# Set 1

## SECTION A

1. When we convert (4760) to the base 10 to the base 12 the number obtained is
   a) 2908      b) 2818      c) 3012      d) 2753

2. Find the greatest number which on being divided by 12, 21 and 35 will leave in each case the same remainder 6.
   a) 210      b) 414      c) 420      d) 426

3. If $x = b + c$ , $y = c - a$ , $z = a - b$ , find $x^2 + y^2 + z^2 - 2xy - 2xz + 2yz$.
   a) $a + b + c$      b) $4b^2$      c) abc      d) $a^2 + b^2$

4. At an election where there are only two candidates. the candidate who gets 62% of the votes is elected by a majority of 144 votes. Find the total number of votes recorded assuming that no vote was void. a) 950 votes    b) 600 votes    c) 300 votes    d) 699 votes

5. A person borrows two equal sums at the same time at 5 and 4 percent respectively and finds that if he repays the former sum with simple interest on a certain date 6 months before the latter, he will have to pay in each case the same amount, viz , Rs. 1100. Find the amount borrowed. a) Rs.850      b) Rs. 1000      c) Rs. 995      d) Rs. 990

6. The average salary of 50 workers in a factory was Rs. 350. Five new workers with salaries 250, 300, 320 and 400 were employed. What would be the new average salary?
   a) 256.78      b) 988.65      c) 347.63      d) 543.87

7. The wages of laborers' in a factory increased in the ratio 22 : 25 and there was a reduction in their number in the ratio 15 : 11. Find the original wage bill if the present bill is Rs. 5000. a) Rs. 2500    b) Rs. 3000    c) Rs.5000    d) Rs.6000

8. A cask contains a mixture of to liquids A and B in the ratio 7: 5. When 9 gallons of the mixture are drawn off and the cask is filled with liquid B, the proportion becomes A : B :: 7: 9. How many gallons does the cask hold?
   a) 36 gallons      b) 48 gallons      c) 56 gallons      d) 60 gallons

9. A trader allows a discount of 5 percent to his customers. What price should he mark on an article the cost price of which is Rs. 800 so as to make a clear profit of 25 percent on his outlay?
   a) Rs. 1000      b) Rs. 1053      c) Rs. 1200      d) Rs. 1123

10. A cheetah chases a deer which is 100 m ahead. The time in which the deer takes 10 leaps the cheetah takes only 6 leaps. In one leap, the deer covers 1 m while the cheetah covers 2 m. In how many leaps would the cheetah catch up the deer?
    a) 300      b) 200      c) 150      d) 250

11. Find the least number which on being divided by 12, 21 and 35 will leave in each case the same remainder 6.
    a) 210      b) 414      c) 420      d) 426

12. A certain number of people agree to subscribe as many rupees each as there are subscribers. The whole subscription is Rs. 2582449. Find the number of subscribers. a) 1607    b) 1291225    c) 1503    d) 1603

13. In an election where there were two candidates only. The Congress candidate received 11628 votes and the independent candidate received 8772 votes .What percentage of the total votes did the Congress candidate get assuming that no vote was void ?
    a) 57%      b) 52%      c) 55%      d) 59%

14. Find the effective annual rate corresponding to a nominal rate of 6 percent per annum ,payable half yearly.
    a) 5%      b) 6.09%      c) 6.9%      d) 7.2%

15. Rs.3783 is divided into two parts such that the simple interest on the first for three months at 4.5% is equal to that on the second for 7 months at 2.25%. Find the sum lent at 4.5%. a) Rs.2037    b) Rs.1746    c) Rs.1982    d) 2563

16. Find two natural numbers, one of which is $3/5^{th}$ of the other and such that the difference of their squares is equal to 16.
    a) 5,9      b) 5,3      c) 10,6      d) 1,4

17. On an average my income for 15 days Rs.7, the average for first five days was Rs. 6 and the average for the last nine days was Rs. 8. What was the income on the sixth day? a) Rs.4      b) Rs.2      c) Rs.3      d) Rs.5

