SBI PO's PRELIMINARY MODEL PAPER

No. of Questions: 100 **Maximum Marks: 100** **Time: 60 Mnts**

ENGLISH LANGUAGE

Directions (Qs. 1–10): Read the following passage carefully and answer the questions given below it. Certain words / phrases have been printed in bold to help you locate them while answering some of the questions.

A few weeks ago, a newspaper article quoted a well known scientist saying, "IT has destroyed Indian science". One can **speculate** about the various ways in which the growth of the IT sector and other similar knowledge industries such as biotechnology has led to a decline in basic scientific research in India. The most obvious reason is money; pay scales in IT and BT are much higher than one can aspire to in academia. The argument goes: why should a **bright** B. Tech. or M.Sc. student enroll in a Ph.D. programme when she can make a lot more money writing code? Not only does a **fresh** IT employee make a lot more than a fresh M.Tech. student, his / her pay will rise much faster in IT than in academia. A professor's pay at a government run university, even after the Sixth Pay Commission, tops out at far less than a senior executive's salary in a major industry. Second, the social status of IT and BT jobs equal or even exceed the social status of corresponding academic positions, since they are seen as knowledge industries, which plays to the best and worst instincts of the societal order. As **quintessential** white collar professions, neither do they compel a successful entrepreneur to resort to violence and corruption, nor do they demand any physical labour. Unlike real estate or road construction, it is felt that IT workers can become rich while staying honest and sweatfree. Assuming that the labour pool for academia and IT is roughly the same, the difference in our collective preferences biases the labour market towards IT and away from academia. Further, when the imbalance between IT and academia continues for years and even decades, a destructive loop, from academia's point of view, is created. When our best and brightest take IT jobs over academic ones for a decade or more, faculty positions in our universities and research centres are no longer filled by the best candidates. As faculty quality goes down, so does the **capacity** to train top class graduate students who, after all, are teachers in training. In response to decreasing faculty quality, even those students who otherwise choose an academic profession, decide to join industry or go abroad for their studies. These foreign trained graduates prefer to come back to corporate India - if at all they do come back and the downward cycle replicates itself in each generation. In other words, academia is trapped within a perfect storm created by a combination of social and economic factors.

In this socio-economic calculus, the members of our societal classes should prefer an IT job to an academic one. Or, to put it another way, the knowledge economy, i.e., the creation of knowledge for profit, trumps the knowledge society, i.e., the creation of knowledge for its own sake or the sake of the greater good. As is said, "knowledge is power, but money is even more power. Perhaps the scientist was **alluding** to this victory of capitalism over the pursuit of pure knowledge when he accused IT of having a negative influence on Indian science. Surely, knowledge has become a commodity like any other and as a result, knowledge workers are like any other labourers, who will sell their wares to the highest bidder. One solution is to accept and even encourage the commoditization of knowledge; if so, Indian universities and research centres should copy their western counterparts by becoming more and more like corporations. These centres of learning should convert themselves into engines of growth. In this logic, if we increase academic salaries and research grants to match IT pay cheques we will attract good people, into academia, where, in any case, it is rumoured that a certain **elusive** feeling called 'the quality of life' is better.

1. According to the passage what did the scientist actually mean when he said, "IT has destroyed Indian Science?"

1) The centres meant for Scientific research are being utilised by IT industries

2) The IT industry does not employ people pursuing higher studies

3) As information is readily available on the Internet because of IT, there is no need to seek further information

4) IT has distorted the truth as stated by Indian science

5) The desire for money has overshadowed the search for knowledge

2. What, according to the author, is a destructive loop ?

1) Many people quit their existing, jobs to work in the IT industry which in turn leads to the downfall of the other industries.

2) The fact that the best minds do not want to become teachers and this in turn leads to good students seeking knowledge elsewhere

3) The fact that people working in the IT industry do not pursue higher studies which in turn leads to the deterioration in quality of employees

4) The unending use of re-sources by the IT industry leading to a dearth of resources in the country

5) Less grants are being provided by the Government to academic institutes which in turn leads to poor quality students joining the same

3. Which of the following mentioned below is/ are the author's suggestion/s to promote interest in Indian academia ?

A) Research centres should adopt the corporate culture as is done in the West.

B) Lessening the number of research grants given.

C) Making academic salaries equivalent to those paid in IT industries.

1) only C 2) only A 3) only B and C 4) only A and C

5) None of these

4. Which of the following is **NOT TRUE** in the context of the passage?

A) It is believed that the quality of life is better when pursuing scientific research.

B) People currently seek knowledge only for the greater good of the society

C) Money is not perceived to be as powerful as knowledge.

1) Only A and C 2) Only B 3) Only A and B 4) Only B and C

5) All of the above

5. Which of the following according to the author, are factors responsible for the declining interest in scientific research?

A) Slower progress of work in

B) Lesser monetary compensation in research related activities

C) Societal perception towards research

1) Only A 2) Only C 3) Only B and C 4) Only A and B

5) All of the above

6. Which of the following is **true** about the perception towards IT jobs as given in the passage ?

A) They are physically tiring.

B) They are considered to be managerial level jobs.

C) They require usage of dishonest means.

1) Only B 2) Only A and B 3) Only C 4) Only B and C

5) All are true

Directions (Qs. 7 – 8): Choose the word / group of words which is most similar in meaning to the word / group of words printed in bold as used in the passage.

7. **SPECULATE**

1) visit 2) contemplate 3) remark 4) argue

5) regulate

8. **QUINTESSENTIAL**

1) typical 2) different 3) necessary 4) unique

5) excellent

Directions (Qs. 9 – 10): Choose the word / group of words which is most opposite in meaning to the word / group of words printed in bold as used in the passage.

9. **BRIGHT**

1) soft 2) dark 3) dull 4) vivid

5) dim

10. **ELUSIVE**

1) definite 2) happy 3) mysterious 4) worthwhile

5) remarkable

Directions (Qs. 11 – 15): Rearrange the given five sentences (A), (B), (C), (D) and (E) in a proper sequence so as to form a meaningful paragraph and then answer the given questions.

