ANALYTICAL & LOGICAL REASONING

36. If 2nd October is Monday, then which day of the week is 2nd November?
   (a) Friday   (b) Tuesday
   (c) Thursday   (d) Wednesday

37. Three thieves M, B and V were caught in a case of robbery. All three of them gave one statement each and it is known that only one of them is telling the truth.
   M : I am innocent
   B : I am innocent
   V : B is involved in the robbery
   Find out who was involved in the robbery.
   (a) M   (b) B
   (c) V   (d) Cannot be determined

38. A clock was set right on Monday at 3:00 AM but it gains 2 minutes per hour. Find the time in the clock when the actual time is 7:30 PM on Tuesday.
   (a) 8 : 48 PM   (b) 8 : 45 PM
   (c) 8 : 51 PM   (d) 9 : 10 PM

39. Find the missing code:
   L1#1O2~2, J2#2Q3~3, _____, F4#4U5~5, D5#5W6~6
   (a) H3#314~4   (b) None of these
   (c) H3#3H4~4   (d) E3#3V4~4

40. A introduces B as "She is the wife of the grandson of father of my father". What is the relationship of B with A?
   (a) Sister-in-law   (b) Daughter
   (c) Sister   (d) Mother

41. Narmada Bachao Andolan : Medha Patkar : : Bhudan Andolan : ?
   (a) Vinoba Bhave   (b) Kailash Satyarthi
   (c) None of these   (d) Jawahar Lal Nehru

42. Find the correct number that will complete the given series:
   14, 26, 36, 44, 50, ____ 56
   (a) 54   (b) None
   (c) 48   (d) 52

43. Statement: Company has made it Compulsory to mark online attendance using facial recognition software - Notice in an office.
   Assumptions:
   1. Notice will be read
   2. Online attendance will benefit the company
   (a) only 1   (b) only 2
   (c) Neither   (d) both

44. Earthquake happened in the ocean. Due to earthquake, Tsunami waves occurred. Due to the Tsunami there were 192 death and losses of 7 million USD of property. Identify the effects
   (a) Death, Tsunami Wave, Property loss
   (b) Damage House, Tsunami Wave, Property loss
   (c) Casualties, Prop Loss, Death
   (d) Tectonic Moment, Death, Earthquake

45. Statements: Some M are L. All H are W. Some W are M
   Conclusions.
   I.   All M are W
   II. Some H are L
   III. Some W are H
   (a) None of the statements
   (b) I & III
   (c) Only III
   (d) Only I

46. Angle between two hands a 5:55 PM is:
   (a) 150°   (b) 152.5°
   (c) 155.5°   (d) 125.5°

47. If 9th December, 2007 is Sunday, then what was 8th July, 2007
   (a) Tuesday   (b) Thursday
   (c) Friday   (d) Saturday

48. A cuckoo at regular time intervals. It takes 10 seconds to strike at 6 o'clock. How many seconds will it take to strike at 10 o'clock?
   (a) 10 seconds
   (b) 15 seconds
   (c) 16.7 seconds
   (d) 16 seconds

DIRECTIONS (Qs. 49-50) : *Study the following information carefully to answer the questions that follow :*

Adhir Mishra has three children : Urmila, Raghu and Sumit. Sumit married Roma, the eldest daughter of Mr. And Mrs. Mohan. The Mohans married their youngest daughter to the eldest son of Mr. and Mrs. Sharma and they had two children Sandeep and Shaifali. The Mohans have two more children, Roshan and Bimla, both elder to Sheila. Sohan and Shivendar are sons of Sumit and Roma. Leela is the daughter of Sandeep.

49. How is Mrs. Mohan related to Sumit ?
   (a) Aunt
   (b) Mother-in-law
   (c) Mother
   (d) Sister-in-law

50. What is the surname of Sohan ?
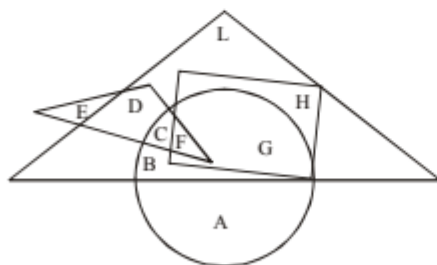   (a) Sharma
   (b) Mohan
   (c) Mishra
   (d) Raghu

51. Raj travelled from a point X straight to Y at a distance of 80 metres. He turned right and walked 50 metres, then again turned right and walked 70 metres. Finally, he turned right and walked 50 metres. How far is he from the starting point
   (a) 10 metres   (b) 20 metres
   (c) 50 metres   (d) 70 metres

DIRECTIONS (Qs. 52-53) : *Read the following information carefully and answer the questions that follow :*

(i) There is a group of five friends.

(ii) Keshav is second in height but younger than Rekha.

(iii) Parul is taller than Megha but younger in age.

(iv) Rekha and Megha are of the same age but Rekha is tallest between them.

(v) Nikku is taller than Parul and elder to Rekha.