18. The wages of labourers in a factory increased in the ratio 22:25 and there was a reduction in their number in the ratio 15:11. Find the original wage bill if the present bill is Rs. 5000. a) Rs.2500    b) Rs.3000    c) Rs.5000    d) Rs.6000

19. Two jars of capacity 3 and 5 litres are filled with mixtures of alcohol and water. In the smaller jar 25% of the mixture is alcohol and in the larger 25% of the mixture is water. The jars are emptied into a nine litre cask and the remaining volume is filled up with water. Find the % of alcohol in the cask.   a) 50%    b) 37.5%    c) 60%    d) None of these

20. A camera costing Rs. 550 is marked to be sold at a price , which gives a profit of 30%.What will be its selling price in a sale when 20% is taken off the marked price ? a) Rs. 600    b) Rs. 572    c) Rs. 635    d) Rs. 605

## SECTION B

**Directions for Questions 21 to 30:** Each Question is followed by two statements, I and II. Answer each question using the following instructions:
Choose **A :** if the question can be answered by using on one of the statements alone, but cannot be answered using the other statement alone.
Choose **B :** if the question can be answered by using on either of the statements alone.
Choose **C :** if the question can be answered by using both the statements together, but cannot be answered using either of the statements alone.
Choose **D :** if the question cannot be answered even by using both the statements together.

21. Ratio of prices of two different cars is 1:1.5. What would be the price of the first car if discounts of 15% and 18% are given on both the cars respectively? I. Difference of discounts on the two cars is Rs. 12,300. II. Discount on the second car is Rs. 11,589.
    a)  A                    b) B                    c)  C                    d) D

22. Find the units in $(6ab)^{64}$ where a and b are the tens and units digits of the number. I. a*b=24 II. b > 4
    a) A                    b) B                    c) C                    d) D

23. Is the average cost of 60 items greater than Rs.25? I. Two-fifth of them cost Rs.30 each. II. One-third of them cost Rs.40 each.
    a) A                    b) B                    c) C                    d) D

24. What percentage of the population of a village comprises of married males?
    I. 4/7 of the population comprises females.          II. There are 300 unmarried males.
    a) A                    b) B                    c) C                    d) D

25. What is the speed of the train? I. It takes 40 seconds to pass a bridge 1200 m long. II. It takes 8 seconds to pass a telegraph pole.
    a) A                    b) B                    c) C                    d) D

26. Is the product of two given consecutive natural numbers greater than 92?
    I. The difference between the square of the larger number and the larger number is equal to 90.
    II. The smaller of the two numbers, when added by a squared even integer and then divided by 2, gives the result 6.5.
    a) A                    b) B                    c) C                    d) D

27. Is $y/x \, (1+x)^2 >= 2y$? I. xy > 0          II. x+y < 5
    a) A                    b) B                    c) C                    d) D

28. Is the number of kilograms in one litre of solution more than the number of litres in one kilogram of the same solution?
    I. The solution when burnt produces 328.3 calories of heat.
    II. Seven beakers, each of mass 250 gm, are required to hold one litre of the solution.
    a) A                    b) B                    c) C                    d) D

29. Three dice A,B and C are thrown together. What is the sum of all readings of the dice?
    I. Dice A shows 4 more than dice C.
    II. If we multiply the reading of dice B with that of dice C, we get the reading of dice A.
    a) A                    b) B                    c) C                    d) D

30. What will be the time taken to fill a leaking tank of volume 100 litres?
    I. The time taken to fill the tank when the leak is closed is half of the time taken if all the water is allowed to leak with no water being poured in the tank.
    II. The leak rate is halved if half of the hole is covered.
    a) A                    b) B                    c) C                    d) D

**Directions for Q31 to Q35:** For each of the words below, a contextual usage is provided. Check the word from the alternatives given that is most INAPPROPRIATE in the given context.

