

LIC Assistant Administrative Officer (AAO) Exam

Previous Paper (Completely Solved) - Held on 07-06-2009

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Reasoning

Directions (1 - 5) : The President of a club is appointing nine officials A, B, C, D, E, F, G, H and I to serve on three committees to study three different aspects of activities of the club. There will be a Games Committee, a Food Service Committee and an Entertainment Committee. The appointments must respect the following :

Each committee must have exactly three members.

No person can serve on more than one committee.

H must serve on the Entertainment Committee.

C and D must serve on the same committee.

A and B cannot serve on the same committee.

E cannot serve on the same committee as I.

F must serve on the same committee as B or H or both B and H.

- If B and G serve on the Games Committee, which of the following must serve on the Food Service Committee?
(1) A (2) D
(3) E (4) F
- Which of the following groups could constitute the Games Committee?
(1) A, B, E
(2) A, D, G
(3) C, H, E
(4) F, I, B
- If A is assigned to the Food Service Committee and C is appointed to Entertainment Committee, then which of the following must be true?
I. G is appointed to the Food Service Committee.
II. E is appointed to the Games Committee.
III. I is appointed to the Entertainment Committee.
(1) I only
(2) III only
(3) I and III only
(4) II and III only

4. If F serves on the Food Service Committee and C serves on the same Committee as H, then which of the following must serve on the Games Committee?
I. A II. G III. I

- (1) I only (2) III only
(3) I and II only
(4) II and III only

5. If I is on the Entertainment Committee and B is on the Food Service Committee, then which of the following must be true?

- (1) F is on the Entertainment Committee
(2) C is on the Games Committee
(3) G is on the Food Service Committee
(4) F is on the Games Committee

Directions (6 - 10) : Letters of certain words have been rearranged and the jumbled spellings have been given below. Out of the choices given below each question, choose the last letter of the correct word.

6. AYDOT

- (1) A (2) D
(3) T (4) Y

7. ILCEOP

- (1) C (2) E
(3) L (4) O

8. CAPCET

- (1) A (2) C
(3) P (4) T

9. VISERL

- (1) E (2) L
(3) R (4) S

10. ERVSECI

- (1) E (2) I
(3) R (4) S

Directions (11 - 15) : Find out the correct answer out of the four alternatives given below each question and then mark it in your answer sheet

11. Ice : Coolness :: Earth : ?

- (1) Forest (2) Weight
(3) Gravitation (4) Ocean

12. Coconut : Shell :: Letter : ?

- (1) Mail (2) Letter-box
(3) Stamp (4) Envelope

13. Income is related to Profit in the same way as Expenditure is related to

- (1) Loss (2) Surplus
(3) Balance (4) Sale

14. Much is related to Many in the same way as Measure is related to

- (1) Calculate
(2) Count
(3) Weigh
(4) Measurement

15. Clue is related to Mystery in the same way Warning is related to

- (1) Precaution (2) Disaster
(3) Risk (4) Danger

16. Find the oddman out

- (1) MOndAy (2) tUESdAy
(3) WEDNESdAy
(4) thUrSdAy

17. Three of the following four are alike in a certain way and hence form a group. Which is the one that does not belong to the group?

- (1) CUSTOMER : SGPSYYBK
(2) INTEREST : UUHJVYUQ
(3) OVERSEAS : TCHWWKCW
(4) BANKING : HPLOGI

18. Three of the following four have similar relationship and hence form a group. Which one does not belong to the group?

- (1) PROFIT : RPQCKR
(2) OTHERS : QRJCTQ
(3) LEGUME : NCISOC
(4) CANKER : EYPIGP

19. Three of the four groups of letters given below are alike in a certain way while one is different. Choose the odd one

- (1) GWOURV (2) LZKMSU
(3) JOEHNP (4) SFXPMG

20. Three of the four groups of letters given below are alike in a certain way while one is different. Choose the odd one

- (1) IW (2) MS
(3) FT (4) JU

Directions (21 - 25) : Find out the missing term in the following letter-number series :

21. H 4 W, I 18 V, K 48 T, N 100 Q,
?, W 294 H
(1) P 1485 S (2) R 180 M
(3) S 198 I (4) T 206 K
22. 1 ED, 2 FD, 3 KH, ?, 15 KG,
48 KF
(1) 12 PX (2) 6 RI
(3) 9 LV (4) 8 TQ
23. M4, T7, P 7, Q 10, S 10, N 13,
?, K 16
(1) V 13 (2) K 7
(3) T 13 (4) G 15
24. R 5 P, T 6 M, V 9 J, X 15 G, ?
(1) A 12 L (2) I 18 X
(3) Z 25 D (4) U 20 Q
25. DGK 0, GKP 3, ?, PVC 15
(1) GKV 5 (2) KPV 8
(3) PVZ 9 (4) KPU 11
26. If the first 6 letters of the English Alphabet series are written in reversed order, then the next 6 letters are written in reversed order and so on, and at the end Y is interchanged by Z, then which letter is fourth letter to the right of 13th letter from the left?
(1) M (2) N
(3) Q (4) P
27. If the English Alphabet series is written in the reverse order and every alternate letter starting from Y is dropped, which letter will be exactly in the middle of the remaining letters of the Alphabet series?
(1) L (2) O
(3) M (4) N
28. If the letters in each of the following five groups of letters are first rearranged in the alphabetical order and then the groups of letters so formed are rearranged as in a dictionary, which letter group would have its group of letters in the MIDDLE among the five letter-groups?
MEET, DEAF, ROAD, CODE, LACK
(1) LACK (2) MEET
(3) ROAD (4) DEAF
29. The letters skipped in between the adjacent letters in the series are followed by equal space. Which of the following series observes this rule?
(1) HKNGSW (2) EIMQVZ
(3) SUXADF (4) RVZDHL
30. Select the series in which the letters skipped in between adjacent letters do not decrease in order

- (1) MGVFK (2) PJXHM
(3) EQZFI (4) GWIQU

Directions (31 - 35) : These questions are based on code language which utilizes letters in the English Alphabet. In each question, there is a word written in capital letters, with one letter underlined. For each letter in that word there is a code written in small letters. That code is denoted by either 1, 2, 3 or 4, not in the same order. You have to find out the exact code for the underlined letter in the word. The number of that code is the answer. Please note that the same letter appearing in other word (s) may be coded differently.

31. D U E L
(1) g (2) i
(3) p (4) j
32. P I T Y
(1) g (2) b
(3) r (4) k
33. R I N G
(1) it (2) rk
(3) mp (4) ti
34. G O A L
(1) c (2) q
(3) e (4) j
35. S L A P
(1) dx (2) ms
(3) vp (4) io

Directions (36 - 40) : Study the following arrangements carefully and answer the questions given below :

- Series I :** MNLqdfuw2UFOKP6hs
(14) SHV7gc8RIE (13)xtk
- Series II :** azj(14)GJBopir5v9TQY
(10) emn(11)DACby(12)
xWZ

36. How many Capital letters are in Series I and in Series II each of which is either followed by or preceded by the same positioned Capital letter of English alphabet from the other end?
(1) 4, 3 (2) 6, 2
(3) 8, 1 (4) 10, 0
37. If the positions of the first twelve elements of Series I are reversed, and similarly the positions of the last twelve elements of Series II are reversed, then the third element to the right of the seventh element from the left end of Series I will be, whereas the third element to the left of the seventh element from the right end of Series II will be

- (1) L, x (2) j, x
(3) U, (11) (4) x, L

38. Which of the following pairs of elements shows the elements of Series I and Series II respectively, which are exactly in the middle of the seventh element from the left end and the sixth element from the right end in Series I and II?
(1) hy (2) Hy
(3) sQ (4) Sq
39. Three of the following four are alike in a certain way based on their position in the above series. Which is the one that **does not** belong to that group?
(1) azj (2) emb
(3) qdf (4) xtk
40. How many such vowels are there in the above arrangements, each of which is immediately preceded by a digit and immediately followed by a consonant?
(1) 1 (2) 2
(3) 3 (4) 4

