

(Based on IBPS PO (Prelims) latest pattern for IBPS PO EXAM)

No. of Questions : 100

Time : 1:00 hrs

Name of Student : _____

Father's Name: _____

Centre : _____

Batch No.: _____

Read the directions (given below) carefully.

1. इस पुस्तिका में निम्नलिखित तीन प्रश्नावलियां हैं :
प्रश्नावली I - अंग्रेजी भाषा प्र.क्र. 1-30
प्रश्नावली II - संख्यात्मक अभियोग्यता प्र.क्र. 31-65
प्रश्नावली III - तर्कशक्ति प्र.क्र. 66-100
2. इन चार प्रश्नावलियों के उत्तर देने के लिए आपको कुल 1:00 घंटे का समय दिया जाएगा। प्रश्नावलियों के लिए अलग-अलग समय नहीं है। आप अपनी इच्छा के अनुसार समय का संविभाजन कर सकते हैं, परंतु आपको स्मरण रखना चाहिए कि इस परीक्षा में सफल होने के लिए आपको तीनों प्रश्नावलियों में अलग-अलग सफल होना आवश्यक है।
3. तर्कशक्ति और संख्यात्मक अभियोग्यता की प्रश्नावलियां हिन्दी और अंग्रेजी दोनों भाषाओं में छपी हुई हैं। हिन्दी रूपान्तर बाएं तरफ के पन्ने पर और अंग्रेजी दाहिने तरफ के पन्ने पर छपे हुए हैं।
4. अगर आप गलत उत्तर देंगे तो दंडस्वरूप आपके अंकों में कटौती की जाएगी। ऐसे किसी भी प्रश्न के निर्धारित अंकों में से, जिसका आपने गलत उत्तर दिया है, दंड के रूप में एक-चौथाई या 0.25 अंक काट लिए जाएंगे।
5. रफ काम, यदि आप करना चाहें, तो इस पुस्तिका में ही करना चाहिए न कि उत्तरपत्र पर। इस हेतु हाशिए की अथवा अन्यत्र उपलब्ध खाली जगह का उपयोग कीजिए अन्य किसी कागज का उपयोग न कीजिए।
6. अपने उत्तर अलग उत्तरपत्र पर एच.बी. पेन्सिल का प्रयोग कर दर्शाइए। उत्तर दर्शाने के लिए उत्तरपत्र में दिए गए अनुदेशों का पालन कीजिए।
7. आपके उत्तरपत्र में उत्तर दर्शाने के लिए 100 उत्तरस्थान हैं। इस पुस्तिका में दिए हुए 100 प्रश्नों के उत्तर देने के लिए 100 उत्तरस्थानों का उपयोग कीजिए।
8. जब तक निर्देश न मिले इस पुस्तिका को मत खोलिए। पुस्तिका खोलने का निर्देश मिलने पर पुस्तिका के बाएं किनारे पर लगे हुए मुड़े हुए तार निकालने का प्रयास न करें। पेन्सिल के पिछले भाग की मदद से दाहिनी तरफ लगे स्टीकर को फाड़कर पुस्तिका को खोलें।
9. पुस्तिका खोलते ही जांच लीजिए कि सभी पृष्ठ जिन पर प्रश्न 1 से 100 हैं, सही प्रकार से छपे हुए हैं और फिर प्रश्नावलियों के उत्तर देना प्रारंभ कीजिए। यदि पुस्तिका दोषपूर्ण हो तो इसे उसी प्रश्नावली प्रारूप क्रमांकवाली दूसरी प्रश्नपुस्तिका से बदलवा लीजिए।
1. This Booklet contains three tests as follows :
Test I - English Language Q.Nos. 1-30
Test II - Quantitative Aptitude Q.Nos. 31-65
Test III- Reasoning Q.Nos. 66-100
2. You will be given an aggregate time of 1:00 hour to answer all the three tests. The tests are not separately timed. You may distribute the time as you please but remember that to qualify in the written test as a whole you have to qualify on each of the three tests separately.
3. Tests of Reasoning and Quantitative Aptitude are printed in both Hindi and English. The Hindi version is printed on the left hand side page and the English version on the right hand side page.
4. There will be penalty for wrong answers marked by you. For each question for which a wrong answer has been given by you, one-fourth or 0.25 of the marks assigned to that question will be deducted as penalty.
5. Rough work, if you want to do any, is to be done in this booklet itself and not on the answersheet. For this purpose use the empty space in the margin or anywhere else you find in this booklet. Do not use any other paper.
6. Indicate your answers on the separate answersheet (given at the end of the booklet), using HB Pencil. Follow the instructions given on the answersheet for indicating your answers.
7. Your answersheet contains answer-spaces for answering 100 questions. Use 100 answer spaces for answering the 100 questions given in this booklet.
8. Do not open the booklet until you are told to do so. When the instruction for opening the booklet is given, do not try to remove the wire staples at the left. Insert the blunt end of your pencil under the sticker and tear it to open the booklet.
9. Immediately after opening the booklet, verify that all the pages containing questions from 1 to 100 are properly printed in your booklet and then begin answering the test. In case the booklet is defective get it replaced by another test booklet.

English Language

Directions (Q. 1-5): Read each sentence to find out whether there is any error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is no error, the answer is 5). (Ignore the errors of punctuation, if any.)

1. 1) Any material change in the status /2) of a borrower has to be /3) communicated to the credit information company /4) into a specified time period. /5) No error
2. 1) Given the instances for /2) misuse of personal information /3) it is critical that /4) borrowers' data are adequately protected. /5) No error
3. 1) Islam does recognise the /2) necessity for divorce in cases where /3) marital relations have been much poisoned /4) that peaceful domestic life is impossible. /5) No error
4. 1) To meet the competition in /2) IT-enabled services /3) India needs to /4) improve its physical infrastructure. /5) No error
5. 1) If China can become /2) the world's manufacturing hub /3) and extract know-how benefits /4) India can surely do. /5) No error

Directions (Q. 6-10): 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.

