

# STATE BANK OF INDIA

## PROBATIONARY OFFICERS (PRELIMINARY) – MODEL PAPER

No. of Questions: 100

Maximum Marks: 100

Time: 1 hour

### ENGLISH LANGUAGE

*Directions (1 – 5):* Which of the phrases (1), (2), (3) and (4) given below each sentence should replace the word/ 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, select (5) as the answer.

1. Named after his father he was the company's **most forcefully leaders** and steered it through the Depression and oversaw its initial public offering in 1944.
  - 1) mostly forceful of leaders
  - 2) most forceful leader
  - 3) more forcefully leading
  - 4) most forceful to lead
  - 5) No correction required
2. The photographs that he took of the war **giving human faces with** conflicts and made people aware of the facts of conflicts.
  - 1) gives a human face to
  - 2) given human faces in
  - 3) gave a human face to
  - 4) have given humanity a face for
  - 5) No correction required
3. Science says there is virtue in working standing up and today the trendiest offices all have treadmill desks which encourage people to **walk while work**.
  - 1) walk to work
  - 2) to walk while working
  - 3) walking and work
  - 4) have walked and worked
  - 5) No correction required
4. I asked him whether he had done it all himself or whether someone **has helped her**.
  - 1) helps her
  - 2) helped him
  - 3) had helped him
  - 4) has helped him
  - 5) No correction required.
5. Relaxing regulations will allow investors **to diverse asset** and invest their money wherever they see fit.
  - 1) to diversify assets
  - 2) diversified assets
  - 3) diversifying assets
  - 4) diverse asset
  - 5) No correction required

*Directions (6 – 15):* 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.

Indians are known for their obsessive and compulsive fascination for gold. India is the largest importer and largest consumer of the yellow metal as Indians buy about 25 percent of the world's gold. In 2008, India imported around 400 tons of it. About 80 percent of the world's extracted gold is **fashioned as** jewellery. However, most of us don't know or don't think about the environmental cost of the metal. For instance, extracting enough gold to **forge** a solitary, no-frills wedding band ultimately translates into roughly 20 – 30

tons of waste. At some mines in Nevada (USA), 100 tons or more of earth have been excavated for a single ounce of gold.

The waste is of two forms: redundant rock, which is typically piled as flat heaps in locations near the mining site and the effluent or tailings which are a result of chemical processing of the mined ore. Sulphides in the redundant rock react with oxygen, making sulphuric acid which frees heavy metals like cyanide, cadmium, lead and mercury harmful to people even at miniscule concentrations. The tailings component is typically a thick slurry laced with cyanide, aluminum, copper, lead, and mercury; enough to **decimate** fish populations of water environments it is disposed of into. Disposal of wet tailings into water bodies has been effectively banned in developed countries but it continues to be practised in most developing nations. There is also a very real danger of surface water and groundwater table contamination on account of these heavy metals.

In fact, gold mining generates more waste per ounce than any other metal and the effects are startling. Mining for gold has left huge gouges on the face of the earth, so **massive** that they can be seen from space.

According to a study, respiratory ailments, soil and water contamination, thick blankets of dust, withering of coconut trees and changes in land pattern use are some of the common features of the urban area around a particular gold mine in Karnataka. Many areas are reported to have become infertile because of soil contamination. They contain a percentage of heavy metals enough to retard plant growth.

Similarly, according to another report in 2008, nearly seven years after the closure of these mines, the people of this region continue to face serious environment and health problems, particularly in July and August, due to winds in these months that carry with them cyanide particles from the dust piles in the abandoned mines. When the mines were operational, a layer of red soil used to be put over these dust piles before these crucial months to prevent the cyanide particles from being carried away by the heavy winds - Now that the mines have been closed, the mitigative measures have **ceased** as well.

People from socially and economically marginalized communities turn to mining to escape acute poverty, unemployment, and landlessness. In some cases, their homes and farms may be 'acquired' for large-scale gold mining. While compensation is promised to them, it may take a year or two to kick in. Till then, forced to eke out a bare livelihood mostly in a kind of lottery system, they resort to crude methods to separate any flecks of gold that may be there in the discarded waste rock using mercury. In the process, they destroy themselves slowly as well as their environment. The shanty towns which **inevitably** come up around the large-scale mining sites only serve to add to the problem. Given their illegal and therefore unrecognized nature, they lack basic amenities like garbage disposal and water supply and sanitation, becoming another unsightly blot on the landscape.

According to the World Gold Council, while estimates of numbers engaged in artisanal mining vary widely, they range between 13 and 20 million men, women and children from over 50 developing countries. Indeed, it is believed that as much as a quarter of the world's gold is supplied by artisanal miners. Their efforts to earn themselves a daily wage have resulted in huge habitat loss and destruction. For example, huge patches of land, once home to lush trees in the island of Borneo in Indonesia, are being swiftly rendered treeless and lifeless pits of waste. Incidentally, the island is highly famed for its rich biodiversity. Combined with heavy pressures from the logging lobby and need for cheap power through hydroelectricity and relentless mining activity, it is hard to imagine if Borneo will manage to retain its crown.

Why should these facts about gold mining bother us? After all, we just import the metal; we do not mine it here to the extent other countries do. That's about to change though. New Delhi has big plans to **fuel** growth in the mining sector and is looking to open investment in gold mining in the country - and in a big way.

However, India's environmental track record in mining has been anything but stellar. And this is something that requires close attention in light of the planned increased forays into gold mining. Even with the comparatively minuscule amounts of gold mining done so far, we have tripped up on environmental considerations. Geologically, India's terrain is very similar to those in other parts of the world where there

have been huge gold finds. What we need to do is to learn from the mistakes committed by certain developed countries in their own backyard. We have a whole series of examples of where things have gone wrong from other developing countries. We need to use these insights to our advantage, and quickly.