31. CULPABILITY: The culpability of one, who unknowingly sins, has different connotations in these eastern religions.
    a) accountability       b) laudatory       c) praiseworthiness       d) usefulness

32. PERSPICUOUS: A perspicuous argument is far more effective than mere rhetoric when it comes to achieving a solution.
    a) synthetic       b) lucid       c) ineffective       d) obscure

33. ATROPHY: The brain, like an unused limb, will atrophy if not exercised enough.
    a) thrive       b) deteriorate       c) succeed       d) regenerate

34. VAPIDITY: The vapidity of the hostess's conversation ensured that the evening was a failure.
    a) provocativeness       b) liveliness       c) agitation       d) interesting

35. PEREMPTORY: Beauty that has lost all modesty becomes peremptory and vain.
    a) submissive       b) illusive       c) democratic       d) permanent

**Directions for Q36 to Q40:** Each of the questions consists of two capitalized words which have a certain relationship to each other, followed by 4 pairs of words. Choose the pair that is related to each other in the same way as the capitalized paper.

36. CONFESS : DENY   a) Royal : Regal       b) Speak : Hear       c) Release : Imprison       d) Loud : Audible

37. FAIR : FARE   a) Smart : Pretty       b) Bushel : Corn       c) Hair : Hare       d) Moral : Amoral

38. EYE : LIGHT   a) Hear : See       b) Brain : Idea       c) Hand : Fist       d) Ear : Sound

39. GALLEY : SHIP   a) Mall : Market       b) Kitchen : House       c) Banquet : Feast       d) Restaurant : Hotel

40. LETHARGIC : STIMULATE   a) Skeptical : Convince   b) Bored : Disinterested       c) Unwilling : Willing       d) Erudite : Teach

## SECTION D

41. An electrical circuit wiring a set of four lights depends on a system of switches A,B,C & D. Each switch when working has the following effects on the lights:
    Switch A turns light 1 & 2 on/off or on/off
    Switch B turns light 2 & 4 on/off or on/off
    Switch C turns light 1 & 3 on/off or on/off
    Switch D turns light 3 & 4 on/off or on/off

    ● = ON       ○ = OFF

    In the following, switches B C A D are thrown in turn, with the result that figure 1 is transformed into figure 2. One of the switches in therefore not working and has no effect on numbered lights.
    Identify which of the switches is not working

    Figure 1       Figure 2
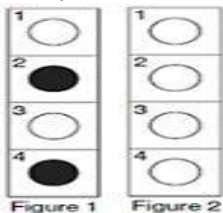
    (a) Switch A       (b) Switch B       (c) Switch C       (d) Switch D

42. Which circle below should replace the question mark?

A    B    C    D    E
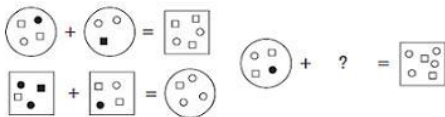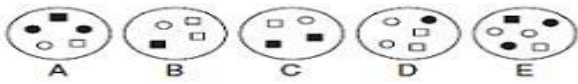
43. Which two squares are missing?



A    B    C    D    E
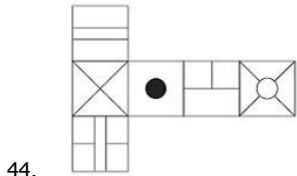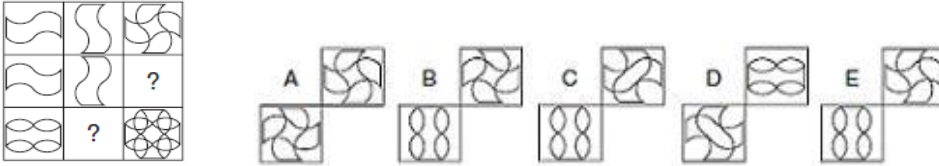
44.



When the above is folded to form a cube, which is the only one of the following that can be produced?