A) But, they should be.

B) It is true - these companies can cost you thousands of dollars a year and you may not receive any return on that investment, unless you file a claim.

C) In fact, besides this impact, without the insurance industry, the economy would practically come to a standstill.

D) Think of an insurance company and unless you have had a significant claim paid, your thoughts may not be too positive.

E) Yet, it is difficult to think of another industry that has a more positive impact on the economy.

11. Which of the following should be the **FIFTH (LAST)** sentence after arrangement?

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

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

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

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

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

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

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

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

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

Directions (Qs. 16 – 20): Each question below has two blanks, each blank indicating that something has been omitted. Choose the set of words for each blank best fits the meaning of the sentence as a whole.

16. The organisation ..... to popularise Indian classical music among the youth which has lost ..... with its cultural roots.

1) endeavours, touch
2) wishes, interest
3) efforts, experience
4) exerts, intrigue
5) need, relation

17. One of the major critiques of the examination system is that it ..... to a spirit of ..... competition among the students.

1) results, defective
2) accompanies, adequate
3) develops, intense
4) takes, severe
5) leads, unhealthy

18. Auroras are natural light displays in the sky, usually ..... at night, ... in the Polar regions.

1) watch, upward
2) noticed, peculiar
3) observed, only
4) found, most
5) follows, mainly

19. After the board examinations, students are ..... up for the various entrance examinations ..... for next month.

1) ready, timed
2) gearing, scheduled
3) prepared, programmed
4) set, duration
5) geared, kept.

20. The governmental ..... spurred dramatic improvements in the way waste management is ..... out in many hospitals.

1) rule, thrown
2) plans, conduct
3) crusade, done
4) efforts, carried
5) venture, disposed

Directions (Qs. 21 – 25): 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.

As the country embarks on planning **(21)** the 12th Plan (2012 - 17) period, a key question mark that hangs over the process is on the energy requirements. Growth is energy hungry, and the aspirations of growing at 9-10% will **(22)** huge demands on the energy resources of the country. In this energy jigsaw, renewable energy will feature like never before in the 12th Plan and after. By the rule of the thumb, India will generate about 100 gigawatts (Gw)-100000 megawatts-of capacity addition in the next five years. Encouraging trends on energy efficiency and sustained **(23)** by some parts of the government-the Bureau of Energy Efficiency in particular needs to be complimented for this-have led to substantially lesser energy intensity of economic growth. However, even the tempered demand numbers are **(24)** to be below 80 Gw. As

against this need the coal supply from domestic sources is unlikely to support more than 25 Gw equivalent capacity. Imported coal can add some more, but at a much higher cost. Gas-based electricity generation is unlikely to contribute anything substantial in view of the unprecedented gas supply challenges. Nuclear will be **(25)** in the foreseeable future. Between imported coal, gas, large hydro and nuclear, no more than 15-20 GW equivalent can be expected to be added in the five-year time block.

21. 1) against 2) for 3) onwards 4) at
5) on

22. 1) forward 2) subject 3) place 4) demand
5) replace

23. 1) structures 2) efforts 3) projections 4) practices
5) developmental

24. 1) sure 2) unsure 3) unexpected 4) unlikely
5) likely

25. 1) failure 2) success 3) dangerous 4) maximum
5) marginal

Directions (Q. 26 – 30): Which of the phrases 1), 2), 3) and 4) given below each statement should replace the phrase printed in bold in the sentence to make it grammatically correct? If the sentence is correct as it is given and 'No correction is required,' mark 5) as the answer.

26. A twenty-first century economy **cannot be held** hostage by power cuts nor travel on nineteenth century roads.

1) cannot be hold 2) can either be held
3) can neither be held 4) can either be hold
5) No correction required

27. The company's philosophy is to make sure that the employees are happy, have the ability to be intellectually stimulated and **contributes towards their growth**.

1) contribute to their growth 2) contribute towards its growth
3) contributes towards its growing 4) contribute to its growing
5) No correction required

28. **Even though many companies are** now penetrating rural India, it would help to give India a real chance of witnessing a double digit GDP growth.

1) Despite many companies are
2) As many company is
3) Besides many companies are
4) Since many companies are
5) No correction required

29. Today, governments are introducing more and more technology into their system to address the needs of citizens at a pace **fast than that of** manual operations.

1) faster than that of 2) faster than those for
3) fast than that for 4) more than that In
5) No correction required

30. Making good school education a reality **would require major changes** in existing school system with expansion at both secondary and elementary levels.

1) should requires major changes

2) would requires major change

3) must require some changes

4) require major changes

5) No correction required

QUANTITATIVE APTITUDE

31. Rita invested 25% more than Sunil. Sunil invested 30% less than Abhinav who invested Rs. 6,000. What is the respective ratio between the amount that Rita invested and the total amount invested by all of them together?

1) 35 : 104 2) 13 : 29 3) 101 : 36 4) 35 : 103

5) None of these

32. A man gets a simple interest of Rs. 1,000 on a certain principal at the rate of 5 p.c.p.a. in 4 years. What compound interest will the man get on twice the principal in two years at the same rate?

1) Rs. 1,050 2) Rs. 1,005 3) Rs. 11,025 4) Rs. 10,125

5) None of these

33. The perimeter of a square is equal to twice the perimeter of a rectangle of length 8 cms. and breadth 7 cms. What is the circumference of a semicircle whose diameter is equal to the side of the square? (Rounded off to the two decimal places)

1) 38.57 cms 2) 23.57 cms 3) 42.46 cms 4) 47.47 cms

5) None of these

34. Radha's present age is three years less than twice her age 12 years ago. Also the respective ratio between Raj's present age and Radha's present age is 4 : 9. What will be Raj's age after 5 years?

1) 12 years 2) 7 years 3) 21 years 4) Can't determine

5) None of these

35. The respective ratio between the speeds of a car, a train and a bus is 5 : 9 : 4. The average speed of the car, the bus and the train is 72 kmph together. What is the average speed of the car and the train together?

