STATE BANK OF INDIA

PROBATIONARY OFFICERS (PRELIMINARY) – MODEL PAPER

No. of Questions: 100 **Maximum Marks: 100** **Time: 1 hour**

ENGLISH LANGUAGE

Directions (Q. 1 to 10): Read the given passage carefully and answer the questions following it.

The deciding factor in any business's ability to exploit its product innovations commercially is the relationship between its marketing and R & D departments. In spite of this, however, many innovations still fail because of a fundamental misunderstanding of what marketing is.

Success for any product or service depends on identifying a target market and testing its commercial viability with that target market to strike the right balance between product or service quality and the price consumers are willing to pay.

However, while many large, successful businesses have systems in place to ensure research and development is market-led, their scale can make them slow to respond to market changes. While smaller businesses may be more flexible, limited resources often mean smaller marketing departments are more sales-focused, concentrating on what happens once a product has been made, rather than feeding into the product development process.

'Marketing is not just about advertising and communications once a new product has been developed, it's about getting under the skin of consumers, identifying target markets and formulating the best market positioning for a new product', says David Nicholls, global client director of international marketing consultancy Added Value. 'Yet all too often R&D and marketing departments fail to work closely together. The result is that marketing is a fundamental missing link whose absence profoundly limits a company's ability to deliver commercially successful product innovation' he adds.

A marketing department's involvement in product development should begin right at the start of the process. Only in this way can a team know that the product they are developing will be relevant to a specific target market, and packaged and presented accordingly.

Unless you continually market or test a product innovation throughout its development, the risk is it will no longer be relevant to the market by the time of its launch.ı Says Manlio Minale, a consultant at brand consultancy Wolff Olins. "And unless you keep testing it once its in the market, as big a danger is the risk that a products' rivals will quickly catch up."

Staying ahead of the competition has been an important issue for Marina, a business built on its development of the Marina wind-up radio which now produces a diverse range of self-sufficient power products. 'While the best way we can protect our market position is by ensuring we continue to make the best self-generating energy products on the market, it is also important for us to continually update and innovate our product's quality and functionality so as people copy us we stay one step ahead, which is where marketing insight truly comes into its own', says Rory Stone, Marina's executive chairman. Achieving this, however, has taken time.

When a business is engineering-led there is a tendency to focus only on producing the best product. "But you can't create a Rolls-Royce in a market where you'll only ever be able to command a Ford Mondea price." Mr Stone points out. "You've got to learn how to compromise without undermining your product's quality and integrity. It's about knowing what your market wants, and what your market will bear."

Getting the right culture within an organisation - not only to foster innovation but channel it effectively to maximise its commercial return - is a significant challenge for many businesses. Engineers

focusing on product development don't naturally think about the consumer when they're doing what they do, which is why feeding the consumer insight and even retailer's opinions into the product development process where feasible is really important.

Another obstacle can be a company's internal structure and the impact this may have on corporate culture. "Marketers must force themselves into the product development process, and to do this they need the support of a chief executive who thinks this is important, too." Mr. Stone says. "Commercially successful innovation depends on vision, a desire to be radical, to challenge and to break the mould that must come from the top down within an organisation'. Mr Nicholls at Added Value believes. He says, "Every consumer need is already satisfied by at least 20 products, That's why innovation must be driven by marketing rather than product design". Consumer insight is not just a by-word for market research, however, "it is not about data and reports, it's about understanding your consumer and putting that understanding at the heart of everything your business does." Mr Nicholls adds. "As Markets become saturated and more products find it harder to differentiate themselves from their rivals by functionality alone, customer service is becoming an increasingly important differentiator between products. As a result, how consumers experience products and services is becoming an increasingly important part of marketing especially for innovations." says Mr Minale at Wolff Olins. "I-pod isn't just a great product innovation; Apple is creating a whole economy around it with the development of related services such as itunes." he explains. "Apple is working to reinvent the music market by creating its own world, something it has in common with all successful product innovators. The best product and service innovations use consumer insight to change the way we think about doing things."

Without doubt successfully bringing product innovations to market is getting tougher as products grow more similar and consumer needs decline. Not so long ago a business could ask itself: "What consumer need can this new product satisfy". In today's climate, however, few, if anyone, can afford to think like that anymore.

1. The fact that innovations fail shows:

1) organisations' lack of business acumen.

2) an inability to exploit innovative products.

3) that marketing is misunderstood by businesses.

4) there is a weak relationship between marketing and research.

5) the common people are often misled by innovations.

2. Which of the following is NOT true of smaller businesses with respect to the demands of the market?

1) Smaller businesses mean smaller marketing departments.

2) Smaller businesses are more flexible.

3) Smaller marketing departments have limited resources.

4) The product development process is the most important part of a business.

5) Smaller businesses often do not pay taxes.

3. Which of the following is NOT a point made by David Nicholls in the passage while discussing marketing?

1) R&D and marketing departments fail to work closely together.

2) Marketing calls for identifying target markets.

3) Marketing is all about advertising and communications.

4) Marketing means formulating the best market positioning for a new product.

5) Marketing is best developed in Latin American countries.

4. The author envisages which of the following roles for the marketing department with respect to product development?

1) An active R&D role which brings the marketing and the research departments closer.

2) A role commencing at the inception of product development.

3) A keen interest in packaging should help in the marketing process.

4) A role which looks after the positioning of the product is desirable.

5) Marketing department is essential to gain a foothold in the share market.

5. Which of the following is NOT true of Marina's business model?

1) It produces a diverse range of self-sufficient power products.

2) It makes the best self-generating energy products on the market.

3) It continually updates and innovates their product's quality and functionality.

4) It keeps building its brand image to plug the gaps in marketing.

5) It collects donations from foreign investors.

6. According to the passage, which of the following could be the greatest challenge in an engineering-led business?

1) producing the best product

2) knowing what the market wants

3) knowing where your market stands

4) learning to compromise

5) catering to the poor

7. Which one of the following is NOT a challenge for businesses?

1) Getting the right culture within an organisation

2) Overcoming the rigidity of a company's internal structure

3) To foster innovation in the businesses

4) Keeping marketers out of the product development process

5) Tap the market of under developed countries.

8. The passage quotes Mr Nicholls to drive home which of the following insights?

1) Every consumer need is already taken care of.

2) Innovation must be driven by marketing.

3) A belief in the importance of consumer insight.

4) Product design should not be considered.

5) Product design can be tampered with.

9. How can a business differentiate itself in a saturated market?

1) Product differentiation

2) Area of functionality

3) Customer services experience

4) Innovative products

5) Efficient sales

10. Which of the following is NOT reflected in the example of Apple's i-pod?

1) It is a great product innovation.