6. According to the author, how are gold mines detrimental to the environment as well as public health even after their closure?
- 1) The layer of red soil used to cover dust piles in these mines seeps into the groundwater, thereby making it unfit for consumption
  - 2) The mines weaken land mass and increase the chances of occurrence of earthquakes, especially after there is no one looking after them
  - 3) The mitigative measures adopted after the closure of these mines are not supervised adequately hence are highly damaging
  - 4) The unsupervised mines now become a threat to the environment as inexperienced people carry out unchecked mining activities
  - 5) Winds in specific months carry harmful heavy metal particles from the dust heaps accumulated in these mines
7. Which of the following is/are ill effects of gold mining as mentioned in the passage?
- A) Waste generated while mining for gold is harmful even in small quantities.  
B) Groundwater gets polluted due to the release of heavy metals generated from the mining of gold.  
C) Gold mining activities cause respiratory illnesses in people.
- 1) Only (A)
  - 2) All (A), (B) and (C)
  - 3) Only (B) and (C)
  - 4) Only (B)
  - 5) Only (A) and (B)
8. Which of the following is **true** about the people who carry out gold mining activities?
- A) Their employment is purely legal in nature.  
B) They employ unsophisticated methods of mining.  
C) They do not have essential amenities.
- 1) Only (B)
  - 2) Only (A) and (B)
  - 3) Only (C)
  - 4) Only (B) and (C)
  - 5) All (A), (B) and (C) are true
9. Which of the following is **NOT TRUE** about the Island of Borneo in Indonesia, as given in the passage?
- A) Large pieces of land are being destroyed because of mining.  
B) There is a large amount of mining activity being carried out on this Island.  
C) It would be known for its rich biodiversity in the future.
- 1) Only (A) and (B)
  - 2) Only (B)
  - 3) Only (C)
  - 4) Only (B) and (C)
  - 5) All (A), (B) and (C) are true

10. Why, according to the author, should India worry about gold mining and its effects?
- 1) As India is planning to increase its investment in gold mining and is looking to increase activities in this sector in the near future
  - 2) As India has been extensively carrying out gold mining in the past and its environmental record is not encouraging
  - 3) As a large number of people in India are employed in this unorganized sector which is detrimental to the country's economy
  - 4) As India's terrain is geologically unstable and is similar to other lands in the world where gold mining is carried out
  - 5) As India is committing the same mistakes committed by other developed nations when it comes to gold mining
11. Why, according to the author, is the environmental cost of gold very high?
- 1) As gold is the only metal which generates harmful waste on its excavation
  - 2) As excavation of gold releases the highest amount of pollutants into the air as compared to any other metal
  - 3) As gold excavation is a very tedious process and requires usage of a number of environmentally destructive resources
  - 4) As the amount of gold recovered in proportion to the land excavated is negligible
  - 5) As the transformation of raw gold into a piece of jewellery is very expensive and is environmentally harmful

**Directions (12 – 13):** 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.

12. **DECIMATE**

- 1) destroy
- 2) divide
- 3) augment
- 4) vacate
- 5) equalize

13. **FASHIONED AS**

- 1) derived into
- 2) marketed as
- 3) stylized as
- 4) made into
- 5) attracted to

**Directions (14 – 15):** 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.

14. **CEASED**

- 1) released
- 2) embarked
- 3) started
- 4) ended
- 5) measured

15. **INEVITABLY**

- 1) unexpectedly
- 2) silently
- 3) unavoidably
- 4) forcefully
- 5) inescapably

**Directions (16 – 20):** Rearrange the following six sentences (A), (B), (C), (D), (E) and (F) in the proper sequence to form a meaningful paragraph and then answer the questions given below.

- (A) However, many of these organizations may be oblivious to the absence of attitudinal change.
- (B) Teams may be unwilling to unlearn old attitudes, which can make them unequal to the new challenge.





**Directions (Qs. 36 – 40):** The following question is accompanied by three statements A, B and C. You have to determine which statement (s) is / are necessary / sufficient to answer the question.

**36.** What is the speed of the train?

I. The train crosses 300 meters long platform in 21 seconds.

II. The train crosses another stationary train of equal length in  $2\frac{1}{19}$  seconds.

III. The train crosses a signal pole in  $4\frac{3}{9}$  seconds.

1) Only I and II

2) Only II and either I or III

3) Only I and either II or III

4) Only III and either I or II

5) None of the above

**37.** A boat takes 4 hours to go upstream from x to y and back downstream from y to x on a river. What is the speed of the boat on still water?

A) The distance between x and y is 6 km.

B) The boat takes 2 hours less to go downstream than to go upstream.

C) The speed of the current is 2 kmph.

1) Only A and B are sufficient

2) Only A and C are sufficient

3) Any two of the three are sufficient

4) B alone is sufficient

5) All even together are not sufficient

**38.** In how many days can a work be completed by X, Y and Z together?

A) Ratio of the work efficiencies of X, Y and Z is 3 : 2 : 1.

B) Z works for 5 days and leaves the job and the remaining work is done by X and Y together in 5 days.

C) 60% of the work is done by X alone in 6 days.

1) Any two of them

2) Only A and C together

3) Only B

4) Either B alone or A and C together

5) None of these

**39.** In how many days can 10 women finish a work?

I. 10 men can complete the work in 6 days.

II. 10 men and 10 women together can complete the work in  $3\frac{3}{7}$  days.

III. If 10 men work for 3 days and thereafter 10 women replace them, the remaining work is completed in 4 days.

1) Only I and II

2) Any two of the three

3) Only I and III

4) Only II and III

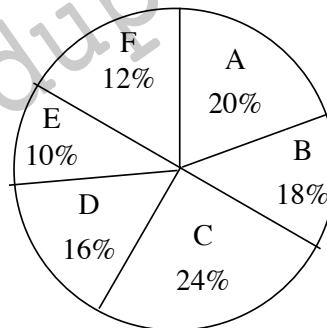
5) None of these

40. What is the cost of fencing a circular plot?

- A) Cost of fencing a rectangular plot whose perimeter is 130 m is Rs.780.
- B) Area of the circular plot is  $616 \text{ m}^2$
- C) Area of a square plot with side equal to the diameter of the circular plot is  $784 \text{ m}^2$ .
- 1) Only A and B
- 2) A and either B or C
- 3) A or C only
- 4) All statements are required
- 5) The question can't be answered even after

Directions (41 – 45): Refer to the following pie-chart and the table and answer the given questions.