One of the more marked test of character is the manner in which we (6) ourselves towards others, a graceful behaviour, towards superiors, inferiors, and (7) is constant source of pleasure. It pleases others because it indicates (8) for their personality, but it gives tenfold more (9) to ourselves. Every man may, to large extent be a self educator in good (10) as in every else, he can be civil and kind if he thinks he has not a penny in his purse.

- | | | | | | |
|-----|--------------|----------------|--------------|---------------|--------------|
| 6. | 1) conduct | 2) manage | 3) nature | 4) present | 5) dispose |
| 7. | 1) equals | 2) juniors | 3) seniors | 4) superiors | 5) priors |
| 8. | 1) happiness | 2) honour | 3) regard | 4) respect | 5) influence |
| 9. | 1) force | 2) requirement | 3) pleasure | 4) dedication | 5) loudness |
| 10. | 1) status | 2) behaviour | 3) character | 4) career | 5) condition |

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

11. The Hindi film industry is now _____ good _____ to artists to do something new.
1) checking, potential 2) providing, remittance 3) spending, money
4) offering, opportunities 5) making, access
12. The supporters _____ flags and gathered outside his residence to _____ him to the seminar which he was going to address.
1) raised, accompany 2) hoisted, move 3) lifted, develop
4) lifted, fuel 5) moved, empower
13. The earthquake, which was _____ at around 4pm _____ 95 km east of Kathmandu.
1) observed, started 2) felt, exhibit 3) assumed, emerged
4) anticipated, came 5) felt, struck
14. This robot is _____ of _____ pictures with fibre optic and satellite communication.
1) made, making 2) capable, taking 3) inevitable, cropping
4) enhanced, creating 5) significant, saving

Directions (Q. 29-30): Choose the word/group of words which is most opposite in meaning of the word/group of words printed in bold as used in the passage.

29. **Threatened**

1) warned

2) jeopardised

3) ensured

4) exposed

5) vulnerable

30. **Strike**

1) maintain

2) hit

3) knock

4) lose

5) smack



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Test II

Quantitative Aptitude

Directions (Q. 31-35): In each of the following questions two equations are given. On the basis of the given equation find the relationship between p and q. Mark answer –

- | | | |
|------------------|---|---------------|
| 1) if $p = q$ | 2) if $p > q$ | 3) if $q > p$ |
| 4) if $p \geq q$ | 5) if $q \geq p$ or if you cannot establish any relation between p and q. | |

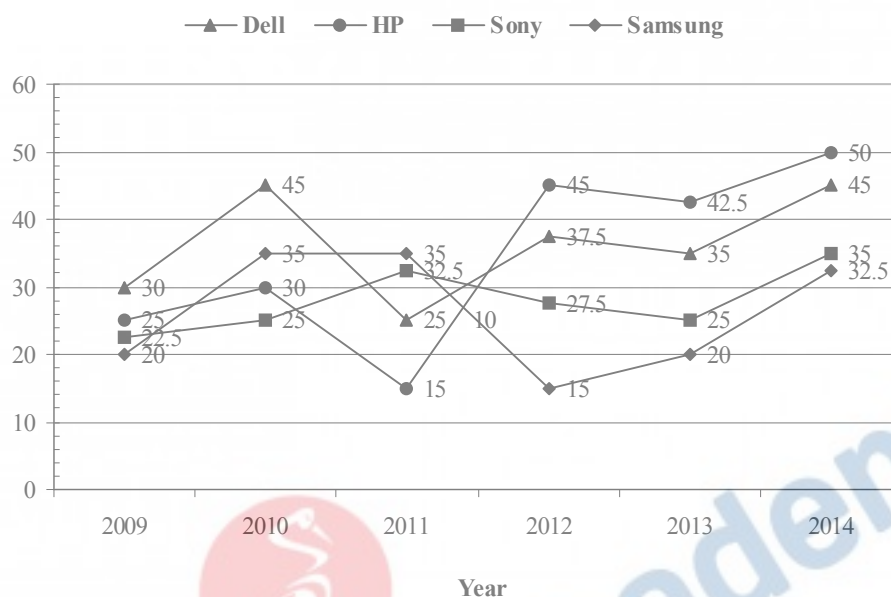
- | | |
|-------------------------------|----------------------------|
| 31. I. $42p^2 + 53p + 15 = 0$ | II. $42p^2 - 53q + 15 = 0$ |
| 32. I. $p^2 + 24p + 143 = 0$ | II. $q^2 + 6q - 55 = 0$ |
| 33. I. $p^2 - 14p + 48 = 0$ | II. $q^2 + 16q + 63 = 0$ |
| 34. I. $6p^2 - 41p + 63 = 0$ | II. $6q^2 - 59q + 143 = 0$ |
| 35. I. $p^2 - 14p + 45 = 0$ | II. $q^2 - 8q + 15 = 0$ |

Directions (Q. 36-40): In each of the following number series a wrong number is given. Find out the wrong number.

- | | | | | | |
|---------------------------------|-----------|----------|---------|---------|------------------|
| 36. 120 136 142 132 100 60 | 1) 136 | 2) 142 | 3) 132 | 4) 100 | 5) 60 |
| 37. 5 20 80 610 6140 73630 | 1) 5 | 2) 20 | 3) 80 | 4) 610 | 5) 6140 |
| 38. 117484 14679 2094 345 64 10 | 1) 117484 | 2) 14679 | 3) 2094 | 4) 345 | 5) 64 |
| 39. 6 15 33 59 96 141 | 1) 6 | 2) 15 | 3) 33 | 4) 59 | 5) None of these |
| 40. 200 208 321 652 1641 4935 | 1) 208 | 2) 321 | 3) 652 | 4) 1641 | 5) None of these |

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

The graph given below shows the sales of Laptops of (in thousands) of different companies in India in six different years.