2) It has succeeded in creating an entire economy around it.

3) It has reinvented the music market.

4) It has created effective marketing campaigns.

5) It is unpopular in Australia.

Directions (Q. 11 to 15): Each question below has two blanks, each blank indicating that something has been omitted. Choose the set of words for each blank which best fits the meaning of the sentence as a whole.

11. Forest department officials said that when the elephants were made to ..... from their trucks, they went straight to the spot where they had been ..... during the camp.

1) jump, killed 2) alight, tied

3) enter, hurt 4) step, played

5) exit, enjoyed

12. Excise officials seized pouches of whisky ..... a bus travelling ..... Maharashtra.

1) from, to 2) in, for 3) for, towards 4) inside, on

5) through, till

13. Organisations ..... for the victims .....the inhuman and unjust attitude of the government.

1) fighting, applauded 2) lobbying, supported

3) working, condemned 4) stand, opposed

5) trying, spoke

14. A collision between two buses ..... six people dead, ... the driver of one of the buses.

1) made, also 2) left, including

3) caused, combined 4) resulted, except

5) got, surpassing

15. The court ..... revenue authorities and PCB officials to ..... teams and visit pharma units.

1) directed, form 2) announced, arrange

3) commanded, display 4) ruled, make

5) told, carve

Directions (Q. 16 to 20): Rearrange the following sentences (A), (B), (C), (D), (E) and (F) to make a meaningful paragraph and then answer the questions which follow.

A) At least two 'piles' of rock the size of continents are crashing together as they shift at the bottom of Earth's mantle, 2,900 km beneath the Pacific Ocean, researchers say.

B) This 'super volcano', seismologists believe, is due to erupt in 200 million years' time.

C) 'What we may be detecting is the start of one of these large eruptive events that - if it ever happens - could cause very massive destruction on Earth', said the seismologist Michael Thorne.

D) Life on Earth could be facing threat from a catastrophic 'super volcano'.

E) However, disaster is not imminent. 'This is the type of mechanism that may generate massive plume eruptions', he sums up.

F) He is the study's principal author and an assistant professor of geology and geophysics at the University of Utah.

16. Which of the following should be the **LAST** of the rearrangement?

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

5) E

17. Which of the following should the **THIRD** of the rearrangement?

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

5) E

18. Which of the following should the **FOURTH** of the rearrangement?

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

5) E

19. Which of the following should the **FIRST** of the rearrangement?

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

5) E

20. Which of the following should the **SECOND** of the rearrangement?

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

5) E

Directions (Q. 21 to 25): Read each sentence to find out whether there is any grammatical error in it. The error, if any, will be in one part of the sentence. The number of that part will be the answer. If there is no error, mark (5) as the answer. (Ignore errors of punctuation, if any.)

21. In emerging economies, (1)/ the private credit market (2)/ remains highly segmented and thus (3)/ weaken power of monetary policy. (4)/ No error (5).

22. The recent election campaign (1)/ has been one of (2)/ the most noisiest campaigns (3)/ in the last decade.(4)/ No error (5).

23. Wholesome strategic planning (1)/ was the focus as (2)/ the firm manage through a difficult period (3)/ a couple of years ago. (4)/ No error (5).

24. In spite of the best governmental efforts, (1)/ emission of greenhouse gases (2)/ and noxious chemi cals (3)/ remain a cause of worry. (4)/ No error (5).

25. The rate of metabolism of (1)/ a body is comparatively lowest when (2)/ it is at rest and is (3)/ thus optimum for examination. (4)/ No error (5).

Directions (Q. 26 to 30): In the following passage there are blanks, each of which has been numbered. These numbers are given 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.

Recently the World Bank and the Asian Development Bank (ADB) released separate reports on poverty. The World Bank Report **..(26)..** its benchmark of extreme poverty by 25 percents from $1 per person per day to $1.25 per person a day. The ADB announced an even higher benchmark of $1.35 per person a day. These new benchmarks are **..(27)..** on surveys in the world's poorest countries. Experts often like to **..(28)..** that poverty has declined because of economic growth in India and China. This is wrong and misleading. In the past twenty-five years the poverty rate in India has **..(29)..** by less than one percentage point a year. Whether we use a poverty line of $1 per person per day or $1.25 per person per day makes little **..(30)..**. The number of poor in India is large. The purpose of these statistics is not to dispute them but to study whether the benefits of economic growth are being shared with the poor.

26. 1) heightened 2) announced 3) raised 4) maintained
5) notified

27. 1) based 2) collected 3) inferred 4) derived
5) gathered

28. 1) realise 2) claim 3) discover 4) recommend
5) criticise

29. 1) deplete 2) declined 3) plunge 4) weaken
5) fell

30. 1) difference 2) effect 3) contrast 4) question
5) option

QUANTITATIVE APTITUDE

Directions (Q. 31 to 35): In each of the following questions, find the wrong number in the series.

31. 21, 26, 33, 42, 57, 74
1) 74 2) 42 3) 26 4) 33
5) 57

32. 80, 150, 180, 392, 576, 810
1) 810 2) 392 3) 576 4) 180
5) 80

33. 48, 56, 71, 106, 183, 326
1) 326 2) 71 3) 48 4) 106
5) 56

34. 1, 2, 66, 102, 794, 1523, 2523
1) 1523 2) 794 3) 2 4) 66
5) 102

35. 41, 43, 83, 127, 211, 338, 549
1) 83 2) 338 3) 211 4) 549
5) 127

Directions (Q. 36 to 40): In the following questions two equations numbered I and II are given.You have to solve both the equations and give answer if

1) $x > y$ 2) $x \geq y$ 3) $x < y$ 4) $x \leq y$
5) $x = y$ or the relationship cannot be established

36. I. $x^2 - 10x + 21 = 0$
II. $y^2 - 16y + 63 = 0$

37. I. $x^2 - (16)^2 = (23)^2 - 56$
II. $y^{1/3} - 55 + 376 = (18)^2$

38. **I.** $\frac{12}{\sqrt{x}} + \frac{8}{\sqrt{x}} = \sqrt{x}$ **II.** $y - \frac{(18)^{9/2}}{\sqrt{y}}$

39. **I.** $\sqrt{36}\,x + \sqrt{64} = 0$ **II.** $\sqrt{81}\,y + (4)^2 = 0$

40. **I.** $\frac{25}{\sqrt{x}} + \frac{9}{\sqrt{x}} = 17\sqrt{x}$ **II.** $\frac{\sqrt{y}}{3} + \frac{5\sqrt{y}}{6} = \frac{3}{\sqrt{y}}$

Directions (Q. 41 to 45): What approximate value will come in place of question mark (?) in the following questions? (You are not expected to calculate the exact value.)

