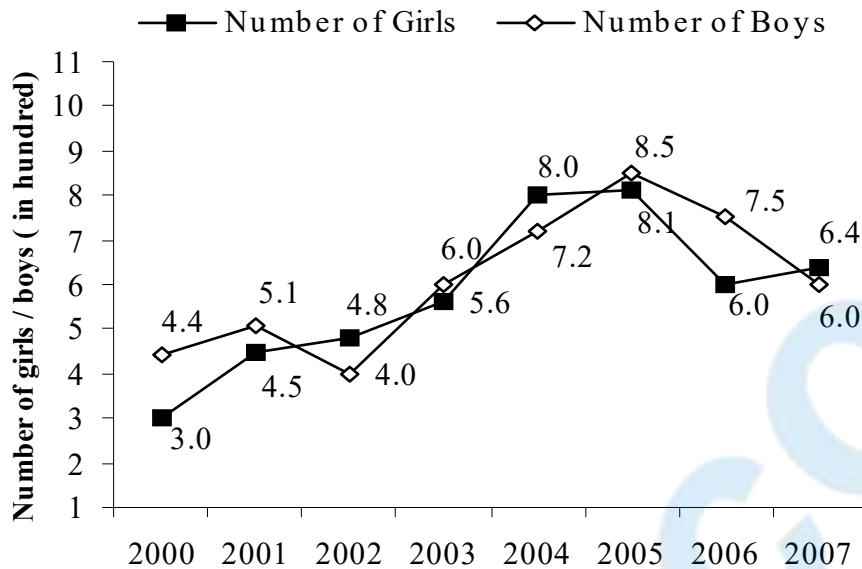
52. Two persons A and B can finish a piece of work in 60 days, while A, B, and C can finish the same work in 40 days. How many days will C alone take to finish the work?

- 1) 20 days                      2) 50 days                      3) 80 days                      4) 100 days                      5) None of these

53. Two pipes A and B can fill a tank in 80 minutes and 60 minutes respectively. There is also an outlet C. If all the three pipes are opened together, the tank takes 40 minutes to fill completely. How much time will C take to empty the full tank? (Answer in minutes)

- 1) 120                      2) 140                      3) 180                      4) 240                      5) None of these

**Directions (Q. 54-58) :** Following line-graph shows the number of boys and the number of girls admitted in a college in different years. Answer the questions given below based on this graph.



54. What is the difference between the total number of boys and that of girls admitted in all eight years together?  
 1) 228      2) 230      3) 232      4) 234      5) 236
55. The number of girls admitted in the year 2000 and 2001 together is what percentage of the number of boys admitted in the year 2004 and 2007 together? (Answer in approximate value)  
 1) 52.4%      2) 54.3%      3) 56.8%      4) 58%      5) 62.4%
56. What is the approximate percentage increase in the number of girls admitted in the year 2003 and 2004?  
 1) 42.8%      2) 38.6%      3) 36.48%      4) 35%      5) 32%
57. In which of the following years is the percentage rise in the number of boys the maximum compared to its previous year?  
 1) 2001      2) 2003      3) 2004      4) 2005      5) None of these
58. The number of girls admitted in the year 2007 is what percentage more than the average number of girls admitted during the entire period of eight years?  
 1) 8.26%      2) 10.34%      3) 12.24%  
 4) 16%      5) 17.5%
59. A train passes a pole in eight seconds and a platform in 23 seconds. If the length of the platform is 300 metres, what is the length of the train?  
 1) 120 metres      2) 140 metres      3) 160 metres  
 4) 180 metres      5) None of these
60. In a stream running at 3kmph, a boat goes 42 km upstream and comes back to the starting point in 306 minutes. What is the speed of the boat in still water?  
 1) 12kmph      2) 14kmph      3) 17kmph



- 4) 22kmph      5) 23kmph

**Directions (Q. 61-65): Study the following information carefully and answer the given questions.**

Three companies — A, B, and C produce a particular item in two different types —I and II.

Total number of items of both types produced by all three companies is 62000 and total items I and II produced by company A is 15200. The ratio of the numbers of type I to type II items produced by A is 9 : 10. Type I items produced by Company B is 175% of type I items produced by A. Total items (both I and II) produced by B is 150% of total items produced by A. The number of type I items produced by C is 20% more than the number of type II items produced by A.

