IBPS BANK P.O/M.T - CWE

MOCK TEST - VII

REASONING

1. Which of the following statements will be definitely true if the expression 'V < E > B = H ≥ N ≥ P' is definitely true?
(1) P ≤ B (2) H < V
(3) N ≥ V (4) E ≥ N
(5) E ≥ P

2. Which of the following is definitely true if the statements given below are considered to be true?
(You have to take the given statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given Conclusions logically follows from the given statements disregarding commonly known facts.)
No kite is a bird. All reptiles are birds. 'All kites are amphibians. All amphibians are plants.
(1) All amphibians being birds is a possibility.
(2) All plants being reptiles is a possibility.
(3) At least some reptiles are amphibians.
(4) All kites are plants.
(5) At least some plants are reptiles

3. Which of the following symbols should be placed in blank spaces respectively (in the same order from left to right) in order to complete the given expression in such a manner that both 'W > R' as well as 'E > S* definitely hold true? W__ E __ A __ R __ S
(1) >, = , ≥ , ≥ (2) >, ≥, =, >
(3) ≤, ≥, =, ≥ (4) ≤, =, >, ≥
(5) ≥, <, ≥, =

Directions (4 - 5) : *Study the following information carefully and answer .the questions given below:*

Each of the six persons, P, Q, R, S, T and U has travelled to different number of countries. R has travelled to more number of countries than only S and T. Q has travelled to more number of countries than U but less than P. T is not the person who has travelled to least number of countries. The one who has travelled to second highest number of countries has travelled to 8 countries. The one who has travelled to the least number of countries has travelled to only two countries.

4. Who amongst the following has possibly travelled to 11 countries?
(1) P (2) R
(3) T (4) Q
(5) S

5. If it is given that R has travelled to four countries less than the number of countries travelled by Q, then to how many countries has U possibly travelled?
(1) 4 (2) 9
(3) 3 (4) 6
(5) 10

Directions (6 - 10) : *Study the following information carefully and answer the questions given below :*

In a certain code language,

'few organic farming techniques' is written as 'li gs da cr'

'fertilizer products few available' is written 'fo pz nb gs'

'organic waste into fertilizer' is written 'nb cr pt mk'

'disposal of farming waste' is written as 'hu mk li yu'

(All codes are two letter codes only)

6. What will be the code for 'few waste' in the given code language?
(1) gs li
(2) pt da
(3) da mk
(4) Other than those given as options
(5) mk gs

7. What is the code for 'organic' in the given code language?
(1) gs (2) cr
(3) da (4) pt
(5) Other than those given as options

8. In the given code language, what does the code 'yu' stand for'?
(1) farming
(2) techniques
(3) either 'of' or 'disposal'
(4) waste
(5) either 'into' or 'few'

9. If 'waste management techniques' is coded as 'ax da mk' in the given code language, then how will 'farming fertilizer management' be coded as?
(1) ax nb cr (2) li ax pt
(3) gs li nb (4) nb li ax
(5) Other than those given as options

10. What is the code for 'available' in the given code language?
(1) either 'pz' or fo'
(2) either 'nb' or 'mk'
(3) li
(4) hu
(5) Other than those given as options

Directions (11-16) : *Study the following information carefully and answer the questions given below :*

Eight persons — K, L, M, N, O, P, Q and R — live on eight different floors of a building but not necessarily in the same order. The lower most- floor of the building in numbered one, the one above that is numbered two and so on till the topmost floor is numbered eight. Each of them also likes a different superhero namely, Batman, Superman, Captain America, Thor, Hulk, Wolverine, Nova and Ironman, but not necessarily in the same order.

- The one who likes Thor lives on an even numbered floor. Only three persons live between the one who likes Thor and M.
- Only two persons live between M and N. N does not live on the lowermost floor. Only three persons live between N and the one who likes Hulk.
- O lives immediately above K. O lives on an even numbered floor. K does not like Hulk. K lives neither on floor numbered three nor five.
- Only two persons live between K and the one who likes Nova.
- Only one person lives between the one who likes Nova and Ironman. The one who like Ironman lives below the one who likes Nova.
- L lives immediately above Q. Only one person lives between Q and the one who likes Captain America.
- The one who likes Wolverine lives immediately above the one who likes Batman.
- P does not like Thor. K does not like Superman.

11. Which of the following pairs represent those who lives immediately above and immediately below N?
(1) R, L
(2) Other than those given as options
(3) L, M
(4) K, Q
(5) R, Q

12. Four of the following five are alike in a certain way as per the given arrangement and so form a group. Which of the following does not belong to that group?
(1) K - Floor numbered Five
(2) Q - Floor numbered Six
(3) L - Floor numbered Two
(4) N - Floor numbered Seven
(5) R - Floor numbered Eight

13. Which of the following super-heroes does R like?
(1) Other than those given as options
(2) Superman
(3) Nova
(4) Thor

(5) Batman

14. Which of the following super-heroes does P like?
(1) Ironman
(2) Wolverine
(3) Batman
(4) Captain America
(5) Other than those given as options

15. N lives on which of the following floor numbers?
(1) Five (2) Three
(3) Seven (4) One
(5) Other than those given as options

16. As per the given arrangement, P is related to Nova and N is related to Wolverine in a certain way. To which of the following is M related to in the same way?
(1) Superman (2) Batman
(3) Captain America (4) Thor
(5) Hulk

17. Study the following information carefully to answer the question given below :
A fatal disease has spread across the 'Spatter' village of State X. Even though the prescribed medicine is abundantly available in one of the cities near 'Spatter' which can cure the disease, the Medical Association of the State has decided not to allow the medicine to be transported to 'Spatter' and is calling the infected people to the city to be injected with the medicine.
Which of the following can be a reason behind the decision of the Medical Association?
(1) The Association may not be able to earn high profits from selling the medicine to 'Spatter'.
(2) Many of the villagers may not be able to afford the medicine as it is highly priced.
(3) The disease has started to spread in other villages also, making it challenging for the Association to provide the medicine everywhere.
(4) Reportedly, many of the villagers are trying home remedies to reduce the effect of the disease and hence they may not require the medicine.
(5) If the medicine is not injected under the prescribed controlled environments, it may have adverse effects.

Directions (18-20) : *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 mark the appropriate answer.*

Give answer (1)if both the Conclusion I and Conclusion II are true

Give answer (2)if neither Conclusion I nor Conclusion II is true

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

Give answer (4)if only Conclusion I is true

Give answer (5)if only Conclusion II is true

18. **Statements :**
$F = A < L \leq C > O \geq N$;
$Y > L$; $Q > C$
Conclusions :
I. $Y \leq N$
II. $Q > F$

19. **Statements :**
$R \geq K = H > N \geq A < S$;
$N \geq M > T$
Conclusions:
I. $K > T$
II. $R > M$

20. **Statements :**
$S < P \leq C = D < L > K$;
$D \leq T < G$
Conclusions:
I. $G > S$
II. $T \geq K$

Directions (21-25) : *Study the following information carefully and answer the questions given below :*

Eight friends — J, K, L, M, N, O, P and Q — are sitting around a circular table but not necessarily in the same order. Some of them are facing the centre and some of them are facing outside, (i.e. in a direction opposite to the centre.)

Facing the same direction means if one person

faces the centre then the other also faces the centre and vice-versa. Facing the opposite direction means if one person faces the centre then the other faces outside and vice-versa.

Immediate neighbours facing the same direction means if one neighbour faces the centre then the other also faces the centre and vice-versa.

Immediate neighbours facing the opposite direction means if one neighbour faces the centre then the other faces outside and vice-versa.