Directions (41 - 44) : In the following coded arithmetic equations certain symbols are used with the following meaning :

- I. $P \triangle Q$ means add P to Q ;
II. $P \square Q$ means subtract Q from P
III. $P \circ Q$ means multiply P with Q ;
and
IV. $P \diamond Q$ means divide P by Q.
Now study the given information and answer the questions following it
Three persons A, B and C complete a work in 20 days. B and C together are $\frac{4}{3}$ times as efficient as A and B together. On the other hand A and C together are $\frac{5}{4}$ times as efficient as B and C together

41. Which of the following equations represents the number of days in which A alone can finish the same work?
(1) $24 \circ 20 \diamond (24 \square 20)$
(2) $30 \circ 20 (30 \triangle 20)$
(3) $30 \circ 20 \diamond (30 \square 20)$
(4) $40 \circ 20 \diamond (40 \square 20)$
42. Which of the following equations represents the number of days in which B and C together can finish the same work?
(1) $20 \circ (3 \triangle 3) \diamond 4$
(2) $20 \circ (12 \square 6) \diamond 3$
(3) $20 \circ (12 \square 6) \diamond 5$
(4) $40 \circ 20 \diamond (40 \square 20)$

43. Which of the following equations represents the number of days in which A and B working together can finish the same work?
 (1) $20 \circ (3 \triangle 3) \diamond 4$
 (2) $40 \circ 20 \diamond (40 \square 20)$
 (3) $20 \circ (12 \square 6) \diamond 5$
 (4) $24 \circ (12 \square 6) \diamond 3$
44. Which of the following equations represents the number of days in which A and C working together can finish the same work?
 (1) $40 \circ 20 \diamond (40 \square 20)$
 (2) $20 \circ (12 \square 6) \diamond 5$
 (3) $20 \circ (3 \triangle 3) \diamond 4$
 (4) $20 \circ (12 \square 6) \diamond 3$
45. A travel towards East. B travels towards North. C and D travel in opposite directions. D travels towards right of A. Which of the following is definitely true?
 (1) B and C travel in opposite directions
 (2) C travels towards West
 (3) D travels towards North
 (4) B and C travel in the same direction
46. A cow runs 20 metres towards East and turns to right, runs 10 metres and turns to right, runs 9 metres and again turns to left, runs 5 metres and then turns to left, runs 12 metres and finally turns to left and runs 6 metres. Now which direction is the cow facing?
 (1) North (2) East
 (3) South (4) West
47. A boy started walking positioning his back towards the sun. After sometimes, he turned left, then turned right and then towards the left again. In which direction is he going now?
 (1) East or West
 (2) North or West
 (3) South or West
 (4) North or South
48. If Thursday was the day after the day before yesterday five days ago, what is the least number of days ago when Sunday was three days before the day after tomorrow?
 (1) 1 (2) 2
 (3) 3 (4) 4
49. In a row of boys facing North, a boy is thirteen from the left. When shifted to his right by

three places, he becomes seventeenth from right end of the row. How many boys are there in the row?

- (1) 32 (2) 31
 (3) 33 (4) 30
50. 136 vehicles are parked in a parking lot in a single row. After the first car there is one scooter. After the second car, there are two scooters. After the third car, there are three scooters and so on. Work out the number of scooters in the second half of the row.
 (1) 61 (2) 62
 (3) 63 (4) 64
51. Three of the following four are alike in a certain way and hence form a group. Which one of the following does not belong to that group?
 (1) 7 (2) 9
 (3) 17 (4) 33
52. Choose the odd numeral pair in the following :
 (1) 140-45 (2) 120-35
 (3) 110-35 (4) 80-25
53. Choose that set of numbers from the four alternative sets, that is similar to the given set.
 Given set : (246, 257, 358)
 (1) (145, 235, 325)
 (2) (143, 253, 246)
 (3) (273, 365, 367)
 (4) (233, 343, 345)
54. Choose the one which is different from the rest
 (1) 248 (2) 326
 (3) 392 (4) 414
55. Three of the following four are alike in a certain way and so form a group. Which is the one that does not belong to that group.
 (1) 156 (2) 152
 (3) 72 (4) 42
- Directions (56 - 60) :** In each question below, is given a statement followed by two assumptions numbered I and II. An assumption is something supposed or taken for granted. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement.
- Give answer :**
 (1) if only assumption I is implicit;
 (2) if only assumption II is implicit;
 (3) if neither I nor II is implicit; and
 (4) if both I and II are implicit

56. **Statement :** To achieve economic development, people should work hard.

Assumptions :

- I. Achieving economic development is desirable.
 II. Working hard is not impossible.

57. **Statement :** He is too industrious to be poor.

Assumptions :

- I. Very industrious people also can be poor.
 II. Very lazy people also can be rich.

58. **Statement :** Visitors may use lift at their own risk.

Assumptions :

- I. Using lift is not always safe.
 II. Visitors do not want to use lift.

59. **Statement :** This book is so designed that even a layman can easily learn science in the absence of a teacher.

Assumptions :

- I. Learning science by everybody is desirable.
 II. A layman generally finds it difficult to learn science on his own.

60. **Statement :** Although the rates of this hotel are comparable with other hotels, the amenities provided here are far superior.

Assumptions :

- I. Rates are independent of amenities provided.
 II. Rates are dependent on amenities provided.

Numerical Ability

61. A money lender finds that due to fall in the rate of interest from

8% to $7\frac{3}{4}\%$, his yearly income

diminishes by Rs. 61.50. His capital (in Rupees) is :

- (1) 26000 (2) 24600
 (3) 23800 (4) 22400

62. The compound interest (in Rupees) on Rs. 5,600 for

$1\frac{1}{2}$ years at 10% per annum, compounded annually, is

- (1) 882.70 (2) 873.50
 (3) 868 (4) 840

63. If one side and one diagonal of a rhombus are 5cm and 8cm respectively, then its area (in cm^2) is :

- (1) 20 (2) 24
(3) 40 (4) 26

64. Half metre long cubic gold sheet is extended by hammering so as to cover an area of one hectare. The thickness of the sheet (in cm.) is :

- (1) 0.005 (2) 0.05
(3) 0.5 (4) 0.0005

65. A hemispherical bowl of internal radius 9cm contains a liquid. This liquid is to be filled into cylindrical shaped small bottles of a diameter 3cm and height 4cm. How many bottles will be needed to empty the bowl?

- (1) 27 (2) 35
(3) 45 (4) 54

66. Which of the following numbers is exactly divisible by 99?

- (1) 114345 (2) 135792
(3) 3572404 (4) 913464

67. In a division sum, the divisor is 10 times the quotient and 5 times the remainder. If the remainder is 46, the dividend is :

- (1) 4356 (2) 4816
(3) 5096 (4) 5336

68. On 1st January every year, a person buys N.S.C. (National Savings Certificates) of value exceeding that of his last year's purchase by Rs. 100. After 10 years, he finds that the total value of the certificates held by him is Rs. 54,500. Find the value (in Rupees) of the certificates purchased by him in the first year?

- (1) 4,000 (2) 4,800
(3) 5,000 (4) 6,000

69. A tennis ball rebounds each time to a height equal to one-half of the height of the previous bounce, if it is first dropped from a height of 8 metres, find the total vertical distance (in metres) it has travelled when it hits the ground for the 10th time

- (1) 21.969 (2) 22.969
(3) 23.969 (4) 24.969

70. The L.C.M. of $\frac{1}{3}, \frac{5}{6}, \frac{2}{9}, \frac{4}{27}$ is

- (1) $\frac{1}{54}$ (2) $\frac{10}{27}$
(3) $\frac{20}{3}$ (4) $\frac{27}{3}$

71. $4.8438 \div 0.069 = ?$

- (1) 60.2 (2) 69.2
(3) 70.2 (4) 71.2

72. $0.34\overline{67} + 0.133\overline{3} = ?$

- (1) 0.48 (2) $0.48\overline{01}$
(3) $0.4\overline{8}$ (4) $4.\overline{8}$

73. In a certain city there are 5 colleges and 20 schools. Each school has 3 peons, 1 clerk and 1 head clerk, whereas a college has 5 peons, 3 clerks, 1 head clerk and an additional staff as caretaker. The monthly salary of each of them is as follows :

Peon = Rs. 1,100; Head clerk = Rs. 3,000, Clerk = Rs. 1,700, Caretaker = Rs. 2,500. The total monthly salary bill (in Rupees) of Schools and Colleges of the city is :

- (1) 2,10,800 (2) 2,20,600
(3) 2,30,400 (4) 2,40,500

74. What fraction must be subtracted from the sum of $\frac{1}{4}$ and $\frac{1}{6}$

to have an average of $\frac{1}{12}$ of all the three fractions?