41. Which of the following companies recorded maximum percentage increase in the sale in the year 2014 as compared to the year 2009?
 1) Dell 2) HP 3) Samsung 4) Sony 5) Both 2 and 3
42. What is the approximate percentage increase in the total sales of laptop, of all companies together in the year 2014 as compared to the year 2009?
 1) 50.67% 2) 62.67% 3) 56.67% 4) 66.67% 5) 52.47%
43. In which of the following year, the average sale of the companies together is minimum?
 1) 2009 2) 2014 3) 2013 4) 2011 5) 2012
44. The total sales of sony in all the years together is approximately what percent more or less than the total sales of Dell in all the years together?
 1) 23% more 2) 29% less 3) 23% less 4) 26% less 5) 28% more
45. Which of the following companies recorded second highest average sales of laptop in all the years together?
 1) Samsung 2) Dell 3) Sony 4) HP 5) Either 2 or 3
46. Eight litres of milk is drawn from a container full of milk and it is then filled with water. Eight litres of the mixtures are drawn and the container is again filled with water. The quantity of milk now left in the container is to that of water in it is 121:23. How much milk does the container hold?
 1) 102 litre 2) 92 litre 3) 96 litre 4) 64 litre 5) 48 litre
47. When two dice are thrown, what is the probability that the sum of the numbers appeared is less than 8?
 1) 5/12 2) 5/6 3) 3/4 4) 8/11 5) 7/12
48. Two men undertook to do a piece of work of ₹ 400. One alone could do it in 6 days, the other in 8 days. With the assistance of a boy they finish it in 3 days. Find the share of boy.
 1) ₹ 25 2) ₹ 50 3) ₹ 75 4) ₹ 100 5) ₹ 60
49. Find the compound interest earned on a sum of ₹ 2,00,000 for 2 years at 8% interest p.a compounded half yearly?
 1) ₹ 33971.712 2) ₹ 33971 3) ₹ 32971 4) ₹ 35891.614 5) ₹ 34971.712

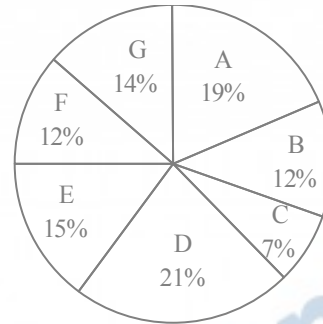
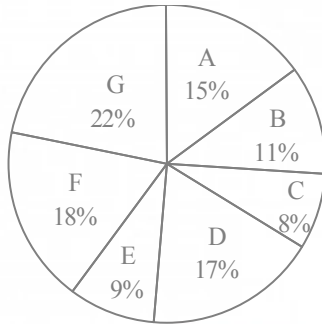
50. Find the area of an equilateral triangle whose height is 9 cm.
 1) 49 cm^2 2) 44.784 cm^2 3) 46.764 cm^2 4) 42 cm^2 5) 52.784 cm^2

Directions (Q. 51-55): These questions are based on the following Pie-charts.

The following pie charts show classification of appeared candidates in a competitive exam from different states and qualified candidates from those states.

The number of appeared candidates = 54,000

Total number of qualified candidates = 32,000



51. What is the ratio of the number of appeared candidates from states C and E together to that of appeared candidates from states A and F together?
 1) 3:5 2) 5:3 3) 17:33 4) 33:17 5) None of these
52. In which state the percentage of qualified candidates with respect to appeared candidates is maximum?
 1) A 2) B 3) C 4) D 5) None of these
53. What is the difference between the numbers of appeared candidates of states B and E?
 1) 504 2) 680 3) 1080 4) 1260 5) None of these
54. What is the percentage of qualified candidates with respect to appeared candidates from states A and D taken together?
 1) 74.07 2) 65.8 3) 82.5 4) 18.7 5) 60.12
55. What is the ratio of the number of candidates qualified from states C and D together to the number of candidates appeared from state G?
 1) 17 : 33 2) 201 : 317 3) 224 : 297 4) 297 : 224 5) None of these
56. The ratio of the number of girls to the number of boys is the 5 : 2 in a class of 28 students. A group of three students is to be selected at random amongst them. What is the probability that the selected group of students contain one boy and two girls?
 1) $\frac{14}{71}$ 2) $\frac{14}{117}$ 3) $\frac{20}{71}$ 4) $\frac{20}{117}$ 5) None of these
57. A square room is surrounded by a verandah of width 6 m. If the area of the verandah is 696 sq m, what is the area of the room?
 1) 441 sq m 2) 484 sq m 3) 529 sq m 4) 576 sq m 5) None of these
58. 18 persons are sitting around a circular table. In how many ways can they be seated if six particular persons are to always sit together?
 1) $18! \times 6!$ 2) $17! \times 5!$ 3) $13! \times 6!$ 4) $12! \times 6!$ 5) $12! \times 5!$
59. A person sold an item at a profit of 45%. Had he sold it for ₹1463 more, he would have gained 64%. What is the cost price of the item?
 1) ₹72 2) ₹75 3) ₹77 4) ₹78 5) ₹82.5
60. A person divided a sum of ₹72000 in two parts and deposited it in different banks at the rate of 11% pa and 17% pa respectively. After one year, he received ₹19080 as the total interest. What is the amount deposited at the rate of 17% pa?
 1) ₹27000 2) ₹45000 3) ₹30000 4) ₹42000 5) ₹32000

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

A school consists of 5100 students. The ratio of boys to girls is 6 : 11 respectively. All the students are hobby classes viz; Drama, Dancing and Singing. 14% of the total boys learn only Dancing. 27% of the total girls learn only Drama. The

number of students enrolled in only singing is 1335. $\frac{1}{5}$ of the total boys are enrolled in all the three classes. Number of girls

enrolled only in Dancing is 200% of the boys enrolled in the same. The remaining girls are enrolled in all the three classes. 20% of the boys are enrolled only in Drama and the remaining enrolled only in Singing.