41. 68% of 1288 + 26% of 734 − 215 = ?

1) 620 2) 930 3) 540 4) 850

5) 710

42. $(32.05)^2 - (18.9)^2 - (11.9)^2 = ?$

1) 670 2) 530 3) 420 4) 780

5) 960

43. $6578 \div 67 \times 15 = ? \times 6$

1) 200 2) 250 3) 150 4) 100

5) 300

44. $\frac{679}{45} \div \frac{23}{2130} \times \frac{126}{169} = ?$

1) 540 2) 760 3) 800 4) 1260

5) 1040

45. $\sqrt{5687} \times \sqrt{1245} \div \sqrt{689} = ? \div 13$

1) 840 2) 910 3) 1320 4) 1120

5) 1550

46. What is the probability that when 2 dice and 4 coins are thrown simultaneously, there is a sum of 9 on the dice and at least 2 heads on the coins?

1) $\frac{11}{144}$ 2) $\frac{8}{144}$ 3) $\frac{11}{132}$ 4) $\frac{11}{169}$

5) None of these

47. The circumference of a circle is twice the perimeter of a rectangle. The area of the circle is 5544 cm^2. What is the area of the rectangle if the length of the rectangle is 40 cm?

1) 1120 cm^2 2) 1020 cm^2 3) 1140 cm^2 4) 1040 cm^2

5) None of these

48. An amount of money is distributed amongst Arti, Bina and Charu in such a way that Arti gets half of that of Bina and Bina gets twice that of Charu. What is ratio of money that Bina gets to that of the sum money that Arti and Bina get together?

1) 2 : 5 2) 2 : 3 3) 3 : 2 4) 4 : 3

5) 3 : 4

49. Rajesh invested Rs.10,000 at a certain rate of simple interest for 2 years. If he had invested the amount at the same rate of compound interest, compounded annually, for the same period, the interest accrued would have been Rs.400 more. Find the value of the rate of interest.

1) 10% 2) 15% 3) 20% 4) 25%

5) None of these

50. Rs.33,630 are divided among Arun, Bimal and Charan in such a manner that the ratio of the amount of Arun to that of Bimal is 3 : 7 and the ratio of the amount of Bimal to that of Charan is 6 : 5. The amount of money received by Bimal is

1) Rs.14,868 2) Rs.16,257 3) Rs.13,290 4) Rs.12,390

5) Rs.15,270

Directions (Q. 51 to 55): Answer the questions on the basis of the information given below.

The table shows the number of candidates who appeared in the final year examination and percentage of students that passed from various colleges in Delhi over the years

51. What is the total number of students passed from all colleges together in year 2015?

1) 1895 2) 1985 3) 1295 4) 1465

5) None of these

52. Approximately, what is the overall percentage of students passed from Hindu college for all the years?

1) 60 2) 70 3) 75 4) 55

5) 65

53. What is the ratio between the number of students passed from Gargi College in 2011 and the number of students passed from SRC in 2014 respectively?

1) 95 : 154 2) 154 : 95 3) 94 : 155 4) 155 : 94

5) None of these

54. What is the ratio between the number of students appeared from LSR college for all the years and that from Ramjas college respectively?

1) 463 : 353 2) 353 : 463 3) 461 : 333 4) 333 : 461

5) None of these

55. What is the overall percentage of students passed from all colleges together in 2013 (rounded off to nearest integer)?

1) 68 2) 70 3) 69 4) 71

5) None of these

56. A man buys a certain number of bananas at 20 for Rs. 60 and an equal number at 30 for Rs.60. He mixes them and sells them at 25 for Rs. 60. What is gain or loss percent?

1) Gain of 4% 2) Loss of 4%

3) Neither gain nor loss 4) Loss of 5%

5) None of these

57. A beaker contains milk and water in the ratio 5 : 3. If a person removes 6 L of this mixture and replaces it with pure water, the ratio of milk to water becomes 1 : 1 the amount of milk present in beaker initially is

1) 18.75 L 2) 16.25 L 3) 20 L 4) 18 L

5) 21 L

58. A motorboat in still water travels at a speed of 36 kmph. It goes 56 km upstream in 1 hour 45 minutes. The time taken by it to cover the same distance down the stream will be

1) 2 hours 25 minutes
2) 3 hours
3) 1 hour 24 minutes
4) 2 hours 21 minutes
5) 2 hours

59. Arjun and Bhim can complete a job in 12 days and Bhim and Chatur can complete it in 16 days. Arjun worked for 5 days and Bhim for 7 days, and then Chatur finished the rest of the work in 13 days. In how many days can Chatur complete the work alone?

1) 16 days
2) 30 days
3) 36 days
4) 24 days
5) 20 days

60. The sum of the age of a mother and her daughter is 100 years now. 5 years ago their age were in the ratio of 2 : 1. The ratio of the age of mother and daughter after 10 years will be

1) 5 : 3
2) 4 : 3
3) 10 : 7
4) 3 : 5
5) 2 : 3

Directions (Q. 61 to 65): Answer the following questions based on the given information.

There are 7200 students in a Coaching Institute. The ratio of boys to girls is 7 : 5 respectively. All the students are enrolled in six different coaching classes for the following exams IBPS, SSC, RBI, Railway, LIC and SBI. 22% of the total number of students are enrolled for LIC. 16% of the girls are enrolled for SSC. 18% of the boys are enrolled for RBI. Number of girls enrolled for SBI is 30% of the girls enrolled for SSC. 15% of the boys are enrolled for IBPS. Number of boys enrolled for SSC is 50% of the girls enrolled for the same. 15% of the girls are enrolled for Railway. The ratio of boys to girls enrolled for the SBI is 3 : 1 respectively. 24% of the total number of students are enrolled for IBPS. The ratio of boys to girls enrolled for Railway is 12 : 5 respectively.

61. What is the total number of students enrolled for RBI?

1) 1062
2) 1530
3) 1728
4) 1584
5) None of these

62. What is the total number of boys enrolled for LIC?

1) 1080
2) 1530
3) 756
4) 1062
5) None of these

63. What is the total number of girls enrolled for RBI and LIC together?

1) 972
2) 666
3) 828
4) 786
5) None of these

64. What is the respective ratio between the number of boys enrolled for IBPS to that enrolled for Railway?

1) 2 : 9
2) 7 : 12
3) 4 : 7
4) 11 : 17
5) None of these

65. Total number of students enrolled for Railway forms approximately what percent of the total number of students in the coaching institute?