- (1) $\frac{1}{2}$ (2) $\frac{1}{3}$
(3) $\frac{1}{4}$ (4) $\frac{1}{6}$

75. The value of $\sqrt{0.4}$ is :

- (1) 0.2 (2) 0.02
(3) 0.63 (4) 0.51

76. A team of 8 persons joins in a shooting competition. The best marksman scored 85 points. If he had scored 92 points, the average score for the team would have been 84. The number of points, the team scored was :

- (1) 645 (2) 665
(3) 588 (4) 672

77. The sum of three numbers is 136. If the ratio between first and second be 2 : 3 and that between second and third be 5 : 3, then the second number is :

- (1) 40 (2) 48
(3) 52 (4) 60

78. A is as much younger to B as he is elder to C. If the sum of the ages of B and C is 48 years, what is the age of A in years?

- (1) 20 (2) 24
(3) 30 (4) 32

79. If $\left[3m^2 + (3^m)^2\right]^{\frac{1}{m}} = 81$, the

value of m is :

- (1) -3 (2) -6
(3) 3 (4) 6

80. p is six times as large as q. The per cent that q is less than p is

- (1) $83\frac{1}{3}$ (2) $16\frac{2}{3}$
(3) 90 (4) 60

81. The income of a broker remains unchanged though the rate of commission is increased from 4 per cent to 5 per cent. The percentage of slump in business is :

- (1) 10 per cent
(2) 15 per cent
(3) 20 per cent
(4) 30 per cent

82. A man purchased 35 kg of rice at the rate of Rs. 9.50 per kg and 30 kg at the rate of Rs. 10.50 per kg. He mixed the two. Approximately, at what price (in Rupees) per kg should he sell the mixture to make 35 per cent profit in the transaction?

- (1) 12 (2) 12.50
(3) 13 (4) 13.50

83. A book is listed at Rs. 150, with a discount of 20 per cent. What additional discount must be offered to bring the net price to Rs. 108?

- (1) 8 per cent (2) 10 per cent
(3) $12\frac{1}{2}$ per cent
(4) 15 per cent

84. The sides of a triangle are in the

ratio $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$ and its perimeter is 104 cm. The length of the longest side (in cm.) is :

- (1) 26 (2) 32
(3) 48 (4) 52

85. X, Y and Z were sharing profits in the ratio 4 : 3 : 2. Y retired from the firm and X and Z decide to share profits in the ratio 3 : 2. Calculate the gaining ratio.

- (1) 7 : 8 (2) 5 : 9
(3) 4 : 7 (4) 5 : 8

86. 15 men take 21 days of 8 hours each to do a piece of work. How many days of 6 hours each would 21 women take, if 3 women do as much work as 2 men?
 (1) 18 (2) 20
 (3) 25 (4) 3
87. A man goes uphill with an average speed of 24 kmph. and comes down with an average speed of 36 kmph. The distance travelled in both the cases being the same. The average speed (in kmph) for the entire journey is :
 (1) 30 (2) 28.8
 (3) 32.6 (4) 30.8
88. A train overtakes two persons who are walking in the same direction in which the train is going, at the rate of 2 kmph and 4 kmph, and passes them completely in 9 and 10 seconds respectively. The length of the train (in metres) is :
 (1) 72 (2) 54
 (3) 50 (4) 45
89. The speed of a boat in still water is 15 kmph and the rate of current is 3 kmph. The distance travelled downstream (in km.) in 12 minutes is :
 (1) 3.6 (2) 2.4
 (3) 1.2 (4) 1.8
90. A sum of Rs. 36.90 is made of 180 coins which are either 10 paise coins or 25 paise coins. The number of 10 paise coins is :
 (1) 54 (2) 60
 (3) 80 (4) 120

General Awareness

91. Who is the author of the book 'Speaking for Myself'?
 (1) Cherie Blair
 (2) Salman Rushdie
 (3) Mohammad Hanif
 (4) Hillary Clinton
92. Who among the following won the "India Open Grand Prix Badminton Championship" held in April 2008?
 (1) Thailand (2) India
 (3) England (4) China
93. Silvio Berlusconi, whose name was in news recently, is the

- (1) President of Italy
 (2) President of Germany
 (3) Prime Minister of Italy
 (4) Prime Minister of France
94. When is International Women's Day, the United Nations Day for Women's Right and International Peace celebrated?
 (1) March 4 (2) March 8
 (3) March 12 (4) March 15
95. Into how many parts is the Indian constitution divided?
 (1) 18 (2) 21
 (3) 22 (4) 24
96. BMD which recently came into news stands for
 (1) Business Management Development
 (2) Ballistic Missile Development
 (3) Ballistic Management Defence
 (4) Ballistic Missile Defence
97. The rate at which banks lend to RBI is known as
 (1) Repo rate
 (2) Reverse repo rate
 (3) Interest rate
 (4) Bank rate
98. 'Vijay Hazare Trophy' is associated with the game of
 (1) Badminton (2) Football
 (3) Hockey (4) Cricket
99. Pen name 'Beerbal' belongs to
 (1) Pramatha Chaudhary
 (2) Ashpurva Dev
 (3) Samaresh Majumdar
 (4) Samaresh Basu
100. 'Talchar' is famous for thermal power plant. It is located in which of the following states?
 (1) Assam
 (2) Bihar
 (3) Orissa
 (4) West Bengal
101. Which states of India have derived maximum benefits from green revolution?
 (1) Punjab, Haryana and U.P.
 (2) Bihar, West Bengal and Assam
 (3) Rajasthan, Gujarat and Maharashtra
 (4) Tamil Nadu, Andhra Pradesh and Kerala
102. Which one of the following is not correctly matched?
 (1) Warsaw - Poland
 (2) Rotterdam - Australia
 (3) Khartoum - Sudan
 (4) Dublin - Ireland
103. The term "Green Revolution" was given by
 (1) Dr. Norman Borlaug
 (2) Dr. M.S. Swaminathan
 (3) Dr. William Gande
 (4) Sada Shiv Rao
104. After independence, recognizing the importance of estimate of National Income and its various components, the Government of India appointed the National Income committee in 1949. Who was the chairman of this committee?
 (1) Dadabhai Naroji
 (2) Prof. V.K.R.V. Rao
 (3) P.C. Mahalanobis
 (4) C.D. Deshmukh
105. Who invented 'computer laptop'?
 (1) Alain Kay
 (2) Charles Babbage
 (3) G. Daimler
 (4) Lacques Nicolas Conte
106. The system of judicial review originated in
 (1) India (2) Germany
 (3) Russia (4) U.S.A.
107. Le Corbusier, the architect of Chandigarh was a national of
 (1) France
 (2) Switzerland
 (3) Portugal
 (4) Netherlands
108. The West to East extension of the Himalayas is from
 (1) Nanga Parbat to Namcha Barwa
 (2) Rokaposhi to Lohit river
 (3) K₂ to Chomoithari
 (4) Indus gorge to Dihang gorge
109. The philosophy of Laissez faire is identified with
 (1) Welfare state
 (2) Socialist state
 (3) Gandhian state
 (4) Industrial state
110. Who among the following non-members can take part in the proceedings of the Indian Parliament without the right to vote?
 (1) Comptroller and Auditor General of India
 (2) The Chief Justice of India
 (3) Attorney General of India
 (4) Ex-Speaker of Lok Sabha

English Language

Directions (111- 115) : Each sentence has one or two blanks. Choose the word or set of words that best completes the sentence meaningfully.