- Only one person sits between K and O. Q sits third to the right of O.
- M sits to the immediate right of Q. Q faces outside.
- L sits second to the left of P. P is not an immediate neighbour of O.
- L faces a direction opposite to that of O. Immediate neighbours of L face opposite directions.
- J sits third to the left of N. J is not an immediate neighbour of P nor K.
- M and J face a direction same as that of N.

21. Four of the following five are alike in a certain way based on the directions they are forming and so form a group. Which is the one that does not belong to that group?
(1) KL (2) QM
(3) PQ (4) NJ
(5) QL

22. Who among the following sit exactly between Q and O when counted from the right of Q?
(1) P, J (2) M, P
(3) L, K (4) N, L
(5) J, M

23. Which of the following is not true regarding K as per the given arrangement?
(1) N is an immediate neighbour of K.
(2) Ail the given options are true
(3) Only three persons sit between K and M.
(4) L sits to the immediate left of K.
(5) K faces outside.

24. What is L's position with respect to N?
(1) Immediate right
(2) Second to the right
(3) Third to the right
(4) Third to the left
(5) Immediate left

25. Who amongst the following are immediate neighbours of P ?
(1) M, N (2) K, M
(3) J, Q (4) N, K
(5) Q, N

26. Study the following information carefully and answer the question given below :
The government of State Y is promoting organic farming this year onwards. Thus, the raw material needed for it is made available at a subsidised rate. Free regular classes are also arranged to train the farmers in organic farming methods and to solve their problems.
The farmers of village B however are still continuing with the industrial farming methods despite several requests from the government.
Which of the following statements, if considered true, may support the action of farmers of village B?
(1) Industrial farming leads to more productivity in the short term, however, in the long term, it diminishes the soil life and production becomes heavily dependent on chemicals.
(2) Organic farming requires considerably more skill as compare to industrial farming.
(3) Although a few farmers across State Y have tried their hand at organic farming earlier, none of the farmers of village B have participated in it before.
(4) Organic food is expensive and not many people in State Y may be able to afford it, however with the subsidies, provided by the government, it will become affordable.
(5) Organic farming methods are very labour intensive as regular extensive observation is required whereas finding labour at affordable costs is a challenge for farmers of village B.

Directions (27-30) : *In each of the following questions three statements followed by two Conclusions numbered I and II have been given. You have to take the given statements to be true even if they seem to be at variance from the commonly known*

facts and there decide which of the given Conclusions logically follows from the given statements, disregarding commonly known facts.

Give answer (1) if both the Conclusion I and Conclusion II follow

Give answer (2) if neither Conclusion I nor Conclusion II follows

Give answer (3)if either Conclusion I or Conclusion II follows .

Give answer (4) if only Conclusion I follows

Give answer (5) if only Conclusion II follows

(27-28) : Statements

Some ratios are percent.
All percent are fractions.
No fraction is a section.

27. Conclusions

I. No section is a percent.
II. All ratios being fractions is a possibility

28. Conclusions

I. All sections being ratios is a possibility.
II. At least some fractions are ratios.

(29-30) : Statements

All metals are plastics.
All plastics are ores.
Some ores are wood.

29. Conclusions

I. All wood being metals is a possibility
II. No ore is a metal

30. Conclusions

I. At least some metals are wood
II. All plastics being wood is a possibility

Direction (31-35) *Study the following information carefully and answer the questions given below.*

Eight persons — E, F, G, H, W, X, Y and Z — are sitting in two parallel rows containing four persons each.E, F, G and H are sitting in row-1 facing north and W, X, Y and Z are sitting in row-2 facing south (but not necessarily in the same order). Thus, each person sitting in row - 1 faces another person sitting in row - 2- Each of the two rows consists of one Doctor, one Engineer, one Pilot and one Scientist (but not necessarily in the same order).

- The Doctor of row-1 sits second to the right of H, X faces one of the immediate neighbours of H. Only one person sits between the X and the Scientist.
- The one who faces the Scientist of row - 2 is an immediate neighbour of E. Only one person sits between E and the Pilot.
- W sits second to the right of Z. Y does not face G. The Scientist of row-1 faces the Engineer of row - 2.
- G faces one of the immediate neighbours of the Doctor of row-2. The Doctor of row - 2 does not sit at any of the extreme ends of the line. Z is not a Doctor.

31. Which of the following represents the people sitting at extreme ends of both the lines?

(1) F, H and X, Y (2) F, H and Z, W
(3) G, E and Z, X (4) E, H and X, Z
(5) G, E and W, Y

32. Who amongst the following sits to the immediate left -of Pilot of row -1?

(1) H
(2) The Doctor of row–1
(3) The Engineer of row– 1
(4) G
(5) F

33. Which of the following represent both the immediate neighbours of Y?

(1) Z and the Scientist of row-2
(2) X and the Engineer of row-2
(3) W and the Doctor of row-2
(4) X and the Pilot of row-2
(5) W and the Pilot of row-2

34. Which of the given statements is true with respect to the given arrangement?

(1) G is a Scientist
(2) Y sits to the immediate right of X
(3) F and Z face .each other.
(4) None of the given statements is true
(5) The Engineer of one row faces the Doctor of another row.

35. If Y and X interchange their places,, -so do H and Z, then who amongst the following will face E?

(1) Y (2) H
(3) F (4) W
(5) Other than those given as options

Quantitative Aptitude

36. Four circles having equal radii are drawn with centres at the four corners of a square. Each circle touches the other two adjacent circle. If remaining area of the square is 168 cm^2, what is the size of the radius of the circle ? (in centimetres)
(1) 14 (2) 1.4
(3) 35 (4) 21
(5) 3.5

Directions (37-41): *What will come in place of the question mark (?) in each of the following number series.*

37. 158 78 38 18 8 ?
(1) 3 (2) 5
(3) 2 (4) 7
(5) 6

38. 16 19 24 33 50 ?
(1) 83 (2) 66
(3) 99 (4) 74
(5) 102

39. 402 400 388 358 302 ?
(1) 212 (2) 236
(3) 190 (4) 182
(5) 210

40. 31 15 21 50 ? 767.25
(1) 160.5 (2) 171.5
(3) 156.5 (4) 122.5
(5) 143.5

41. 8 5.5 8.5 23 89.5 ?
(1) 455 (2) 420.5
(3) 445 (4) 415.5
(5) 433

42. A vessel contains a mixture of milk and water in the respective ratio of 14 : 3. 25.5 litres of the mixture is taken out from the vessel and 2.5 litres of pure water and 5 litres of pure milk is added to the mixture. If the resultant mixture contains 20% water, what was the initial quantity of mixture in the vessel before the replacement? (in litres)
(1) 51 (2) 102
(3) 68 (4) 85
(5) 34

43. A, B and C started a business by investing Rs. 20,000, Rs. 28,000 and Rs. 36,000 respectively. After 6 months, A and B withdrew an amount of Rs. 8,000 each and C invested an additional amount of Rs. 8,000. All of them invested for equal period of time. If at the end of the year, C got Rs. 12,550 as his share of profit, what was the total profit earned ?
(1) Rs. 25,100 (2) Rs. 26,600
(3) Rs. 24,300 (4) Rs. 22,960
(5) Rs. 21,440

44. There are three positive numbers, $\frac{1}{3}$rd of average of all the three numbers is 8 less than the value of the highest number. Average of the lowest and the second lowest number is 8. Which is the highest number?
(1) 11 (2) 14
(3) 10 (4) 9
(5) 13