61. How many students are enrolled only in Drama?
1) 1215 2) 1240 3) 1251 4) 1351 5) 1291
62. What is the number of girls enrolled in all the three classes together?
1) 1398 2) 1298 3) 1389 4) 1428 5) 1318
63. Number of boys enrolled in Singing only is approximately what percent of the number of girls enrolled in the same?
1) 146% 2) 160% 3) 152% 4) 163% 5) 154%
64. What is the respective ratio of the number of boys enrolled only in Drama to the number of girls enrolled in the same?
1) 44 : 103 2) 40 : 99 3) 41 : 99 4) 41 : 101 5) 40 : 91
65. How many boys are enrolled in Dancing?
1) 252 2) 350 3) 360 4) 465 5) 612



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Test III

Reasoning Ability

Directions (Q. 66-70): In each question below, there are three statements followed by three conclusions numbered I, II and III. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follow(s) from the given statements.

66. **Statements:** All dolls are windows.
All cars are bottles.
Conclusions: **I.** All cars are windows. **II.** No cars are dolls.
III. All doll being cars is a possibility.
1) Only I and II follow 2) Only II and III follow
3) Only I and III follow 4) All follow
5) None of these
67. **Statements:** Some players are balls.
Some tigers are balls.
Conclusions: **I.** Some circles are tigers. **II.** Some players are not circles.
III. All circles being players is a possibility.
1) Only I and II follow 2) Only II follows
3) Only I and III follow 4) Only III follows
5) None of these
68. **Statements:** Some chemists are surgeons.
Some editors are translators.
Conclusions: **I.** Some translators are surgeons. **II.** All editors being surgeons is a possibility.
III. Some editors are chemists.
1) None follows 2) Only I follows
3) Only II follows 4) Only III follows
5) All follow
69. **Statements:** All mangoes are apples.
All branches are fruits.
Conclusions: **I.** Some branches are mangoes. **II.** No fruit is a mango.
III. No mango is branch.
1) None follows 2) Either I or III follows
3) Only I follows 4) Either I or II or III follows
5) None of these
70. **Statements:** All employees are workers.
Some actors are managers.
Conclusions: **I.** Some workers are actors. **II.** No actor is a employee.
III. All workers being actors is a possibility.
1) None follows 2) Only I follows
3) Only II follows 4) Only III follows
5) Either I or II follows

Directions (Q. 71-75): In the following questions, the symbols @, ©, +, % and # are used with the meaning as indicating 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 smaller than nor greater than Q'.

Now in each of the following question, 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 conclusion I and II are true.

71. **Statements:** C # D @ N % X, N @ U + O % A
Conclusions: I. C # O
II. X @ O
72. **Statements:** T % S + J @ D, S © Q + F % B
Conclusions: I. D % F
II. D + F
73. **Statements:** V @ R + W, K @ E @ V, E © N + Y
Conclusions: I. K # Y
II. W © Y
74. **Statements:** H © P + T, P @ S # L, T © J + U
Conclusions: I. U # S
II. L © U
75. **Statements:** F @ D + N, O © T + S % J, D @ J % R
Conclusions: I. O % F
II. O % R

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

Six persons—A, B, C, D, E and F—stay on different floors of a six-storey building (ground floor is numbered as floor 1 and top floor is numbered as floor 6). Each of them is in a different profession, viz Doctor, Engineer, Lawyer, Architect, Journalist and Teacher.

D is a lawyer but stays neither on floor 2 nor on floor 5. B is neither an Architect nor a Journalist but stays on floor 6. The Journalist doesn't stay below the floor of the Architect but stays below the floor of the Engineer. The Teacher stays either on floor 1 or on floor 4. E doesn't stay on an odd-numbered floor. A, who stays on floor 4, is either a Journalist or an Architect. Either C or F is an Engineer.

76. If F stays on floor 1, what is the profession of C?
1) Lawyer 2) Engineer 3) Teacher 4) Architect 5) Can't be determined
77. Who stays on floor 3?
1) Engineer 2) Lawyer 3) Doctor 4) Architect 5) Teacher
78. Which of the following combinations is definitely true?
1) C—Teacher—Floor 1 2) D—Lawyer—Floor 5 3) E—Architect—Floor 2
4) F—Engineer—Floor 5 5) None of these
79. Which of the following combinations is definitely false?
1) A—Journalist—Floor 2 2) B—Doctor—Floor 6 3) E—Architect—Floor 2
4) D—Lawyer—Floor 3 5) None of these
80. If the Journalist stays on Floor 2, which floor will the Engineer stay on?
1) 1 2) 5 3) 4
4) 6 5) Can't say exactly

Directions (Q. 81-85): Study the following information carefully and answer the given questions.

Eight friends—A, B, C, D, E, F, G and H—are sitting around a square table in such a way that four of them sit at four corners of the table while the other four sit in the middle of the four sides. Those who sit in the middle of the four sides face the centre while those who sit at the four corners face outside.

A sits third to the left of C, who does not sit at any of the corners. E sits to the left but not on the immediate left of F, who is not an immediate neighbour of C. B and H are the immediate neighbours of neither each other nor of A and D respectively.

D does not sit in the middle of any sides and at least two persons can sit between A and D. E and G sit opposite each other but do not face each other. F cannot sit opposite C.

81. Who among the following sits third to the left of H?
 1) B 2) G 3) D 4) C 5) None of these
82. What is the position of B with respect to F?
 1) Third to the left 2) Third to the right 3) Fourth to the left
 4) Second to the right 5) None of these
83. Who among the following represent the immediate neighbours of F?
 1) HG 2) GA 3) BE 4) AH 5) None of these
84. If they all are rearranged clockwise in alphabetical order starting from A (A retains his original position), which of the following would retain his original position?
 1) H 2) G 3) D 4) E 5) None of these
85. Who among the following sits exactly between D and G?
 1) B 2) H 3) F 4) C 5) None of these

Direction (Q. 86-90): Read the following information carefully and answer the questions given below:

Four boys P, Q, R, S and their friends- W, X, Y, Z, not necessarily in the same order, go to Agra in a car. The car has eight seats, in such a way that there are two rows of three seats each and the front row has two seats, including the driver's seat. The car has six seats immediately next to six windows. The driver's seat is at the extreme right side in the front row of the car. The seating arrangement follows the pattern as given below.