1) 82 kmph 2) 78 kmph 3) 84 kmph 4) Can't determine

5) None of these

Directions (Q. 36 – 40): What will come in place of the question mark (?) in each of the following number series?

36. 2 8 26 ? 242

1) 78 2) 72 3) 82 4) 84

5) None of these

37. 3 4 12 ? 196

1) 45 2) 40 3) 41 4) 49

5) None of these

38. 9 17 ? 65 129

1) 32 2) 24 3) 35 4) 33

5) None of these

39. 7 13 ? 49 97

1) 27 2) 25 3) 23 4) 29

5) None of these

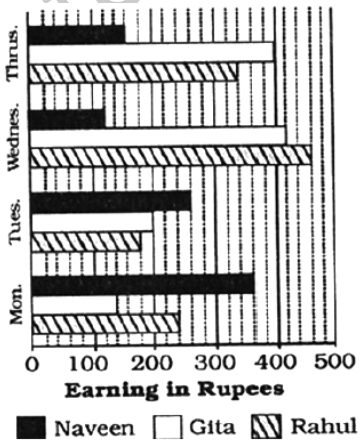
40. 5 3 6 ? 64.75

1) 15 2) 15.5 3) 17.5 4) 17.25

5) None of these

Directions (Q. 41 – 45): Study the following bar-graph carefully and answer the following questions.

Earning (in rupees) of three different persons on four different days



41. What is Gita's average earnings over all the days together?

1) Rs. 285 2) Rs. 290 3) Rs. 320 4) Rs. 310

5) Rs. 315

42. What is the total amount earned by Rahul and Naveen together on Tuesday and Thursday together?

1) Rs. 1040 2) Rs. 1020 3) Rs. 980 4) Rs. 940

5) Rs. 860

43. Gita donated her earnings of Wednesday to Naveen. What was Naveen's total earnings on Wednesday after Gita's donation?

1) Rs. 520 2) Rs. 550 3) Rs. 540 4) Rs. 560

5) Rs. 620

44. What is the difference between Rahul's earnings on Monday and Gita's earnings on Tuesday?

1) Rs. 40 2) Rs. 20 3) Rs. 50 4) Rs. 30

5) Rs. 10

45. What is the respective ratio between Naveen's earnings on Monday, Wednesday and Thursday?

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

5) 9 : 3 : 4

46. Out of 5 women and 4 men a committee of three members is to be formed in such a way that at least one member is a woman. In how many different ways can it be done?

1) 80 2) 84 3) 76 4) 96

5) None of these

47. In how many different ways can the letters of the word TOTAL be arranged?

1) 120 2) 60 3) 48 4) 72

5) None of these

48. B and C together can complete a work in 8 days. A and B together can complete the same work in 12 days and A and C together can complete the same work in 16 days. In how many days can A, B and C together complete the same work?

1) $3\frac{9}{13}$ 2) $7\frac{5}{13}$ 3) $7\frac{5}{12}$ 4) $3\frac{5}{12}$

4) None of these

49. What will be the compound interest accrued on an amount of Rs. 10,000 at the rate of 20 p.c.p.a. in two years if the interest is compounded half yearly?

1) Rs. 4,400 2) Rs. 4,600 3) Rs. 4,641 4) Rs. 4,680

5) None of these

50. Income of A is 150% of the income of B and income of C is 120% of the income of A. If the total income of A, B and C together is Rs. 86,000, what is C's income?

1)Rs. 30,000 2) Rs. 32,000 3) Rs. 20,000 4) Rs. 36,000

5) None of these

Directions (Q. 51 – 55): In the following questions two equations numbered 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 the relationship cannot be established

51. I. $5x^2 - 18x + 9 = 0$

II. $20y^2 - 13y + 2 = 0$.

52. I. $x^3 - 878 = 453$

II. $y^2 - 82 = 39$

53. I. $\frac{3}{\sqrt{x}} + \frac{4}{\sqrt{x}} = \sqrt{x}$

II. $y^3 - \frac{(7)^{7/2}}{\sqrt{y}} = 0$

54. I. $9x - 15.45 = 54.55 + 4x$

II. $\sqrt{y + 155} - \sqrt{36} = \sqrt{49}$

55. I. $x^2 + 11x + 30 = 0$

II. $y^2 + 7y + 12 = 0$

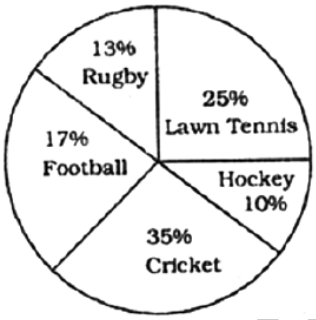
Directions (Q. 56 – 60): Study the following pie-chart carefully to answer these questions.

Percentage wise Distribution of Players Who Play Five Different Sports

Total Players are 4200 out of which Female Players are equal to 2000

Total Players = 4200

Percentage of Players who play different sports



Female Players = 2000

Percentage of Female Players who play different sports

56. What is the average number of players (both male and female) who play football and rugby together?

1) 620 2) 357 3) 230 4) 630

5) None of these

57. What is the difference between the number of the female players who play lawn tennis and the number of male players who play rugby?

1) 94 2) 84 3) 220 4) 240

5) None of these

58. What is the respective ratio of the number of female players who play cricket and number of male players who play hockey?

1) 20 : 7 2) 4 : 21 3) 20 : 3 4) 3 : 20

5) None of these

59. What is the total number of male players who play football, cricket and lawn tennis together?

1) 1,724 2) 1,734 3) 1,824 4) 1,964

5) None of these

60. Number of male players who play rugby is **approximately** what percentage of the total number of players who play lawn tennis?

1) 33 2) 39 3) 26 4) 21

5) 43

Directions (Q. 61 – 65): What approximate value should come in place of the question mark (?) in the following questions? (You are not expected to calculate the exact value.)