45. A sum of money was invested for 14 years was in Scheme A which offers simple interest at a rate of 8 % p.a. The amount received from Scheme A after 14 years was then invested for two years in Scheme B which offers compound interest (compounded annually) at a rate of 10% p.a. If the interest received from Scheme B was Rs. 6,678, what was the sum invested in Scheme A ?
(1) Rs. 15,500 (2) Rs. 14,500
(3) Rs. 16,500 (4) Rs. 12,500
(5) Rs. 15,000

46. 4 years ago, the respective ratio between $\frac{1}{2}$ of A's age at that time and four times of B's age at that time was 5:12.Eight years hence $\frac{1}{2}$ of A's age at that time will be less than B's age at that time by 2 years. What is B's present age ?
(1) 10 years (2) 14 years
(3) 12 years (4) 5 years
(5) 8 years

Directions (47-51) : *Study the table and answer the given questions Data related to salary structure of 5 individuals from different organisations in March.*

Individuals	Basic Salary (in Rs.)	Total Allowance (in Rs.)	Total Deduction (in Rs.)	Net Salary (in Rs.)
P	21800	28600	–	–
Q	–	–	4350	25850
R	10400	12400	2800	20000
S	11200	13800	–	–
T	–	21600	5700	–

Note : (i) Total Deduction = Provident Fund Deduction (which is 10% of basic salary) + Other deduction
(ii) Net Salary = Basic Salary + Total Allowance – Total Deduction
(iii) Few values are missing in the table (indicated by –). A candidate is expected to calculate the missing value, if it is required to answer the given question, on the basis of the given data and information.

47. If other deduction of P was Rs. 4,720, what was his net salary?
(1) Rs. 42,500 (2) Rs. 43,500
(3) Rs. 43,000 (4) Rs. 41,500
(5) Rs. 42,000

48. If Q's total allowance was Rs. 3,000 more than his basic salary, what was his total allowance?
(1) Rs. 17,000 (2) Rs. 17,500
(3) Rs. 16,000 (4) Rs. 16,600
(5) Rs. 15,500

49. If the respective ratio of Provident Fund deduction and other deduction and other deduction of S was 7 : 13, what was S's other deduction ?
(1) Rs. 2,160 (2) Rs. 2,080
(3) Rs. 2,120 (4) Rs. 2,040
(5) Rs. 1,980

50. Basic salary of S is what percent more than the basic salary of R?
(1) $6\frac{4}{13}$ (2) $5\frac{7}{13}$
(3) $9\frac{9}{13}$ (4) $11\frac{7}{13}$
(5) $7\frac{9}{13}$

51. If other deduction of T was Rs. 4,000, what was his net salary?
(1) Rs. 32,500 (2) Rs. 31,900
(3) Rs. 32,700 (4) Rs. 31,700
(5) Rs. 32,900

Directions (52-56) : *In the following questions two equations numbered I and II are given. You have to solve both the equations and*
Give answer (1) if $x > y$
Give answer (2) if $x \geq y$
Give answer (3) if $x < y$
Give answer (4) if $x \leq y$
Give answer (5) if $x = y$ or the relationship cannot be established.

52. I. $x^2 - 3x - 88 = 0$
II. $y^2 + 8y - 48 = 0$

53. I. $5x^2 + 29x + 20 = 0$
II. $25y^2 + 25y + 6 = 0$

54. I. $2x^2 - 11x + 12 = 0$
II. $2y^2 - 19y + 44 = 0$

55. I. $3x^2 + 10x + 8 = 0$
II. $3y^2 + 7y + 4 = 0$

56. I. $2x^2 + 21x + 10 = 0$
II. $3y^2 + 13y + 14 = 0$

Directions (57-61) : *This data is regarding total number of employees working in Administration (Admin), Operations (Ops.) and other departments of corporate divisions of Companies A and B*

The total number of employees working in both the companies together is 4800. The respective ratio of number of employees in Companies A and B is 5 : 7. Each employee works in only one of the mentioned departments.

In company A, 70% of the total employees are males. 60% of the total male employees work in 'Ops'. Out of the remaining male employees, $\frac{1}{8}^{th}$ work in 'Admin'. Out of the total female employees, 24% work in 'Admin' and $\frac{5^{th}}{8}$ the remaining female employees work in 'Ops'.

In company B, 80% of the total employees are males. 65% of the total male employees work in 'Ops'. Number of male employees who work in 'other departments' in Company B is 20% more than the male employees who work in 'Other departments' in company A. Number of female employees who work in Ops in Company B are less than the number of male employees who work for 'Ops' in the same company, by 75%. Out of the remaining female employees, $\frac{1}{4}$ work in 'admin'

57. What percent of the total number of male employees in company A work in 'other departments' ?
(1) 45 (2) 25
(3) 30 (4) 35
(5) 40

58. What Percent of the total number of female employees in company B work in administration department ?
(1) 18.5 (2) 17.5
(3) 14 (4) 16
(5) 19

59. What is the total number of female employees who work in Ops in Company A and B together?
(1) 681 (2) 781
(3) 689 (4) 649
(5) 788

60. What is the difference between the average number of males working in 'Admin' in both the companies together and average number of females working in 'Other Departments' in both the companies together ?
(1) 26 (2) 36
(3) 16 (4) 24
(5) 14

61. In company B, what is the respective ratio between the total number of employees (both male and female) who work in 'Admin' and the total number of employees (both male and female) who work in 'Other department' in the same company ?
(1) 2:3 (2) 1:3
(3) 1 : 4 (4) 3 : 5
(5) 1 : 5

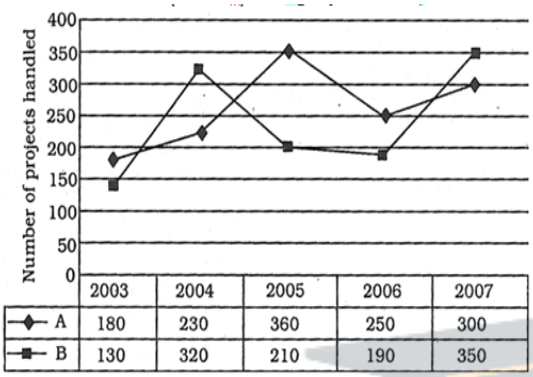
62. Monthly salaries of Pia and Som are in the respective ratio of 5 : 4.Pia, from her monthly salary, gives $\frac{3}{5}$ th to her mother. 15% towards her sister's tuition fees, 18% towards a loan and she shops with the remaining amount which was Rs. 2,100.What is the monthly salary of Som ?
(1) Rs.25,000 (2) Rs.30,000
(3) Rs. 15,000 (4) Rs.20,000
(5) Rs.24,000

63. 12 men can finish a project in 20 days. 18 women can finish the same project in 16 days and 24 children can finish it in 18 days. 8 women and 16 children worked for 9 days and then left. In how many days will 10 men complete the remaining project ?
(1) $10\frac{1}{2}$ (2) 10
(3) 9 (4) $11\frac{1}{2}$
(5) $9\frac{1}{2}$

64. An item was bought at Rs. X and sold at Rs. Y, there by earning a profit of 20%. Had the value of X been 15% less and the value of Y been Rs. 76 less, a profit of 30% would have been earned. What was the value of 'X'
(1) Rs. 640 (2) Rs.400
(3) Rs.600 (4) Rs.800
(5) Rs.840

Directions (65-69) : *Refer to the graph and answer the given questions.*

Data related to number of projects handled by two companies (A and B) during 5 years