1) 21.25%
2) 22%
3) 15%
4) 14.75%
5) None of these

REASONING ABILITY

66. Raghav starts walking towards South. After walking 10 m he turns towards his left and walks for 40 m. After that he again turns to his left and walks for 80 m. Finally, he turns towards his right and walks for 30 m before stopping. What is the minimum distance between his starting point and the end point?

1) $70\sqrt{2}$ m 2) $65\sqrt{2}$ m 3) 70 m 4) 140 m

5) None of these

67. Rohan walked 20 m towards East, took a right turn and walked 10 m. He then took a right turn and walked 9 m, again took a right turn to walk 5 m and again took a left turn and walked 12 m and finally took a right turn and walked 6 m. How far and in which direction is he from his starting point?

1) $2\sqrt{2}$ m, South 2) $2\sqrt{2}$ m, North

3) $\sqrt{2}$ m, South – east 4) $\sqrt{2}$ m, North – west

5) None of these

68. Pointing to a man in a photograph, a woman said, "His brother's father is the only child of my grandfather". How is the woman related to that man in the photograph?

1) Mother 2) Sister 3) Aunt 4) Daughter

5) Grandmother

69. Introducing a girl, Amrish said, "This girl is the wife of the grandson of my mother, who has only one son". How is Amrish related to that girl?

1) Father 2) Father-in-law 3) Grandfather 4) Husband

5) Brother

70. Pointing to a man in a photograph, Ronika said, "His mother's only daughter is my mother". How is Ronika related to that man?

1) Nephew 2) Sister 3) Niece 4) Wife

5) Granddaughter

Directions (Q. 71 to 75): Answer the following questions based on the given information.

Five automobile companies decided to display their products in an Auto Expo show. The companies were Maruti, Hyundai, Skoda, Volkswagen and Mahindra. Each company displayed their products on a different day. Further, a representative was appointed to provide the information about each product. The representatives were Sumit, Harpreet, Pritam, Sonam and Raina. The dates were 15 Mar, 16 Mar, 18 Mar, 20 Mar and 21 Mar. Further information is given as:

i) Pritam was the representative of Volkswagen.

ii) Harpreet represented his stall on 16th March

iii) Hyundai and Maruti were displayed on the consecutive days.

iv) Sumit represented his stall three days before Pritam represented his stall.

v) Sonam represented her stall on 15th March.

vi) It was taken care of that the initials of any company and their representative weren't same.

71. Who was the representative of Maruti?

1) Harpreet 2) Raina

3) Sonam 4) Either Harpreet or Raina

5) Cannot be determined

72. On which date does Skoda display its products?

1) 21st March
2) 16th March
3) 20th March
4) Either (2) or (3)
5) None of these

73 Who represented the products on 21st March?

1) Sumit
2) Harpreet
3) Sonam
4) Pritam
5) Raina

74. Which of the given pairs of combination is definitely correct?

1) Sumit – Hyundai
2) Hyundai – 15th March
3) Pritam – 20th March
4) Skoda – 21st March
5) Sonam – Mahindra

75. How many days after Hyundai were the products of Mahindra displayed?

1) One
2) Two
3) Three
4) Either (2) or (3)
5) Cannot be determined

Directions (Q. 76 to 80): Study the following information to answer the questions.

Six persons - Sameer, Manish, Keshav, Ramesh, Harish and Deepak - went for a picnic along with their wives Shalini, Monika, Kareena, Ritika, Heena and Divya (not necessarily in the same order). Exactly two couples travelled in one car. Also, husband's name cannot start with the same alphabet as that of his wife's name. It is also given that:

a) Keshav is not married to Shalini and Ramesh is not married to Divya.

b) Manish is married to Kareena and Harish is married to Monika.

c) Manish and Heena travelled in the same car.

d) Ramesh and Divya travelled in the same car.

e) Sameer and Monika travelled in the same car.

76. Manish and Heena travelled with whom in the same car?

1) Deepak and Kareena
2) Ramesh and Divya
3) Harish and Ritika
4) Sameer and Monika
5) Keshav and Shalini

77. Which of the following is the correct combination of a husband-wife couple?

1) Sameer and Divya
2) Ramesh and Shalini
3) Keshav and Ritika
4) Keshav and Heena
5) Sameer and Heena

78. Which of the following persons travelled in the same car?

1) Deepak and Sameer
2) Ramesh and Heena
3) Deepak and Manish
4) Sameer and Divya
5) Harish and Manish

79. Who is the husband of Ritika?

1) Deepak 2) Manish

3) Keshav 4) Sameer

5) None of these

80. Who is the female companion of Shalini in the car?

1) Kareena 2) Monika

3) Divya 4) Ritika

5) None of these

Directions (Q. 81 to 85): Answer the questions on the basis of the information given below.

Nine people, P, Q, R, S, T, M, N, O and J stay in a building, but not necessarily in the same order. The building has nine floors and only one person stays on one floor. All of them own one car each, and each car is of a different colour, i.e. blue, grey, white, black, yellow, green, red, orange and pink, but not necessarily in the same order. The ground floor is numbered 1, the floor above it is numbered 2, and so on, and the topmost floor is numbered 9.

O owns a black-coloured car and stays on an even- numbered floor. P stays on any even numbered floor below the floor on which O stays. The one who owns an orange- coloured car stays on the fourth floor. T stays on the second floor and owns a white-coloured car. The one who owns a pink-coloured car stays on the third floor. P does not own a green-coloured car. There are two floors between the floors on which the people owning the red and the black-coloured cars stay. R owns a grey-coloured car. There are three floors between the floors on which R and N stay. S stays on a floor immediately above J's floor. There is one floor between the floors on which M and N stay. M does not own the pink- coloured car. The one who owns the blue car stays on the topmost floor. M does not stay on the ground floor.

81. Who amongst the following owns the green-coloured car?

1) S 2) J 3) N 4) M

5) None of these

82. Who amongst the following stays on the topmost floor?

1) M 2) N 3) S 4) R

5) None of these

83. P owns a car of which of the following colours?

1) Orange 2) Pink

3) Yellow 4) Blue

5) None of these

84. Who stays on the floor which is exactly between the floor on which O stays and the floor on which P stays?

1) Q 2) N 3) R 4) M

5) None of these

85. How many floors are there between the floor on which J stays and the floor on which R stays?

1) One 2) Two

3) None 4) Three

5) More than three

Directions (Q. 86 to 90): Study the information and answer the questions given below :

Eight people - E, F, G, H, J, K, L and M are sitting around a circular table facing the centre. Each of them is of a different profession - Chartered Accountant, Columnist, Doctor, Engineer, Financial Analyst, Lawyer, Professor and Scientist but not necessarily in the same order. F is sitting second to the left of K. The Scientist is an immediate neighbour of K. There are only three people between the Scientist and E. Only one person sits between the Engineer and E. The Columnist is to the immediate right of the Engineer. M is second to the right of K. H is the Scientist. G and J are immediate neighbours of each other. Neither G nor J is an Engineer. The Financial Analyst is to the immediate left of F. The Lawyer is second to the right of the Columnist. The Professor is an immediate neighbour of the Engineer. G is second to the right of the Chartered Accountant.