61. What is the number of type II items produced by B?  
1) 9600      2) 10200      3) 14400      4) 12600      5) None
62. What is the ratio of the number of type I items to the number of type II items produced by Company C?  
1) 2 : 3      2) 3 : 4      3) 4 : 5      4) 5 : 6      5) None of these
63. What is the average number of type I items produced by all three companies?  
1) 9650      2) 9800      3) 9960      4) 10200      5) None of these
64. The number of type II items produced by C is what percentage of the total number of items produced by C?  
1) 80%      2) 75%      3) 60%      4) 50%      5) 40%
65. What is the difference between the total number of type II items and the total number of type I items produced by all three companies together?  
1) 2750      2) 2800      3) 3000      4) 3150      5) None of these

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### Test-III: Reasoning

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**Directions (Q. 66-72): Read the following information carefully and answer the questions which follow.**

A, B, C, D, E, F, G and H are eight sportspersons, each of them playing a different game, viz Cricket, Football, Golf, Hockey, Chess, Baseball, Badminton and Tennis (not necessarily in the same order).

All of them are seated around a circular table facing the centre. A, who plays Golf, sits third to the left of E. The one who plays Baseball sits second to the right of D. D, who plays Badminton, sits second to the right of B, who cannot sit adjacent to E. C, who plays Football, sits between the players of Chess and Baseball. G is a Tennis player, and sits second to the left of H, who is a Cricketer.

66. Who among the following pairs represent immediate neighbours of the Badminton player?  
1) GA      2) AH      3) BH      4) AE      5) None of these
67. Which of the following is definitely true in the context of F?

- 1) F sits second to the left of the Cricketer.
  - 2) F sits third to the right of A.
  - 3) F is a Hockey player.
  - 4) The one who plays Golf is not an immediate neighbour of F.
  - 5) None of these
68. What is the position of B with respect to the Chess player?
- 1) Fourth to the right      2) Third to the left
  - 3) Second to the right      4) Fourth to the left
  - 5) Second to the left
69. How many persons are sitting between A and the one who plays Hockey, if counted clockwise from A?
- 1) One      2) Two      3) Three      4) Four      5) Six
70. Which of the following games is played by the one who sits second to the left of the Baseball player?
- 1) Chess      2) Tennis      3) Cricket      4) Football      5) None of these
71. The one who sits between the Tennis player and the cricketer plays which of the following games?
- 1) Hockey      2) Golf      3) Badminton      4) Chess      5) None of these
72. In which of the following pairs the player of first game (of the pair) sits on the immediate left of the player of the second game (of the pair)?
- 1) Tennis-Football      2) Cricket-Hockey      3) Baseball-Golf
  - 4) Football-Chess      5) Chess-Golf

**Directions (Q. 73-77): In each of the following questions, a question is followed by information given in three statements. You have to study the questions along with the statements and decide the information given in which statements is/are sufficient to answer the question.**

73. Who among Tinku, Sunny, Jimmy and Ricky is the tallest?
- I. Tinku is not as tall as either Sunny or Ricky.
  - II. Ricky is shorter than Jimmy, who is not as tall as Sunny.
  - III. Jimmy is not the tallest.
- 1) Only I and II      2) Only II and III      3) Only I and III
  - 4) All I, II and III      5) Data inadequate
74. How is A related to D?
- I. E is A's wife.
  - II. F is sister of G, whose father is A.
  - III. H is the only sister of F, who is daughter of D.
- 1) Only I and II      2) Only II and III      3) Only I and III
  - 4) All I, II and III      5) Only III and either I or II
75. What is the position of Akash from the bottom in a class of 45 students?
- I. Aashi is 18th from the top and there are five students between Akash and Aashi, who is not below Akash.
  - II. Anuj is 15th from the bottom and Akash is four positions below Anuj.

III. Rashi is 9th from the bottom and there are four students between Rashi and Akash. Rashi is not above Akash.

- |                                |                               |             |
|--------------------------------|-------------------------------|-------------|
| 1) Only I                      | 2) Only II                    | 3) Only III |
| 4) Any of the three statements | 5) All I, II and III together |             |

76. P, Q, R, S and T are sitting around a circular table facing the centre. Who is second to the right of P?

- I. S is second to the left of R, who is on the immediate left of T.  
II. T can not sit adjacent to P.  
III. P is third to the right of Q, who is on the immediate left of S.

- |                                    |                               |
|------------------------------------|-------------------------------|
| 1) Only I and II                   | 2) Only II and III            |
| 3) Only I and III                  | 4) All I, II and III together |
| 5) Either III or I and II together |                               |

77. In a certain code, 'will you do this' is written as '9 7 3 4'. What will be the code of 'this'?

- I. 'you can do easily' is written as '3 1 2 9'.  
II. 'how are you' is written as '5 3 8'.  
III. 'I will give up' is written as '6 7 # \$'.