	2003	2004	2005	2006	2007
A	180	230	360	250	300
B	130	320	210	190	350

65. Out of the total number of projects handled by company A in 2005 and 2006 together, 20% were Governmental projects. What was the total number of governmental projects handled by company A in 2005 and 2006 together ?
(1) 108 (2) 132
(3) 128 (4) 116
(5) 122

66. The projects handled by company B can be broadly classified into two types : Governmental projects and Non-governmental projects. If the average number of non-governmental projects handled by company B in 2003 and 2004 is 127, what is the total number of governmental projects handled by the same company in 2003 and 2004 together ?
(1) 204 (2) 188
(3) 192 (4) 196
(5) 212

67. The number of projects handled by company B decreased by what percent from 2004 to 2006 ?
(1) $35\frac{5}{8}$ (2) $30\frac{7}{8}$
(3) $50\frac{3}{8}$ (4) $45\frac{3}{8}$
(5) $40\frac{5}{8}$

68. If the number of projects handled by company A increased by 20% from 2007 to 2008 and by 5% from 2008 to 2009, what was the number of projects handled by company A in 2009?
(1) 378 (2) 372
(3) 384 (4) 396
(5) 368

69. What is the difference between the total number of projects handled by company A in 2003 and 2004 together and total number of projects handled by company B in 2005 and 2007 together ?
(1) 120 (2) 150
(3) 130 (4) 180
(5) 368

70. The speed of the boat in still water is 24 kmph and the speed of the stream is 4km/h. The time taken by the boat to travel from A to B downstream is 36 minutes less than the time taken by the same boat to travel from B to C upstream. If the distance between A and B is 4 km more than the distance between B and C, what is the distance between A and B ?
(1) 112 km (2) 140 km
(3) 56 km (4) 84 km
(5) 28 km

ENGLISH LANGUAGE

Directions (71 - 80) : *Read the following passage carefully and answer the questions given. Certain words have been given in bold to help you locate them while answering some of the questions.*

We are told that economy is growing and that such growth benefits all of us. However, what you see is not what you always get. Most people are experiencing declining economic security in response to the problems of the global system, many communities have turned to Local Exchange Systems (LESs) to help **regain** some control over their economic situations.

Local exchange systems come in many forms. They often involve the creation of a local currency, or a system of bartering labour, or trading of agricultural products as a means of supporting the region in which they are traded. Such a system helps preserve the viability of local economies.

Local currencies allow communities to diversify their economies, reinvest resources back into their region and reduce dependence on the highly concentrated and unstable global economy. Each local currency system serves as an exchange bank for skills and resources that individuals in the community are willing to trade. Whether in the form of paper money, service credits, or other units, a local currency facilitates the exchange of services and resources among the members of a community.

By providing incentives for local trade, communities help their small businesses and reduce underemployment by providing the jobs within the community. In addition, the local exchange of food and seeds promotes environmental conservation and community food security. Local food production reduces wasteful transportation and promotes self-reliance and genetic diversity. Each transaction within a local exchange system strengthens the community fabric as neighbours interact and meet one another. There are over 1,000 local exchange programs worldwide more than 30 local paper currencies in North America and at least 800 Local Exchange Trading Systems (LETS) throughout Europe. New Zealand and Australia Local Exchange Systems vary and evolve in accordance -with the needs and circumstances of the local area. This diversity is critical to the success of the local currencies. For instance, a bank in rural Massachusetts refused to lend a farmer the money needed to make it through the winter. In response, the farmer decided to print his own money Berkshire Farm Preserve Notes. In winter, customers buy the notes for $9 and they may redeem them in the summer for $10 worth of vegetables. The system enabled the community to help a farm family after being abandoned by the centralized monetary system. As small family farms continue to disappear at an alarming rate, local currencies provide tools for communities to **bind** together, support their local food growers and maintain their local food suppliers.

Local Exchange Systems are not **limited** to developed countries. Rural areas of Asia, Latin America and Africa have offered some of the most effective and important programs, by adopting agriculture-based systems of exchange rather than monetary ones. In order to preserve genetic diversity, economic security and avoid dependence on industrial seed and chemical companies, many villages have developed seed saving exchange banks. For example, the village women in Ladakh have begun to collect and exchange rare seeds selected for their ability to grow in a harsh mountain climate. This exchange system protects agriculture diversity while promoting self-reliance. There is no one blueprint for a local exchange system, which is exactly why they are successful vehicles for localisation and sustainability. They promote local economic diversity and regional self-reliance while responding to a region's specific needs. Local exchange systems play a **pivotal** role in creating models for sustainable societies. They are an effective educational tool, raising awareness about the global financial system and local economic matters. Local exchange systems also demonstrate that tangible, creative solutions exist and that communities can empower themselves to address global problems.

71. Which of the following is same in meaning as the word 'LIMITED TO' as used in the passage?
(1) restricted to
(2) extending beyond
(3) validated for
(4) adjusted
(5) custodial

72. Which of the following can be a suitable title for the passage?
(1) Reasons LES must rule over the regular currency
(2) Methods to escape global economic issues
(3) Dependence of Asian countries on LES
(4) Role of LES in development of communities
(5) LES - A Futile Exercise

73. Which of the following is most nearly the opposite in meaning as the word 'PIVOTAL' as used in the passage?
(1) essential
(2) unnourished
(3) healthy
(4) overriding
(5) trivial

74. As mentioned in the passage, there is no set design to initiate local exchange systems as ____.
(A) they tend to work well only in selected countries
(B) they are region specific

(C) they are too complicated to understand

(1) Only A (2) Only B
(3) Both A and C (4) Both A and B
(5) Only C

75. Which of the following is most nearly the opposite in meaning as the word 'BIND' as used in the passage ?

(1) visionless (2) separate
(3) associate (4) loosen
(5) reunite

76. Which of the following statements is true in the context of the passage ?

(1) LES work well only in countries whose economies are based primarily on agriculture.
(2) LES increases unhealthy competition between communities from different regions. .
(3) LESs encourage communities to become self-supporting
(4) LESs are restricted to trading with paper money only.
(5) None of the given statements is true

77. As mentioned in the passage, local currencies can prove to be beneficial for the community as they_.

(A) assist in creating job opportunities.
(B) indirectly help in conserving the environment.
(C) aid in minimising reliance on global economy.

(1) Only A (2) Only B
(3) Both A and C (4) Both A and B
(5) All the three A, B and C

78. Which of the following is the meaning of the phrase 'what you see is not what you always get' as mentioned in the passage with respect to present economic situation in the country ?

(1) Sharing information without hiding facts.
(2) Being pessimistic while presenting information.
(3) Modifying information after taking consent from every stakeholder.
(4) Waiting to share positive information.
(5) What is presented may not necessarily be true.

79. Which of the following is most nearly the opposite in meaning as the word 'REGAIN' as used in the passage ?

(1) recover (2) restart
(3) forfeit (4) revalue
(5) liberate

80. As mentioned in the passage, the statistics with respect to LES highlight that_.

(1) very few countries are aware about such programmes.
(2) they face more resistance from, developed countries than developing ones.
(3) they are becoming popular among communities across the globe.
(4) they lack support of farmers.
(5) the gap between the rich and the poor is increasing.