86. Who is sitting second to the right of E?

1) The Lawyer 2) G 3) The Engineer 4) F

5) K

87. Who amongst the following is the Professor?

1) F 2) L 3) M 4) K

5) J

88. Four of the following five are alike in a certain way based on the given arrangement and hence form a group. Which of the following does not belong to that group?

1) Chartered Accountant – H 2) M – Doctor

3) J – Lawyer 4) Financial Analyst – L

5) Lawyer – K

89. What is the position of L with respect to the Scientist?

1) Third to the left 2) Second to the right

3) Second to the left 4) Third to the right

5) Immediate right

90. Which of the following statements is true according to the given arrangement?

1) The Lawyer is second to the left of the Doctor

2) E is an immediate neighbour of the Financial Analyst

3) H sits exactly between F and the Financial Analyst

4) Only four people sit between the Columnist and F

5) All of the given statements are true

Directions (Q. 91 to 95): Answer the questions on the basis of the information given below.

Ten people are sitting in two parallel rows containing five people each, in such a way that there is an equal distance between adjacent persons. In row 1, Pranav, Qureshi, Romi, Sahil and Tarun are seated and all of them are facing south. In row 2, Akhil, Bala, Chirag, Dolly and Ekta are seated and all of them are facing north. Therefore, in the given seating arrangement, each member seated in a row faces another member of the other row.

Dolly sits third to the left of Akhil. Pranav faces immediate neighbour of Dolly. Romi sits second to the right of Pranav. Only one person sits between Qureshi and Sahil. Bala and Ekta are immediate neighbours. Ekta does not face Pranav and Qureshi.

91. How many persons are seated between Qureshi and Tarun?

1) None 2) One 3) Two 4) Three

5) Cannot be determined

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

1) Romi 2) Sahil 3) Chirag 4) Tarun

5) Akhil

93. Who amongst the following are sitting exactly in the middle of the rows?

1) Pranav, Ekta 2) Sahil, Dolly

3) Sahil, Akhil 4) Akhil, Romi

5) Pranav, Bala

94. Which of the following is true regarding Bala?

1) Akhil and Chirag are immediate neighbours of Bala.

2) Bala sits at one of the extreme ends of the line.

3) Qureshi faces Bala.

4) Tarun is an immediate neighbour of the person facing Bala.

5) Dolly sits to the immediate left of Bala.

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

1) Tarun – Ekta 2) Qureshi – Chirag

3) Sahil – Bala 4) Romi – Akhil

5) Pranav – Dolly

Directions (Q. 96 to 100): In the following questions, the symbols @ ,$,%,# and & are used with the following meaning as illustrated below.

'M @ N' means 'M is not smaller than N'.

'M $ N' means 'M is not greater than N'.

'M # N' means 'M is neither smaller nor equal to N'.

'M % N' means 'M is neither greater nor equal to N'.

'M & N' means 'M is neither greater nor smaller than N'.

Now, in each of the following questions, assuming the given statements to be true, find which of the four conclusions I, II, III and IV given below them is/are definitely true and give your answer accordingly.

96. **Statements:** R $ S, S % T, T & M, M @ X

Conclusions: **I.** S @ M **II.** R $ T

III. S % M **IV**. T & X

1) Only I is true 2) Only III is true

3) Only II and III are true 4) Only I and IV are true

5) None of these

97. **Statements:** K @ L, L # N, N & W, W $ Q

Conclusions: **I.** K & Q **II.** K # N

III. N % Q **IV.** N @ Q

1) Only I, II and III are true
2) Only II is true
3) Only II and III are true
4) Only III is true
5) None of these

98. **Statements:** A # B, B # D, D @ F, F & R

Conclusions: **I.** A # R **II.** B & R

III. B @ F **IV.** D % A

1) Only I and IV are true
2) Only I is true
3) Only III and II are true
4) Only IV is true
5) None of these

99. **Statements:** E $ F, F % G, G @ D, D & K

Conclusions: **I.** G @ K **II.** D & F

III. E & G **IV.** F # K

1) Only II is true
2) Only I and III are true
3) Only II and IV are true
4) Only I is true
5) None of these

100. **Statements:** P $ W, W & F, F % O, O @ D

Conclusions: **I.** O & D **II.** P % O

III. W & O **IV.** P @ D

1) Only I is true
2) Only II, III and IV are true
3) Only III is true
4) Only IV is true
5) None of these

KEY

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

EXPLANATIONS

1. Refer to the line, "....many innovations still fail because of a fundamental misunderstanding of what marketing is."

2. Options (1), (2) and (3) are supported by the third paragraph of the passage.

3. Refer to the fourth paragraph of the passage. The passage states that David Nicholls feels that there is more to marketing than advertising and communications.

4. Refer to the first line of the fifth paragraph.

5. All options, except option (4), are supported by the seventh paragraph of the passage.

6. Refer to the eighth paragraph. It states that a engineering-led business focuses only on producing the best product and tends to overlook what the market wants.

7. Options (1), (2) and (3) are supported by the ninth and the tenth paragraphs. Option (4) is not a challenge; instead, the passage says that "marketers must force ..... development process."

8. Options (1) and (3) are mentioned in the passage but the conclusion mentioned in the eleventh paragraph, is stated in option (2). Option (4) is not supported by the passage.

9. The eleventh paragraph supports option (3). The passage states that a business cannot be differentiated in a saturated market using the methods mentioned in options (1) and (2). Option (4) is not mentioned in the passage.

10. The penultimate paragraph supports options (1), (2) and (3).

11. Only 'alight' and 'tied' makes sense in the context of the sentence.

12. 'From' and 'to' indicates the origin and destination of the bus.

13. 'Working' and 'condemned' makes sense in the context of the sentence.

14. 'Left' and 'including' makes sense.

15. 'Directed' and 'form' makes sense.

For questions 16 to 20: The correct sequence is DBACFE. DB is a mandatory pair. 'This "super volcano" refers to the 'super volcano' mentioned in D. A gives a general opinion of researchers and precedes C which gives the view of a specific researcher, Michael Thorne. CF is a mandatory pair since F gives the details of the researcher mentioned in C. E ends the passage by quoting what Michael Thorne said. 'However' is the key word here.