- |                               |                    |
|-------------------------------|--------------------|
| 1) Only I and II              | 2) Only II and III |
| 3) Only I and III             | 4) Any two of them |
| 5) All I, II and III together |                    |

**Directions (Q. 78-82):** In each question below are given two or three statements followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follows from the given 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 II follows.
- 4) if neither conclusion I nor II follows.
- 5) if both conclusions I and II follow.

**(78-79):**

**Statements:** All silver is gold.  
All gold is metal.  
All metals are precious.

**78. Conclusions:**

- I. All metals being silver is a possibility.  
II. At least some silver is precious.

**79. Conclusions:**

- I. Some gold is metal as well as precious.  
II. All gold is precious.

**(80-81):**

**Statements:** All plants are trees.  
No tree is a tole.  
All toles are green.

**80. Conclusions:**

- I. Some toles being plants is a possibility.
- II. No tole is a plant.

**81. Conclusions:**

- I. All plants being green is a possibility.
- II. No green is a tree.

- 82. Statements:** Some kites are papers.  
Some papers are black.

**Conclusions:**

- I. Some kites being black is a possibility.
- II. All papers are not necessarily kites.

83. The prevention of accidents makes it necessary that not only safety devices be used to guard exposed machinery but also that mechanics be instructed about safety rules which they must follow for their own protection and that lightening in the plant be adequate.

This paragraph best supports the statement that industrial accidents

- 1) are always avoidable
- 2) cannot be entirely overcome
- 3) may be due to ignorance
- 4) can be eliminated with the help of safety rules
- 5) safety rules are more strictly followed in Europe

84. The state administration banned gathering at any place in the city during the period of visit of foreign dignitaries.

Which of the following assumptions is/are implicit in the above statement? (An assumption is something supposed or taken for granted.)

- 1) It is violating the right to freedom of a citizen. In free India, people may gather at any place.
- 2) Many people may ignore the prohibitory orders and gather to get a glimpse of the dignitaries.
- 3) People may avoid gathering at any place in the city during the visit of foreign dignitaries to the city.
- 4) People will start protesting against such unnecessary anti-democratic decisions.
- 5) The state administration may take its decision back.

85. In a recent incident, at least 25 people were killed and many other injured when a bus fell into a river near a bridge.

Which of the following is/are an effective step in order to avoid such an incident in future?

- A) All the buses should be advised to follow other routes.
  - B) The protection walls of the bridge should be made strong enough to avoid such accidents.
  - C) On moral grounds, the transport minister should resign from his post.
  - D) The bus driver should be arrested immediately to make necessary enquiry.
- 1) Only A and B                      2) Only B and C                      3) Only C and D  
4) Only A and D                      5) Only B and D

86. If the expression  $D < A > C = F \geq G$  is definitely true, which of the following would be definitely true?

- 1)  $G < C$       2)  $D = C$       3)  $G < A$       4)  $F \leq A$       5)  $D \leq F$

87. In which of the following expressions the expression ' $P \leq M$ ' would hold definitely true?

- 1)  $M \geq R = N > S \geq P = Q$       2)  $Q \geq M > N = W \geq P < S$   
 3)  $Q > M \geq N = W \geq P < S$       4)  $W < P = N \leq Q < M > R$   
 5)  $N > Q = P < S \leq R \leq M$

88. In which of the following expressions the expression ' $R < S \leq M$ ' would hold definitely false?

- 1)  $V > R \leq K < S = W \leq M$       2)  $V < M \geq T \geq S = P > R$   
 3)  $K > M = J \geq S > N = R$       4)  $T = R \leq K < S = P < M$   
 5)  $M \geq P = S \geq T > R = V$

89. Which of the following symbols should replace the question mark in the given expression in order to make  $K \leq M$  definitely true?

$N = K = L ? P ? M$

- 1)  $<, <$       2)  $\leq, =$       3)  $\leq, <$       4)  $<, \leq$       5) None of these

90. In a cricket tournament, Ravi scored higher than Vijay. Surya scored lower than Sumit but higher than Ravi. Amit's score lies between the scores of Vijay and Ravi. Who scored the lowest in this tournament?