Neither P nor Y nor their friends sit in the front row, which consists of two seats. X and R sit in the 2nd row and the 3rd row respectively. Y and Z are the only two persons who do not sit next to a window. Q sits in the same column as W and one place ahead of him. P is friend of W and sits in the same row in which R sits, but not in the same column in which the driver sits. No pair of friends sit in the same row or the same column. Y is friend of R.

86. Who among the following is sitting just beside the right window of the last row?
 1) Q 2) R 3) S 4) Q or R 5) R or S
87. Who among these eight persons is driving the car?
 1) W 2) P 3) Q 4) R 5) S
88. Who must be sitting to the immediate right of Y?
 1) W 2) X 3) Q 4) R 5) S
89. Which of the following is definitely true regarding their position?
 1) S and W are in same row 2) Both W and Y are sitting besides window.
 3) Both X and R are sitting in the same row 4) All are true
 5) None is true
90. Who among the following is sitting at last but one row?
 1) P 2) Z 3) X 4) X or W 5) Both X & Y

A, B, C, D, E, F, G, H, I and J are ten persons sitting around a circular table facing towards the centre of the table. Now read following clues before answering the questions given.

91. Who is sitting third to the left of C?
1) J 2) D 3) G
4) Data inadequate 5) None of these
92. Who is sitting on the immediate right of I?
1) C 2) J 3) F
4) Data inadequate 5) None of these
93. In which of the following pairs is second person sitting fourth to the right of the first?
1) C, B 2) H, E 3) G, F 4) B, C 5) A, B
94. Four of the following five are alike according to their seating arrangement and hence form a group. Which of the following does not belong to that group?
1) H, C 2) F, J 3) E, G 4) A, D 5) C, I
95. Which of the following statements is not definitely true?
1) F is the neighbour of I 2) A is the neighbour of H 3) B is sitting third to the left of A
4) H is sitting between A and C 5) I is sitting second to the left of J

In a certain code language 'jump and run away' is written as 'tm jd qm ni', 'don't run too fast' is written as 'ki qm lt sa', 'watch fast furious' is written as 'lt kb jd tec', and 'you jump too fast' is written as 'sa zn ni lt'.

- 21

IBPSPO-PT-B-007

1. 4; Replace 'into' with 'in'.
2. 1; Replace 'for' with 'of'.
3. 3; Replace 'much' with 'so'.
4. 5

5. 4; Add 'so' after do.

6. 1	7. 1	8. 4	9. 3	10. 2
11. 4	12. 1	13. 5	14. 2	15. 5

(26-30): ACBDE

16. 2	17. 1	18. 5	19. 3	20. 4
21. 3	22. 2	23. 1	24. 5	25. 2
26. 2	27. 1	28. 1	29. 3	30. 4

31. 3; I. $42p^2 + 53p + 15 = 0$

$$\begin{aligned} \text{or, } 42p^2 + 18p + 35p + 15 &= 0 \\ \text{or, } 6p(7p + 3) + 5(7p + 3) &= 0 \\ \text{or, } (6p + 5)(7p + 3) &= 0 \end{aligned}$$

$$\therefore p = -\frac{5}{6} \text{ or } -\frac{3}{7}$$

II. $42q^2 - 53q + 15 = 0$

$$\begin{aligned} \text{or, } 42q^2 - 18q - 35q + 15 &= 0 \\ \text{or, } 6q(7q - 3) - 5(7q - 3) &= 0 \\ \text{or, } (6q - 5)(7q - 3) &= 0 \end{aligned}$$

$$\text{or, } q = \frac{5}{6} \text{ or } \frac{3}{7}$$

Hence, $q > p$.

32. 5; I. $p^2 + 24p + 143 = 0$

$$\begin{aligned} \text{or, } p^2 + 11p + 13p + 143 &= 0 \\ \text{or, } p(p + 11) + 13(p + 11) &= 0 \\ \text{or, } (p + 13)(p + 11) &= 0 \\ \therefore p &= -11 \text{ or } -13 \end{aligned}$$

II. $q^2 + 6q - 55 = 0$

$$\begin{aligned} \text{or, } q^2 - 5q + 11q - 55 &= 0 \\ \text{or, } q(q - 5) + 11(q - 5) &= 0 \\ \text{or, } (q + 11)(q - 5) &= 0 \\ \therefore q &= -11 \text{ or } 5 \end{aligned}$$

Hence $q \geq p$

33. 2;; I. $p^2 - 14p + 48 = 0$

$$\begin{aligned} \text{or, } p^2 - 8p - 6p + 48 &= 0 \\ \text{or, } p(p - 8) - 6(p - 8) &= 0 \\ \text{or, } (p - 6)(p - 8) &= 0 \\ \therefore p &= 6 \text{ or } 8 \end{aligned}$$

II. $q^2 + 16q + 63 = 0$

$$\begin{aligned} \text{or, } q^2 + 7q + 9q + 63 &= 0 \\ \text{or, } q(q + 7) + 9(q + 7) &= 0 \\ \text{or, } (q + 9)(q + 7) &= 0 \\ \therefore q &= -9 \text{ or } -7 \end{aligned}$$

Hence $p > q$.

34. 5; I. $6p^2 - 41p + 63 = 0$

$$\begin{aligned} \text{or, } 6p^2 - 27p - 14p + 63 &= 0 \\ \text{or, } 3p(2p - 9) - 7(2p - 9) &= 0 \\ \text{or, } (3p - 7)(2p - 9) &= 0 \\ \therefore p &= \frac{7}{3} \text{ or } \frac{9}{2} \end{aligned}$$

II. $6q^2 - 59q + 143 = 0$

$$\begin{aligned} \text{or, } 6q^2 - 33q - 26q + 143 &= 0 \\ \text{or, } 3q(2q - 11) - 13(2q - 11) &= 0 \\ \text{or, } (3q - 13)(2q - 11) &= 0 \\ \therefore q &= \frac{13}{3} \text{ or } \frac{11}{2} \end{aligned}$$

We can't get any specific relationship between p and q .