52. If they are arranged in descending order of their ages, who will be in the third position?
   (a) Parul
   (b) Keshav
   (c) Nikku
   (d) None of these

53. If they are arranged in ascending order of their height, who will be in the fourth position?
   (a) Nikku
   (b) Parul
   (c) Rekha
   (d) Keshav

54. If it is possible to make a meaningful word with the second, the fifth and the eighth letters of the word 'CARETAKER', which of the following will be the first letter of that word? If no such word can be made, give X as answer. If more than one such word can be made, give M as the answer.
   (a) A
   (b) E
   (c) X
   (d) M

DIRECTIONS (Qs. 55-56) : *In the following figure, the smaller triangle represents teachers; the big triangle represents politicians; circle represents graduates and rectangle represents members of Parliament. Different regions are being represented by letters of English alphabet.*

On the basis of the above diagram, answer the following questions :

55. Which among the following regions represent the graduates or teachers but not politicians?
   (a) B, G   (b) G, H   (c) A, E   (d) E, F

56. Which among the following regions represent the graduate politicians but not the members of Parliament?
   (a) B, C   (b) L, B   (c) D, L   (d) A, H, L

57. If 'All sweet things are fluids' and 'Some fluids are coloured things', then it implies -
   A. Some sweet things are coloured things
   B. Some sweet things are fluids
   C. All fluids are sweet things
   D. Some fluids are sweet things
   Choose the most appropriate answer from the options given below:
   (a) A, B and C only
   (b) A, and C only
   (c) B, C and D only
   (d) A, C and D only

58. There are four Trees - Lemon, Coconut, Mango and Neem each at a different corner of a rectangular plot. A well is located at one corner and a cabin at another corner. Lemon and Coconut trees are on either side of the gate, which is located at the centre of side, opposite to the side, extremes of which the well and cabin are located. The mango tree is not at the corner where the cabin is located.
   Which of the following pairs can be diagonally opposite to each other in the plot ?
   (a) Cabin and Neem tree
   (b) Coconut tree and Lemon tree
   (c) Mango tree and Well
   (d) Neem tree and Lemon tree

59. Find the mission Letter/number
   B2CD, DE3F, ..., H5IJ, J6KL
   (a) D3GH
   (b) G3HI
   (c) FGH4
   (d) FG4H

60. Select the combination of numbers so that letters arranged accordingly will form a meaningful word.
   R A C E T
   1 2 3 4 5
   (a) 1, 2, 3, 4, 5
   (b) 3, 2, 1, 4, 5
   (c) 5, 2, 3, 4, 1
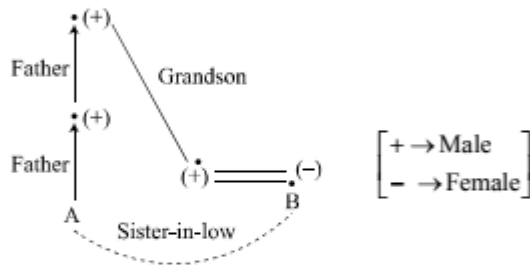   (d) 5, 1, 2, 3, 4

ANSWERS WITH EXPLANATIONS

36. (c) 2nd October $\rightarrow$ Monday

    2nd November $\rightarrow$?

    Total number of odd days from 2nd october to 2nd November

    Month $\rightarrow$ October + November

    Odd days $\rightarrow 29 + 2 = \dfrac{31}{7} = 3$ days

    $\therefore$ Required day = Monday +3 = Thursday

37. (a) CASE I

    If M is telling the truth, then

    M $\rightarrow$ (true), B$\rightarrow$ (wrong), V$\rightarrow$ (right) [Not possible]

    CASE II

    If B is telling the truth then,

    B $\rightarrow$ (true), M$\rightarrow$ (false), V$\rightarrow$ (false)

    CASE III

    If V is telling the truth

    V $\rightarrow$ (true), M$\rightarrow$ (true), B$\rightarrow$ (wrong) [Not possible]

    Hence, in case II, M is involved in the Robbery.

38. (c) Time on Monday in the clock - 3 : 00 AM

    From 3:00 Am on Monday to 7:30 PM on

    Tuesday, total number of hours gains

    = 24 + 16.5 = 40.5 hours

total time gains $= 40.5 \times 2$ minutes

$= 81$ minutes $= 1$ hour 21 minutes

7 hours 30 minutes (PM)

Required time $= 1$ hours 21 minutes

$= 8$ hours 51 minutes

$= 8 : 51$ PM

39. **(b)** Pattern of the series as follows,

40. **(a)** According to the question,

So, B is the sister-in-low of A.

41. **(a)** As, 'Narmada Bachao' Andolan was initiated by 'Medha Patkar'.

Similarly, 'Bhudan Andolan' was initiated by 'Vinoba Bhava'.

42. **(a)** Pattern of the series is as shown below

43. **(d)** Assumption I : for the company to implement a new policy effectively, it is always assumed that the notice will be read by employees.

Hence, this assumption is implicit the statement

Assumption II : By implementing facial recognition it assumed that the company system will improve effeciency, security and reduce fraud.