A    B    C    D    E
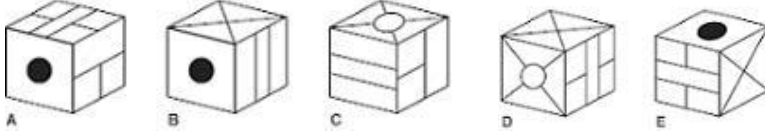
The below questions use series of Non – Verbal, non – number symbols . Look carefully at sequence of symbols(first line) to find the pattern and fill in the blank from the options (a) , (b) , (c) , (d)

45.



a.    b.    c.    d.

46.



a.    b.    c.    d.

47.



a.    b.    c.    d.

48.



a.    b.    c.    d.

49.



a.    b.    c.    d.
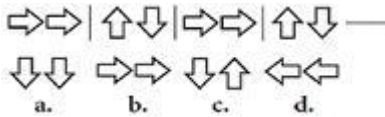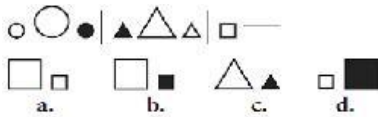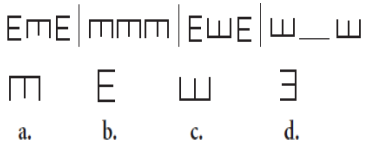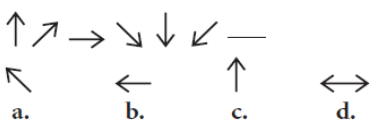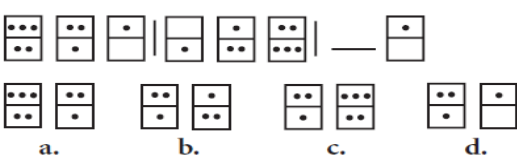
50. In this test you have to imagine how a design would look when it is folded up to make a cube (or box). In each case you are given a plan of an unfolded cube and your job is to fold it together 'in your mind'.
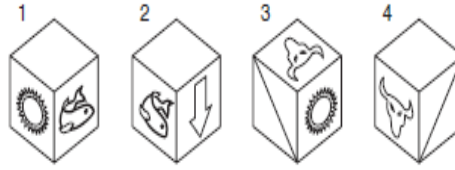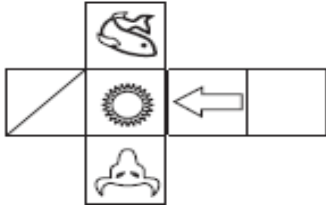
# SET 2

## SECTION A

**Directions for Q1 to Q5:** The following table gives changes in the market shares of five brands over a five year period. (figures in %)

|   | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|------|------|------|------|------|
| **A** | 33 | 32 | 28 | 31 | 35 |
| **B** | 6 | 8 | 9 | 11 | 13 |
| **C** | 27 | 29 | 32 | 28 | 22 |
| **D** | 19 | 19 | 18 | 20 | 21 |
| **E** | 15 | 12 | 13 | 10 | 9 |

Rules:
a) If the market share increases for 3 years in a row, the brand is called a strengthening brand .
b) If the market share remains above 30% for three years out of a total 5 years, then it is a consistent   brand
c) If the market share is falling for 3 years in a row , the brand is called a 'weakening' brand.
d) If the market share drops for 2 years in a row and then rises for two years in a row it is a 're launched' brand.
e) If the market share varies by 3 points or less over the past year for 5 years in a row then it is a 'maverick' brand.
f) If in any year, just two brands account for at least 60% of total market share ,then that year is a 'consolidation year'.
g) If in any year 80% of the total market share is accounted for by three brands then that year is a 'year of competition'.