Distribution of total number of commuters (males and females) who travel on 6 different routes of Metro:



Routes	The respective ratio of male to female commuters
A	3 : 5
B	7 : 5
C	9 : 7
D	5 : 3
E	2 : 3
F	2 : 1

Total number of commuters = 4000

41. 20% male commuters who travel on routes A and F together are less than 25 years of age and 20% female commuters who travel on the same routes together are less than 25 years of age. What is the respective ratio between the two?
- 1) 31 : 33
  - 2) 31 : 35
  - 3) 22 : 35
  - 4) 29 : 33
  - 5) 29 : 30
42. What is the difference between the total number of male commuters who travel on routes C and E together and the total number of female commuters who travel on the same routes together ?
- 1) 58
  - 2) 42
  - 3) 60
  - 4) 20
  - 5) 40

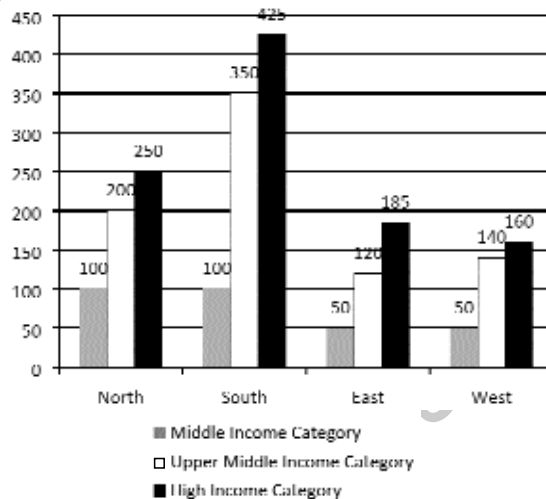


43. What is the central angle corresponding to the number of commuters (both males and females) who travel on route C?
- 1)  $58.2^\circ$                       2)  $43.2^\circ$                       3)  $72^\circ$                       4)  $57.6^\circ$
- 5)  $86.4^\circ$
44. The number of commuters (both male and female) who travel on routes on D and E together is what percent more than the number of commuters (Both male and female) who travel on route B ?
- 1)  $35\frac{1}{7}$                       2)  $32\frac{5}{9}$                       3)  $44\frac{4}{9}$                       4)  $45\frac{1}{3}$
- 5)  $42\frac{4}{7}$
45. The number of female commuters travelling on route D is what percent of the male commuters travelling on route F ?
- 1) 70                      2) 75                      3) 65                      4) 80
- 5) 55

**Directions (46 – 50):** Answer the questions based on the following information.

The following bar chart gives the growth percentage in the number of households in middle, upper-middle and high-income categories in the four regions for the period between 1987 – 88 and 1994 – 95.

The number of households in each category were equally distributed in all the regions.



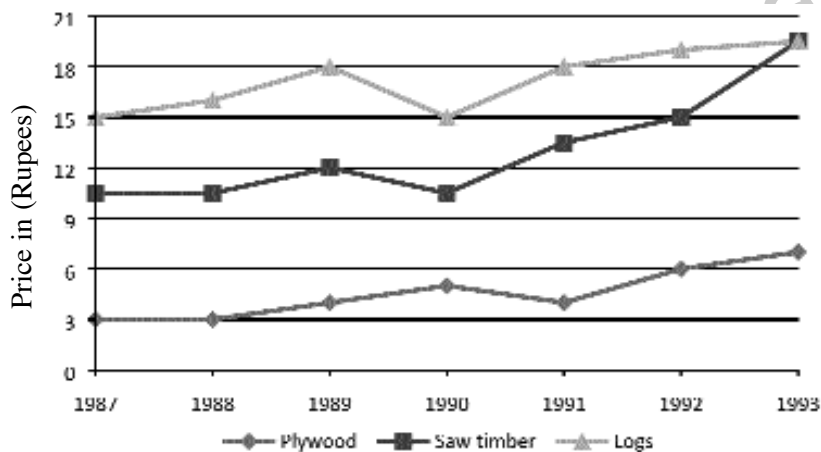
	Number of households in 1987-88 (in thousand)	Average household income in 1987-88	Growth in average household income (1994-95 over 1987-88)
Middle Income	40	Rs.30,000	50%
Upper middle	10	Rs.50,000	60%
High income	5	Rs.75,000	90%

46. What was the total household income in northern region for upper-middle class?
- 1) Rs.50 lakh                      2) Rs.500 million
- 3) Rs.300 million                      4) Cannot be determined
- 5) None of these

47. What is the percentage increase in total number of households for the northern region (upper - middle) over the given period?
- 1) 100%
  - 2) 200%
  - 3) 240%
  - 4) Cannot be determined
  - 5) None of these
48. What was the average income of the high-income group in 1987 – 88?
- 1) Rs.75,000
  - 2) Rs.25,000
  - 3) Rs.2,25,000
  - 4) Cannot be determined
  - 5) None of these
49. The ratio of total income for the high-income category to the upper – middle class increased by how much percentage in the given period?
- 1) 20%
  - 2) 36%
  - 3) 25%
  - 4) Cannot be determined
  - 5) None of these
50. The average income for the northern region in 1987 – 88 was
- 1) Rs.37,727
  - 2) Rs.37,277
  - 3) Rs.35,000
  - 4) Cannot be determined
  - 5) None of these

**Directions (51 – 55):** Answer the questions based on the following information.

In the following chart, the price of logs shown in per cubic metre that of plywood and saw timber is per tonne.