35. 4; I. $p^2 - 14p + 45 = 0$

$$\begin{aligned} \text{or, } p^2 - 5p - 9p + 45 &= 0 \\ \text{or, } p(p - 5) - 9(p - 5) &= 0 \\ \text{or, } (p - 9)(p - 5) &= 0 \\ \therefore p &= 9 \text{ or } 5 \end{aligned}$$

II. $q^2 - 8q + 15 = 0$

$$\begin{aligned} \text{or, } q^2 - 5q - 3q + 15 &= 0 \\ \text{or, } q(q - 5) - 3(q - 5) &= 0 \\ \text{or, } (q - 3)(q - 5) &= 0 \\ \therefore q &= 3 \text{ or } 5 \end{aligned}$$

Hence $p \geq q$.

36. 5; $11^2 - 1^3 = 120$

$$12^2 - 2^3 = 136$$

$$13^2 - 3^3 = 142$$

$$14^2 - 4^3 = 132$$

$$15^2 - 5^3 = 100$$

$$16^2 - 6^3 = 40$$

Hence, the wrong number in the series is 60.

37. 2; $5 \times 4 - 10 = 10$

$$10 \times 6 + 20 = 80$$

$$80 \times 8 - 30 = 610$$

$$610 \times 10 + 40 = 6140$$

$$6140 \times 12 - 50 = 73630$$

Hence, the wrong number in the series is 20.

38. 1; $117448 \div 8 - 2 = 14679$

$$14679 \div 7 - 3 = 2094$$

$$2094 \div 6 - 4 = 345$$

$$345 \div 5 - 5 = 64$$

$$64 \div 4 - 6 = 10$$

Hence the wrong number in the series is 117484.

39. 4; $6 + 1^2 + (8 \times 1) = 15$

$$15 + 2^2 + (7 \times 2) = 33$$

$$33 + 3^2 + (6 \times 3) = 60$$

$$60 + 4^2 + (5 \times 4) = 96$$

$$96 + 5^2 + (4 \times 5) = 141$$

Hence the wrong number in the series is 59.

40. 5; $200 \times 1 + 8 = 208$

$$208 \times 1.5 + 9 = 321$$

$$321 \times 2 + 10 = 652$$

$$652 \times 2.5 + 11 = 1641$$

$$1641 \times 3 + 12 = 4935$$

There is no wrong number in the series.

41. 2; The percentage increase in sales in the year 2014 as compared to the year 2009 of different companies are as follows:

$$\text{Dell} = \frac{45-30}{30} \times 100 = 50\%$$

$$\text{HP} = \frac{50-25}{25} \times 100 = 100\%$$

$$\text{Sony} = \frac{35-22.5}{22.5} \times 100 = 55.56\%$$

$$\text{Samsung} = \frac{32.5-20}{20} \times 100 = 62.5\%$$

Hence maximum is of HP.

42. 4; Required percentage increase

$$= \frac{(45+50+35+32.5)-(30+25+22.5+20)}{30+25+22.5+20} \times 100$$

$$= \frac{162.5-97.5}{97.5} \times 100 \approx 66.67\%$$

43. 1; Average sales (in thousands) of all the companies together in the years are as follows:

$$2009 = \frac{30+25+22.5+20}{4} = 24.375$$

$$2010 = \frac{45+30+25+35}{4} = 33.75$$

$$2011 = \frac{25+15+32.5+35}{4} = 26.875$$

$$2012 = \frac{37.5+45+27.5+15}{4} = 31.25$$

$$2013 = \frac{35+42.5+25+20}{4} = 30.625$$

$$2014 = \frac{45+50+35+32.5}{4} = 40.625$$

44. 3; Total sales of Sony (in thousand)
 $= 22.5 + 25 + 32.5 + 27.5 + 25 + 35 = 167.5$
 Total sales of Dell (in thousand)
 $= 30 + 45 + 25 + 37.5 + 35 + 45 = 217.5$

$$\therefore \text{Required percentage less} = \frac{217.5-167.5}{217.5} \times 100 \approx 23\%$$

45. 4; Average sales of laptops (in thousand) different companies in all the years together

$$\text{Dell} = \frac{30+45+25+37.5+35+45}{6} = 36.25$$

$$\text{HP} = \frac{25+30+15+45+42.5+50}{6} = 34.58$$

$$\text{Sony} = \frac{22.5+25+32.5+27.5+25+30}{6} = 27.92$$

$$\text{Samsung} = \frac{20+30+35+15+20+32.5}{6} = 26.25$$

Hence, second highest is in HP

46. 3; Capacity of container

$$= \frac{8}{1 - \left(\frac{121}{144}\right)^{1/2}} = \frac{8}{1 - \frac{11}{12}} = 8 \times 12 = 96 \text{ litre}$$

47. 5; Desired sum of numbers are 2, 3, 4, 5, 6, 7

$$n(E) = \{(1,1); (1,2); (1,3); (1,4); (1,5); (1,6); (2,1); (2,2); (2,3); (2,4); (2,5); (3,1); (3,2); (3,3); (3,4); (4,1); (4,2); (4,3); (5,1); (5,2); (6,1)\}$$

$$= 6 + 5 + 4 + 3 + 2 + 1 = 21$$

$$\text{And } n(s) = 36$$

$$\therefore \text{Required probability} = \frac{21}{36} = \frac{7}{12}$$

48. 2; Boy's share = $x \left[1 - \left(\frac{x+y}{xy} \right) d \right]$

$$\text{Where } X = ₹ 400$$

$$x = 6, y = 8, d = 3$$

$$\therefore \text{Boy's share} = 400 \left[1 - \left(\frac{6+8}{6 \times 8} \right) \times 3 \right]$$

$$= 400 \left[1 - \frac{14}{6 \times 8} \times 2 \right] = 400 \left[1 - \frac{7}{8} \right]$$

$$= 400 \times \frac{1}{8} = ₹ 50$$

49. 1; Compound interest = $200000 \left(1 + \frac{8}{200} \right)^4 - 2,00,000$

$$= 200000 \left(\frac{26}{25} \right)^4 - 2,00,000$$

$$= 233971.712 - 200000 = ₹ 33971.712$$

50. 3; Side = $9 \times \frac{2}{\sqrt{3}} = 6\sqrt{3}$

$$\therefore \text{Area} = \frac{\sqrt{3}}{4} \times 6\sqrt{3} \times 6\sqrt{3} \left(\sqrt{3} = 1.732 \right) = 46.764 \text{ cm}^2$$