1. Which of the following brands are 'strengthening' brands?
   a) A                      b) B                      c) C & A                      d) B & D

2. Which of the following are the 'weakening' brands?
   a) A                      b) B                      c) C                      d) None of the above

3. Which of the following are 'consistent' brands?
   a) A                      b) B                      c) C                      d) D & C

4. Which of the following is/are the year/s of 'competition'?
   a) 1996                  b) 1996 & 1999            c) 1998 & 2000            d) 1997

5. Which of the following is/are the 'consolidation' year/s?
   a) 1996 & 1999           b) 1997 & 1999            c) 1996, 97, 98           d) 1996 , 1997

## Directions for Q6 to Q10:

U.P. and Bihar are the most deprived states of India. While they contain one fifth of India's population, they have almost one-third of India's illiterates. In 1998 only a small fraction of U.P and Bihar's population was literate versus 85% of Kerala.
More than two thirds of the births are not attended by any medical facility.$1/10^{th}$ of the infants born in UP and Bihar die in infancy and equal number before reaching the age of five. Almost 90% of the under five deaths are due to malnutrition.
The lucky kids who have survived for the first five years, $1/3^{rd}$ of them work as child labourers and only half of the remaining are sent to school. Of those who attend classes, only 40% are able to reach standard 5. In India 30% of the children under 16 work as labourers. UP and Bihar contain $1/3^{rd}$ of the child labourers in India .India has the largest population of child labourers which is $1/15^{th}$ of its total population.

In UP and Bihar out of 100 children enrolled, 32 are girls. And out of 100 who attend standard 10 only 10 are girls. Only 38 out of 100 Indian women are literate versus 57% of the males. Even in wealthy states like Punjab, girl children suffer malnutrition seven times more than boys do. Total population of the country was 90M in 1998 and the ratio of male to female in India was 10 to 9.

6.  What percentage of infants in UP and Bihar attend std. V? a) 15      b) 11      c) 20      d) 23

7.  The number of child labourers in India are: a) 15Million      b) 16Million      c) 12Million      d) 6Million

8.  In UP and Bihar out 100 born, how many children work as child labourers?
    a)27                      b)30                      c)54                      d)35

9.  What % of girl child enrolled in school reach standard 10 in UP and Bihar? a)10%  b)32%  c)60%      d)Data insufficient.

10. The literate in Kerala exceed the literate in UP and Bihar by a)30%      b)35%      c)27%

## SECTION B

11. A certain number of people agree to subscribe as many rupees each as there are subscribers. The whole subscription is Rs.2582449. Find the number of subscribers. a) 1607                      b) 1291225                      c) 1503                      d) 1603

12. Find the number whose square is equal to the difference between the squares of 75.15 and 60.12.
    a) 225.9                      b) 67.635                      c) 45.09                      d) 15.03

13. A man lost 12.5% of his money and after spending 70% of the remainder, has Rs. 210 left. How much did the man have initially?
    a) 700                      b) 350                      c) 800                      d) 500

14. A man derives his income from the investment of Rs. 4150 at a certain rate of simple interest and Rs. 3500 at 1% higher. His whole income for 4 years is Rs. 1211. Find the rates of interest. a) 3.5, 4.5      b) 4.75, 5      c) 3, 3      d) 2.5, 4

15. Two partners invested Rs. 1250 and Rs. 850 respectively in a business, they decided to distribute equally 60% of the profit, and the remaining as the interest on their capital. If one receives Rs. 320 more than the other, find the total profit.
    a) 3500                      b) 4000                      c) 5000                      d) 4200

16. A sum of money was distributed equally among a certain number of children. If there were five children less each would have received a rupee more. But if there were 15 children more, each would have received Rs. 2 less. Find the sum of money distributed .
    a) Rs.120                      b) Rs.125                      c) Rs.100                      d) Rs.360

17. On an average my income for 15 days Rs.7, the average for the first five days and was Rs. 6 and the average for the last nine days was Rs.8. What was the income on the sixth day? a)Rs.4                      b)Rs.2                      c)Rs.3                      d)Rs.5

18. The wages of labourers in a factory increased in the ratio 22:25 and there was a reduction in their number in the ratio 15:11 . Find the original wage bill if the present bill is Rs. 5000. a)Rs.25000      b)Rs.3000      c)Rs.5000      d)Rs.6000

19. Two jars of capacity 3 and 5 litres are mixed with mixtures of alcohol and water. In the smaller jar 25% of the mixture is alcohol and in the larger 25% of the mixture is water. The jars are emptied into a 9 litre cask and the remaining volume is filled up with water. Find the percentage of alcohol in the cask. a)50%                      b)37.5%                      c)60%                      d)None of these.