51. What is the maximum percentage increase in price per cubic metre or per tonne over the previous year?
- 1) 33.33%
  - 2) 85%
  - 3) 50%
  - 4) Cannot be determined
  - 5) None of these
52. Which product shows maximum percentage increase in price over the period?
- 1) Saw timber
  - 2) Plywood
  - 3) Logs
  - 4) Cannot be determined
  - 5) None of these

53. If  $1 \text{ m}^3 = 750 \text{ kg}$  for saw timber, find in which year was the difference in prices of saw timber and logs the least?
- 1) 1989                      2) 1990                      3) 1991                      4) 1992
- 5) None of these
54. If one cubic metre = 700 kg for plywood and 800 kg for saw timber, find in which year was the difference in the prices of plywood and saw timber (per cubic metre) the maximum?
- 1) 1989                      2) 1990                      3) 1991                      4) 1992
- 5) None of these
55. If the volumes of sales of plywood, saw timber and logs were 40%, 30% and 30% respectively, then what was the average realization in 1993 per cubic metre of sales? (one cubic metre of saw dust and plywood both = 800 kg)
- 1) 18                      2) 15                      3) 16                      4) 13
- 5) None of these

**Directions (56 – 60) :** In each of these questions, two equations are given. You have to solve these equations and find out the values of x and y 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 relationship cannot be established

56. I.  $16x^2 + 20x + 6 = 0$   
 II.  $10y^2 + 38y + 24 = 0$
57. I.  $18x^2 + 18x + 4 = 0$   
 II.  $12y^2 + 29y + 14 = 0$
58. I.  $8x^2 + 6x = 5$   
 II.  $12y^2 - 22y + 8 = 0$
59. I.  $17x^2 + 48x = 9$   
 II.  $13y^2 = 32y - 12$
60. I.  $4x + 7y = 209$   
 II.  $12x - 14y = -38$

**Directions (61 – 65):** What will come in place of the question mark (?) in the following questions?

61.  $\frac{216^{1/3}}{\left(\frac{11}{15}\right)} - ? = 4 \frac{7}{8}$
- 1)  $\frac{5}{8}$                       2)  $\frac{1}{8}$                       3)  $\frac{3}{4}$                       4)  $\frac{217}{812}$
- 5)  $\frac{291}{88}$
62.  $1789 + 536 - ? = 851 + 419$
- 1) 820                      2) 980                      3) 585                      4) 1120
- 5) 1055

63.  $\frac{91 \times \sqrt{(1024)}}{?} = 208$

- 1) 14                                      2) 26                                      3) 12                                      4) 18  
5) 22

64.  $\frac{\left(6 \times \frac{18}{36} \times 729\right)}{3^?} = 1$

- 1) 6                                      2) 7                                      3) 8                                      4) -5  
5) -7

65.  $\frac{\left(\sqrt{(3600)} - \sqrt{(225)}\right)}{15} = ?$

- 1) 5                                      2) 3                                      3) 6                                      4) 12  
5) 9

**REASONING ABILITY**

**Directions (66 – 70):** Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

66. **Statements:** Some tumblers are plates.  
Some bottles are tumblers.  
All plates are spoons.

- Conclusions:** I. Some spoons are tumblers.  
II. Some spoons are plates.  
III. Some bottles are plates.  
IV. No bottle is a plate.

- 1) Only I & II follows                                      2) Either III or IV follow  
3) All follow                                      4) Only III & II follows  
5) None of these

67. **Statements:** All speeches are translations.  
All essays are speeches.  
No essays are reviews.

- Conclusions:** I. Some reviews are speeches.  
II. No reviews are essays.  
III. No reviews are translation.  
IV. No reviews are speeches.

- 1) All follow  
2) None of these  
3) Either I or II follow  
4) Only II, III & IV follows  
5) Either I or IV and II follows

68. **Statements:** No navies are air forces.

All armies are navies.

All air forces are defences.

**Conclusions:** I. No air forces are navies.

II. Some defences are airforces.

III. Some defences are not navies.

IV. No armies are air forces.

1) Only either I or II follows

2) Only II follows

3) Only either I or IV follows

4) None follows

5) All follows

69. **Statements:** All roots are stems.

Some branches are trees.

Some stems are branches.

**Conclusions:** I. Some trees are stems.

II. Some trees are branches.

III. All trees are stems.

IV. Some trees are not branches.

1) Only I, II & III follow

2) Only I & II follow

3) Only I follows

4) Only either I or III & II follow

5) Only II follow

70. **Statements:** All clouds are stars.

No stars are planets.

Some clouds are satellites.

**Conclusions:** I. No planet is cloud.

II. Some satellites are stars.

III. Some planets are not satellites.

IV. Some satellites are not planets.

1) Only II follows

2) Only I & II follows

3) Only I, II & IV follows

4) None follows

5) All follows

**Directions (71 – 73):** In each of the following questions, two rows of numbers are given. The resultant number in each row is to be worked out separately based on the following rules and the question below the rows of numbers are to be answered. The operation of numbers progress from left to right.

**Rules:**

- i) If an odd number is followed by a composite odd number (a non prime number), they are to be multiplied.
- ii) If an even number is followed by an odd number, which is not a perfect square, they are to be added.
- iii) If an even number is followed by a number which is the perfect square, the even number is to be subtracted from the perfect square.

- iv) If an odd number is followed by a prime odd number, the first number is to be divided by the second number.
- v) If an odd number is followed by an even number, the second one is to be subtracted from the first one,  
 [After the operation on the first two numbers, the resultant is to be considered as the number for applying operation between the second number (the number obtained after performing operation between the first and second numbers given in the question) and the third number.]

**For example:**

Consider the following question:

38	64	7
49	38	a

If a is the resultant of the first row, what is the resultant of the second row?

- 1) 363                      2) 44                      3) 22                      4) 3  
 5) 31

Here, after performing operation between the first two numbers, i.e. 38 and 64, the resultant obtained is 26. Now 26 is to be considered for performing the operation between 26 and 7 (the number given in the question). The answer thus obtained here would be 33. Now 33 is to be considered as 'a' and operations are to be performed in the similar fashion between the numbers given in the second row. The answer obtained here after performing all the operations would be 363, thus (1) would be the correct answer.