111. He went to the library to find that it was closed.
 (1) seldom (2) never
 (3) only (4) solely
112. The ties that bind us together in common activity are so that they can disappear at any moment.
 (1) tentative (2) tenuous
 (3) consistent (4) restrictive
113. Her reaction to his proposal was She rejected it
 (1) inevitable - vehemently
 (2) subtle - violently
 (3) clever - abruptly
 (4) sympathetic - angrily
114. His directions misled us we did not know which of the two roads to take.
 (1) complicated (2) ambiguous
 (3) narrow (4) fantastic
115. It would be difficult for one so to believe that all men are equal irrespective of caste, race and religion.
 (1) emotional (2) democratic
 (3) intolerant (4) liberal

Directions (116- 120) : In each of the following sentences four words or phrases have been **bold**. Only one **bold** part in each sentence is not accepted in standard English. Identify that part and mark its number 1, 2, 3 or 4 as your answer.

116. Gaze for a thing / (1) that are not / (2) available **easily** / (3) in the county is a **universal phenomenon** / (4).
117. It is foolish **to be expecting** / (1) one person **to be like another** / (2) person, **for** / (3) each individual **is born** / (4) with his characteristics traits.
118. The tendency **to believe** / (1) **that** / (2) man is inherently dishonest is **something that** / (3) **will decried** / (4).
119. I have not come across / (1) **very few people** / (2) **who** / (3) think of thing **beyond** / (4) their daily work.
120. He managed **to board** / (1) the **running train** / (2) but all his **luggages** / (3) **was** / (4) left on the station.

Directions (121- 125) : Select the pair of words which are related in the same way as the capitalised words are related to each other.

121. SCALES : JUSTICE : :
 (1) weights : measures
 (2) laws : courts
 (3) torch : liberty
 (4) launch : peace
122. HOBBLE : WALK : :
 (1) gallop : run
 (2) stammer : speak
 (3) stumble : fall (4) sniff : smell
123. FRAYED : FABRIC : :
 (1) watered : lawn
 (2) renovated : building
 (3) thawed : ice
 (4) worn : nerves
124. YOLK : EGG : :
 (1) rind : melon (2) nucleus : cell
 (3) stalk : corn (4) web : spider
125. BAMBOO : SHOOT : :
 (1) bean : sprout
 (2) pepper : corn
 (3) oak : tree
 (4) holly : sprig

Directions (126- 130) : For each of the following capitalized words, four words or phrases are given of which only one is synonymous with the given word. Select the synonym.

126. DEFER
 (1) respect (2) dislike
 (3) postpone (4) disrespect
127. DUBIOUS
 (1) clear (2) undoubtedly
 (3) hesitant (4) doubtful
128. COARSE
 (1) impolite (2) rough
 (3) polished (4) improper
129. PROXIMITY
 (1) nearness (2) aloofness
 (3) completely (4) nearly
130. ABSTAIN
 (1) stay (2) tempt
 (3) refrain (4) pardon

Directions (131- 135) : Fill in the blanks by selecting appropriate alternative.

131. I met him only a week
 (1) back (2) past
 (3) ago (5) previous
132. Lovely asked me
 (1) why are you angry?
 (2) why I am angry?
 (3) why I was angry.
 (4) why was I angry?
133. Even after repeated warnings, he to office on time.

- (1) never come
 (2) never comes
 (3) is never coming
 (4) have never come

134. He told his wife that from Germany.
 (1) he will like to visit France
 (2) he was liking to visit France
 (3) he would like to visit France
 (4) he is liking to visit France

135. Some people can even with murder.
 (1) get on (2) get out
 (3) get off (4) get away

Directions (136- 140) : Choose the correct antonym from the choices for each of the following capitalised words :

136. INDIFFERENT
 (1) curious (2) varied
 (3) alike (4) uniform
137. DISCREET
 (1) wise (2) diplomatic
 (3) prudent (4) careless
138. OBSOLETE
 (1) free (2) ancient
 (3) current (4) cultured
139. RATIONAL
 (1) sound (2) insane
 (3) judicious (4) sensible
140. SCEPTICAL
 (1) doubtful (2) convinced
 (3) questioning (4) cinic

Answers

1. (2)	2. (4)	3. (1)	4. (3)
5. (2)	6. (4)	7. (2)	8. (4)
9. (3)	10. (1)	11. (2)	12. (4)
13. (1)	14. (2)	15. (4)	16. (3)
17. (2)	18. (1)	19. (4)	20. (4)
21. (2)	22. (4)	23. (1)	24. (3)
25. (2)	26. (2)	27. (4)	28. (3)
29. (4)	30. (2)	31. (3)	32. (3)
33. (1)	34. (1)	35. (3)	36. (4)
37. (1)	38. (3)	39. (2)	40. (2)
41. (3)	42. (1)	43. (2)	44. (2)
45. (4)	46. (1)	47. (4)	48. (3)
49. (1)	50. (3)	51. (2)	52. (3)
53. (1)	54. (3)	55. (2)	56. (4)
57. (1)	58. (1)	59. (4)	60. (2)
61. (2)	62. (3)	63. (2)	64. (1)
65. (4)	66. (1)	67. (4)	68. (3)
69. (3)	70. (3)	71. (3)	72. (2)

73. (4)	74. (4)	75. (3)	76. (2)
77. (4)	78. (2)	79. (4)	80. (1)
81. (3)	82. (4)	83. (2)	84. (3)
85. (1)	86. (4)	87. (2)	88. (3)
89. (1)	90. (1)	91. (1)	92. (1)
93. (3)	94. (2)	95. (3)	96. (4)
97. (1)	98. (4)	99. (3)	100. (3)
101. (1)	102. (2)	103. (3)	104. (3)
105. (1)	106. (4)	107. (1)	108. (1)
109. (4)	110. (3)	111. (3)	112. (2)
113. (3)	114. (2)	115. (3)	116. (2)
117. (1)	118. (4)	119. (2)	120. (3)
121. (1)	122. (2)	123. (3)	124. (2)
125. (4)	126. (3)	127. (4)	128. (2)
129. (1)	130. (3)	131. (3)	132. (3)
133. (2)	134. (3)	135. (4)	136. (1)
137. (4)	138. (3)	139. (2)	140. (2)

Explanations

1. (2) Games Committee

⇒ B, G, F/I

Food Service Committee

⇒ C, D, E/I

Entertainment Committee

⇒ H, F/I, A

Therefore, D must serve on the Food Service Committee.

2. (4) A and B cannot serve on the same Committee. Therefore option (1) is invalid.

D must serve with C on the same Committee. Therefore, options (2) and (3) are invalid.

3. (1) Games Committee

⇒ B, F, E/I

Food Service Committee

⇒ A, G, E/I

Entertainment Committee

⇒ C, D, H

4. (3) Games Committee

⇒ A, G, E/I

Food Service Committee

⇒ F, B, E/I

Entertainment Committee

⇒ C, D, H

5. (2) Games Committee

⇒ C, D, A/E/G

Food Service Committee

⇒ B, G, F/E

Entertainment Committee

⇒ I, H, F/A

6. (4) T O D A **Y**

7. (2) P O L I C **E**

8. (4) A C C E P **T**

9. (3) S I L V E **R**

10. (1) S E R V I C **E**

11. (2) Ice implies Coolness. Similarly, Earth implies Weight.

12. (4) Coconut remains inside the Shell. Similarly, letter is kept in envelope.

13. (1) Income is considered Profit. Similarly, Expenditure is considered Loss.

14. (2) Much is used for quantity and many is used for number. Similarly, measure is used for quantity and count is used for number.

15. (4) Mystery is solved with the help of a Clue. Similarly, Warning is issued in case of a Danger.