61. $\sqrt{8938} \times (5.96)^2 = ?$

1) 3050 2) 3780 3) 2340 4) 3400

5) 3950

62. 4734.96 – 3454.03 – 1612.86 = ? – 1611.43

1) 1280 2) 2290 3) 1020 4) 18150

5) 1040

63. $\frac{323}{55} \times \frac{971}{251} \times \frac{56}{61} = ?$

1) 27 2) 9 3) 4 4) 16

5) 21

64. $133.008 \times 2.97 - 111.87 + 74.13 = ?$

1) 311 2) 234 3) 357 4) 290

5) 399

65. $32.1 \times 2799 \div 549 + 120 = ?$

1) 220 2) 284 3) 375 4) 505

5) 190

REASONING ABILITY

Directions (Q. 66 – 70): In the following questions, the symbols @, ○, $, % and ★ are used with the following meaning as illustrated below.

'P ○ Q' means 'P is not greater than Q'.

'P % Q' means 'P is not smaller than Q'.

'P ★ Q' means 'P is neither smaller than nor equal to Q'.

P @ Q' means 'P is neither greater than nor equal to Q'.

'P $ Q' means 'P is neither greater than nor smaller than Q'.

Now in each of the following questions assuming the given statements to be true, find which of the two conclusions I and II given below them is/are **definitely true**? Give answer

1) If only Conclusion I is true.

2) If only Conclusion II is true.

3) If either Conclusion I or II is true.

4) If neither Conclusion I nor II is true.

5) If both Conclusions I and II are true.

66. **Statements:** K@V, V ○ N, N % F

Conclusions: I. F @ V II. K @ N

67. **Statements:** H ○ W, W $ M, M @ B

Conclusions: I. B ★ H II. M % H

68. **Statements:** D % B, B ★ T, T $ M

Conclusions: I. T ○ D II. M ○ D

69. **Statements:** M★T, T @ K, K○N

Conclusions: I. N ★ T II. N ★ M

70. **Statements:** R $ J, J % D, D ★ F

Conclusions: I. D $ R II. D @ R

Directions (Q. 71 – 72): Read the following information carefully and answer the questions which follow:

A, B, C, D, E and F live on different floors in the same building having six floors numbered one to six (the ground floor is numbered 1, the floor above it, number 2 and so on and the topmost floor is numbered 6).

A lives on an even numbered floor. There are two floors between the floors on which D and F live. F lives on a floor above D's floor. D does not live on floor number 2. B does not live on an odd numbered floor. C does not live on any of the floors below F's floor. E does not live on a floor immediately above or immediately below the floor on which B lives.

71. Who amongst the following live on the floors exactly between D and F?

1) E, B 2) C, B 3) E, C 4) A, E

5) B, A

72. On which of the following floors does B live?

1) 6^{th} 2) 4^{th} 3) 2^{nd} 4) 5^{th}

5) Cannot be determined

73. An office bus driver starts from the office, drives 2 km towards North, takes a left turn and drives for 5 km. He then takes a left turn and drives for 8 km before taking a left turn again and driving for 5 km. The driver finally takes a left turn and drives 1 km before stopping. How far and towards which direction should the driver drive to reach the office again?

1) 3 km towards North 2) 7 km towards East

3) 6 km towards South 4) 6 km towards West

5) 5 km towards North

Directions (Q. 74 – 75): Study the following information to answer the given questions.

In a five letter English word (which may or may not be a meaningful English word), there are two letters between L and P. S is not placed immediately next to L. There is only one letter between S and A. S is towards the right of A. S is not placed immediately next to E.

74. Which of the following is correct with respect to the word thus formed?

1) E is at one of the extreme ends of the word

2) P is not placed immediately next to A

3) There are two letters between A and E in the word thus formed

4) P is placed second to the right of E

5) None is correct

75. Which of the following words will be formed based on the given conditions?

1) SPAEL 2) PEALS 3) LEAPS 4) SEPAL

5) LAPSE

Directions (Q. 76 – 80): Study the following information carefully and answer the questions given below.

Seven persons namely, M, N, O, P, Q, R and S attended seminars in seven different cities viz, London, Paris, Bangkok, New York, Madrid, Tokyo and Seoul on seven different days of the same week starting from Monday to Sunday, but not necessarily in the same order. S attended Seminar on Wednesday. Only one person attended Seminar between S and the person who attended Seminar in Seoul. Only three persons attended Seminars between R and the person who attended Seminar in Seoul. Only one person attended Seminar between Q and the person who attended Seminar in Seoul. O attended Seminar immediately before

P. Only two persons attended Seminars between P and the person who attended Seminar in Bangkok. M did not attend Seminar on Saturday. M attended Seminar immediately before the person who attended Seminar in Tokyo. N attended Seminar immediately before the person who attended Seminar in London. O did not attend Seminar in New York. N attended Seminar in Madrid but not on Monday.

76. Four of the following five are alike in a certain way as per the given arrangement and hence form a group. Which is the one that does not belong to that group?

1) O - Wednesday
2) N - Friday
3) M - Thursday
4) Q - Saturday
5) S - Tuesday

77. Which of the following represents the day on which N attended a Seminar?

1) Saturday
2) Sunday
3) Thursday
4) Tuesday
5) Other than those given as options

78. Who amongst the following attended Seminar in Seoul?

1) M
2) O
3) Either M or P
4) P
5) Cannot be determined

79. Which of the following combinations of Day-Person-City is definitely true?

1) Monday - Q - Bangkok
2) Friday - M - London
3) Saturday - R - Tokyo
4) Tuesday - N - Madrid
5) Thursday - O - Paris

80. Which of the following statements is true as per the given arrangement?

1) The one who attended Seminar in New York attended on Tuesday.
2) N attended Seminar on Saturday immediately after P.
3) M attended Seminar exactly between S and O
4) P attended Seminar on Tuesday in Paris
5) None of the given statements is true

81. It has been reported in recent years that a very large number of seats in the engineering colleges in the country remain vacant at the end of the admission session. Which of the following may be the probable **cause** of the above effect?