71.    12                      21                      6  
       5                      y                      88

If y is the resultant of the first row, what is the resultant of the second row?

- 1) 125                      2) 25                      3) 47                      4) 27  
 5) 43

72.    6                      9                      15  
       x                      12                      11

If m is the resultant of the first row, what is the resultant of the second row?

- 1) 33                      2) 45                      3) 11                      4) 15  
 5) 3

73.    18                      37                      5  
       2                      m                      6

If m is the resultant of the first row, what is the resultant of the second row?

- 1) 19                      2) 55                      3) 78                      4) 7  
 5) 9

74. Which of the following symbols should replace the question mark in the given expression in order to make the expressions 'A > D' as well as 'F ≥ C' **definitely true**?

$$A > B \geq C \leq D \text{ ? } E = F$$

- 1) >                      2) <                      3) ≤                      4) =  
 5) Either = or ≥



79. On which day of the week did Poonam take leave from her office?

I. Poonam correctly remembers that she took leave before Friday but after Monday.

II. Poonam's friend correctly remembers that Poonam took leave before Saturday but after Thursday.

Which of the following statements are sufficient to answer the above question ?

- 1) Only I is sufficient  
2) Only II is sufficient  
3) Either I or II is sufficient  
4) Neither I nor II is sufficient  
5) Both I and II is sufficient

80. How many brothers does Aarti have (Aarti is a girl)?

I. Aarti has only one younger brother.

II. Aarti's father has only one son.

Which of the following statements are sufficient to answer the above question ?

- 1) Only I is sufficient  
2) Only II is sufficient  
3) Either I or II is sufficient  
4) Neither I nor II is sufficient  
5) Both I and II is sufficient

**Directions (81 – 85):** Study the following information and answer the questions given below:

Eight persons P, Q, R, S, T, U, V, W from two families are taking breakfast around a round table. Three members are from one family and five belong to other family. Four of them are male members. T, a male member is sitting second to right of V, a female member. In all cases R has same position with respect to S, who is second to left of Q, a female member. S is wife of W and is sitting adjacent to her husband. U is sister of W and is not sitting exactly between V and T. Q is immediate left of V. W is sitting immediate right of P.

81. Which of the given statement is wrong?

- 1) U is immediate right of S  
2) T is immediate left of P  
3) Q is sitting between U and V  
4) R is second to left of W  
5) V is second to right of U

82. Who is second to the left of P?

- 1) Q  
2) V  
3) R  
4) S  
5) U

83. How many persons are sitting between P and Q when we count anticlockwise?

- 1) 2  
2) 3  
3) 4  
4) None  
5) Can't be determined

84. How many members are there in W's family?

- 1) 2  
2) 3  
3) 5  
4) Cannot be determined  
5) None of these

85. One out of five groups does not match on the basis of sitting arrangement. Find that group- 5.

- 1) USQ  
2) RVT  
3) TRP  
4) WPS  
5) None of these



**Directions (86 – 90):** Study the following information carefully and answer the questions given below:

A, B, C, D, E, F, G and H are eight members of three different families, who belong to three different cities, viz Kanpur, Kolkata and Delhi. They go for boating in three different boats, viz X, Y, and Z. Out of the eight members, four are females. Each member of a family is boating in a different boat. Each boat carries at least one male and one female and each family has at least two members. A belongs to Delhi and he is boating in boat Z. D is wife of E and they are boating in boat X and Y respectively. H is son of B, who is wife of G and they belong to Kolkata. C is daughter of F, who is wife of A. C is boating in boat Y. G is not boating with F.

**86.** Which of the following groups belongs to Kanpur?

- 1) G, B, H                      2) D, E                      3) B, H                      4) C, A, F  
5) None of these

**87.** Which of the following groups boats in boat X?

- 1) A, B                      2) H, F, E  
3) F, D, G                      4) Can't be determined  
5) None of these

**88.** C belongs to which of the following cities?

- 1) Either Kolkata or Kanpur                      2) Either Delhi or Kanpur  
3) Delhi                      4) Kanpur  
5) Can't be determined

**89.** Which of the following statements is true?

- 1) D belongs to Kolkata.                      2) G is boating in boat Y.  
3) F belong to Kanpur.                      4) H is boating in boat Z  
5) None of these

**90.** Which of the following Combinations is true?

- 1) G (Male) – Kolkata – X                      2) H (Female) – Kanpur – X  
3) F (Female) – Delhi – X                      4) All are true  
5) None of these

**Directions (91 – 95):** In each of the following questions, relationship between different elements is shown in the statements. The statements are followed by two Conclusions numbered I and II. Study the Conclusions based on the given statements and select the appropriate answer:

Give answer (1) if only Conclusion I is true.

Give answer (2) if only Conclusion II is true

Give answer (3) if either Conclusion I or Conclusion II is true

Give answer (4) if neither Conclusion I nor Conclusion II is true

Give answer (5) if both the Conclusions I and II are true.

**(91 – 92): Statements:**  $Y \leq K < D = S$ ;  $D < V < O$ ;  $G \geq D < Q$

**91. Conclusions:** I.  $G > V$  II.  $Y < Q$

**92. Conclusions:** I.  $K < O$  II.  $G = V$

93. **Statements:**  $D < L \leq F = N$ ;  $L = A$

**Conclusions:** I.  $N > D$  II.  $A \leq F$

(94 – 95): **Statements:**  $B > Z = R \geq M < J \leq H$ ;  $J > P$ ;  $K < Z$

94. **Conclusions:** I.  $H < P$  II.  $B > M$

95. **Conclusions:** I.  $K < J$  II.  $R \geq H$

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

In a certain code, 'always create new ideas' is written as 'ba ri sha gi', 'ideas and new thoughts' is written as 'fa gi ma ri', 'create thoughts and insights' is written as 'ma jo ba fa' and 'new and better solutions' is written as 'ki ri to fa'

96. What does 'fa' stand for?

- 1) thoughts                      2) insights                      3) new                      4) and  
5) solutions

97. 'fa lo ba' could be a code for which of the following?