16. (3) The letters at odd places are written in Capital Letters and the letters at even places are written in small letters. Discard last three letters in each word, i.e., dAy.

M O n

↓ ↓ ↓

13 15 14

t U E S

↓ ↓ ↓ ↓

20 21 5 19

W E d **N** E S

↓ ↓ ↓ ↓ ↓ ↓

23 5 4 **14** 5 19

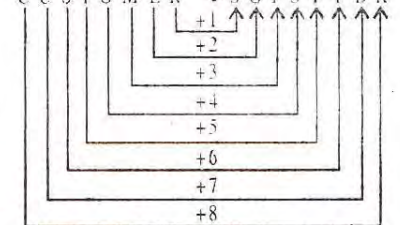
t h U r S

↓ ↓ ↓ ↓ ↓

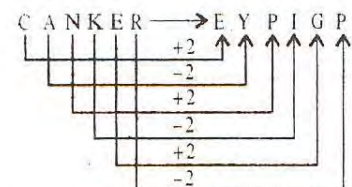
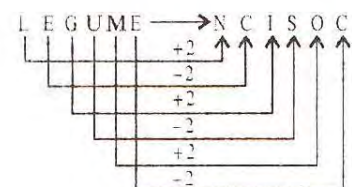
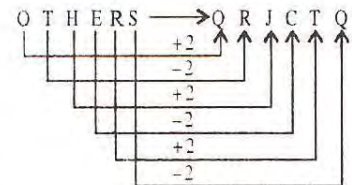
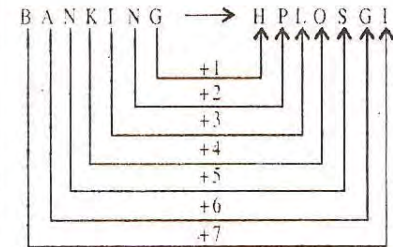
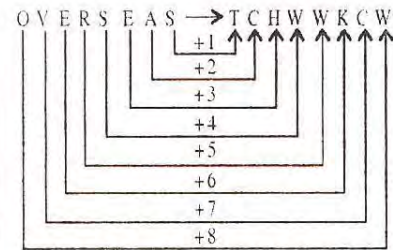
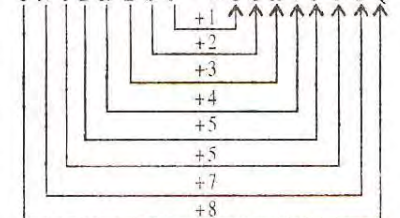
20 8 21 18 19

17. (2)

C U S T O M E R → S G P S Y Y B K



I N T E R E S T → U U H V J Y U O

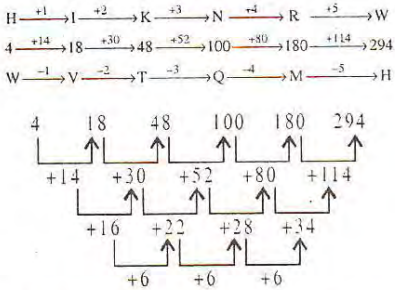


19. (4) Except in letter group SFXP-MG, in all others there is/are one or two Vowels.

20. (4) I $\xrightarrow{+14}$ W M $\xrightarrow{+6}$ S

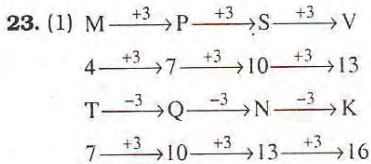
F $\xrightarrow{+14}$ T J $\xrightarrow{+11}$ U

21. (2)

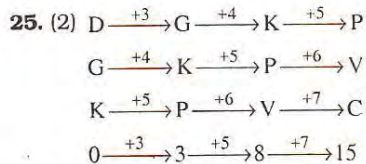
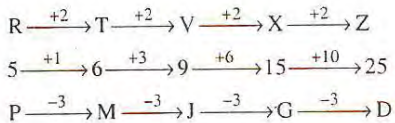


22. (4) There are two alternating series.

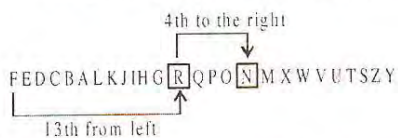
$1 \times 3 = 3$ and $3 \times 5 = 15$
 $E - D = 1$; $K - H = 3$, $K - G = 4$
 $2 \times 4 = 8$ and $8 \times 6 = 48$
 $F - D = 2$, $T - Q = 3$, $K - F = 5$



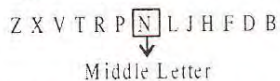
24. (3)



26. (2) According to question, the new English Alphabet series would be :

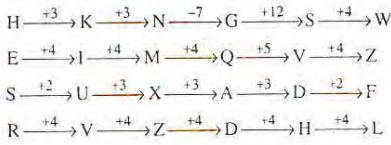


27. (4) According to question, the new English Alphabet series would be :

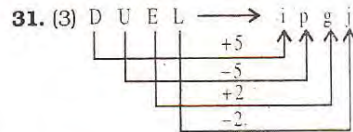
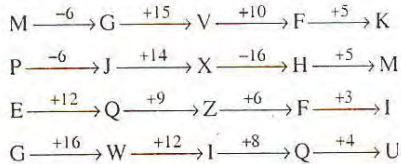


28. (3) MEET \Rightarrow EEMT
 DEAF \Rightarrow ADEF
 ROAD \Rightarrow ADOR
 CODE \Rightarrow CDEO
 LACK \Rightarrow ACKL
 ACKL \rightarrow ADEF \rightarrow ADOR

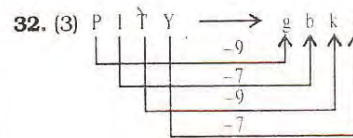
29. (4)



30. (2)

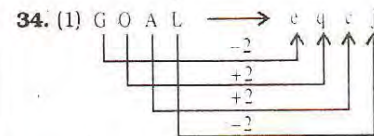
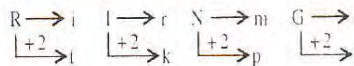


U \Rightarrow p

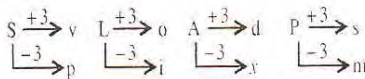


Y \Rightarrow r

33. (1) The code consists of opposite letter and two letters ahead.



35. (3)



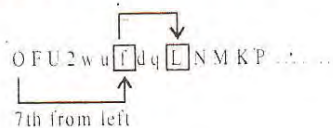
36. (4) This question is based on the pairs of opposite Letters.

Series I : MN, UF, KP, RI, SH
 = 10 letters

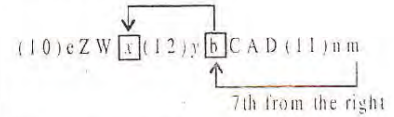
Series II : There is no such capital letter

37. (1) According to question,

Series I :



Series II :



38. (3) Series I :

u w 2 U F O K P 6 h s (14) S H V 7 g e 8 R I

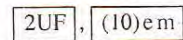
Series II :

J B o p i r 5 v 9 T Q Y (10) e m n (11) D A C b

39. (2) Except emb, all other groups contain consecutive letters.

40. (2) Digit Vowel Consonant

Such combinations are :



(41-44) :

$(A+B+C)$'s 1 day's work = $\frac{1}{20}$... (i)

Let $(B+C)$ complete the work in x days

$\therefore (B+C)$'s 1 day's work = $\frac{1}{x}$... (ii)

and $(A+B)$ will complete the work in $\frac{4x}{3}$ day

$\therefore (A+B)$'s 1 day's work = $\frac{3}{4x}$... (iii)

Let $(A+C)$ complete the work in y days.