- 1) Ravi      2) Vijay      3) Sumit  
 4) Amit      5) Surya

**Direction (Q. 91-95): Study the following information carefully and answer the questions given below :**

A, B, C, D, E, F, G and H are eight friends travelling in three different cars, viz X, Y and Z, with at least two in one car to three different places, viz. Delhi, Chandigarh and Agra.

There is at least one female member in each car. D is travelling with G to Delhi but not in car Y. A is travelling with only H in car Z but not to Chandigarh. C is not travelling with either D or E. F and D are studying in the same only girls' college. H, B and G are studying in the same only boys' college.

91. Which of the following represents the group of females?

- 1) F, C, A      2) F, G, A      3) D, C, A  
 4) Data inadequate      5) None of these

92. Which of the following combinations is correct?

- 1) Delhi – X – C      2) Chandigarh – X – F  
 3) Agra – Z – E      4) Delhi – Y – E  
 5) None of these

93. Which of the following cars is carrying four people?

- 1) Either X or Z      2) Y      3) Either X or Y  
 4) Z      5) None of these

94. In which of the following cars is C travelling?

- 1) X      2) Y      3) Z  
 4) Either X or Y      5) Data inadequate



95. Which of the following cars is carrying people to Chandigarh?
- 1) Y
  - 2) X
  - 3) Either X or Y
  - 4) Data inadequate
  - 5) None of these

**Directions (Q. 96-100): Study the following information to answer the given questions.**

In a certain code language, 'summer is not pleasant always' is written as 'mo ra tic su na', 'pleasant season is spring' is written as 'dic ra nic mo', 'always likes spring' is written as 'phi su nic', and 'hot summer season' is written as 'tic ga dic'.

96. Which of the following is the code for 'not'?
- 1) mo
  - 2) ra
  - 3) na
  - 4) tic
  - 5) Cannot be determined
97. What does 'dic' stand for?
- 1) pleasant
  - 2) spring
  - 3) season
  - 4) is
  - 5) not
98. Which of the following represents the code for 'spring is hot'?
- 1) mo ga nic
  - 2) tic ga mo
  - 3) nic dic su
  - 4) ga nic su
  - 5) None of these
99. 'tic phi dic' is the code for which of the following?
- 1) spring is season
  - 2) likes summer season
  - 3) pleasant season is
  - 4) hot season summer
  - 5) None of these
100. Which of the following may represent 'nobody likes hot season'?
- 1) zo dic ga tic
  - 2) nic ye ga dic
  - 3) phi nic da ra
  - 4) phi zo ga dic
  - 5) None of these

Answers With Explanations:

- |  |       |       |       |       |
|--|-------|-------|-------|-------|
| 1. 3   | 2. 4  | 3. 2  | 4. 5  | 5. 3  |
| 6. 4   | 7. 2  | 8. 1  | 9. 4  | 10. 5 |
| 11. 3  | 12. 2 | 13. 2 | 14. 5 | 15. 4 |
| 16. 2; Replace 'underwent' with 'undergone'. |       |       |       |       |
| 17. 2; Replace 'when' with 'until'.          |       |       |       |       |
| 18. 4; Replace 'to' with 'with'.             |       |       |       |       |
| 19. 5  |       |       |       |       |
| 20. 4; Replace 'of' with 'to'                |       |       |       |       |
| 21. 2  | 22. 1 | 23. 4 | 24. 5 | 25. 5 |
| <b>(26-30): EDFABC</b>                       |       |       |       |       |
| 26. 5  | 27. 5 | 28. 3 | 29. 1 | 30. 4 |

31. 2;  $? = \frac{172 \times 1155}{100} + \frac{2.75 \times 275}{100} = 1986.6 + 7.5625 = 1994.1625 \approx 1994$

32. 1;  $? \approx 7130 \times 20 + 13 \times 1920$   
 $= 142600 + 24960 = 167560$

$$33. 2; ? \approx 18940 \div 45 + 2.4 \times 75 \quad \approx 420 + 180 = 600$$

$$34. 3; \therefore (38)^3 = 54872$$

$$\therefore \sqrt{54870} \approx 38$$

$$35. 4; \sqrt{2300} \approx 48$$

$$\therefore ? = 48 \times \frac{11}{6} = 88$$

$$36. 4; \times 3 + 1, \times 4 + 2, \times 5 + 3 \dots$$

$$37. 2; + 4 \times 2, + 8 \times 3, + 12 \times 4$$

$$38. 1; \text{The series is based on combination of two series. } S_1 = +13, +26, +39 \dots \text{ and } S_2 = +7, +14, +21 \dots$$