20. Three bachelors, Amar, Akbar and Anthony rented a house for a year. But , Amar left after 4 months , Akbar stayed for 8 months and only Anthony stayed for the entire year . If the annual rent was Rs.6000, find the share of Akbar.
    a)Rs.4000                      b)Rs.2000                      c)Rs.300                      d)Rs.2500

## SECTION C

**Directions for Q21 to Q25:** Each of the questions consists of two capitalized words which have a certain relationship to each other, followed by 4 pairs of words. Choose the pair that is NOT related to each other in the same way as the capitalized paper.

21. DIVESTMENT:DISHABILLE
    a) Quiescence : Tranquility      b) Expostulate : Profiteer      c) Perambulation : Cradle      d) Sapient : Asinine

22. PENCHANT : REPUGNANCE
    a) Confute : Refute      b) Dogmatism : Rationality      c) Neophyte : Epiphyte      d) Incertitude : Certainty

23. PARENT : OFFSPRING
   a) Mother : Son        b) Sororal : Fraternal        c) Father : Son        d) Paternal : Daughterly

24. MAGNIFICENT : NICE
   a) Macabre : Unpleasant        b) Dying : Unwell        c) Maladroitness : Indexterity        d) Pernicious : Bad

25. KERNEL : SHELL
   a) Caterpillar : Pupa        b) Larva : Cocoon        c) Lassitude : Syncope        d) Passenger : Car

**Directions for Q26 to Q30:** For each of the words below, a contextual usage is provided. Check the word from the alternatives given that is most APPROPRIATE in the given context.

26. AUTHOCHTHONOUS: The Dravidians were the authochthonous population of India before the arrival of the Aryans.
   a) original        b) majority        c) indigenous        d) important

27. MORIBUND: By the fourth century AD, the Roman civilization was already moribund.
   a) extinct        b) forgotten        c) flourishing        d) stagnant

28. EGREGIOUS : A generation ago, parents would not tolerate such egregious behavior, but nowadays they just smile and say that it's just a phase all adolescents go through
   a) indolent        b) impertinent        c) unwonted        d) outrageous

29. GEILD: It is hard to believe that any life could ever arise in the gelid environment of Titan.
   a) frigid        b) suffocating        c) gelatinous        d) hostile

30. GNOME: I like the style of this book – every chapter starts with a gnome.
   a) dwarf        b) question        c) aphorism        d) logo

**Consider the following letter series:** A B C D E K J I H G F L M N O P Q W V U T S R X Y Z.

31. If the letter series above was written in reverse order, which of the following letter would come 12 th from the right?
   (a) O        (b) L        (c) M        (d) N

32. What would be answer to the question above if there were only 20 letters instead of 26, obtained by removing A, B, C, E and R?
   (a) L        (b) N        (c) Q        (d) W

33. Pointing to a woman in a photograph a man says. She is the mother-in-law of the wife of the father of my old son. How is the woman related to the man?
   (a) daughter        (b) wife        (c) daughter-in-law        (d) None of these

34. Rumi starts from her house and moves 200m towards north. Then she turns left and moves further 200m. Had she gone directly to the place where she is now, she, would have saved herself a working of an extra
   (a) (400-200x1.5)m        (b) (400-200x2)m        (c) $200(\sqrt{2}-1)$m        (d) Cannot Say

35. Which of the following choices would come in place of the following of the question mark to complete the series AKL BMN DNO EPQ?
   (a) GQU        (b) FRU        (c) FQR        (d) GRV