$\therefore (A+C)$'s 1 day's work = $\frac{1}{y}$... (iv)

$(B+C)$ will complete the work in $\frac{5y}{4}$ days

$\therefore (B+C)$'s 1 day's work = $\frac{4}{5y}$... (v)

From equations (ii) and (v)

$\frac{1}{x} = \frac{4}{5y} \Rightarrow 4x = 5y$... (vi)

Adding (ii), (iii) and (iv)

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

= $\frac{1}{x} + \frac{3}{4x} + \frac{5}{4x}$

= $\frac{4+3+5}{4x} = \frac{3}{x}$

$\therefore (A+B+C)$'s 1 day's work = $\frac{3}{2x}$

... (vii)

$$\therefore \frac{3}{2x} = \frac{1}{20} \quad [\text{From equation (i)}]$$

$$\Rightarrow x = 30 \text{ and } y = 24$$

$$\therefore (\text{B} + \text{C})\text{'s 1 day's work} = \frac{1}{30}$$

$$(\text{A} + \text{B})\text{'s 1 day's work} = \frac{1}{40}$$

$$(\text{A} + \text{C})\text{'s 1 day's work} = \frac{1}{24}$$

$$\therefore \text{A's 1 day's work} = \frac{1}{20} - \frac{1}{30}$$

$$= \frac{3-2}{60} = \frac{1}{60}$$

A will complete the work in 60 days

$$\therefore \text{B's 1 day's work} = \frac{1}{20} - \frac{1}{24}$$

$$= \frac{6-5}{120} = \frac{1}{120}$$

\(\therefore\) B will complete the work in 120 days

$$\therefore \text{C's 1 day's work} = \frac{1}{20} - \frac{1}{40}$$

$$= \frac{2-1}{40} = \frac{1}{40}$$

C will complete the work in 40 days

41. (3) A alone can finish the work in 60 days.

$$24 \circlearrowleft 20 \triangleleft (24 \square 20)$$

$$\Rightarrow 24 \times 20 \div (24 - 20)$$

$$\Rightarrow 24 \times 20 \div 4$$

$$\Rightarrow 24 \times 5 = 120$$

$$30 \circlearrowleft 20 (30 \triangleleft 20)$$

$$\Rightarrow 30 \times 20 (30 + 20)$$

$$\Rightarrow 30 \times 20 \times 50 = 30,000$$

$$30 \circlearrowleft 20 \triangleleft (30 \square 20)$$

$$\Rightarrow 30 \times 20 \div (30 - 20)$$

$$\Rightarrow 30 \times 20 \div 10 = 60$$

42. (1) B and C together can complete the work in 30 days.

$$20 \circlearrowleft (3 \triangleleft 3) \triangleleft 4$$

$$\Rightarrow 20 \times (3 + 3) \div 4$$

$$\Rightarrow 20 \times 6 \div 4 = 30$$

$$20 \circlearrowleft (12 \square 6) \triangleleft 3$$

$$\Rightarrow 20 \times (12 - 6) \div 3$$

$$\Rightarrow 20 \times 6 \div 3 = 40$$

$$20 \circlearrowleft (12 \square 6) \triangleleft 5$$

$$\Rightarrow 20 \times (12 - 6) \div 5$$

$$\Rightarrow 20 \times 6 \div 5 = 24$$

$$40 \circlearrowleft 20 \triangleleft (40 \square 20)$$

$$\Rightarrow 40 \times 20 \div (40 - 20)$$

$$\Rightarrow 40 \times 20 \div 20 = 40$$

43. (2) A and B together can complete the work in 40 days.

$$20 \circlearrowleft (3 \triangleleft 3) \triangleleft 4$$

$$\Rightarrow 20 \times (3 + 3) \div 4$$

$$\Rightarrow 20 \times 6 \div 4 = 30$$

$$40 \circlearrowleft 20 \triangleleft (40 \square 20) = 40$$

$$20 \circlearrowleft (12 \square 6) \triangleleft 5 = 24$$

$$24 \circlearrowleft (12 \square 6) \triangleleft 3$$

$$\Rightarrow 24 \times (12 - 6) \div 3$$

$$\Rightarrow 24 \times 6 \div 3 = 48$$

44. (2) A and C together can complete the work in 24 days.

$$40 \circlearrowleft 20 \triangleleft (40 \square 20) = 40$$

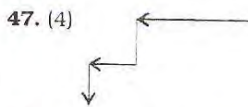
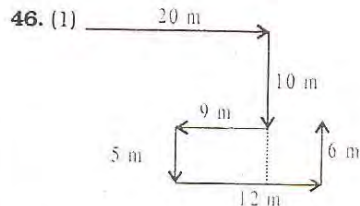
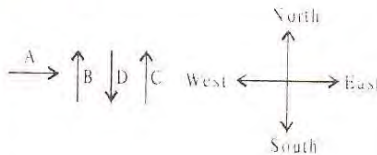
$$20 \circlearrowleft (12 \square 6) \triangleleft 5 = 24$$

$$20 \circlearrowleft (3 \triangleleft 3) \triangleleft 4 = 30$$

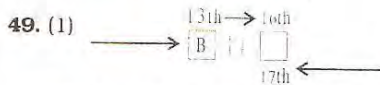
$$20 \circlearrowleft (12 \square 6) \triangleleft 3$$

$$\Rightarrow 20 \times 6 \div 3 = 40$$

45. (4)



46. (1) Thursday + 7 \Rightarrow Thursday
Today is Thursday
Day after tomorrow \Rightarrow Saturday
Saturday - 3 \Rightarrow Wednesday
Wednesday - 3 \Rightarrow Sunday



Total number of boys in the row
= 16 + 17 - 1 = 32

50. (3) Second half means 68 vehicles.

Arrangement of cars and scooters

$$2 + 3 + 4 + 5 \dots \dots \dots + 16 + 1 = 136$$

$$2 + 3 + 4 + 5 \dots \dots + 11 + 3 = 68$$

$$9 + 13 + 14 + 15 + 16 + 1 = 68$$

The number of scooters in the second half of the row.

$$= 9 + 12 + 13 + 14 + 15 = 63$$

51. (2) The number nine is a perfect square.

$$52. (3) 4 \times 5 \times 7 = 140$$

$$3 \times 5 \times 8 = 120$$

$$2 \times 5 \times 8 = 80$$

$$\frac{110}{15} = 7.33$$

$$53. (1) 2 + 4 = 6 (246)$$

$$2 + 5 = 7 (257)$$

$$3 + 5 = 8 (358)$$

Similarly,

$$1 + 4 = 5 (145)$$

$$2 + 3 = 5 (235)$$

$$3 + 2 = 5 (325)$$

$$54. (3) 248 \Rightarrow 2 \times 4 = 8$$

$$326 \Rightarrow 3 \times 2 = 6$$

$$392 \Rightarrow 3 \times 9 = 27$$

$$414 \Rightarrow 4 \times 1 = 4$$

55. (2) Except 152, all others are multiples of 6.

$$156 = 26 \times 6$$

$$72 = 12 \times 6$$

$$42 = 7 \times 6$$

56. (4) Both the assumptions are implicit in the statement. If achieving economic development is not desirable, the statement is meaningless. Again, it is said that people should work hard. It implies that working hard is possible.

57. (1) Only assumption I is implicit in the statement. The statement clearly shows that the man is poor as he is too industrious.

58. (1) Any warning is issued in case of a danger. Therefore, it can be assumed that using lift is not always safe.

Assumption II is not implicit in the statement. If visitors do not want to use the lift, the warning is meaningless.

59. (4) Both the assumptions are implicit in the statement.

60. (2) Only assumption II is implicit in the statement. If rates are independent of amenities provided, then statement becomes meaningless.

61. (2) Let the capital be Rs. = x.