$$39. 4; +36, +72, +144, +288 \dots$$

$$40. 3; (22)^2, (27)^2, (32)^2, (37)^2 \dots$$

$$41. 4; \text{I. } x^2 + 7x - 4x - 28 = 0$$

$$\text{or, } x(x + 7) - 4(x + 7) = 0$$

$$\text{or, } (x - 4)(x + 7) = 0$$

$$\therefore x = 4, -7$$

$$\text{II. } y^2 - 11y + 28 = 0$$

$$\text{or, } y^2 - 7y - 4y + 28 = 0$$

$$\text{or, } y(y - 7) - 4(y - 7) = 0$$

$$\text{or, } (y - 4)(y - 7) = 0$$

$$\therefore y = 4, 7$$

$$\therefore x \leq y$$

$$42. 1; \text{I. } 6x^2 - 17x + 12 = 0$$

$$\text{or, } 6x^2 - 9x - 8x + 12 = 0$$

$$\text{or, } 3x(2x - 3) - 4(2x - 3) = 0$$

$$\text{or, } (3x - 4)(2x - 3) = 0$$

$$\therefore x = \frac{4}{3}, \frac{3}{2}$$

$$\text{II. } 6y^2 - 3y - 4y + 2 = 0$$

$$\text{or, } 3y(2y - 1) - 2(2y - 1) = 0$$

$$\text{or, } (3y - 2)(2y - 1) = 0$$

$$\therefore y = \frac{2}{3}, \frac{1}{2}$$

$$\therefore x > y$$

$$43. 2; \text{I. } x = \frac{\sqrt{256}}{\sqrt{576}}$$

$$\therefore x = \frac{16}{24} = \frac{2}{3}$$

$$\text{II. } 3y^2 + y - 2 = 0$$

$$\text{or, } 3y^2 + 3y - 2y - 2 = 0$$

$$\text{or, } 3y(y+1) - 2(y+1) = 0$$

$$\text{or, } (3y-2)(y+1) = 0$$

$$\therefore y = \frac{2}{3}, -1$$

$$\therefore x \geq y$$

44. 5; I.  $x^2 = 64$

$$\therefore x = \pm 8$$

II.  $y^2 = 9y$

$$\text{or, } y^2 - 9y = 0$$

$$\text{or, } y(y-9) = 0$$

$$\therefore y = 0, 9$$

$\therefore$  no relationship can be established between  $x$  and  $y$ .

45. 3; I.  $x^2 + 6x - 7 = 0$

$$\text{or, } x^2 + 7x - x - 7 = 0$$

$$\text{or, } x(x+7) - 1(x+7) = 0$$

$$\text{or, } (x-1)(x+7) = 0$$

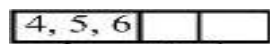
$$\therefore x = 1, -7$$

II.  $41y + 17 = 140$

$$\text{or, } 41y = 140 - 17 = 123$$

$$\therefore y = \frac{123}{41} = 3$$

$$\therefore x < y$$



46.1; ways  ${}^4P_2$  ways

$$\therefore \text{Reqd. numbers} = 3 \times {}^4P_2 = 3 \times 12 = 36$$

47. 2; Sum of the numbers can be 2, 3, 4, 5, and 6.

$$n(E) = 15, n(S) = 36 \therefore P(E) = \frac{15}{36} = \frac{5}{12}$$

48. 1; Interest rate 'r' =  $\left( \frac{2940 \times 100}{P \times 12} \right) \%$

$$= \left( \frac{24500}{P} \right) \%$$

$$\text{SI in first six years} = \frac{P \times 6 \times 24500}{P \times 100} = 1470$$

$$\text{SI in next six years} = \frac{5P \times 6 \times 24500}{P \times 100} = 7350$$

$$\therefore \text{Total SI} = 7350 + 1470 = 8820$$

49. 4;  $CI = P[(x)^t - 1]$  where  $x = 1 + \frac{r}{100}$

$$\therefore P(x^2 - 1) = 5520 \dots(I)$$

$$P(x^3-1) = 9576 \dots (II)$$

Dividing eqn II by eqn I,

$$\frac{(x^2+x+1)(x-1)}{(x+1)(x-1)} = \frac{9576}{5520} = \frac{399}{230}$$

$$\Rightarrow 230x^2 - 169x - 169 = 0$$

$$\Rightarrow 230x^2 - 299x + 130x - 169 = 0$$

$$\Rightarrow 23x(10x-13) + 13(10x-13) = 0$$

$$\therefore x = \frac{13}{10} \text{ and } x = \frac{-13}{23} \text{ (discard -ve)}$$

$$1 + \frac{r}{100} = \frac{13}{10} \therefore r = 30\%$$

**50. 5;** Let the third number be 100. So, the first number is  $100 + 100 \times \frac{20}{100} = 120$  and the second number is 145.