51. 3;

	Total Appeared	Total Qualified
A	8100	5760
B	5940	3520
C	4320	2240
D	9180	6720
E	4860	4480
F	9720	3520
G	11880	4160

$$= 4320 + 4860 : 8100 + 9720$$

$$= 9180 : 17820$$

- $= 17 : 33$
 52. 5; A \rightarrow 71.11% B \rightarrow 59.26%
 C \rightarrow 51.85% D \rightarrow 73.20%
 E \rightarrow 92.18% F \rightarrow 36.21%
 G \rightarrow 35.02%

53. 3; Difference = $5940 - 4860 = 1080$

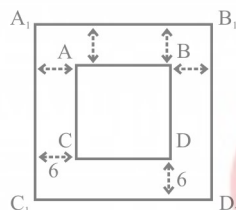
54. 1; $\frac{12800}{17280} \times 100 = 74.07\%$

55. 3; $8960 : 11880 = 224 : 297$

56. 4; Total = 28 \therefore Boys = 20, Girls = 8
 $n(S) = {}^{28}C_3 = 3276$
 $n(E) = {}^{20}C_1 \times {}^8C_2 = 20 \times 28 = 560$

$\therefore P(E) = \frac{n(E)}{n(S)} = \frac{560}{3276} = \frac{140}{819} = \frac{20}{117}$

57. 3; Let the side of the room be x metres.



Area of the verandah = $2 \times \{(x + 12) \times 6 + 6 \times x\} = 696$
 or, $12 \{(x + 12) + x\} = 696$

$\therefore 2x + 12 = 58$

$\therefore 2x = \frac{58-12}{2} = \frac{46}{2} = 23 \text{ m}$

\therefore Area of the square = $x^2 = (23)^2 = 529 \text{ sqm}$

58. 4; We assume the six particular persons as one. So, total number of persons is $18 - 6 + 1 = 13$ and they can sit around a circular table in $12!$ ways. Six particular persons can sit in $6!$ ways among themselves.

\therefore Total number of ways = $12! \times 6!$

59. 3; Let the amount be x .

$\therefore x \times 1.64 - x \times 1.45 = 14.63$

$0.19x = 14.63$

$\therefore x = \frac{14.63}{0.19} = 77$

60. 1; Let the amount deposited at 17% be x .

$\therefore \frac{x \times 17 \times 2}{100} + \frac{(72000 - x) \times 11 \times 2}{100} = 19080$

or, $34x + 1584000 - 22x = 1908000$

or, $12x = 1908000 - 1584000 = 324000$

$\therefore x = \frac{324000}{12} = 27000$

(61–65):

Number of girls = $\frac{11}{17} \times 5100 = 3300$

Number of boys = $\frac{6}{17} \times 5100 = 1800$

	Boys	Girls
Only Drama	$20 \times 18 = 360$	$27 \times 33 = 891$
Only Dance	$14 \times 18 = 252$	$2 \times 252 = 504$
Only Singing	828	$1335 - 828 = 507$
Drama + Dance + Singing	$1800/5 = 360$	1398

61. 3; Total number students enrolled in only Drama
 $= 360 + 891 = 1251$

62. 1; Required answer = 1398

63. 4; Required percentage = $\frac{828}{507} \times 100 \approx 163\%$

64. 2; Required ratio = $360 : 891 = 40 : 99$

65. 5; Required number of boys = $252 + 360 = 612$

66. 3; All cars are bottles (A) + All bottles are windows (A) = A + A = A = All cars are windows. Hence, conclusion I follows. But conclusion II does not follow because there is not negative statement.

Again, All dolls are windows \rightarrow conversion \rightarrow Some windows are dolls. Now, All cars are windows (A) + Some windows are dolls (I) = A + I = No conclusion III follows.

67. 3; Some players are balls (I) + All balls are circles (A) = I + A = I = Some players are circles. It means All circles being players is a possibility. Hence, conclusion III follows.

Again, Some tigers are balls (I) + All balls are circles (A) = I + A = I = Some tiger are circles \rightarrow implication \rightarrow Some circles are tigers. Hence, conclusion I follows. But conclusion II does not follow because there is no negative statement.

68. 3; Some surgeons are editors, it means All editors being surgeons is a possibility. Hence conclusion II follows.

Again, Some chemists are surgeons (I) + Some surgeons are editors (I) = I + I = No conclusion. Hence, conclusion III does not follow.

Now, Some surgeons are editors (I) + Some editors are translators (I) = I + I = No conclusion. Hence, conclusion I does not follow.

69. 5; All mangoes are apples (A) + No apple is a fruit (E) = A + E = E = No mango is a fruit \rightarrow conversion \rightarrow No fruit is a mango. Hence, conclusion II follows.

Again, All branches are fruits (A) + No fruits is a mangoes (E) = A + E = E = No branches is a mangoes \rightarrow conversion \rightarrow No mango is a branch. Hence, conclusion III follows. But I does not follow.

70. 4; Some actors are managers (I) + No managers is a worker (E) = I + E = O = Some actors are not workers.

It means All workers being actors is a possibility. Hence, conclusion III follows. But I does not follow. Again, No manager is a worker \rightarrow conversion \rightarrow Now worker is a manager.

Now, All employees are workers (A) + No worker is a managers = A + E = E = No employee is a managers \rightarrow conversion \rightarrow No manager is a employee (E)

So, Some actors are managers (I) + No manager is a employee (E) = I + E = O = Some actors are not employees. Thus, II does not follow.