- 1) thoughts and action                      2) create and innovate  
3) ideas and thoughts                      4) create new solutions  
5) always better ideas

98. What is the code for 'new'?

- 1) ki                      2) ri                      3) to                      4) fa  
5) ba

99. Which of the following may represent 'insights always better'?

- 1) jo ki to                      2) ki to ri                      3) sha jo ri                      4) to sha jo  
5) sha to ba

100. What is the code for 'thoughts'?

- 1) ma                      2) fa                      3) ba                      4) jo  
5) Either jo or fa

### KEY

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

### EXPLANATIONS

1. An adjective qualifies a noun. Hence, most forceful leaders .... should be used here.
2. As the structure of the sentence suggests, gave a human face .... to should be used. The sentence shows past time.
3. Here, Gerund i.e. to walk while working should be used.
4. As the structure of sentence suggests, Past Perfect i.e. had helped him .... should be used.

5. Diverse (Adjective) = very different from each other. Diversify (Verb) = to develop a wide range of products; branch out.  
Hence, diversify assets .... should be used here.
6. Winds in specific months carry harmful heavy metal particles from the dust heaps accumulated in these mines
7. All (A), (B) and (C)
8. Only (B) and (C)
9. Only (A) and (B).
10. As India is committing the same mistakes committed by other developed nations when it comes to gold mining
11. As excavation of gold releases the highest amount of pollutants into the air as compared to any other metal
12. The meaning of the word **Decimate (Verb)** as used in the passage is : to kill large number of animals etc. in a particular area; to severely damage something or make something weaker.
13. The meaning of the word Fashioned as used in the passage is : stylized as.
14. The meaning of the word **Cease (Verb)** as used in the passage is : to stop happening or existing; to stop; to end.  
Hence, the words **ceased** and **started** are antonymous.
15. The meaning of the word Inevitably (Adverb) as used in the passage is : as is certain to happen; as you would expect. Its antonym is unexpectedly.
26. Here, the subject of there is too much hype which is un-countable noun. Hence, Singular Verb i.e. is too much hype around (about) size zero -should be used.
27. The antecedent of that is in plural number. Hence, that win her friends - should be used.
28. Here, Past Simple i.e. Even though the exchange attracted - should be used as the events show past time.
29. Here, Present Simple i.e. and in the next quarter we expect should be used as future time is involved.
30. An Adjective adds to the meaning of Noun. Hence, its leading bowlers not playing should - be used.
31. The pattern of the number series is:  
 $958 - 833 = 125$   
 $833 - 733 = 100$   
 $733 - 658 = 75$   
 $658 - 608 = 50$   
 $\therefore ? = 608 - 25 = \mathbf{583}$
32. The pattern of the number series is:  
 $11 \times 1 - 1 = 10$   
 $10 \times 2 - 2 = 18$   
 $18 \times 3 - 3 = 51$   
 $51 \times 4 - 4 = 200$   
 $200 \times 5 - 5 = \mathbf{995}$

33. The pattern of the number series is:

$$25 \times 2 - 2 = 50 - 2 = 48$$

$$48 \times 2 - 2 = 96 - 2 = 94$$

$$94 \times 2 - 2 = 188 - 2 = 186$$

$$186 \times 2 - 2 = 372 - 2 = 370$$

$$370 \times 2 - 2 = 740 - 2 = \mathbf{738}$$

34. The pattern of the number series is:

$$14 + 10 = 24$$

$$24 + 19 (= 10 + 9) = 43$$

$$43 + 28 (= 19 + 9) = 71$$

$$71 + 37 (= 28 + 9) = 108$$

$$108 + 46 (= 37 + 9) = \mathbf{154}$$

35. The pattern of the number series is :

$$144 + 29 = 173$$

$$173 - 33 = 140$$

$$140 + 29 = 169$$

$$169 - 33 = 136$$

$$136 + 29 = \mathbf{165}$$

37. From (A) and (C) let speed of boat in still water be  $x$ .

$$\frac{6}{2+x} + \frac{6}{x-2} = 4$$

$$\Rightarrow 6(x-2) + 6(x+2) = 4 \times (x^2 - 4)$$

$$x = -1, 4 \quad (\text{Negative value})$$

From (A) and (B) let time taken to go upstream be  $y$  hour,  $(y-2) + y = 4$  implies  $y = 3$  hours.

$$\text{Speed in still water} = \frac{\left(\frac{6}{1}\right) + \left(\frac{6}{2}\right)}{2}$$

$$= 4 \text{ kmph}$$

From (B) and (C),

$$\text{Speed in still water} = 2 \times \frac{3+1}{3-1} = 4 \text{ kmph}$$

38. From statements (A) and (C), X alone can do the work in  $6 \times \frac{5}{3}$  days = 10 days

Y alone can do the work in  $10 \times \frac{3}{2}$  days = 15 days

Z alone can do the work in 30 days.

Hence, all three together can do the work in 5 days.

From statement (B) alone,

Z works for 5 days and the remaining work is done by X and Y together.

Hence, all three together can do the work in 5 days. Hence B alone or A and C together is sufficient.

40. A → Cost of fencing a metre =  $\frac{780}{120} = \text{Rs.}6$

B → Let 'r' be the radius of circle, then

$$\pi r^2 = 616 \Rightarrow r = 6$$

Therefore circumference of the circle = 88 m

C → Radius of the circular plot =  $\frac{\sqrt{784}}{2} = 14 \text{ m}$

So, either by combining A and B or A and C the cost of fencing the circular plot can be calculated, which is equal to  $\text{Rs.}88 \times 6 = \text{Rs.}528$ .