Directions (81 - 85) : *Read each sentence to find out whether there is any grammatical mistake/ error in it. The error, if any, will be in one part of the sentence. Select the part with the error as your answer. If there is no error, Select 'No error' as your answer. (Ignore the errors of punctuation, if any)*

81. The rise of ATMs, telephone banking, the internet (1)/ and now smartphones has (2)/ led to a decline of 5 to 8 percent a year (3)/ in the number of visits by customers to branches. (4)/ No error (5)

82. Sporting body such as FIFA (1)/ should be run transparently and rigorous standards (2)/ should be maintained to ensure that (3)/ sports are played in the right spirit. (4)/ No error (5)

83. Owing to the frequent fluctuations in electricity, (1)/ businesses in Africa are forced to (2) / invest in generators thereby paying (3)/ exorbitant amounts for electricity. (4)/No error (5)

84. Without a reduction in imports, the decline (1)/ in the economy will be even great though (2)/ the central bank is positive that (3)/ the economy will recover by next year. (4)/ No error (5)

85. Changing a company's corporate culture (1)/ is difficult but not impossible (2)/ and intro-

ducing systems such as (3)/ pay for performance' will help a company grow. (4) / No error (5)

Directions (86-90) : *Rearrange the given six sentences/ group of sentences (A), (B), (C), (D), (E) and (F) in a proper sequence so as to form a meaningful paragraph and then answer the given questions.*

(A) Initiatives by Japan and the European Union over the past two years depressed the yen and euro earlier.

(B) The rising dollar has hurt US exporters by making their goods costlier abroad, and China's move to devalue its currency could further complicate the Fed's decision on when to raise rates.

(C) All these moves contrast with action foreseen from the Federal Reserve, which is widely expected to boost the short-term interest rate it controls later this year.

(D) China's central bank said the devaluation of the Yuan was a result of reforms intended to make its exchange rate more market-oriented.

(E) This Fed rate hike would likely raise the value of the dollar, which has already jumped about 1.4 percent in value in the past 12 months against a basket of foreign currencies.

(F) With this devaluation, China becomes the third major economy to act on lowering its currency value.

86. Which of the following should be the **FOURTH** sentence after rearrangement ?
(1) A (2) B
(3) C (4) E
(5) D

87. Which of the following should be the **SECOND** sentence after rearrangement ?
(1) A (2) B
(3) C (4) D
(5) F

88. Which of the following should be the **LAST (SIXTH)** sentence after rearrangement ?
(1) A (2) F
(3) D (4) C
(5) B

89. Which of the following should be the **FIRSI'** sentence after rearrangement ?
(1) A (2) B
(3) C (4) D
(5) E

90. Which of the following should be the **THIRD** sentence after rearrangement ?
(1) A (2) B
(3) F (4) D
(5) E

Directions (91 - 95): *Each sentence below has two blanks, each blank indicating that something has been omitted. Choose the words that best fit the meaning of the sentence as a whole.*

91. Rolling the neck is a very simple and effective exercise when it____to_____off the double chin.
(1) comes, fighting
(2) relates, shedding
(3) regards, sloughing
(4) associates, removing
(5) pertains, edging

92. The traffic police said that it was not possible to _____personnel permanently at the spot to prevent the situation because of_____manpower.
(1) send, issue
(2) arrange, lack
(3) let, less
(4) deploy, insufficient
(5) dispatch, constricted

93. Your children take_____of most of your actions and traits, both good and bad, which is why it is_____that you leave them more good examples than bad.
(1) light, crucial
(2) cognizance, urgent
(3) copy, important
(4) note, essential
(5) pretence, vital

94. The region has already___ few very long dry spells this season, _____ concern about the survival of the kharif crop.
(1) Subjected, posing
(2) witnessed, sparking

(3) seen, sensing
(4) dealt, generating
(5) suffered, bordering

95. The forum ____desired efforts be ____at the earliest on a sustained basis to create an authentic database.
(1) demanded, initiated
(2) suggested, dealt
(3) ask, commenced
(4) proclaimed, earned
(5) questioned, made

Directions (96-100): *Which of the phrase given against each sentence should replace the word/ phrase, given in bold in a sentence to make it grammatically correct, if the sentence is correct as it is given and no correction is required, choose 'No correction required' as the answer.*

96. It is important to teach children that **discriminating on** any particular culture is not acceptable.
(1) discrimination for
(2) discriminating against
(3) to discriminate towards
(4) discriminated of
(5) No correction required

97. **Although** official orders, work of re-survey of out-of-school children has not yet been undertaken in many parts of the State.
(1) Even though
(2) In spite of
(3) While
(4) However
(5) No correction required

98. Ayurveda believes that herbs **when ingested** bring about changes in the energy of a human body.
(1) when it is ingest
(2) ingested when
(3) while being ingest
(4) when one ingesting
(5) No correction required

99. The owners of commercial establishments in the city were **given orders to furnished** detailed information of their tenants.
(1) furnished orders
(2) ordered for furnishing
(3) ordered to furnish
(4) orderly furnished
(5) No correction required

100. Traffic snarls along the highway have started again, despite the area is declared a "no parking zone"
(1) declaration on
(2) has been declared
(3) being declared
(4) has to declare
(5) No correction required

SOLUTIONS

1. (1) $V < E > B = H \geq N \geq P$
$P \leq B \rightarrow$ True
$H < V \rightarrow$ Not true
$N \geq V \rightarrow$ Not true
$E \geq N \rightarrow$ Not true
$E \geq P \rightarrow$ Not true

2. (4) All reptiles are birds → Universal Affirmative (A- type)
Some reptiles are birds → Particular Affirmative (I-type)
No kite is a bird → Universal Negative (E-type)
Some kites are not birds → Particular Negative (O-type)
A All reptiles are birds

E No bird is a kite
A + E → E -type of conclusion
No reptile is a kite
A All kites are amphibians

A All amphibians are plants
A + A → A-type of conclusion
∴ All kites are plants.
∴ Option 4 is true

3. (1) $W > E = A \geq R \geq S$
$W > R \rightarrow$ True
$E \geq S \rightarrow$ True

(4 - 5) :

—, —, —, R > S, T
P > Q > U
P > Q > U > R > T > S
↓ ↓
8 8

4. (1) Q travelled to eight countries. Only P has travelled to more number of countries than Q.

5. (4) R has travelled to more than four but less than eight countries.
U = 5, 6 or 7.

(6 - 10) :

few → gs
organic → cr
farming → li
techniques → da
fertilizer → nb
waste → mk
into → pt
farming → li
product/available → fo/pz
disposal/of → her/yu.

6. (5) few ⇒ gs
waste ⇒ mk

7. (2) organic ⇒ cr

8. (3) yu ⇒ disposal/of

9. (4) waste = mk
techniques ⇒ da
farming ⇒ li
fertilizer ⇒ nb
management ⇒ ax

10. (1) available ⇒ fo/pz

(11 - 16) :

Floor Number	Person	Favourite Superhero
8	O	Wolverine
7	K	Batman
6	R	Thor
5	N	Captain America
4	L	Nova
3	Q	Superman
2	M	Iron man
1	P	Hulk

11. (1) R lives immediately above N while L lives immediately below the floor of N.

12. (2) K lives on floor numbered seven
⇒ (5 + 2)

Q lives on floor numbered Three..
$\Rightarrow (6 - 3)$
L lives on floor numbered four
$\Rightarrow (2 + 2) = 4$
N lives on floor numbered five
$\Rightarrow (7 - 2)$
R lives on floor numbered six
$= (8 - 2) = 6$

13. (4) R likes Thor

14. (5) P likes Hulk

15. (1) N lives on 5th floor.

16. (3) L likes Nova and there are two persons sit b/w O and N.
Similarly N likes captain America and there are two persons b/w N and M.