1) There has been a considerable decrease in hiring of engineering graduates due to economic slowdown in the recent years
2) Students have always preferred to complete graduation in three years time instead of four years for engineering.
3) The Government has recently decided to provide post qualification professional training to all engineering graduates at its own cost.
4) There has always been a very poor success rate among the engineering students.
5) None of these

82. The condition of the roads in the city has deteriorated considerably during the first two months of monsoon and most of the roads have developed big potholes. Which of the following can be a possible **effect** of the above cause?

1) The municipal corporation had repaired all the roads in the city before onset of monsoon with good quality material.

2) A large number of people have developed spine related injuries after regularly commuting long distances by road within the city.

3) The municipal corporation has been careful in choosing the contractors for repairing roads in the past.

4) People always complain about potholed roads during the monsoon months.

5) None of these

83. Majority of the students who appeared in the final examination of post graduate course in management in the local college have secured first class which is comparatively higher than the performance of students of other management colleges in the state. Which of the following may indicate that the results are **not in line** with the general trend?

1) The students of the local college are qualitatively better than those of other colleges

2) The authorities of the other management colleges in the state are stricter in their standard of evaluation for their students.

3) The students of other management colleges in the state performed better than the students of the local college in all the previous examinations.

4) The local management college recently retrenched many of its regular faculty members.

5) None of these

84. It has been reported in many leading newspapers that the current year's monsoon may be below the expected level as many parts of the country are still not getting adequate rainfall. Which of the following can be a **possible** fallout of the above situation?

1) People from those affected areas with less rainfall may migrate to urban areas

2) Government may announce ex-gratia payment to all the farmers affected in these areas

3) Government may declare these areas as drought affected areas.

4) People may blame the Government and agitate for not getting adequate water for cultivation

5) None of these

85. There has been a spate of rail accidents in India in the recent months killing large numbers of passengers and injuring many more. This has raised serious doubts about the railway's capability of providing safety to travelers. Which of the following statements **substantiates** the views expressed in the above statement?

1) Indian Railways has come to be known to provide best passenger comfort in the recent years

2) People have no option other than travelling by rail over long distances.

3) The railway tracks at many places have been found to be stressed due to wear and tear in the recent times.

4) Local residents are always the first to provide a helping hand to the passengers in the event of such disasters.

5) None of these

Directions (Q. 86 – 90): In each question below are two/ three statements followed by two conclusions numbered I and II. You have to take the two/ 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 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 conclusion II follows.

4) If **neither** conclusion I nor conclusion II follows.

5) If **both** conclusion I and conclusion II follow.

(86 – 87) Statements: All gliders are parachutes.

No parachute is an airplane.

All airplanes are helicopters.

86. Conclusions: I. No helicopter is a glider.

II. All parachutes being helicopters is a possibility.

87. Conclusions: I. No glider is an airplane.

II. All gliders being helicopters is a possibility.

88. Statements: Some mails are chats.

All updates are chats.

Conclusions: I. All mails being updates is a possibility.

II. No update is a mail.

(89 – 90): Statements: No stone is a metal.

Some metals are papers.

All papers are glass.

89. Conclusions: I. No glass is a metal.

II. Atleast some glass is metal.

90. Conclusions: I. All stones being glass is a possibility.

II. No stone is a paper.

Directions (Q. 91 – 93): Study the following information to answer the given questions.

A building has seven floors numbered one to seven, in such a way that the ground floor is numbered one, the floor above it, number two and so on such that the topmost floor is numbered seven. One out of seven people viz. A, B, C, D, E, F and G lives on each floor. A lives on fourth floor. E lives on the floor immediately below F's floor. F does not live on the second or the seventh floor. C does not live on an odd numbered floor. B does not live on a floor immediately above or below C's floor. D does not live on the top-most floor. G does not live on any floor below E's floor.

91. Who lives on the topmost floor?

1) B 2) C 3) E 4) G

5) Cannot be determined

92. Who lives immediately above D's floor?

1) A 2) B 3) C 4) F

5) G

93. Four of the following five are alike in a certain way and so form a group. Which is the one that **does not** belong to that group?

1) F 2) D 3) B 4) G

5) C

Directions (Q. 94 – 95): These questions are based on the position of English alphabets.

94. Four of the following five are alike in a certain way and so form a group. Which is the one that **does not** belong to the group?

1) LOJ 2) FID 3) RUP 4) ILN

5) CFAzz

95. Which of the following will be the next letter in the following letter series?

B C E H L ?

1) Q 2) P

3) O 4) Cannot be determined

5) None of these

Directions (Qs. 96 – 100): Study the following information carefully and answer the questions given below:

P, Q, R, S, T and M are six students of a school, one each studies in Class I-VI. Each of them has a favourite colour from red, black, blue, yellow, pink and green, not necessarily in the same order. Q likes black and does not study in Class IV or V. The one who studies in class IV does not like green. P studies in class II. M likes blue and does not study in class IV. The one who likes yellow studies in class VI. S likes pink and studies in class I. R does not study in class VI.

96. In which class does R study?

1) V 2) III 3) IV 4) Data inadequate

5) None of these

97. Which colour does R like?

1) Black 2) Yellow 3) Green 4) Blue

5) None of these

98. Which colour does P like?

1) Green 2) Yellow 3) Red 4) Data inadequate

5) None of these

99. Which of the following combination is correct ?

1) P - II – Yellow 2) Q - III – Green

3) S - I – Black 4) T - V – Yellow

5) None of these

100. In which class does M study?

1) IV 2) III 3) II 4) V

5) None of these

KEY

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

HINTS & SOLUTIONS

1. The desire for money has over shadowed the search for knowledge.

2. The fact that the best minds do not want to become teachers and this in turn leads to good students seeking knowledge elsewhere.

7. The meaning of the word **Speculate (Verb)** as used in the passage is : to form an idea about something without knowing all the details or facts. The word **Contemplate (Verb)** means : consider; think about. Hence, the words speculate and **contemplate** are synonymous.

8. The meaning of the word **Quintessential (Adjective)** as used in the passage is : the most important; excellent.

9. The meaning of the word **Bright (Adjective)** as used in the passage is : intelligent; quick to learn.

Hence, the words **bright** and dull are antonymous.