So, this assumption is also implicit the statement.

Hence, both the assumption will implicit the statement

44. **(c)** According to the statement, due to Earthquake there was Tsunami and due to Tsunami there were death and property loss.

So, the effects of this incident were, casualties, property loss and Death.

45. (b) According to the statements, Venn diagrams are as follows,

Conclusion I ($\checkmark$) II ($\times$) III ($\checkmark$)

Hence, only conclusion I and III follows.

46. (b) Give time → 5 : 55 PM

Here, Hour = 5, minutes = 55

$$\text{Angle} = \left| \frac{11}{2} \times \text{minutes} - 30 \times \text{Hour} \right|^{\circ}$$

$$= \left| \frac{11}{2} \times 55 - 30 \times 5 \right|^{\circ}$$

$$= \left| 302.5 - 150 \right|^{\circ} = 152.50$$

47. (b) 19 December 2007 — Sunday

8th July 2007 — ?

Total number of odd days from 8th July 2007 to 19 December 2007

Months → July + August + Sep. + Oct. + Nov. + Dec.

odd days → 2 + 3 + 2 + 3 + 2 + 5

$$= \frac{17}{7} = 3 \text{ days.}$$

∴ Required day = Sunday – 3

= Thursday

48. (c) Number of strikes by cuckoo at 6' O clock = 6
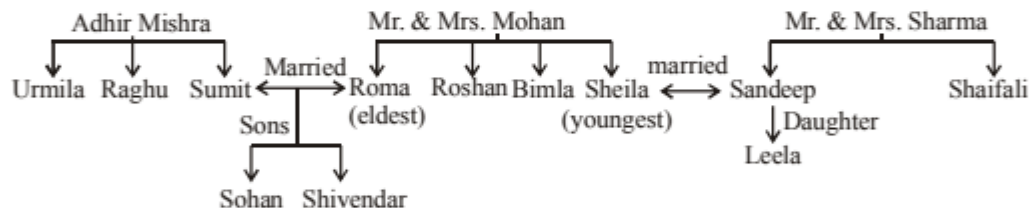
Time taken to strike at 6' O clock = 10 seconds

Time per strike $= \dfrac{10}{6} \sim 1.67$ sec per strike

∴ Time taken to cuckoo at 10' O clock

= 1.67 × 10 seconds
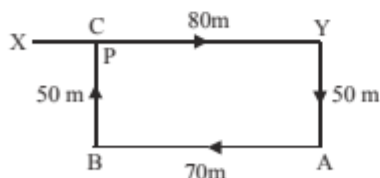
= 16.7 seconds

Sol. (49-50): Family Tree

49. (b) Sumit's mother-in-law = Mrs. Mohan.

50. (c) As, Sohan is son of Sumit and Sumit is son of Adhir Mishra. So, surname of Sohan is Mishra.

51. (a) The movements of Raj are as shown n fig (X to Y, Y to A, A to B, B to C).

∴ Raj's distance from the starting point

= XC = (XY – YC) = (XY – BA)

= (80 – 70) m = 10 m.

Sol. (52-53) : Descending order of their ages and heights is as given below:
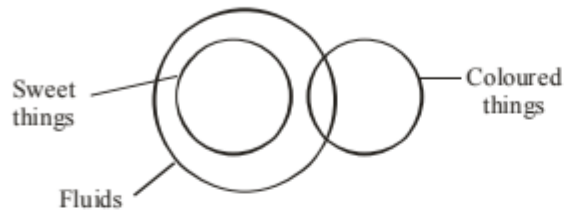
Age Nikku > Rekha = Megha > Parul > Keshav

or Nikku > Rekha = Megha > Keshav > Parul

Height Rekha > Keshav > Nikku > Parul > Megha.

52. (d) Either Rekha or Megha will be in the third position.

53. (d) Keshav will be the fourth position.

54. (d) The second, fifth and eighth letters of the word CARETAKER are A, T and E respectively. The words formed are EAT, ATE and TEA.

55. (c) The persons satisfying the given conditions are denoted by regions which lie inside the smaller triangle or the circle but outside the bigger triangle i.e. A and E.

56. (a) The person satisfying the given conditions are represented by regions which are common to the bigger triangle and the circle but lies outside the rectangle i.e. B and C.

57. (c)

So, some fluids are sweet things and some sweet things are flaids.

58. (d) The following arrangement is possible.

$$\begin{pmatrix} \text{Cabin,} \\ \text{Neem} \end{pmatrix} \quad \begin{pmatrix} \text{well,} \\ \text{mango} \end{pmatrix}$$

Coconut   Lemon

Neem tree and Lemon tree can be seen that diagonally a opposite to each other in the plot.

59. (b) ITNIETAM → INTIMATE

using given alphabet a logical word is created Similarly

TREVNIETARBI → INVERTIBRATE

B 2 C D, D E 3 F, ☐ H 5 I J, J 6 K L

60. (d) Clearly, the given letters, when arranged in the order 5, 1, 2, 3, 4 from the word 'TRACE'.