$$\therefore \text{Reqd answer} = \frac{120}{145} \times 100 = 82.758$$

**51. 4;** Let the original price of cycle be ₹100

$$\therefore \text{cost} = 100 - 100 \times \frac{40}{100} = 60$$

$$SP = 100 + 100 \times \frac{50}{100} = 150$$

$$\therefore \text{Gain \%} = \frac{150-60}{60} \times 100 = \frac{90 \times 100}{60} = 150\%$$

**52. 5;** Work done by A and B together in one day =  $\frac{1}{60}$

Work done by A, B, and C together in one day =  $\frac{1}{40}$

$$\text{Work done by C in one day} = \frac{1}{40} - \frac{1}{60} = \frac{3-2}{120} = \frac{1}{120}$$

$\therefore$  C will take 120 days to finish the work.

**53. 4;** Work done by C in one min =  $\frac{1}{80} + \frac{1}{60} - \frac{1}{40} = \frac{3+4-6}{240} = \frac{1}{240}$

So, C will take 240 min to empty the tank.

**54. 2;** Difference =  $4870 - 4640 = 230$

**55. 3;** Number of girls =  $300 + 450 = 750$

Number of boys =  $720 + 600 = 1320$

$$\therefore \text{Reqd \%} = \frac{750}{1320} \times 100 = 56.8\%$$

**56. 1;** Girls 2003 = 560

Girls 2004 = 800

$$\therefore \% = \frac{800-560}{560} \times 100 = \frac{24000}{560} = 42.8\%$$

57. 2; % rise =  $\frac{600-400}{400} \times 100 = 50\%$

58. 2; Girls 2007 = 640

Girls avg during whole period =  $\frac{4640}{8} = 580$

$\therefore$  Reqd % =  $\frac{(640-580)}{580} \times 100 \approx 10.34\%$

59. 3; Let the length of the train be x.

$\therefore$  Speed of the train =  $\frac{x}{8}$

Also, speed =  $\frac{x+300}{23}$

$\therefore \frac{x}{8} = \frac{x+300}{23} \quad \therefore 23x = 8x + 2400$

or,  $15x = 2400 \quad \therefore x = 160$  metres

60. 3; Let the speed of the boat in still water be 'x' kmph.

$\therefore \frac{42}{x+3} + \frac{42}{x-3} = \frac{306}{60} = \frac{51}{10}$

or,  $42 \left[ \frac{x-3+x+3}{x^2-9} \right] = \frac{51}{10} \quad \therefore \frac{84x}{x^2-9} = \frac{51}{10}$

or,  $51x^2 - 840x - 459 = 0$

or,  $17x^2 - 280x - 153 = 0$

or,  $17x^2 - 289x + 9x - 153 = 0$

or,  $17x(x-17) + 9(x-17) = 0$

or,  $(17x+9)(x-17) = 0 \quad \therefore x = 17, \frac{-9}{17}$

Discarding -ve,  $x = 17 \text{ kmh}^{-1}$

61. 2;

62. 1; Ratio =  $\frac{9600}{14400} = \frac{2}{3}$  ie 2 : 3

63. 2; Average number of type I items produced =  $\frac{7200+12600+9600}{3}$

=  $\frac{29400}{3} = 9800$

64. 3; Type II produced by C = 14400

Total<sub>C</sub> = 24000

Reqd % =  $\frac{14400}{24000} \times 100 = 60\%$  of no. of items by C

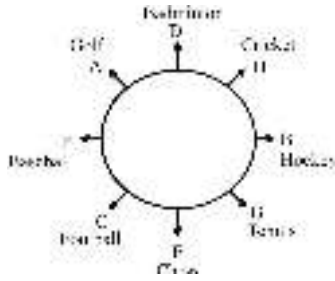
65. 5; Type I = 7200 + 12600 + 9600 = 29400

Type II = 8000 + 10200 + 14400 = 32600

$\therefore$  Diff = 32600 - 29400 = 3200



(66-72):



66. 2  
71. 1

67. 5  
72. 4

68. 3

69. 2

70. 5

73. 1; From I:  $S, R > T$

From II:  $S > J > R$

From III:  $S > J$

From I and II:  $S > J > R > T$

Hence Sunny is the tallest.