21. The subject is 'private credit market', which is singular. So, 'weaken' will be replaced by 'weakens'.

22. 'Most' in part (3) is redundant.

23. Use 'managed' in place of 'manage'. The sentence shows past time.

24. The subject is 'emission'. So, 'remain' will be replaced by 'remains'.

25. With 'comparatively', we use 'lower'.

26. The benchmark has been increased from $1 to $1.35. So, the blank will take 'raised'.

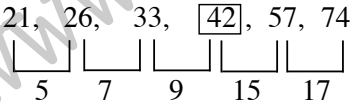
27. Only 'based' fit in the meaning of the sentence.

28. The sentence means that experts assert that poverty has declined. So, option (2), claim, fits in the blank.

29. The first sentence of the second paragraph talks about economic growth in India and China and the next sentence says that the claim is misleading. So, the blank will take 'declined', to make the sentence logically correct.

30. Only 'difference' fits in the meaning of the sentence.

31.



The differences would form an appropriate series with prime numbers.

21, 26, 33, [44], 57, 74

5 7 11 13 17

Hence, the wrong number in the series is 42, which should be replaced with 44.

32. 80 , 150 , [180], 392 , 576 , 810

$4^3 + 4^2$ $5^3 + 5^2$ $[6^3 - 6^2]$ $7^3 + 7^2$ $8^3 + 8^2$ $9^3 + 9^2$

Each of the numbers follows (n3 + n2) pattern, except 180 which follows n3 – n2 pattern. Hence, 180 is the wrong number which should be replaced with 63 + 62 = 252.

33. [48], 56, 71, 106, 183, 326

+(2 × 3) +(3 × 5) +(5 × 7) +(7 × 11) +(11 × 13)

The differences are multiples of two consecutive primes. The other numbers follow the pattern, except 48, which should be replaced with 50, so that 50 + (2 × 3) = 56.

34. 1, 2, 66, [102], 794, 1523, 2523

1 64 36 729 1000

$(1)^3$ $(4)^3$ $(6)^2$ (?) $(9)^3$ $(10)^3$

The differences between the consecutive numbers indicate pattern of cubes of non-prime numbers.

Hence, the wrong number is 102, which should be replaced with 282 to make the series appropriate as shown below.

1, 2, 66, [282], 794, 1523, 2523

1 64 216 512 729 1000

$(1)^3$ $(4)^3$ $(6)^3$ $(8)^3$ $(9)^3$ $(10)^3$

35. 41, 43, [83], 127, 211, 338, 549

43 + 84 84 + 127 127 +211 211 + 338

If we observe 4^{th} term onwards, the pattern of the series indicates an ..... addition series. Hence, 83 should be replaced with 84, as shown below, to make the series appropriate.

36. **I.** $x^2 - 10x + 21 = 0$

$\Rightarrow x^2 - 7x - 3x + 21 = 0$

$\Rightarrow (x - 3)(x - 7) = 0$

$\Rightarrow x = 3, 7$

II. $y^2 - 16y + 63 = 0$

$\Rightarrow y^2 - 7y - 9y + 63 = 0$

$\Rightarrow (y - 9)(y - 7) = 0$

$\Rightarrow y = 9, 7$

$\therefore x \leq y$

37. **I.** $x^2 - (16)^2 = (23)^2 - 56$

$\Rightarrow x^2 - 256 = 529 - 56$

$\Rightarrow x = \sqrt{729} = \pm 27$

II. $y^{1/3} - 55 + 376 = (18)^2$

$\Rightarrow y^{1/3} = 324 + 55 - 376$

$\Rightarrow y = (3)^3 = 27$

$\therefore y \geq x$

38. **I.** $\frac{12}{\sqrt{x}} + \frac{8}{\sqrt{x}} = \sqrt{x}$

$x = 20$

II. $y - \frac{(18)^{9/2}}{\sqrt{y}} = 0$

$\Rightarrow y^{3/2} - (18)^{9/2} = 0$

$\Rightarrow (y^3)^{1/2} = (189)^{1/2}$

$\Rightarrow y3 = 18^9$

$\Rightarrow y = (18)^3$

$\therefore x < y$

39. **I.** $\sqrt{36}\, x + \sqrt{64} = 0$

$\Rightarrow 6x + 8 = 0$

$\Rightarrow x = -\frac{4}{3}$

II. $\sqrt{81}\, y + (4)^2 = 0$

$\Rightarrow 9y + 16 = 0$

$\Rightarrow y = -\frac{16}{9}$

$\therefore x > y$

40. **I.** $\frac{25}{\sqrt{x}} + \frac{9}{\sqrt{x}} = 17\sqrt{x}$

$\Rightarrow 34 = 17x$

$\Rightarrow x = 2$

II. $\frac{\sqrt{y}}{3} + \frac{5\sqrt{y}}{6} = \frac{3}{\sqrt{y}}$

$\Rightarrow \frac{6\sqrt{y} + 15\sqrt{y}}{18} = \frac{3}{\sqrt{y}}$

$\Rightarrow \frac{21\sqrt{y}}{18} = \frac{3}{\sqrt{y}}$

$\Rightarrow y = \frac{3 \times 18}{21} = \frac{18}{7}$

$\therefore x < y$

41. $? = \frac{68 \times 1288}{100} + \frac{26 \times 734}{100} - 215$

$= 875.84 + 190.84 - 215$

$\approx 876 + 191 - 215 = 852$

42. $(32.05)^2 - (18.9)^2 - (11.9)^2$

$\approx 1027 - 357 - 144 = 526$

43. $? = \frac{6578 \times 15}{67 \times 6} = 245.45 \approx 250$

44. $? = \frac{680}{45} \times \frac{2130}{23} \times \frac{126}{170}$

$= 1043$

45. $\sqrt{5687} \times \sqrt{1245} \div \sqrt{689} = ? \div 13$

$\therefore \frac{\sqrt{5687} \times \sqrt{1245} \times 13}{\sqrt{689}}$

$= \frac{74.4 \times 35.2 \times 13}{26.2} \approx 1320$

46. Sum of '9' can be achieved in 4 ways i.e. (6, 3), (3, 6), (5, 4) and (4, 5).

Probability of a sum of 9 on the dice $= \frac{4}{36} = \frac{1}{9}$

Probability of at least 2 coins showing on head $= {}^4C_2\left(\frac{1}{2}\right)^4 + {}^4C_3\left(\frac{1}{2}\right)^4 + {}^4C_4\left(\frac{1}{2}\right)^4 = \frac{11}{16}$

Hence, the required probability $= \frac{11 \times 1}{16 \times 9} = \frac{11}{144}$

47. Area of circle $= r^2 = 5544$

$\Rightarrow r^2 = \frac{5544 \times 7}{22} = 1764$

$\Rightarrow r = 42.$

Circumference of circle = 2 × perimeter of rectangle

$\Rightarrow 2 \times \frac{22}{7} \times 42 = 2$ x perimeter of rectangle

$\Rightarrow$ Perimeter of rectangle = 132 cm

$2(l + b) = 132$

$l + b = 66$

$b = 66 - 40 = 26$

Area of rectangle $= 40 \times 26 = 1040$ cm^2.

