1. Four equal circles are described about the four corners of a square so that each touches two of the others. Find the area of the space enclosed between the circumferences of the circle; each side of the square measuring 28m.
   a. 180m$^2$ b. 176 m$^2$ **c. 168 m$^2$** d. NOTA
2. The diagonals of a rhombus are 24cm and 32 cm respectively. Find its height.
   a. 12cm b**. 19.2cm** c. 10.5cm d. 14.8cm
3. The length and breadth of a rectangular field are in the ratio of 7:4. A path 4m wide running all around outside it has an area of 416 m$^2$. Find the dimensions of the field.
   a. 424 m$^2$ b. 432 m$^2$ c. 440 m$^2$ **d. 448 m$^2$**
4. A ladder, 25 m long is placed against a wall with its foot 7m from the wall. How far should the foot be drawn out so that the top of the ladder may come down by half the distance that the foot is drawn out?
   a. **8 m** b. 5 m c. 6 m d. 7 m
5. The area of an acute angled triangle is 336 m2, and the sides are 26m and 30m. Find its base. **28m**
6. A house 56 m wide has a roof with unequal slopes, the length of which are 25m and 39m. Find the height of the ridge above the eaves. **15m**
7. Find the area of the quadrilateral of whose diagonals is 50m long and the lengths of perpendiculars from the other two vertices are 29m and 21m respectively.
   a. 1200 m$^2$ b. **1250m$^2$** c. 1280m$^2$ d. NOTA
8. The base of a rectangular solid is a square, and its height is twice its length. If its volume is 16000 m$^3$ find the area of its surface.
   a. 1800 m$^3$ b. 1880 m$^3$ c. **2000 m$^3$** d. NOTA
9. How many coins 1.4 cm in diameter and 0.4 cm thick is to be melted to form a right circular cylinder of height 16 cm and diameter 5 cm?
   a. 200 b. **250** c. 300 d. 350
10. In how many ways can three balls be arranged in 9 different boxes in a row such that the number of balls in each box does not exceed 1?
    a. 84 b. **504** c. 360 d. 729
11. How many 5 digit numbers can be formed out of the digits 3, 2, 7, 4 and 0, if no digits is to be used more than once?
    a. **96** b. 24 c. 720 d. 120
12. Seven unbiased coins are tossed together. What is the probability of getting more heads than tails?
    a. **½** b. 3/8 c. 3/7 d. 4/7
13. A lady builds 9cm length, 10 cm width and 3 cm height box using 3 cubic cm cubes. What is minimum number of cubes required to builds the box?
    a. 30 cubes b. 60 cubes c. 120 cubes **d. None of these**
14. A circular garden has a diameter of 56m. It has a circular path running all around and outside it. The difference between the circumferences of the larger and the smaller gardens is 44m. Find the width of the path?
    **a. 7m** b. 14 m c. 28 m d. 44 m
15. The ratio of the bases of 2 triangles is x:y and that of their areas is a:b. then the ratio of their corresponding altitudes will be
    a. ax : by b. bx : ay **c. ay : bx** d. x:y

16. The area of the circle of radius 5 units is numerically what percent its circumference?
    a. 2.5% b. 25% **c. 250%** d. CBD

17. Three coins are tossed. What is the probability of getting two tails and one head?
    a. ¼ **b. 3/8** c. 2/3 d. 1/8

18. If $10c_x = 10c_{15-2x}$ then find 8PX.
    **a) 6720** b) 1500 c) 56 d) 2000

19. A bag contains 8 white balls and 12 black balls. What is the probability of getting 2 white and 3 black balls?
    a) $\frac{290}{256}$ **b)** $\mathbf{\frac{385}{969}}$ c) $\frac{150}{389}$ d) $\frac{332}{846}$

20. Three balls are drawn at random from collection of 7 white, 12 green and 4 red balls. The probability that each is of different colour is
    a) $\frac{52}{217}$ b) $\frac{51}{242}$ **c)** $\mathbf{\frac{48}{253}}$ d) NOTA