10. The meaning of the word **Elusive (Adjective)** as used in the passage is : difficult to find, de-fine or achieve.

Hence, the words **elusive** and **definite** are antonymous.

16. endeavours, touch

17. leads, unhealthy

18. observed, only

19. gearing, scheduled

20. efforts, carried

21. for

22. place

23. efforts

24. unlikely

25. marginal

26. Neither ……. nor is correct form of correlative.

27. contribute towards its growth

28. Since many companies are

29. Here, comparative degree should be used.

30. No correction required

31. Abhinav's investment = Rs. 6000

Sunil's investment = $\frac{70 \times 6000}{100}$

$= \text{Rs. } 4200$

Rita's investment $= \frac{4200 \times 125}{100} = \text{Rs. } 5250$

$\therefore$ Required ratio $= 5250 : (6000 + 4200 + 5250)$

$= 5250 : 15450 = 35 : 103$

32. Principal $= \frac{\text{SI} \times 100}{\text{Time} \times \text{Rate}}$

$= \frac{1000 \times 100}{4 \times 5} = \text{Rs. } 5000$

Case II

Principal = Rs. 10000

$\therefore \text{CI} = P\left[\left(1 + \frac{\text{Rate}}{100}\right)^{\text{Time}} - 1\right]$

$= 10000\left[\left(1 + \frac{5}{100}\right)^2 - 1\right]$

$= 10000 \times \left[\left(\frac{21}{20}\right)^2 - 1\right]$

$= 10000 \times \frac{41}{400} = \text{Rs.}1025$

33. Perimeter of square = 2 × Perimeter of rectangle

$= 2 \times 2\ (8 + 7) = 60$ cm.

$\therefore$ Side of square $= \frac{60}{4} = 15$ cm.

$\therefore$ Diameter of semi-circle = 15 cm.

$\therefore$ Circumference of semi – circle $= \frac{\Pi d}{2} + d$

$= \frac{22}{7 \times 2} \times 15 + 15 = 38.57\text{cm}$

34. Let Radha's present age = x years.

$\therefore x = 2\ (x - 12) - 3$

$\Rightarrow x = 2x - 24 - 3 \Rightarrow x = 27$

$\therefore$ Raj's present age $= \frac{4}{9} \times 27 = 12$ years

$\therefore$ Raj's age after 5 years $= 12 + 5 = 17$ years

35. $5x + 9x + 4x = 72 \times 3$

$\Rightarrow 18x = 72 \times 3$

$\therefore x = \frac{72 \times 3}{18} = 12$ kmph

$\therefore$ Average speed of car and train

$= \frac{5x + 9x}{2} = 7x = 84$ kmph

36. The pattern is :

$2 \times 3 + 2 = 6 + 2 = 8$

$8 \times 3 + 2 = 24 + 2 = 26$

$26 \times 3 + 2 = 78 + 2 =$ **80**

$80 \times 3 + 2 = 240 + 2 = 242$

37. The pattern is :

$3 \times 1 + 12 = 3 + 1 = 4$

$4 \times 2 + 22 = 8 + 4 = 12$

$12 \times 3 + 32 = 36 + 9 =$ **45**

$45 \times 4 + 42 = 180 + 16 = 196$

38. The pattern is:

$9 \times 2 - 1 = 18 - 1 = 17$

$17 \times 2 - 1 = 34 - 1 =$ **33**

$33 \times 2 - 1 = 66 - 1 = 65$

$65 \times 2 - 1 = 130 - 1 = 129$

39. The pattern is :

$7 \times 2 - 1 = 14 - 1 = 13$

$13 \times 2 - 1 = 26 - 1 =$ **25**

$25 \times 2 - 1 = 50 - 1 = 49$

$49 \times 2 - 1 = 98 - 1 = 97$

40. The pattern is :

$5 \times 0.5 + 0.5 = 2.5 + 0.5 = 3$

$3 \times 1.5 + 1.5 = 4.5 + 1.5 = 6$

$6 \times 2.5 + 2.5 = 15 + 2.5 =$ **17.5**

$17.5 \times 3.5 + 3.5 = 61.25 + 3.5 = 64.75$

41. Gita's average earnings

$= \frac{140 + 200 + 420 + 400}{4}$

$= \frac{1160}{4} =$ Rs. 290

42. Amount earned by Rahul and Naveen = 180 + 260 + 340 + 160 = Rs. 940

43. Naveen's total earnings on Wednesday = 420 + 120 = Rs. 540

44. Required difference = 240 – 200 = Rs. 40

45. Required ratio = 360 : 120 : 160

= 9 : 3 : 4

46. The committee will be formed as follows :

i) 1 woman and 2 men

ii) 2 women and 1 man

iii) 3 women

$\therefore$ Required number of committees

$= {}^5C_1 \times {}^4C_2 + {}^5C_2 \times {}^4C_1 + {}^5C_3$

$= 5 \times \frac{4 \times 3}{1 \times 2} + \frac{5 \times 4}{1 \times 2} \times 4 + \frac{5 \times 4 \times 3}{1 \times 2 \times 3}$

$= 30 + 40 + 10 = 80$

47. The word TOTAL has 5 letters in which T comes twice.

$\therefore$ Total number of arrangements

$= \frac{5!}{2!} = \frac{5 \times 4 \times 3 \times 2 \times 1}{2 \times 1} = 60$

48. (B + C)'s 1 day's work = $\frac{1}{8}$ .....(i)

(A + B)'s 1 day's work = $\frac{1}{12}$ ….. (ii)

(A + C)'s 1 day's work = $\frac{1}{16}$ ….. (iii)

On adding all these three equations,

2 (A + B + C)'s 1 day's work

$= \frac{1}{8} + \frac{1}{12} + \frac{1}{16} = \frac{6 + 4 + 3}{48} = \frac{13}{48}$