41. Number of commuters travelling on route A

$$= \frac{4000 \times 20}{100} = 800$$

Males  $\Rightarrow \frac{3}{8} \times 800 = 300$

Females  $\Rightarrow \frac{5}{8} \times 800 = 500$

Number of commuters travelling on route F

$$= 4000 \times \frac{12}{100} = 480$$

Males  $\Rightarrow \frac{2}{3} \times 480 = 320$

Females  $\Rightarrow 480 - 320 = 160$

∴ Required ratio

$$= (300 + 320) \times \frac{20}{100} : (500 + 160) \times \frac{20}{100}$$

$$= 620 : 660 = 31 : 33$$

42. Number of commuters travelling on route C

$$= 4000 \times \frac{24}{100} = 960$$

Males  $\Rightarrow \frac{9}{16} \times 960 = 540$

Females  $\Rightarrow \frac{7}{16} \times 960 = 420$

Number of commuters travelling on route E =

$$= 4000 \times \frac{10}{100} = 400$$

Males  $\Rightarrow \frac{2}{5} \times 400 = 160$

$$\text{Females } 400 - 160 = 240$$

∴ Required difference

$$= (540 + 160) - (420 + 240)$$

$$= 700 - 660 = 40$$

43. Percentage of commuters travelling on route C = 24%

$$\therefore 100\% = 360^\circ$$

$$\therefore 1\% = \frac{360}{100}$$

$$\therefore 24\% = \frac{360 \times 24}{100} = 86.4^\circ$$

44. Percentage of commuters on routes D and E =  $(16 + 10)\% = 26\%$

Percentage of commuters on route B = 18%

$$\begin{aligned} \therefore \text{Required percent} &= \left( \frac{26 - 18}{18} \right) \times 100 \\ &= \frac{400}{9} = 44 \frac{4}{9} \% \end{aligned}$$

45. Number of female commuters on route D

$$= 4000 \times \frac{16}{100} \times \frac{3}{8} = 240$$

Number of male commuters on route F

$$= 4000 \times \frac{12}{100} \times \frac{2}{3} = 320$$

$$\therefore \text{Required percent} = \frac{240}{320} \times 100 = 75\%$$

46. Region-wise breakup is not available.

Hence question cannot be answered.

47. % increase in total number of households for the northern region for upper middle income category = 200%

48. Average income of high income group in 1987 – 88 = 75,000.

49. Current ratio of total income

$$= \frac{5000 \times 75000}{10000 \times 50000} = \frac{3}{4} = 0.75$$

Total income for high income category in 1994 – 95

$$= 17357 \times 75000 \times 1.9$$

And total income for high income = 2476 million

$$\text{Category} = 31125 \times 1.6 \times 50000$$

$$= 2410 \text{ million}$$

$$\text{Ratio of total income for these two} = \frac{2476}{2410}$$

$$\begin{aligned} \% \text{ increase in ratio} &= \frac{1.02 - 0.75}{0.75} = 1.02 \\ &= 36\% \end{aligned}$$

50. Average income for the northern region

$$= \frac{518.75}{13750} = 37727$$

51. From graph

It is clear that maximum increase is registered in plywood from 1991 to 1992 and is equal to

$$= \frac{6 - 4}{4} \times 100 = 50\%$$

52. % increase in plywood =  $\frac{7 - 3}{3} \times 100 = 133.33\%$

$$\% \text{ increase in saw timber} = \frac{19 - 10}{10} \times 100 = 90\%$$

$$\& \% \text{ increase in logs} = \frac{20 - 15}{15} \times 100 = 33.33\%$$

Thus maximum % increase over the period is shown by plywood.

53. Difference is least in year 1990.

54. Difference is maximum for year 1992.

55. Ratio of volumes of plywood, saw timber and logs = 4 : 3 : 3.

So, Average realization per metre<sup>3</sup> of sales

$$= \frac{[(4 \times 5.26) + (3 \times 14.28) + (3 \times 20)]}{4 + 3 + 3}$$

$$= \text{Rs.}12.4 \approx 13 \text{ (aprox.)}$$

61.  $\frac{(216)^{1/3}}{\frac{11}{15}} - ? = \frac{39}{8}$

$$\Rightarrow \frac{(6^3)^{1/3}}{\frac{11}{15}} - ? = \frac{39}{8}$$

$$\Rightarrow \frac{6 \times 15}{11} - ? = \frac{39}{8}$$

$$\Rightarrow ? = \frac{90}{11} - \frac{39}{8} = \frac{720 - 429}{8}$$

$$= \frac{291}{8}$$

62.  $1789 + 536 - ? = 851 + 419$

$$\Rightarrow 2325 - ? = 1270$$

$$\Rightarrow ? = 2325 - 1270 = 1055$$

63.  $\frac{91 \times \sqrt{1024}}{?} = 208$

$\Rightarrow 91 \times 32 = 208 \times ?$

$\Rightarrow ? = \frac{91 \times 32}{208} = 14$

64.  $\left(\frac{6 \times 18}{36 \times 729}\right) \div 3^? = 1$

$\Rightarrow \frac{1}{243} \div 3^? = 1$

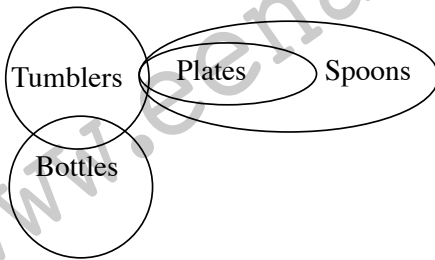
$\Rightarrow 3^{-5} \div 3^? = 1$

$\Rightarrow 3^{-5} = 3^? \Rightarrow ? = -5$

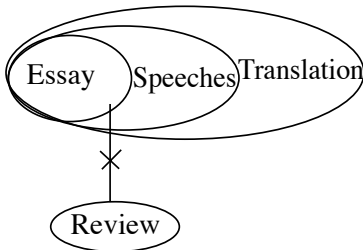
65.  $? = \frac{\sqrt{3600} - \sqrt{225}}{15}$

$= \frac{60 - 15}{15} = \frac{45}{15} = 3$

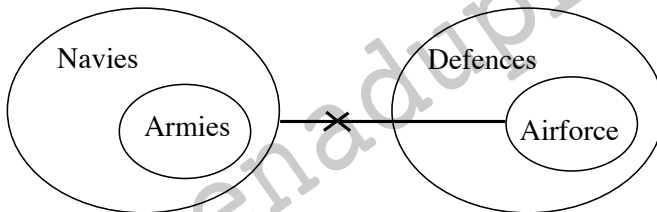
66.