According to the question,

$$\frac{x \times 8 \times 1}{100} - x \times \frac{31}{4} \times \frac{1}{100} = 61.50$$

$$\Rightarrow \frac{8x}{100} - \frac{31x}{400} = 61.50$$

$$\Rightarrow 8x - \frac{31x}{4} = 61.50 \times 100$$

$$\Rightarrow \frac{32x - 31x}{4} = 6150$$

$$\Rightarrow \frac{x}{4} = 6150$$

$$\Rightarrow x = 4 \times 6150 = \text{Rs. } 24600$$

62. (3) Amount

$$= \text{Principal} \left(1 + \frac{\text{Rate}}{100} \right)^{\text{Time}}$$

$$= \text{Rs.} \left[5600 \left(1 + \frac{10}{100} \right)^{\frac{1}{2}} \right]$$

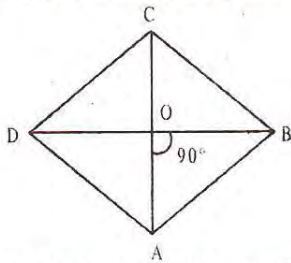
$$= \text{Rs.} \left[5600 \left(1 + \frac{10}{100} \right) \times \left(1 + \frac{\frac{1}{2} \times 10}{100} \right) \right]$$

$$= \text{Rs.} \left(5600 \times \frac{11}{10} \times \frac{21}{20} \right) = \text{Rs. } 6468$$

\(\therefore\) Compound interest

$$= \text{Rs. } (6468 - 5600) = \text{Rs. } 868$$

63. (2)



Halves of diagonals and side of a rhombus form a right angled triangle with side AB as hypotenuse. Let another diagonal = $2x$ cm.

$$\therefore x^2 + \left(\frac{8}{2} \right)^2 = 5^2$$

$$\Rightarrow x^2 = 5^2 - 4^2 = 25 - 16 = 9$$

$$\therefore x = \sqrt{9} = 3$$

$$\therefore \text{Other diagonal} = 2 \times 3 = 6 \text{ cm.}$$

\(\therefore\) Area of the rhombus

$$= \frac{1}{2} \times d_1 \times d_2$$

$$= \frac{1}{2} \times 8 \times 6$$

$$= 24 \text{ sq.cm.}$$

64. (1) Volume of the gold

$$= \left(\frac{1}{2} \times 100 \times 100 \times 100 \right) \text{ cubic cm.}$$

Area of the gold sheet

= 1 hectare

= 10000 sq. metre

= $(10000 \times 100 \times 100)$ sq. cm.

\(\therefore\) Thickness of the sheet

$$= \frac{1 \times 100 \times 100 \times 100}{2 \times 10000 \times 100 \times 100}$$

$$= 0.005 \text{ cm}$$

65. (4) Volume of the hemispherical

$$\text{bowl} = \frac{2}{3} \pi r^3$$

$$= \left(\frac{2}{3} \pi \times 9 \times 9 \times 9 \right) \text{ cubic cm.}$$

$$= 486\pi \text{ cubic cm.}$$

Volume of a bottle = $\pi r_1^2 h$

$$= \left(\pi \times \frac{3}{2} \times \frac{3}{2} \times 4 \right) \text{ cubic cm.}$$

$$= 9\pi \text{ cubic cm.}$$

\(\therefore\) Number of bottles

$$= \frac{486\pi}{9\pi} = 54$$

66. (1) A number divisible by 99 must be divisible by 9 as well as 11. Clearly, 114345 is divisible by both 9 and 11 i.e. 99.

67. (4) Let quotient = Q and remainder = R

$$\therefore \text{Divisor} = 10Q = 5R$$

$$\text{Now, } R = 46 \Rightarrow 10Q = 5 \times 46$$

$$\Rightarrow Q = \frac{5 \times 46}{10} = 23$$

$$\text{Now, } Q = 23, R = 46$$

$$\text{and divisor} = 5 \times 46 = 230$$

\(\therefore\) Dividend = Divisor \(\times\) quotient + Remainder

$$= 230 \times 23 + 46$$

$$= 5290 + 46 = 5336$$

68. (3) Let the value of NSC bought in the first year be Rs. a .

According to the question,

We get an Arithmetic Series whose first term = a ,

common difference (d) = 100,

number of terms = $n = 10$

and sum = Rs. 54,500

$$\therefore S = \frac{n}{2} [2a + (n-1)d]$$

$$\Rightarrow 54500 = \frac{10}{2} [2a + (10-1) \times 100]$$

$$\Rightarrow 2a + 900 = \frac{54500}{5} = 10900$$

$$\Rightarrow 2a = 10900 - 900 = 10000$$

$$\Rightarrow a = \frac{10000}{2} = \text{Rs. } 5000$$

69. (3) Total distance covered

$$= 8 + 2 \times 4 + 2 \times 2 + 2 \times 1 + 2 \times$$

$$\frac{1}{2} + \dots \text{ to 10 terms}$$

$$= 8 + (8 + 4 + 2 + 1 + \frac{1}{2} + \dots \text{ to 9 terms})$$

It is a G.P. except the first term. Its first term (a) = 8 and common

$$\text{ratio } (r) = \frac{1}{2}.$$

$$\therefore S = 8 + \frac{a(1-r^n)}{1-r}$$

$$= 8 + \frac{8 \left(1 - \frac{1}{2^9} \right)}{1 - \frac{1}{2}}$$

$$= 8 + 16 \times \left(1 - \frac{1}{512} \right)$$

$$= 8 + 16 \times \frac{511}{512} = 8 + 15.969$$

$$= 23.969 \text{ metre}$$

70. (3) LCM

$$= \frac{\text{LCM of } 1, 5, 2, 4}{\text{HCF of } 3, 6, 9, 27} = \frac{20}{3}$$

$$71. (3) \frac{4.8438}{0.069} = 70.2$$

$$72. (2) 0.34\overline{67} + 0.13\overline{33}$$

$$= \frac{3467 - 34}{9900} + \frac{1333 - 13}{9900}$$

$$= \frac{3433 + 1320}{9900} = \frac{4753}{9900}$$

$$= \frac{4801 - 48}{9900} = 0.48\overline{01}$$

73. (4) Total monthly salary bill

$$= \text{Rs. } [5(5 \times 1100 + 3 \times 1700 + 3000 + 2500) + 20(3 \times 1100 + 1700 + 3000)]$$

$$\begin{aligned}
 &= \text{Rs. } [5(5500 + 5100 + 3000 + 2500) + 20(3300 \times 1700 + 3000)] \\
 &= \text{Rs. } (80500 + 160000) \\
 &= \text{Rs. } 240500
 \end{aligned}$$

74. (4) Required fraction

$$\begin{aligned}
 &= \frac{1}{4} + \frac{1}{6} - 3 \times \frac{1}{12} \\
 &= \frac{1}{4} + \frac{1}{6} - \frac{1}{4} = \frac{1}{6}
 \end{aligned}$$

75. (3)	6	0.4000	0.63
	6	36	
	123	400	
	3	369	
	126	3100	

$$\therefore \sqrt{0.4} = 0.63$$

76. (2) The numbers of points term scored = $8 \times 84 - 92 + 85$
 $= 672 - 92 + 85 = 665$

77. (4) Let the three numbers be a , b and c respectively.

Now,

$$a : b = 2 : 3$$

$$b : c = 5 : 3$$

$$\therefore a : b : c = 2 \times 5 : 3 \times 5 : 3 \times 3 = 10 : 15 : 9$$

According to the question,

$$a + b + c = 136$$

$$\Rightarrow 10x + 15x + 9x = 136$$

$$\Rightarrow 34x = 136$$

$$\Rightarrow x = \frac{136}{34} = 4$$

$$\therefore b = 15x = 15 \times 4 = 60$$

78. (2) According to the question,

$$B - A = A - C$$

$$\Rightarrow 2A = B + C = 48$$

$$\Rightarrow A = \frac{48}{2} = 24 \text{ years}$$

$$79. (4) \left[3^{m^2} + (3^m)^2 \right]^{\frac{1}{m}} = 81$$

$$\Rightarrow \left(3^{m^2} + 3^{2m} \right)^{\frac{1}{m}} = 81$$

$$\Rightarrow \left(\frac{3^{m^2}}{3^{2m}} \right)^{\frac{1}{m}} = 81$$

$$\Rightarrow \left(3^{m^2-2m} \right)^{\frac{1}{m}} = 81$$

$$\Rightarrow 3^{m-2} = 81 = 3^4$$

$$\Rightarrow m - 2 = 4$$

$$\Rightarrow m = 6$$

80. (1) $p = 6q$

\therefore So, q is less than p by $5q$.