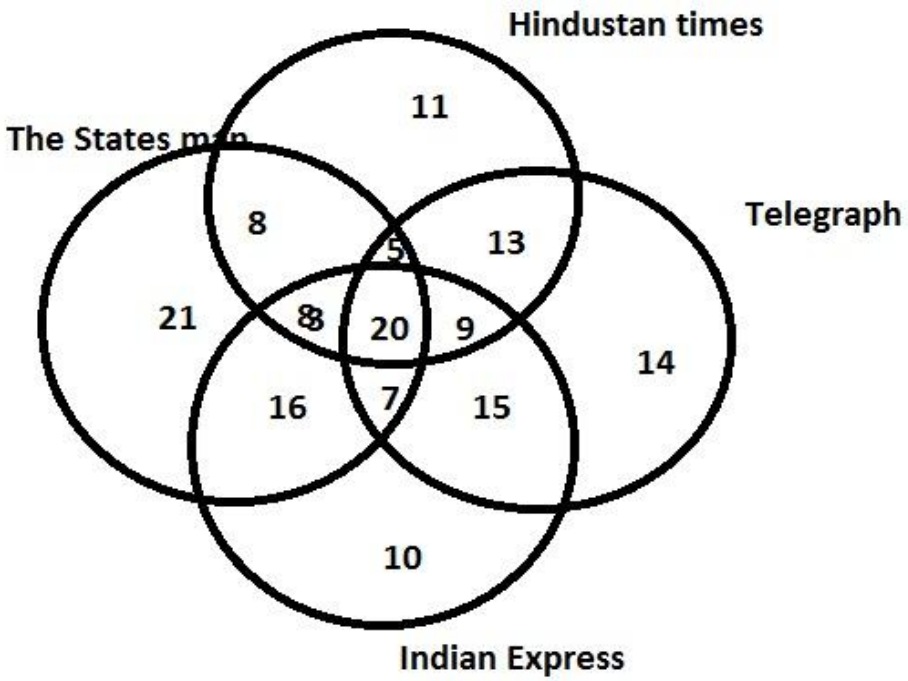
21. In how many ways can the letters of the word 'QUANTITATIVE' be arranged such that the vowels always comes together

22. How many words can be formed using all the letters of the word 'BOOKSELLER'?

23. Find the number of different words that can be formed using all the letters of the word 'RAINBOW' such that each word begins with R and ends with W.
24. In a hexagon, one of the interior angle is 100•. If all the other angles are equal, find each of these angles.
    a. 120® b. 60® c. 154® **d. 124®**
25. A wall of measurements 30m x 12m x 4m was constructed with bricks of dimensions 8cm x 6cm x 6cm. if 80% of the wall consists of bricks, find the number of bricks used for the construction?
    a. 3000000 **b. 4000000** c. 5000000 d. 6000000
26. From 13 persons waiting in the queue in how many ways can a selection of 9 be made so that a specific person is always included?
    a) 500 **b) 495** c) 600 d) 850
27. A telegraph has 6 arms and each arm is capable of 4 distinct positions, including the position of rest. What is the total number of signal that can be made?
    **a) 4095** b) 4096 c) 24 d) 64
28. A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can three ball be drawn from the box, if at least one black ball is to be included in the draw?
    a) 60 b) 55 **c) 64** d) 72
29. A coin is tossed 2 times. What is the probability of getting at least one head?
    a. ¼ b. **¾** c. 2/4 d. 1
30. In a survey of payments of electrical bills of a residential complex of 125 houses, it is found that 50 houses defaulted on their payment of electrical bills in January, 60 houses in February and 40 in March. Some houses can default in consecutive months only. 20 defaulted in January and February, 10 defaulted in February and March. How many houses defaulted in all the three months?
    a. 4 **b. 5** c. 6 d. 7

Directions ( 31 – 35): Refer the diagram below:

31. Which newspaper has the maximum readership? **TELEGRAPH**
32. How many persons read Hindustan times or The Statesman or The Indian Express? **38**
33. How many persons read Hindustan times and Telegraph among the other newspapers? **47**
34. How many persons read any three of the above newspapers? **24**
35. How many persons in total read The Statesman along with at least one of the remaining news papers? **59**




36. **Statements**:

I. Some pictures are frames.
II. Some frames are idols.
III. All idols are curtains.

**Conclusions**

I. Some curtains are pictures.
II. Some curtains are frames.
III. Some idols are frames.

(a) Only I and II follow
**(b) Only II and III follow**
(c) Only I and III follow
(d) All follow

37. **Statements**:

I. Some ice are rings.
II. No ring is paint.
III. Some rings are gold.

**Conclusions** :

I. No gold is paint.
II. No ice is gold.
III. Some rings are paints.
IV. All golds are rings.

(a) Only I and III follow
(b) Only I and II follow
c) Only III and IV follow
**(d) None follows**

**In each of the following questions statements are followed by conclusions. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the given statements, disregarding commonly known facts. Give answer**

A. If only (1) conclusion follows
B. If only (2) conclusion follows
C. If either (1) or (2) follows
D. If neither (1) nor (2) follows and
E. If both (1) and (2) follow.

**38. Statement: C**
I. All plates are kitchen.
II. No spoon is a plate.

**Conclusions**
I. No spoon is kitchen.
II. Some spoons are kitchen.

**39. Statement: A**
I. All pens are sketches.
II. All sketches are pencils.

**Conclusions**
I. All pens are pencils.
II. Some pens are not pencils.

**40. Statements C**
I. All vegetables are green.
II. Some greens are fruits.

**Conclusions**
I. Some fruits are vegetables.
II. No fruit is vegetable.