48. Arti = $\frac{1}{2}$ Bina or $\frac{\text{Arti}}{\text{Bina}} = \frac{1}{2}$ and

Bina = 2 Charu or $\frac{\text{Bina}}{\text{Charu}} = \frac{2}{1}$

$\Rightarrow$ Arti : Bina : Charu = 1 : 2 : 1

Let shares of Arti, Bina and Charu are x, 2x and x respectively.

$\Rightarrow \frac{\text{Bina}}{\text{Arti + Bina}} = \frac{2x}{x+2x} = \frac{2x}{3x} = \frac{2}{3}$ = i.e. 2 : 3.

49. Difference between CI and SI = `400

We know that $D = P\left(\frac{R}{100}\right)^2$

Where D $\rightarrow$ Difference between SI and CI

P $\rightarrow$ Principal

R $\rightarrow$ Rate of interest

$\Rightarrow 400 = 10000\left(\frac{R}{100}\right)^2$

$\Rightarrow \left(\frac{2}{10}\right)^2 = \left(\frac{R}{100}\right)^2$

$\Rightarrow$ R = 20

Hence, the required rate = 20%.

50. Arun : Bimal = 3 : 7

Bimal : Charan = 6 : 5

Arun : Bimal :Charan = 3 × 6 : 7 × 6 : 7 × 5

= 18: 42 : 35

Sum of the ratios = 18 + 42 + 35 = 95

$\therefore$ Bimal's share = $\frac{42}{95} \times 33630$ = Rs. 14,868.

51. Total number of students that pass from all the colleges together in the year 2015 =

$\left(\frac{40}{100} \times 550\right) + \left(\frac{60}{100} \times 450\right) + \left(\frac{68}{100} \times 500\right) + \left(\frac{60}{100} \times 750\right) + \left(\frac{50}{100} \times 450\right) + \left(\frac{60}{100} \times 650\right) = 1895$

52. Required percentage = $\frac{\text{Total pass}}{\text{Total appearing}} \times 100$

$= \frac{1832}{2850} \times 100 = 64.28\% \approx 65\%$

53. Pass in 2012 from Gargi : Pass in 2014 from SRC = $\left(\frac{66}{100} \times 700\right) : \left(\frac{50}{100} \times 570\right)$

= 462 : 285 = 154 : 95

54. Required ratio = 3330 : 4610 = 333 : 461

55. Required percentage = $\frac{2453}{3550} \times 100 = 69.09\% \approx 69\%$

56. Let the man buy 60 bananas (LCM of 20 and 30) of each kind. CP of the 60 bananas of the first kind

$= \frac{60}{20} \times 60 = \text{Rs.}180.$

CP of bananas of second kind $= \frac{60}{30} \times 60 = \text{Rs.}120$

Total CP of 120 bananas $= (180 + 120) = \text{Rs. } 300$

Their SP $= \frac{60}{25} \times 120 = \text{Rs. } 288$

Loss = Rs. $(300 - 288) = \text{Rs.}12$

$\therefore$ Loss percent $= \frac{12}{300} \times 100 = 4\%.$

57. Let x be the initial amount of the mixture

$\therefore$ Amount of milk in it $= \frac{5}{8}x$ and water $= \frac{3}{8}x$

In 6 litre of mixture, Milk $= 6 \times \frac{5}{8} = \frac{15}{4}$ litre

and water $= 6 \times \frac{3}{8} = \frac{9}{4}$ litre

$\therefore \frac{5}{8}x - \frac{15}{4} = \frac{3}{8}x - \frac{9}{4} + 6$

$\Rightarrow 2x = 60 \Rightarrow x = 30$ litre

$\therefore$ Initial amount of milk $= 30 \times \frac{5}{8}$ 18.75 litre

58. Speed of the motorboat upstream

$= \frac{56}{1 + \frac{3}{4}}$ km/ hours $= \frac{56 \times 4}{7} = 32$ kmph

Let the speed of the current be x kmph

$\therefore 36 - x = 32$

$\Rightarrow x = 36 - 32 = 4$ kmph

Speed of motor boat downstream $= 36 + 4 = 40$ kmph

$\therefore$ Time taken to cover 56 km at 40 kmph $= \frac{56}{40} = \frac{7}{5}$ hours or 1 hour 24 minutes.

59. Let whole work be 48 units i.e. LCM of (12, 16).

Work done by (Arjun + Bhim) in 1 day $= \frac{48}{12} = 4$ units

Work done by (Bhim + Chatur) in 1 day $= \frac{48}{16} = 3$ units

Work done by (Arjun + Bhim) in 5 days $= 4 \times 5 = 20$ units

Work done by (Bhim + Chatur) in 2 days $= 3 \times 2 = 6$ units

Work remaining = 48 – 26 = 22 units

Chatur finishes remaining work in 11 days.

$\therefore$ Units of work done by Chatur in 1 day $= \frac{22}{11} = 2$

$\therefore$ Number of days required by Chatur to complete the whole work $= \frac{48}{2} = 24$ days

60. 5 years ago, let the age of mother = $2x$ years

Then, age of daughter = x years

$\therefore 2x + 5 + x + 5 = 100$

$\Rightarrow 3x = 100 - 10 = 90$

$\Rightarrow x = \frac{90}{3} = 30$

$\therefore$ Mother's present age = $2x + 5 = 60 + 5 = 65$ years

Daughter's present age = $x + 5 = 30 + 5 = 35$ years

After 10 years,

ratio $= \frac{65 + 10}{35 + 10} = \frac{75}{45} = \frac{5}{3} = 5 : 3.$

For questions 61 to 65: All of the given information can be tabulated as:

	IBPS	**SSC**	**RBI**	**Railway**	**LIC**	**SBI**	**Total**
Boys	630	240	756	1080	1062	432	4200
Girls	1098	480	306	450	522	144	3000
Total	1728	720	1062	1530	1584	576	7200

61. Total number of students enrolled for RBI = 1062.

62. Total number of boys enrolled for LIC = 1062.

63. Total number of girls enrolled for RBI and LIC = 306 + 522 = 828.

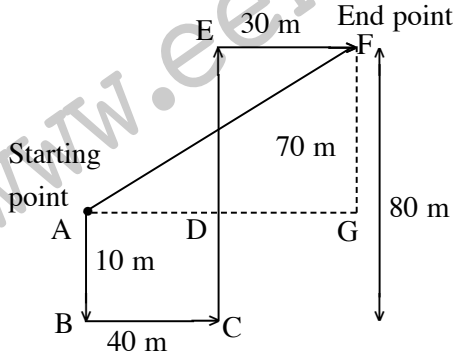
64. Required ratio = $\frac{630}{1080} = \frac{7}{12}$ i.e. 7 : 12.