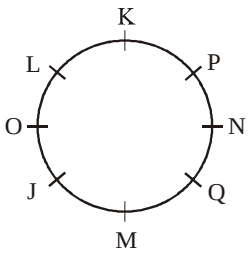
17. (5)

18. (5) $F = A < L \leq C > O \geq N$;
$Y > L$; $Q > C$
$Y > L \leq C > O \geq N$
$F = A < L \leq C < Q$
Conclusions :
I. $Y \leq N$: Not True
II. $Q > F$: True

19. (1) $R > K = H > N \geq A < S$:
$N \geq M > T$
$R \geq K = H > N \geq M > T$
Conclusions :
I. $K > T$: True
II. $R > M$: True

20. (4) $S < P \leq C = D < L > K$;
$D \leq T < G$
$S < P \leq C = D \leq T > G$
$G > T \geq D < L < K$
Conclusions :
I. $G > S$: True
II. $T \geq K$: Not True

(21 - 25) :



21. (2) K and L face the same direction.
Q and M face the opposite directions.
P and Q face the same direction.
N and J face the same direction.
Q and L face the same direction.

22. (5) When counted from the right of Q, two persons - M and J - are sitting exactly between Q and O.

23. (1) N is an immediate neighbour of both P and Q.

24. (3) N faces towards the centre. L sits third to the right of N.

25. (4) K and N are immediate neighbours of P.

26. (5) Obviously, option (5) supports the action of farmers of village B.

(27 - 28) :

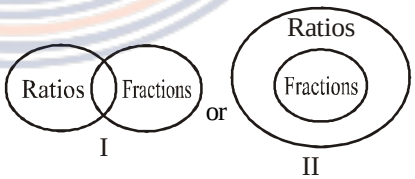
Some ratios are percent.

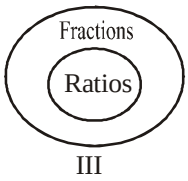
All percent are fractions.
$I + A \Rightarrow I$ -type of Conclusion
"Some ratios are fractions." (P)
All percent are fractions.

No fraction is a section.
$A + E \Rightarrow E$ -type of Conclusion
"No percent is a section." (Q)
Some ratios are fractions.

No fraction is section.
$I + E \Rightarrow O$ -type of Conclusion
"Some ratios are not sections." (R)

27. (1) Conclusion I is the Converse of the Conclusion (Q). Venn diagrams of "Some ratios are fractions":

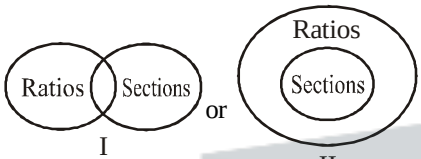


or 

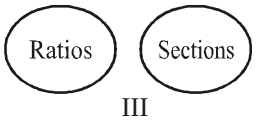
III

Diagram III supports the Conclusion II.

28. (1) Venn diagrams of "Some ratios are not sections" :



I II

or 

III

Diagram II supports the Conclusion I.
Conclusion II is the Converse of the Conclusion (P).

(29 - 30) :

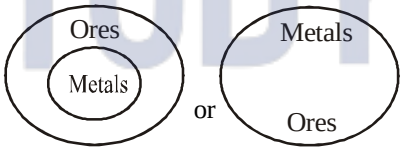
All metals are plastics.

All plastics are ores.

A + A ⇒ A -type of Conclusion

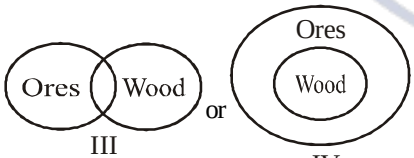
"All metals are ores." (P)

29. (4) Venn diagrams of "All metals are ores" :

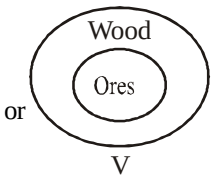


I II

Venn diagrams of "Some ores are wood":

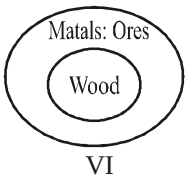


III IV

or 

V

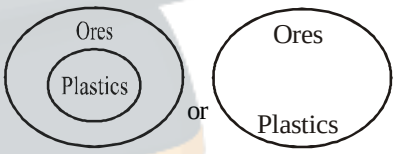
Combine diagrams II and IV :



VI

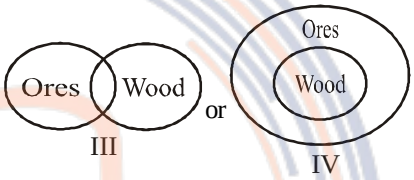
This diagram supports the conclusion I.

30. (5) Venn diagrams of "All plastics are ores":

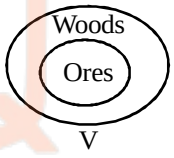


I II

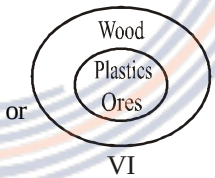
Venn diagrams of "Some ores are wood":



III IV

or 

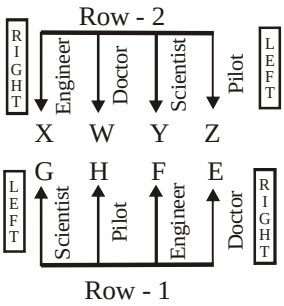
V

or 

VI

This diagram supports the Conclusion II.

(31 - 35) :



31. (3) X and Z sit at the extreme ends of the Row-2. G and E sit at the extreme ends of the Row-1.

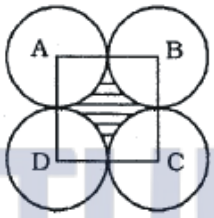
32. (4) H is a Pilot. G sits to the immediate left of H.

33. (5) W (Doctor) and Z (Pilot) are immediate neighbours of Y.

34. (1) Y sits second to the left of X, F faces Y.

35. (2) Z faces E. H interchanged position with Z. So, H faces E.

36. (1)



Diameter of circle = side of square = d cm

Area of square = d^2 sq. cm

Area of 4 quadrants $= \frac{\pi d^2}{4}$ sq.cm

According to the question

$$d^2 = \frac{\pi d^2}{4} = 168$$

$$\Rightarrow \frac{d^2(4-\pi)}{4} = 168$$

$$\Rightarrow d^2 = \frac{168\times 4}{4-\pi} = \frac{168\times 4}{4-\frac{22}{7}}$$

$$= \frac{168\times 4\times 7}{28-22} = 784$$

$$= \frac{168\times 4\times 7}{6} = 784$$

$$d = \sqrt{784} = 28 \text{ cm}$$

$$\text{Radius} = \frac{28}{2} = 14 \text{ cm}$$

37. (1) 158 78 38 18 8 ?