74. 2;

From I:  $(-)E \text{ --- } A(+)$

From II:

$A(+)$   
|  
 $G \text{ --- } F(-)$

From III.

$D$   
|  
 $(-)F \text{ --- } H(-)$

From I and II together:

$(-)E \text{ --- } A(+)$   
|  
 $G \text{ --- } F(-)$

Nothing is known about D, so we can't establish any relationship between A and D.

From II and III together:



Thus A is husband of D.

Therefore, II and III together are sufficient.

From I and III together:

We can't find any relation, between A and D. Thus, I and II, even together are not sufficient.

75. 4; From I: Akash's position from the top

$$= 18 + 5 + 1 = 24$$

Akash's position from the bottom

$$= 45 - 24 + 1 = 22$$

Thus, I alone is sufficient.

From II: Akash's position from the bottom

$$= 15 - 4 = 11$$

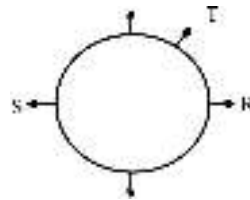
Thus, only II is sufficient.

**From III:** Akash's position from the bottom

$$= 9 + 4 + 1 = 14$$

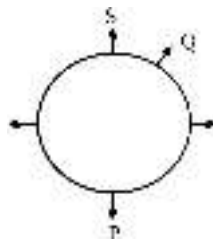
Thus only III is sufficient.

**76. 5; From I:**



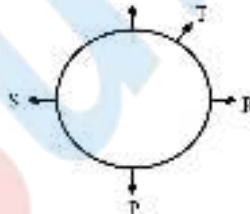
**From II:** T cannot sit adjacent to P.

**From III:**



Q sits second to the right of P. Thus only III is sufficient.

**From I and II together:**



T sits second to the right of P.

Thus I and II together are sufficient.

**From I and III together:**

The arrangement is not possible. So I and III together are not sufficient.

**77. 3; will you do this** → 9 7 3 4 ... (1)

**From I:** you can do easily → 3 1 2 9 ... (2)

**From II:** how are you → 5 3 8 ... (3)

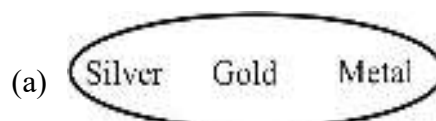
**From III:** I will give up → 6 7 # \$ ... (4)

From (1) and (2), you do → 9 3 ... (5)

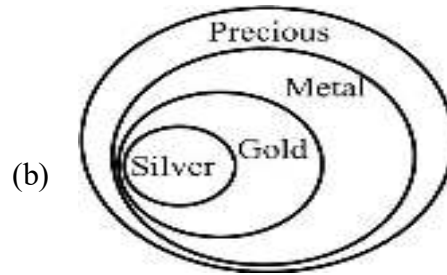
From (1) and (4), will → 7 ... (6)

From (1), (5) and (6), this → 4

**78. 5; A possible Venn-diagram is**



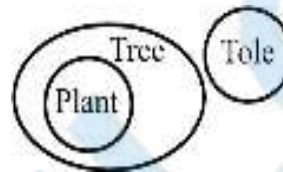
Thus I follows.



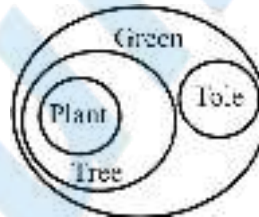
Thus II also follows.

**79.** 5; From the Venn-diagram (b), both I and II follows

**80.** 2;

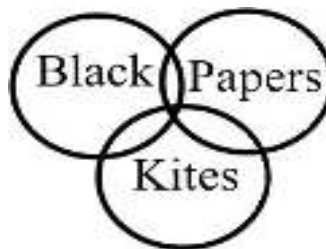


**81.** 1; A possible Venn-diagram is



Thus I follows. But II doesn't follow.

**82.** 1;



Thus I follows.

**83.** 4; According to the given paragraph, 1, 2 and 3 can be ruled out. Nothing is said about Europe, so 5 is also ruled out. And from the paragraph it is quite clear that industrial accidents can be prevented with the help of safety rules.

**84.** 3; The state administration banned gathering for safety and prevention purpose. It is just to restrict spreading of false rumours and violent incidents. So cooperation from public is

always expected. Therefore only 3 is implicit.

85. 5; (A) is not, because avoiding that particular route is not a solution to avoid any incident in future; it is escaping.

(B) can be an effective step, as it is a preventive step.