65. Total number of students enrolled for Railway = 1530.

Total number of students in the institute = 7200.

$\therefore$ Required percentage $= \frac{1530}{7200} \times 100 = 21.25\%$.

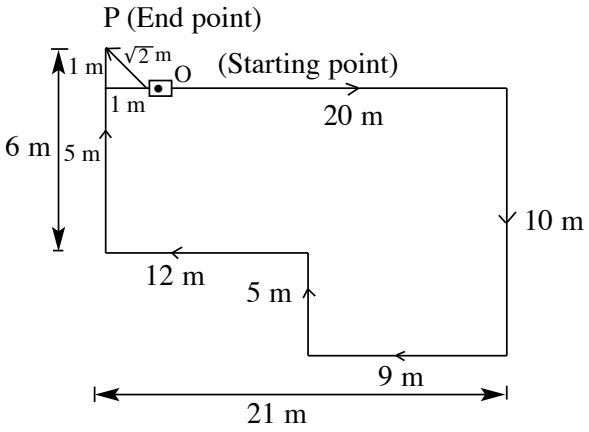
66.



Minimum distance between the starting point and end point

$= AF\sqrt{AG^2 + FG^2} = \sqrt{(40 + 30)^2 + 70^2} = 70\sqrt{2}$ m.

67.



Hence, required distance,

OP = $\sqrt{1^2 + 1^2} = \sqrt{2}$ m, North-west.

68. Only child of the woman's grandfather will be her father. The man in the photograph will be her brother. So, she is the man's sister.

69. Grandson of Amrish's mother is his son. He is the father-in-law of his son's wife.

70. That man's mother is the grandmother of Ronika. So, that man is the maternal uncle of Ronika.

For questions 71 to 75: All the given information can be tabulated as:

Representative	Company	Date
Sumit	Mahindra	18–Mar
Harpreet	Maruti	16–Mar
Pritam	Volkswagen	21–Mar
Sonam	Hyundai	15–Mar
Raina	Skoda	20–Mar

For question 76 to 80:

The given information can be shown as:

Car I:

Manish - Kareena
Deepak - Heena

Car II:

Ramesh - Shalini
Keshav - Divya

Car III:

Harish - Monika
Sameer - Ritika

76. Deepak and Kareena travelled along with Manish and Heena.

77. Ramesh-Shalini is the correct combination of a husband wife couple.

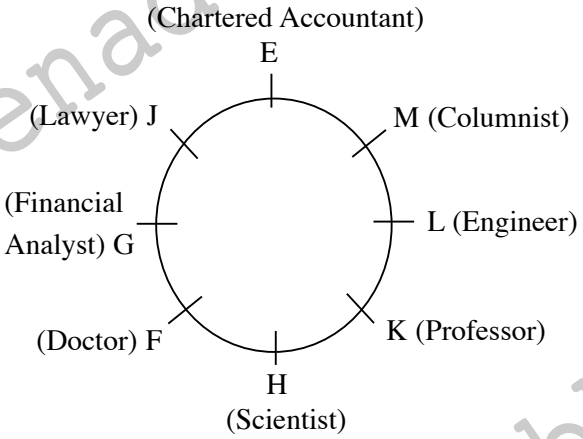
78. Deepak and Manish travelled in the same car.

For questions 81 to 85:

Person	Floor	Colour of car
P	6	Yellow
Q	9	Blue
R	1	Grey
S	4	Orange
T	2	White
M	7	Green
N	5	Red
O	8	Black
J	3	Pink

82. Q

For questions 86 to 90: According to the given information the following sitting arrangement is follows



86. G is sitting second to the right of E.

87. K is the professor.

88. J is lawyer and rest of the people do not match with their respective profession.

89. L is second to the right of scientist.

90. According to given arrangement, the lawyer is second to the left of doctor is true.

For questions 91 to 95:

Row1: Romi Qureshi Pranav Sahil Tarun ↓ South

• • • • • facing

Row2: Chirag Dolly Bala Ekta Akhil ↑ North

• • • • • facing

91. Pranav and Sahil are seated between Qureshi and Tarun

92. All others are sitting at the ends.

93. Pranav and Bala are sitting exactly between the rows.

94. Dolly sits on the immediate left of Bala.

95. In all others, the second is the neighbour of the one facing the first.

96. **Statements:** R $ S, S % T, T & M, M @ X ⇒ R ≤ S < T = M ≥ X

Conclusions:

I. S @ M ⇒ S ≥ M does not follow

II. R $ T ⇒ R ≤ T does not follow

III. S % M ⇒ S < M follows

IV. T & X ⇒ T = X does not follow

97. **Statements:** K @ L, L # N, N & W, W $ Q ⇒ K ≥ L > N = W ≤ Q

Conclusions:

I. K & Q ⇒ K = Q does not follow

II. K # N ⇒ K > N follows

III. N % Q ⇒ N < Q does not follow

IV. N @ Q ⇒ N ≥ Q does not follow

98. **Statements:** A # B, B # D, D @ F, F & R ⇒ A > B > D ≥ F = R

Conclusions:

I. A # R ⇒ A > R follows

II. B & R ⇒ B = R does not follow

III. B @ F ⇒ B ≥ F does not follow

IV. D % A ⇒ D < A follows

99. **Statements:** E $ F, F % G, G @ D, D & K ⇒ E ≤ F < G ≥ D = K

Conclusions:

I. G @ K ⇒ G ≥ K follows

II. D & F ⇒ D = F does not follow

III. E & G ⇒ E = G does not follow

IV. F # K ⇒ F > K does not follow

100. **Statements:** P $ W, W & F, F % O, O @ D ⇒ P ≤ W = F < O ≥ D

Conclusions:

I. O & D ⇒ O = D does not follow

II. P % O ⇒ P < O follows

III. W & O ⇒ W = O does not follow

IV. P @ D ⇒ P ≥ D does not follow

(ఈ నమూనా ప్రశ్నపత్రాన్ని Career Launcher సంస్థకు చెందిన నిపుణులు రూపొందించారు)