(71-75):

$$P @ Q \rightarrow P \leq Q$$

$$P \odot Q \rightarrow P \geq Q$$

$$P \% Q \rightarrow P > Q$$

$$P \# Q \rightarrow P < Q$$

$$P + Q \rightarrow P = Q$$

71. 1; **Given statements:** C < D < N > X (i)

N < U = O > A (ii)

Combining (i) and (ii)

$$C < D \leq N \leq U = O > A$$

Comparing C and O

$$C < O \Rightarrow C \# O$$

thus I is true

$$A < O = U \geq N > X$$

Comparing X and O

$$X < O \Rightarrow X @ O$$

thus II is not true.

72. 3; **Given statements:** T > S = J < D (i)

S > Q = F > B (ii)

Combining (i) and (ii)

$$B < F = Q \leq S = J \leq D$$

Comparing D and F

$$D > F \Rightarrow D \odot F$$

thus I is not true

$$D > F \Rightarrow D \odot F$$

thus, II is not true

Hence, either I or II is true.

73. 2; **Given statements:** V < R = W (i)

K < E < V (ii)

E > N = Y (iii)

Combining (ii) and (iii)

$$K \leq E \geq N = Y$$

We can't compare K and Y

Hence I is not true.

Again, combining (i), (ii) and (iii)

$$Y = N \leq E \leq V \leq R = W$$

Comparing W and Y

$$W > Y \Rightarrow W \odot Y$$

Thus, II is true

74. 4; **Given statements:** H > P = T (i)

P < S < L (ii)

T > J = U (iii)

Combining (i), (ii) and (iii)

$$U = J \leq T = P \leq S < L$$

Comparing U and S

$$U < S \Rightarrow U @ S$$

thus I is not true

Comparing L and U

$$L > U \Rightarrow L \% U$$

Thus, II is also not true.

75. 5; **Given statements:** F < D = N (i)

O > T = S > J (ii)

D < J > R (iii)

Combining (i) (ii) and (iii)

We get,

$$O \geq T = S > J \geq D \geq F$$

Comparing O and F

$$O > F \Rightarrow O \% F$$

Thus I is true

$$O \geq T = S > J > R$$

Comparing O and R

$$O > R \Rightarrow O \% R$$

Thus, II is true

(76-80):

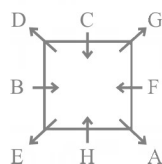
Person	Profession	Floor
B	Doctor	6
C/F	Engineer	5
A	Journalist	4
D	Lawyer	3
E	Architect	2
F/C	Teacher	1

76. 2; If F stays on floor 1, C will stay on floor 5 and then he will be the Engineer by profession.

77. 2 78. 3 79. 1

80. 2; According to the given condition, the Journalist must stay below the floor of the Engineer. So, if the Journalist stays on floor 2, the condition is not violated. Therefore, the Engineer keeps on staying on floor 5, ie his original position.

(81-85):



81. 3

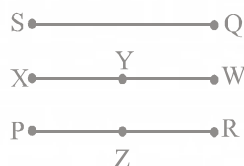
82. 3

83. 2

84. 2; Only G retains his original position.

85. 4; C sits exactly between D and G.

(86-90):



86. 2

87. 3

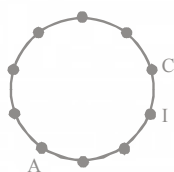
88. 1

89. 5

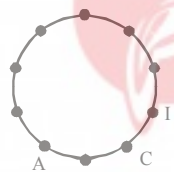
90. 4

(91-95): Let us arrange the positions of the ten persons.

From clues (i) and (v), we get

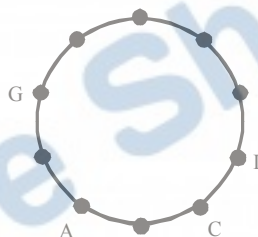


Possibility-I

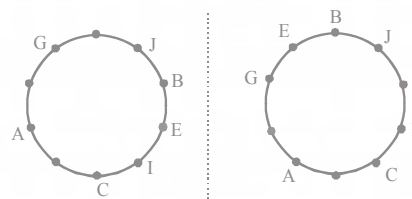


Possibility-II

Now, using clue (iii), we reject possibility I.



Now, from clues (iv) and (vi), we get two possible cases:

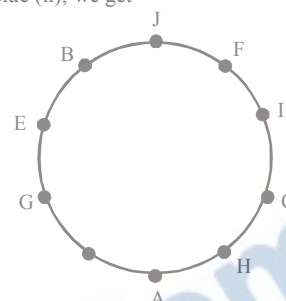


Possibility-II (a)

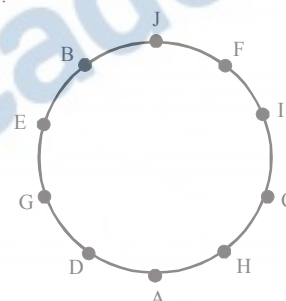
Possibility-II (b)

Reject possibility II(a) because positions of F and H can't be arranged according to clue (ii).

Using clue (ii), we get



Now, by elimination we get that it is 'D' who is sitting between G and A. Thus the complete arrangement is as follows:



91. 2

92. 3

93. 1

94. 4; In others the second person is sitting on the immediate right of the first.

95. 3

(96-100):

jump and run away → tm jd qm ni ... (i)

don't run too fast → ki qm lt sa ... (ii)

watch fast and furious → lt kb jd tec ... (iii)

you jump too fast → sa zn ni lt ... (iv)

From (i) and (ii), run → qm ... (v)

From (ii) and (iii), fast → lt ... (vi)

From (i) and (iii), and → jd ... (vii)

From (i) and (iv), jump → ni ... (viii)

From (i), (v), (vii) and (viii), away → tm ... (ix)

From (ii), (iv) and (vi), too → sa ... (x)

From (ii), (v), (vi) and (x), don't → ki ... (xi)

From (iv), (vi), (viii) and (x), you → zn ... (xii)

From (iii), (vi) and (vii), watch/furious → kb/tec ... (xiii)

96. 1

97. 4

98. 3

99. 2

100. 2