36. Four of the following are alike in a certain way and hence form a group. Which of these does not belong to the group?
   (a) DAE        (b) AXB        (c) JGK        (d) MNO

37. If blue is called green, green is called violet, violet is called red, red is called yellow and yellow is called scarlet. What is the color of the mango leaf? (a) Blue        (b) red        (c) Yellow        (d) None of these

38. In a certain code language, an even number is always coded as A and odd number is always coded as B then which of the following are divisible by 3, most certainly? (a) AB        ( b) AAA        (c) BBAA        (d) AAAAAB

39. If in a certain code COVET is written as FRYHW, which word would be written as SHDUO?
   (a) QUAKE        (b) REPAY        (c) VKGXR        (d) PEARL

40. If REASON is coded as 5 and BELIEVED as 7, what is the code number for GOVERNMENT?
   (a) 6        (b) 8        (c) 9        (d) 10

**SECTION D**

**Direction (Q. 41- Q. 45). In each of the following questions, two statements are given followed by the question as I and II. You have to decide whether the data given is sufficient to answer the question. Indicate your answer as:**

   a.   **If only statement I is sufficient to answer the question.**
   b.   **If both statements I & II necessary to answer the question.**
   c.   **If either statement I or II is sufficient to answer the question.**
   d.   **If neither statement I nor II is sufficient to answer the question.**

41. The total of the present ages of A,B,C and D is 96 years. What is B's present age?
   I. The average age of A,B and D is 29 years.                    II. The average age of C and D is 20 years.

42. What is the average age of children in a class?
   I. Age of the teacher is as many years as the number of the children.    II. Average age increases by 1 if the teacher's age is also added.

43. The area of a playground is 1600 m². What is its perimeter?
   I. It is a perfect square playground.        II. It cost Rs. 3200 to fence around the playground at the rate of Rs. 20 per meter.

44. What is the weight of the iron beam? I. The beam is 9 m long, 40 cm wide and 20 cm high.   II. Iron weighs 50 kg per cubic meter.

45. What is the height of a circular cone?
   I. The area of the cone is equal to the area of rectangle whose length is 33 cm.     II. The area of the base of that cone is 154 cm².

**Directions (Q.46– Q.50): Each of the questions below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is / are necessary to answer the given question.**

46. How many marks did Tarun secure in English?
   I. The average marks secured by Tarun in four subjects including English is 60.
   II. The total marks secured by him in English and Mathematics is 170.
   III. The total marks secured by him in Science and Mathematics is 180.
   (a) All I, II, & III          (b) I & II only          (c) II & III only          (d) None of these

47. The mean temperature of Monday to Wednesday was 37 degree centigrade and Tuesday to Thursday was 34 degree Centigrade. What is the temperature on Thursday?
   I. The temperature on Thursday was 4/5 that of Monday.  II. The mean temperature of Monday to Thursday was 40.3 degree centigrade.
   III. The difference of temperature on Monday and that on Thursday was 9 degree centigrade.
   (a) All I, II, & III          (b) Either I or II          (c) II & III only          (d) Either I & III.

48. What is the length of the diagonal of a given rectangle?
   I. The perimeter of the rectangle is 34 cm.                    II. The difference between the length and breadth is 7 cm.
   III. The length is 140% more than the length.
   (a) All I, II, & III          (b) Either I or II          (c) Any two of the three          (d) Either I & III.

49. What is the capacity of the cylindrical tank?
   I. The area of the base is 61,600 cm².                    II. He height of the tank is 1.5 times the radius.
   III. The circumference of the base is 880 cm.
   (a) All I, II, & III          (b) Only II or Either I or III          (c) Only I          (d) Either I & III.

50. In how many days can the work be completed by A & B together?
   I. A alone can complete the work in 8 days.      II. If A alone works for 5 days and B alone works for 6 days the work gets completed.
   III. B alone can complete the work in 16 days.
   (a) All I, II, & III          (b) Either I or II          (c) Any two of the three          (d) Either I & III.