The pattern

$$\frac{158}{2} - 1 = 79 - 1 = 78$$

$$\frac{78}{2} - 1 = 39 - 1 = 38$$

$$\frac{38}{2} - 1 = 19 - 1 = 18$$

$$\frac{18}{2} - 1 = 9 - 1 = 8$$

$$\frac{8}{2} - 1 = 4 - 1 = \boxed{3}$$

38. (1) The pattern is :-

$$16 + 3 = 19$$

$$19 + 5 = (3+2) = 24$$

$$24 + 9 = (5+4) = 33$$

$$33 + 17 = (9+8) = 50$$

$$50 + 33 = (17+16) = \boxed{83}$$

39. (1) $402 - 1\times 2 = 402 - 2 = 400$

$400 - 3\times 4 = 400 - 12 = 388$

$388 - 5\times 6 = 388 - 30 = 358$

$358 - 7\times 8 = 358 - 56 = 302$

$302 - 9\times 10 = 302 - 90 = \boxed{212}$

40. (2) $\Rightarrow 31\times 0.5 - 0.5 = 15.5 - 0.5 = 15$

$\Rightarrow 15\times 1.5 - 1.5 = 22.5 - 1.5 = 21$

$\Rightarrow 21\times 2.5 - 2.5 = 52.5 - 2.5 = 50$

$\Rightarrow 50\times 3.5 - 3.5 = 175 - 3.5 = 171.5$

$\Rightarrow 171.5\times 4.5 - 4.5 = 771.75 - 4.5 = 767.25$

41. (3) The pattern is :-

$8\times1-2.5=8-2.5=5.5$

$5.5\times2-2.5=11-2.5=8.5$

$8.5\times3-2.5=24.5-2.5=23$

$23\times4-2.5=92-2.5=89.5$

$89.5\times5-2.5=447.5-2.5=445$

42. (3) Quantity of milk in Vessel = 14x ltr.
Quantity of water = 3x litres
In 25.5 litres of mixture,

$$\text{Milk}=\frac{14}{17}\times25.5=21\text{ litres}$$

Water = 4.5 litres
After additions,
Water = $3x-45+2.5$
Quantity of mixture
$=17x-25.5+7.5$

$$=(17x-18)\text{ litres}$$

$$\therefore\frac{3x-20}{17x-18}=\frac{20}{100}=\frac{1}{5}$$

$$\Rightarrow17x-18=15x-10$$

$$\Rightarrow17x-15x=18-10$$

$$\Rightarrow2x=8$$

$$x=4$$

$\therefore$ Initial quantity of the mixture = $17x$

$=17\times4=68$ ltrs

43. (1) Ratio of the equivalent capitals of A, B and C for 1 month

$$=(20000\times6+12000\times6):(28000\times6+20000\times6):(36000\times6+44000\times6)$$

$$=(120+72):(168+120):(216+264)$$

$$=192:288:480=2:3:5$$

If the total profit at end of the year be x

$$\text{C'share}=\frac{5}{10}\times x=\frac{x}{2}$$

$$\frac{x}{2}=12550$$

$$x=25100$$

44. (1) Let the numbers be
a < b < c
According to question,

$$\frac{a+b+c}{3\times3}=c-8$$

$$\Rightarrow a+b+c=9c-72\quad\text{...(i)}$$

Again,

$$a+b=16$$

$$16+c=9c-72$$

$$\Rightarrow9c-c=72+16$$

$$\Rightarrow8c=88$$

$$c=11$$

45. (5) Let x be the amount invested

Case I

$$\text{S.I}=\frac{\text{PRT}}{100}$$

$$=\frac{x\times8\times14}{100}=\frac{112x}{100}$$

Case II

Amount invested in scheme B

$$=\text{Rs.}\left(x+\frac{112x}{100}\right)$$

$$=\text{Rs.}\left(\frac{100x+112x}{100}\right)$$

$$=\text{Rs.}\left(\frac{212}{100}x\right)$$

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

$$=\frac{212x}{100}\left[\left(1+\frac{\text{R}}{100}\right)^{\text{T}}-1\right]$$

$$=\frac{212x}{100}\left[\left(1+\frac{10}{100}\right)^{2}-1\right]$$

$$=\frac{212x}{100}\left(\frac{121}{100}-1\right)$$

$$= \frac{212x}{100} \times \frac{21}{100}$$

$$= \frac{212x \times 21}{10000} = 6678$$

$$x = \frac{6678 \times 10000}{212 \times 21} = 15000$$

46. (1) 4 year's ago

A's age = $10x$ year

B's age = $3x$ year

A's present age = $(10x + 4)$ years

B's present age = $(3x + 4)$ years

$$= \frac{10x+4+8}{2} - (3x+4+8) = -2$$

$$\Rightarrow 3x+12-(5x+6) = 2$$

$$\Rightarrow 3x+12-5x-6 = 2$$

$$\Rightarrow 6-2x = 2$$

$$\Rightarrow 2x = 6-2 = 4$$

$$\Rightarrow x = 2$$

B's present age = $3x + 4$

$\Rightarrow 3 \times 2 + 4 = 10$ years

47. (2) Total deductions for P

$$= \text{Rs.}\left(\frac{21800 \times 10}{100} + 4720\right)$$

= Rs. (2180 + 4720) = Rs. 6900

$\therefore$ P's net salary

= Rs. (21800 + 28600 – 6900)