(C) is not, because the minister's resignation would not lead any solution.

(D) can be an effective step, as it would help to find reasons of this accident.

86. 3; Check for 1:

$$D < A > C = F \geq G$$

Combining

$$D < A > C \geq G$$

Thus 1 is not true.

Check for 2:

$$D < A > C = F \geq G$$

Can't compare C and D

Thus 2 is not true.

Check for 3:

$$D < A > C = F \geq G$$

$$D < A > F \geq C$$

Combining

$$D < A > G$$

Thus option 3 is true.

Check for 4:

$$D < A > C = F \geq G$$

$$D < A > F \geq G$$

Thus 4 is not true.

Check for 5:

$$D < A > C = F \geq G$$

$$D < A > F \geq C$$

Can't compare D and F

Thus 5 is not true.

87. 3; Check for 1:

$$M \geq R = N > S \geq P = Q$$

$$M \geq R > S \geq P = Q$$

Combining

$$M > S \geq P = Q$$

Combining

$$M > P = Q$$

Thus 1 is not the right choice.

Check for 2:

$$Q \geq M > N = W \geq P < S$$

$$Q \geq M > N \geq P < S$$

Combining

$$Q \geq M > P < S$$

Thus 2 is not the right choice.

Check for 3:

$$Q > M \geq N = W \geq P < S$$

$$Q > M \geq N \geq P < S$$

Conclusion

$$Q > M \geq P < S$$

Thus option 3 is the right choice.

Check for 4:

$$W < P = N \leq Q < M > R$$

$$W < P \leq Q < M > R$$

Conclusion

$$W < P < M > R$$

Thus 4 is not the right choice.

Check for 5:

$$N > Q = P < S \leq R \leq M$$

Conclusion

$$N > Q = P < S \leq M$$

Conclusion

$$N > Q = P < M$$

Thus 5 is not the right choice.

**88.** 4; Check for 1:

$$V > R \geq K < S = W \leq M$$

$$V > R \geq K < S \leq M$$

Conclusion

$$V > R < S \leq M$$

Thus 1 is not the right choice.

Check for 2:

$$V < M \geq T \geq S = P > R$$

Conclusion

$$V < M \geq S = P > R$$

$$V < M \geq S > R$$

Thus 2 is not the right choice.

Check for 3:

$$K > M = J \geq S > N = R$$

$$K > M \geq S > R$$

Thus 3 is not the right choice.

Check for 4:

$$T = R \leq K < S = P < M$$

Conclusion

$$T = R < S = P < M$$

$$T = R < S < M$$

Thus option 4 is the right choice.

Check for 5:

$$M \geq P = S \geq T > R = V$$

$$M \geq P \geq T > R = V$$

Conclusion

$$M \geq P > R = V$$

Thus 5 is not the right choice.

**89.** 2; Check for 1:

$$N = K = L < P < M$$

Conclusion

$$N = K = L < M$$

$$N = K < M$$



Thus 1 is not the right choice.

Check for 2:

$$N = K = L \leq P = M$$

$$N = K \leq M$$

Thus option 2 is the right choice.

Check for 3:

$$N = K = L \leq P < M$$

$$N = K \leq P < M$$

$$N = K < M$$

Thus 3 is not the right choice.

Check for 4:

$$N = K = L < P \leq M$$

$$N = K < P \leq M$$

$$N = K < M$$

Thus 4 is not the right choice.

90. 2; Sumit > Surya > Ravi > Amit > Vijay

(91-95):

| X (Delhi) | Y (Chandigarh) | Z (Agra) |
|-----------|----------------|----------|
| D (-)     | C              | A (-)    |
| G (+)     | F (-)          | H (+)    |
| E         | B (+)          |          |

91. 4

92. 5

93. 5

94. 2

95. 1

(96-100):

summer is not pleasant always → mo ra tic su na ...(1)

pleasant season is spring → dic ra nic mo ...(2)

always likes spring → phi su nic ...(3)

hot summer season → tic ga dic ...(4)

From (1) and (4), summer → tic

From (1) and (3), always → su

From (2) and (3), spring → nic

From (3), likes → phi

From (2) and (4), season → dic

From (4), hot → ga

From (1) and (2), is pleasant → ra mo

From (1), not → na

96. 3

97. 3

98. 5; spring → nic

is → either 'ra' or 'mo'

hot → ga

99. 2; tic → summer

phi → likes

dic → season

**100.** 4; nobody → zo→(new code for new word)

likes → phi

hot → ga

season → dic

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