Note that q has been compared with p .

\therefore Required percentage

$$= \left(\frac{5q}{p} \times 100 \right) \%$$

$$= \left(\frac{5q}{6q} \times 100 \right) \% = 83\frac{1}{3} \%$$

81. (3) Let the business value changes from Rs. x to Rs. y .

\therefore 4% of $x = 5\%$ of y

$$\Rightarrow \frac{4x}{100} = \frac{5y}{100}$$

$$\Rightarrow y = \frac{4}{5}x$$

Change in business

$$= \left(x - \frac{4}{5}x \right) = \frac{x}{5}$$

\therefore Percentage slump in business

$$= \frac{x}{5} \times \frac{1}{x} \times 100 = 20\%$$

82. (4) CP of 65 kg of the mixture

$$= \text{Rs. } (35 \times 9.50 + 30 \times 10.50)$$

$$= \text{Rs. } (332.5 + 315)$$

$$= \text{Rs. } 647.5$$

\therefore Rate per kg of the mixture

$$= \text{Rs. } \left(\frac{647.5}{65} \right)$$

\therefore Required rate

$$= \frac{647.5}{65} \times \frac{135}{100} \approx \text{Rs. } 13.50/\text{kg}$$

83. (2) After a discount of 20%

cost of the book = 80% of Rs. 150

$$= \frac{150 \times 80}{100} = \text{Rs. } 120$$

Let the additional discount be $x\%$
 Second discount

$$= 120 - 108 = \text{Rs. } 12$$

\therefore $x\%$ of Rs. 120 = 12

$$\Rightarrow \frac{120 \times x}{100} = 12$$

$$\Rightarrow x = \frac{12 \times 100}{120} = 10\%$$

$$84. (3) a : b : c = \frac{1}{2} : \frac{1}{3} : \frac{1}{4} = 6 : 4 : 3$$

$$\therefore \text{The longest side} = \frac{6}{13} \times 104 = 48 \text{ cm.}$$

85. (1) Gaining ratio

$$= \left(\frac{3}{5} - \frac{4}{9} \right) : \left(\frac{2}{5} - \frac{2}{9} \right)$$

$$= \frac{27-20}{45} : \frac{18-10}{45} = 7 : 8$$

86. (4) 3 women \equiv 2 men

$$\Rightarrow 21 \text{ women} \equiv 14 \text{ men}$$

men	working hours/day	days
15 \uparrow	8 \uparrow	21 \downarrow
14 \uparrow	6 \uparrow	x \downarrow

$$\therefore \left. \begin{array}{l} 14 : 15 \\ 6 : 8 \end{array} \right\} :: 21 : x$$

$$\therefore 14 \times 6 \times x = 15 \times 8 \times 21$$

$$\Rightarrow x = \frac{15 \times 8 \times 21}{14 \times 6} = 30 \text{ days}$$

87. (2) Average speed = $\frac{2xy}{x+y}$

(when the same distances are covered)

$$= \left(\frac{2 \times 24 \times 36}{24 + 36} \right) \text{ kmph}$$

$$= \frac{2 \times 24 \times 36}{60} = 28.8 \text{ kmph}$$

88. (3) 2 kmph = $\left(\frac{2 \times 5}{18} \right)$ metre/sec.

$$= \frac{5}{9} \text{ metre/sec.}$$

$$\text{and } 4 \text{ kmph} = \frac{4 \times 5}{18} \text{ metre/sec.}$$

$$= \frac{10}{9} \text{ metre/sec.}$$

Let the length of the train be x metre and its speed be y metre/sec.

Then,

$$\frac{x}{y - \frac{5}{9}} = 9$$

$$\Rightarrow 9y - 5 = x$$

$$\therefore 9y - x = 5 \dots\dots\dots (i)$$

and $\frac{x}{y - \frac{10}{9}} = 10$

$$\Rightarrow 10(9y - 10) = 9x$$

$$\Rightarrow 90y - 9x = 100 \dots\dots\dots (ii)$$

By equation (i) $\times 10$ - equation (ii), we have

$$\begin{array}{r} 90y - 10x = 50 \\ 90y - 9x = 100 \\ \hline -x = -50 \end{array}$$

\therefore Length of the train = 50 metre

89. (1) Rate downstream = $(15 + 3)$ kmph = 18 kmph

$$\therefore \text{Distance covered} = \left(18 \times \frac{12}{60}\right) \text{ km}$$

$$= 3.6 \text{ km.}$$

90. (1) Let the number of 10 paise coins be x .

$$\therefore \text{Number of 25 paise coins} = 180 - x$$

According to the question,

$$x \times 10 + 25(180 - x) = 36.90 \times 100$$

$$\Rightarrow 10x + 4500 - 25x = 3690$$

$$\Rightarrow 15x = 4500 - 3690 = 810$$

$$\Rightarrow x = \frac{810}{15} = 54$$

\therefore Number of 10 paise coins = 54

116. (2) Here 'thing' is Singular. Hence, 'that is not' should be used.

117. (1) The form of infinitive is : To + Verb (Plural). Hence, replace 'to be expecting' by 'to expect'.

118. (4) The passive form of Future Indefinite is : Subject + shall be/ will be + V_3
Hence, replace 'something that will be decried' by 'something that will be decried /something that should be decried'.

119. (2) Replace group of words 'very few people' by a few /many people'.

120. (3) Replace the word 'luggages' by 'luggage'.

122. (2) **Hobble** means : to walk with difficulty.

Stammer means : to speak with difficulty.

124. (2) **Yolk** means : the round yellow part in the middle of an egg.

Nucleus means : the central part of some cells.

125. (4) **Sprig** means : a small stem with leaves on it from a plant or bush e.g. sprig of holly.

126. (3) The word **Defer (Verb)** means : to delay something until a later time; put off.

Look at the sentence :

The department deferred the decision for eight months.

Hence, the words **Defer** and **Postpone** are synonymous.

127. (4) The word **Dubious (Adjective)** means : doubtful; not certain and slightly suspicious about something.

Look at the sentence :

He was rather dubious about the whole idea.

Hence, the words **Dubious** and **Doubtful** are synonymous.

128. (2) The word **Coarse (Adjective)** means : rough; rude and offensive; vulgar.

129. (1) The word **Proximity (Noun)** means : the state of being near somebody/something.

Look at the sentence :

The area has a number of schools in close proximity to each other. Hence, the words **Proximity** and **Nearness** are synonymous.

130. (3) The word **Abstain (Verb)** means : to stay away from something.

Look at the sentence :

The workers who abstained from work yesterday have been suspended.

The word **Refrain (Verb)** means desist from; to stop yourself from doing something.

Look at the sentence :

They have refrained from criticizing the government in public. Hence, the words **Abstain** and **Refrain** are synonymous.

136. (1) The word **Indifferent (Adjective)** means : having or showing no interest in somebody/something; not very good.

The word **Curious (Adjective)** means : having a strong desire

to know about something; inquisitive.

Hence, the words **Indifferent** and **Curious** are antonymous.

137. (4) The word **Discreet (Adjective)** means : careful in what you say or do; tactful.

Look at the sentence :

He was always very discreet about his love affairs.

Hence, the words **Discreet** and **Careless** are antonymous.

138. (3) The word **Obsolete (Adjective)** means : no longer used because something new has been invented; out of date.

Hence, the words **Obsolete** and **Current** are antonymous.

139. (2) The word **Rational (Adjective)** means : based on reason rather than emotions; reasonable.

Look at the sentence :

There is no rational explanation for his action.

The word **insane (Adjective)** means : seriously mentally ill and unable to live in normal society; very stupid, crazy or dangerous. The words **Rational** and **Insane** are antonymous.

140. (2) The word **Sceptical (Adjective)** means : having doubts that a claim or statement is true or that something will happen.

Look at the sentence :

I am sceptical about his chances of winning.

The word **Convinced (Adjective)** means : completely sure about something.

Look at the sentence :

He is convinced of her innocence. Hence, the words **Sceptical** and **Convinced** are antonymous.