= Rs. 43500

48. (4) Q's net salary = Rs. 25850

If the basic salary of Q be Rs. x, then

Total allowance = Rs. $(x + 3000)$

$\therefore x + x + 3000 - 4350 = 25850$

$\Rightarrow 2x - 1350 = 25850$

$\Rightarrow 2x = 25850 + 1350 = 27200$

$\Rightarrow x = 27200 + 2 = \text{Rs.}13600$

$\therefore$ Q's total allowance

= Rs. (13600 + 3000) = Rs. 16600

49. (2) Provident fund deduction of S

$$= \frac{11200 \times 10}{100} = \text{Rs.}1120$$

$\therefore$ Other deductions of S

$$= \text{Rs.}\left(\frac{13}{7} \times 1120\right) = \text{Rs. } 2080$$

50. (5) Required percent

$$= \left(\frac{11200 - 10400}{10400}\right) \times 100$$

$$= \frac{800}{104} = \frac{100}{13} = 7\frac{9}{13}\%$$

51. (5) Other deductions for T = Rs. 4000

$\therefore$ Deduction for provident fund

= Rs. (5700 – 4000) = Rs. 700

$\therefore$ T's basic salary

$$= \frac{1700 \times 100}{10} = \text{Rs.}17000$$

$\therefore$ T's net salary

= Rs. (17000 + 21600 – 5700) = Rs.32900

52. (1) I. $x^2 - 3x - 88 = 0$

$$\Rightarrow x^2 - 11x + 8x - 88 = 0$$

$$\Rightarrow x(x-11) + 8(x-11) = 0$$

$$\Rightarrow (x+8)(x-11) = 0$$

$\Rightarrow x = -8$ or, 11

II. $y^2 + 8y - 48 = 0$

$$\Rightarrow y^2 + 12y - 4y - 48 = 0$$

$$\Rightarrow y^2 + 12y - 4y - 48 = 0$$

$$\Rightarrow y(y+12) - 4(y+12) = 0$$

$$\Rightarrow (y-4)(y+12) = 0$$

$\Rightarrow y = 4$ or, -12

Hence $x > y$

53. (3) I. $5x^2 + 29x + 20 = 0$

$$\Rightarrow 5x^2 + 25x + 4x + 20 = 0$$

$$\Rightarrow 5x(x+5) + 4(x+5) = 0$$

$$\Rightarrow (x+5)(5x+4) = 0$$

$$\Rightarrow x = -5 \text{ or, } -\frac{4}{5}$$

II. $25y^2+25y+6=0$

$\Rightarrow 25y^2+15y+10y+6=0$

$\Rightarrow 5y(5y+3)+2(5y+3)=0$

$\Rightarrow (5y+2)(5y+3)=0$

$\Rightarrow y=-\frac{2}{5}\text{or},-\frac{3}{5}$

54. (4) I. $2x^2-11x+12=0$

$\Rightarrow 2x^2-8x-3x+12=0$

$\Rightarrow 2x(x-4)-3(x-4)=0$

$\Rightarrow (x-4)(2x-3)=0$

$\Rightarrow x=4 \text{ or},\frac{3}{2}$

II. $2y^2-19y+44=0$

$\Rightarrow 2y^2-11y-8y+44=0$

$\Rightarrow y(2y-11)-4(2y-11)=0$

$\Rightarrow (y-4)(2y-11)=0$

$\Rightarrow y=4 \text{ or},\frac{11}{2}$

$\therefore x\le y$

55. (3) I. $3x^2+10x+8=0$

$\Rightarrow 3x^2+6x+4x+8=0$

$\Rightarrow 3x(x+2)+4(x+2)=0$

$\Rightarrow (3x+4)(x+2)=0$

$\Rightarrow x=-\frac{4}{3}\text{or},-2$

II. $3y^2+7y+4=0$

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

$\Rightarrow 3y(y+1)+4(y+1)=0$

$\Rightarrow (3y+4)(y+1)=0$

$\Rightarrow y=-\frac{4}{3}\text{or},-1$

Clearly, $x<y$

56. (5) I. $2x^2+21x+10=0$

$\Rightarrow 2x^2+20x+x+10=0$

$\Rightarrow 2x(x+10)+1(x+10)=0$

$\Rightarrow (x+10)(2x+1)=0$

$\Rightarrow x=-10\text{or},-\frac{1}{2}$

II. $3y^2+13y+14=0$

$\Rightarrow 3y^2+6y+7y+14=0$

$\Rightarrow 3y(y+2)+7(y+2)=0$

$\Rightarrow (3y+7)(y+2)=0$

$\Rightarrow y=-\frac{7}{3}\text{or},-2$

Calculations (57 - 61) :

Total number of employees in company

$A=\frac{5}{12}\times 4800=2000$

Male employees $=\frac{70\times 2000}{100}=1400$

Male employees in operations department

$=\frac{1400\times 60}{100}=840$

Male employees in administration department $=1400\times\frac{40}{100}\times\frac{1}{8}=70$

Male employees in other departments
= 1400 – 840 – 70 = 490

Total female employees
= 2000 – 1400 = 600

Female employees in administration department

$=\frac{24\times 600}{100}=144$

Female employees in operations department

$= (600 - 144) \times \frac{5}{8} = 285$

Female employees in other department
= 600 – 144 – 285 = 171
Total number of employees in company

$B = \frac{7}{12} \times 4800 = 2800$

Male employees

$= \frac{2800 \times 80}{100} = 2240$

Male employees in operations department

$= \frac{2240 \times 65}{100} = 1456$

Male employees in other departments

$= \frac{490 \times 120}{100} = 588$

Male employees in administration department = 2240 – 1456 – 588 = 196
Female employees = 2800 – 2240 = 560
Female employees in operations department $= \frac{1456 \times 25}{100} = 364$

Female employees in administration department

$= \frac{(560 - 364)}{2} = \frac{196}{4} = 49$

Female employees in other departments
= 560 – 364 – 49 = 147

57. (4) Required percent $= \frac{490}{1400} \times 100 = 35\%$

58. (2) Required percent $= \frac{98}{560} \times 100 = 17.5$

59. (4) Required answer = 285 + 364 = 649

60. (1) Required difference

$= \frac{171 + 147}{2} - \frac{70 + 196}{2}$

$= 159 - 133 = 26$

61. (2) Required ratio = (196 + 49) : (588 + 147)
= 245 : 735 = 1 : 3

62. (5) Pia's monthly salary = Rs. 5x
Percentage expenditure by Pia on Mother + Tuition fee + payment of debt
= 60 + 15 + 18 = 93%
Expenditure on shopping = 7%

$\therefore 5x \times \frac{7}{100} = 2100$

$\Rightarrow 5x \times 7 = 210000$

$\Rightarrow x = \frac{210000}{5 \times 7} = 6000$

$\therefore$ Som's monthly salary
$= 4x = 4 \times 6000 =$ Rs.24000

63. (2) According to the question,
18 × 16 women
$\equiv 24 \times 18$ children
$\Rightarrow$ 2 women $\equiv$ 3 children
$\therefore$ 8 women + 16 children
= (12 + 16) children = 28 Children

$\Rightarrow \frac{M_1 D_1}{W_2} = \frac{M_2 D_2}{W_2}$

$\Rightarrow \frac{24 \times 18}{1} = \frac{28 \times 9}{W_2}$

$\Rightarrow W_2 = \frac{28 \times 9}{24 \times 18} = \frac{7}{12}$

$\therefore$ Remaining work

$= 1 - \frac{7}{12} = \frac{5}{12}$

This part of work is done by 10 men.

$\frac{M_1 D_1}{W_2} = \frac{M_2 D_2}{W_2}$

$\Rightarrow \frac{12 \times 20}{1} = \frac{10 \times D_2}{\frac{5}{12}}$

$\Rightarrow 10 \times D_2 = 12 \times 20 \times \frac{5}{12} = 100$

$\Rightarrow D_2 = \frac{100}{10} = 10$ days

64. (4) C.P of article $= \frac{120x}{100} = \text{Rs.}\frac{6x}{5} = \text{Rs. } y$

Case II.

$\text{C.P.} = \frac{85x}{100} = \text{Rs.}\frac{17x}{20}$

$\text{S.P.} = y - 76$

$= \text{Rs.}\left(\frac{6x}{5} - 76\right)$

According to the question,

$\frac{6x}{5} - 76 = \frac{17x}{20} \times \frac{130}{100} = \frac{221x}{200}$

$\Rightarrow \frac{6x}{5} - \frac{221x}{200} = 76$

$\Rightarrow \frac{240x - 221x}{200} = 76$

$\Rightarrow \frac{19x}{200} = 76$

$\Rightarrow x = \frac{76 \times 200}{19} = \text{Rs.}800$

65. (5) Number of projects handled by company A in the years 2005 and 2006
= 360 + 250 = 610
∴ Number of governmental projects handled $= \frac{610 \times 20}{5} = 122$

66. (4) Number of projects handled by company B in 2003 and 2004
= 130 + 320 = 450
Number of non – governmental projects handled = 127 × 2 = 254
∴ Number of governmental projects handled = 450 – 254 = 196

67. (5) Required percentage decrease

$= \left(\frac{320 - 190}{320}\right) \times 100$

$= \frac{1300}{32} = \frac{325}{8} = 40\frac{5}{8}$

68. (1) Number of projects handled by company A in 2009

$= 300 \times \frac{120}{100} \times \frac{105}{100} = 378$

69. (2) Required difference
= (210 + 350) – 180 + 230)
= 560 – 410 = 150

70. (3) Rate downstream = 24 + 4 = 28 kmph
Rate upstream = 24 – 4 = 20 kmph
= x km
∴ BC = $(x - 4)$ km.
According to the question,

$\frac{x-4}{20} - \frac{x}{28} = \frac{36}{60}$

$\Rightarrow \frac{7x - 28 - 5x}{140} = \frac{3}{5}$

$\Rightarrow \frac{2x - 28}{140} = \frac{3}{5}$

$\Rightarrow 2x - 28 = \frac{3}{5} \times 140 = 84$

$\Rightarrow 2x = 84 + 28 = 12$

$\Rightarrow x = \frac{112}{2} = 56 \text{ km}$

71.	(1)	**72.**	(4)	**73.**	(5)	**74.**	(2)	**75.**	(2)
76.	(3)	**77.**	(5)	**78.**	(5)	**79.**	(3)	**80.**	(3)
81.	(5)	**82.**	(4)	**83.**	(2)	**84.**	(2)	**85.**	(3)
86.	(4)	**87.**	(4)	**88.**	(5)	**89.**	(1)	**90.**	(3)
91.	(5)	**92.**	(4)	**93.**	(4)	**94.**	(2)	**95.**	(1)
96.	(2)	**97.**	(2)	**98.**	(5)	**99.**	(3)	**100.**	(2)