$\Rightarrow$ (A + B + C)'s 1 day's work = $\frac{13}{96}$

$\therefore$ A, B and C together can complete the work in

$= \frac{96}{13} = 7\frac{5}{13}$ days

49. Interest is compounded half yearly.

$\therefore$ R = 20% p.a. = 10%/half year

T = 2 years = 4 half years

$\therefore$ C.I. $= P\left[\left(1 + \frac{R}{100}\right)^T - 1\right]$

$= 10000\left[\left(1 + \frac{10}{100}\right)^4 - 1\right]$

$= 10000\left[\left(\frac{11}{10}\right)^4 - 1\right]$

$= 10000\left[\left(\frac{121}{100} + 1\right)\left(\frac{121}{100} - 1\right)\right]$

$= 10000 \times \frac{221}{100} \times \frac{21}{100} = \text{Rs. } 4641$

50. Let B's income = Rs. x .

$\therefore$ A's income = $\frac{150}{100} \times x = \text{Rs. } \frac{3x}{2}$

C's income = $\frac{120}{100} \times \frac{3x}{2} = \text{Rs.} \frac{9x}{5}$

$\therefore x + \frac{3x}{2} + \frac{9x}{5} = 86000$

$\Rightarrow \frac{10x + 15x + 18x}{10} = 86000$

$\Rightarrow 43x = 860000$

$x = \frac{860000}{43} = 20000$

$\therefore$ C's income

$= \text{Rs.} \left(\frac{9}{5} \times 20000\right) = \text{Rs.}36000$

51. I. $5x^2 - 18x + 9 = 0$

$\Rightarrow 5x^2 - 15x - 3x + 9 = 0$

$\Rightarrow 5x(x - 3) - 3(x - 3) = 0$

$\Rightarrow (x - 3)(5x - 3) = 0$

$\Rightarrow \therefore x = 3 \text{ or } \frac{3}{5}$

II. $20y^2 - 13y + 2 = 0$

$\Rightarrow 20y^2 - 8y - 5y + 2 = 0$

$\Rightarrow 4y(5y - 2) - 1(5y - 2) = 0$

$\Rightarrow (4y - 1)(5y - 2) = 0$

$\Rightarrow y = \frac{1}{4} \text{ or } \frac{2}{5}$

Clearly, x > y

52. I. $x^3 = 878 + 453 = 1331$

$\therefore x = \sqrt[3]{1331} = 11$

II. $y^2 = 8^2 + 39 = 121$

$\therefore y = \sqrt{121} = \pm 11$

$\therefore x \geq y$

53. I. $\frac{3}{\sqrt{x}} + \frac{4}{\sqrt{x}} = \sqrt{x}$

$\Rightarrow 3 + 4 = x \Rightarrow x = 7$

II. $y^3 - \frac{(7)^{\frac{7}{2}}}{\sqrt{y}} = 0$

$\Rightarrow y^{\frac{7}{2}} = 7^{\frac{7}{2}} \Rightarrow y = 7$

$\therefore x = y$

54. I. $9x - 4x = 54.55 + 15.45$

$\Rightarrow 5x = 70 \Rightarrow x = 14$

II. $\sqrt{y + 155} = 7 + 6 = 13$

$\Rightarrow y + 155 = 169$

$\Rightarrow y = 169 - 155 = 14$

$\therefore x = y$

55. I. $x^2 + 11x + 30 = 0$

$\Rightarrow x^2 + 6x + 5x + 30 = 0$

$\Rightarrow x(x + 6) + 5(x + 6) = 0$

$\Rightarrow (x + 5)(x + 6) = 0$

$\therefore x = -5$ or -6

II. $y^2 + 7y + 12 = 0$

$\Rightarrow y^2 + 4y + 3y + 12 = 0$

$\Rightarrow y(y + 4) + 3(y + 4) = 0$

$\Rightarrow (y + 3)(y + 4) = 0$

$\therefore y = -3$ or -4

Clearly, $x < y$

56. Average number of players who play Football and Rugby

$= \frac{1}{2}[(17 + 13)\ \%\ \text{of}\ 4200]$

$= \frac{1}{2} \times 4200 \times \frac{30}{100} = 630$

57. Number of players who play Rugby

$= \frac{4200 \times 13}{100} = 546$

Number of female players who play Rugby

$= 2000 \times \frac{10}{100} = 200$

$\therefore$ Number of male players who play Rugby = 546 – 200 = 346

Number of female players who play Lawn Tennis

$= 2000 \times \frac{22}{400} = 440$

$\therefore$ Required difference = 440 – 346 = 94

58. Number of female cricketers $= 2000 \times \frac{40}{100} = 800$

Number of male Hockey players $= \frac{4200 \times 10}{100} - \frac{2000 \times 15}{100} = 420 - 300 = 120$

$\therefore$ Required ratio = 800 : 120 = 20 : 3

59. Number of male players who play Football, Cricket and Lawn Tennis

= (17 + 35 + 25)% of 4200 – (13 + 40 + 22)% of 2000

$= 4200 \times \frac{77}{100} - 2000 \times \frac{75}{100}$

= 3234 – 1500 = 1734

60. Number of male players who play Rugby

$4200 \times \frac{13}{100} - 200 = 346$

Number of players who play Lawn Tennis

$4200 \times \frac{25}{100} = 1050$

$\therefore$ Required percentage $= \frac{346}{1050} \times 100 = 33$

61. ? = 95 × 6 × 6 = 3420

$\therefore$ Required answer = 3400

62. 4735 – 3454 – 1613 = ? – 1611

$\therefore$? = – 332 + 1611 = 1279

$\therefore$ Required answer = 1280

63. $? = \frac{320}{55} \times \frac{970}{250} \times \frac{55}{60} = 21$

64. 133 × 3 – 112 + 74 = 361

$\therefore$ Required answer = 357

65. ? = 32 × 2800 | 550 + 120 = 282.9

$\therefore$ Required answer = 284

(66 - 67):