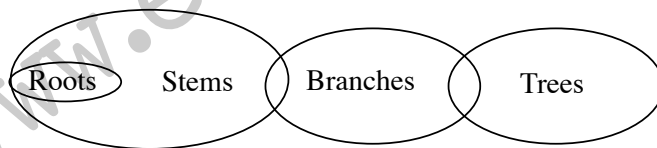
67.



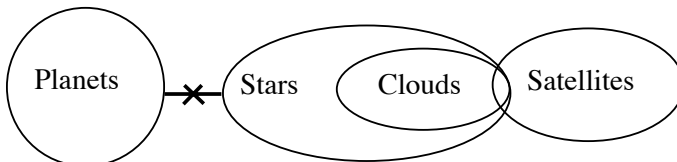
68.



69.



70.





71.  $12 + 21 = 33$  [Rule (ii)]  
 $33 - 6 = 27$  [Rule (v)]  
 $5 \times 27 = 135$  [Rule (i)]  
 $135 - 88 = 47$  [Rule (v)]

72.  $9 - 6 = 3$  [Rule (iii)]  
 $3 \times 15 = 45$  [Rule (i)]  
 $45 - 12 = 33$  [Rule (v)]  
 $\frac{33}{11} = 3$  [Rule (iv)]

73.  $18 + 37 = 55$  [Rule (ii)]  
 $\frac{55}{5} = 11$  [Rule (iv)]  
 $2 + 11 = 13$  [Rule (ii)]  
 $13 - 6 = 7$  [Rule (v)]

74.  $A > B \geq C \equiv D \leq E = F$   
 Now,  $A > D$  : True  
 $F \geq C$  : True

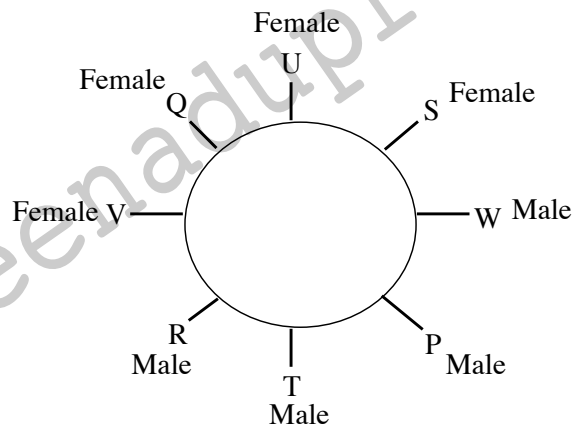
75.  $P \times Q$  means P is father of Q.  
 $Q + R$  means Q is daughter of R.  
 $R - T$  means R is sister of T.

It is clear that P is husband of R If we establish that T is either son or daughter of S, then P would be the son-in-law of S.

$T + S$  means T is daughter of S.

$T \div S$  means T is son of S.

(Q.81 - 85): When we summarize all the information we get the following information.



(Q.86 – 90):

D(-) = E(-)

A(+) = F(-) G(+) = B(-)

C(-)

H(+)

Person	City	Boat
A(+)	Delhi	Z
B(-)	Kolkata	Z
C(-)	Delhi	Y
D(-)	Kanpur	X
E(+)	Kanpur	Y
F(-)	Delhi	X
G(+)	Kolkata	Y
H(+)	Kolkata	X

(91 – 92):

$$Y \leq K < D = S$$

$$D < V < O$$

$$G \geq D < Q$$

$$Y \leq K < D = S < V < O$$

$$Y \leq K < D \leq G$$

$$Y \leq K < D = S < Q$$

$$G \geq D < V < O$$

91. Conclusions:

I.  $G > V$  : Not True

II.  $Y < Q$  : True

92. Conclusions:

I.  $K < O$  : True

II.  $G = V$  : Not True

93.  $D < L = A \leq F = N$

Conclusions:

I.  $N > D$  : True

II.  $A \leq F$  : True

(94 – 95):

$$B > Z = R \geq M < J \leq H$$

$$J > P ; K < Z$$

$$P < J \leq H$$

$$K < Z = R \geq M < J$$

94. Conclusions:

I.  $H < P$  : Not True

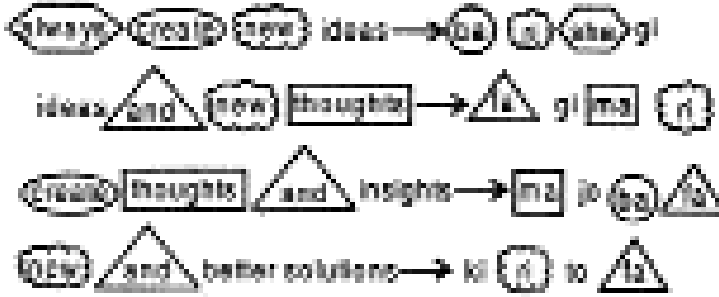
II.  $B > M$  : True

95. Conclusions:

I.  $K < J$  : Not True

II.  $R \geq H$  : Not True

(96 – 100):



96. The code 'fa' stands for 'and'

97. fa ⇒ and

lo ⇒ may be code for innovate

ba ⇒ create

98. The code for 'new' is 'ri'

99. insights ⇒ jo

Always ⇒ sha

better ⇒ ki/ to

100. The code for 'thoughts' is 'ma'.

(ఈ నమూనా ప్రశ్నపత్రాన్ని హైదరాబాద్‌లోని RACE సంస్థకు చెందిన నిపుణులు రూపొందించారు)