© ⇒ ≤	% ⇒ ≥	★ ⇒ >
@ ⇒ <	$ ⇒ =	

66. K @ V ⇒ K < V

V ○ N ⇒ V ≤ N

N % F ⇒ N > F

Therefore,

K < V ≤ N ≥ F

Conclusions

I. F @ V ⇒ F < V : Not True

II. K @ N ⇒ K < N :True

67. H @ W ⇒ H ≤ W

W $ M ⇒ W = M

M @ B ⇒ M < B

Therefore,

H ≤ W = M < B

Conclusions

I. B ★ H ⇒ B > H : True

II. M % H ⇒ M ≥ H : True

68. D % B ⇒ D ≥ B

B ★ T ⇒ B > T

T $ M ⇒ T = M

Therefore,

D ≥ B > T = M

Conclusions

I. T © D ⇒ T ≤ D : Not True

II. M © D ⇒ M ≤ D : Not True

69. M ★ T ⇒ M > T

T @ K ⇒ T < K

K © N ⇒ K ≤ N

Therefore,

M > T < K ≤ N

Conclusions

I. N ★ T ⇒ N > T: True

II. N ★ M ⇒ N > M: Not True

70. R $ J ⇒ R = J

J % D ⇒ J ≥ D

D ★ F ⇒ D > F

Therefore,

R = J ≥ D > F

Conclusions

I. D $ R ⇒ D = R: Not True

II. D @ R ⇒ D < R: Not True

Either I or II is true.

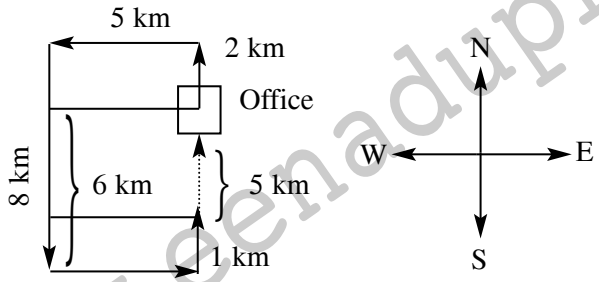
(71 – 72):

No.	Floor	Person
6	Fifth floor	B
5	Fourth floor	C
4	Third floor	F
3	Second floor	E
2	First floor	A
1	Ground floor	D

71. A and E live on the floors exactly between D and F.

72. B lives on Fifth Floor numbered sixth.

73.



(74 – 75): L – – P

L – – PS

L – APS

LEAPS

74. P is placed second to the right of E.

75. The word is LEAPS.

(76 – 80):

Day	Person	City
Monday	R	New York
Tuesday	M	Bangkok
Wednesday	S	Tokyo
Thursday	O	Paris
Friday	P	Seoul
Saturday	N	Madrid
Sunday	Q	London

76. O attended Seminar on Thursday and Thursday – 1 = Wednesday

N attended Seminar on Saturday and Saturday – 1 = Friday

Q attended Seminar on Sunday and Sunday – 1 = Saturday

S attended Seminar on Wednesday and Wednesday – 1 = Tuesday

M attended Seminar on Tuesday and Tuesday + 2 = Thursday

77. N attended Seminar Madrid on Saturday.

78. P attended Seminar Seoul on Friday.

79. The combination Thursday – O – Paris is correct.

80. R attended Seminar in New York on Monday.

M attended Seminar exactly between R and S.

P attended Seminar in Seoul on Friday.

81. Option (1) may be the cause of vacant seats in the engineering colleges.

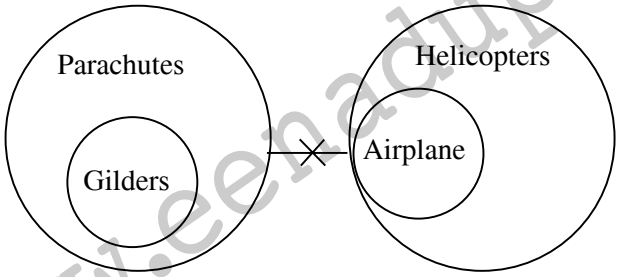
82. Option (2) may be a possible effect of big pot holes developed on the roads.

83. Option (3) indicates that the results are not in line with the general trend.

84. Option (3) may be a possible fallout of the given situation.

85. Option (3) substantiates the views expressed in the statement.

(86 – 87):



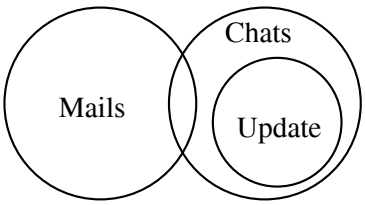
86. I. ✗ II. ✓

Only II follows.

87. I. ✓ II. ✓

Both I and II follows.

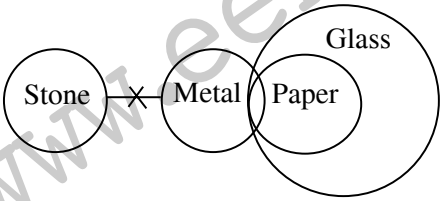
88.



I. ✓ II. ✗

Only I follows.

(89 – 90):



89. I. ✗ II. ✓

Only II follows.

90. I. ✓ II. ✗

Only I follows.

(91 – 93):

7th	G
6th	C
5th	D
4th	A
3rd	F
2nd	E
1st	B

91. G lives on the topmost floor

92. C lives immediately above D's floor.

93. F, D. B and G live on odd numbered floor. C lives on even numbered floor.

94. $L \xrightarrow{+3} O \xrightarrow{-5} J$

$F \xrightarrow{+3} I \xrightarrow{-5} D$

$R \xrightarrow{+3} U \xrightarrow{-5} P$

$I \xrightarrow{+3} L \xrightarrow{+2} N$

$C \xrightarrow{+3} F \xrightarrow{-5} A$

95. $B \xrightarrow{+1} C \xrightarrow{+2} E \xrightarrow{+3} H \xrightarrow{+4} L \xrightarrow{+5} \boxed{Q}$

(96 – 100):

P	Green	II
Q	Black	III
R	Red	IV
S	Pink	I
T	Yellow	VI
M	Blue	VI

96. R does study in Class IV.

97. R likes red colour.

98. P likes green colour.

99. None is correct

100. M does study in class V

This model paper prepared by subject experts of RACE Institute, Hyderabad.

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