Max. Marks 80

#### **General Guidelines:**

- ➤ The question paper consists of 30 questions divided into four sections A, B, C and D.
- All the questions are compulsory
- Section A contains 10 questions which carries 1 mark each (1 x 10 = 10)
- > Section B contains 9 questions which carries 2 marks each (2 x 10 = 20)
- > Section C contains 9 questions which carries 4 marks each (4 x 5 = 20)
- > Section D contains 6 questions which carries 6 marks each (6 x 5 = 30)
- > The use of calculators is prohibited

#### **SECTION A**

- 1. An equilateral triangle has how many lines of symmetry
  - Option A: 1
  - Option B: 2
  - Option C: 3
  - Option D: None of these
- 2. The perimeter of a rectangle having length equal to 5.5 cm and breadth 3 cm is
  - Option A: 15 cm
  - Option B: 19 cm
  - Option C: 17 cm
  - Option D: None of these
- 3. If A, B, C are three points on a line such that AB = 4 cm, BC = 2 cm and AC= 6 cm, which one of them lies between other two?
  - Option A: A
  - Option B: B
  - Option C: C
  - Option D: None of these
- 4. What is the measure of one complete revolution
  - Option A: 90°
  - Option B: 180°
  - Option C: 270°
  - Option D: 360°

5. Question: A line segment of length 45 cm is placed in front of a plane mirror. What is the length of the image formed?

Option A: 54 cm
Option B: 45 cm
Option C: 100 cm
Option D: 45/2 cm

6. Question: A line segment of length 24 cm was divided into 3 equal parts namely AB, BC and CD starting from left to right. On the rightmost end, a mirror is kept. What is the distance of an object kept at point B from its image in the mirror?

Option A: 48 cm Option B: 24 cm Option C: 16 cm Option D: 32 cm

7. Some carrots were kept on a table. Out of those 35 were taken out in evening and 40 in night. The number of carrots left can be represented in equation form as

Option A:(x - 35) + 40Option B: (x + 35) - 40Option C: (x - 35) - 40Option D:  $(x \times 35) - 40$ 

8. The cost price of m books is 5m. If total purchased books is 32.Find the cost price of all the books

Option A: Rs.32 Option B: Rs.160 Option C: Rs.380 Option D: Rs.100

9. Rohan went to a park whose length was 2500 m and width was 1200 m. He took 5 rounds of the park, at the same speed. Considering that he travelled along the boundary, what is the perimeter of the park?

Option A: 5000 m Option B: 7400 m Option C: 2400 m Option D: 37000 m

10. A rectangle of length 50 m and width 30 m was to be fenced along the boundaries. Find the perimeter of another rectangle of twice the length and half the width of the given rectangle.

Option A: 230 m<sup>2</sup>
Option B: 230 m
Option C: 160 m
Option D: 160 m<sup>2</sup>

#### **SECTION B**

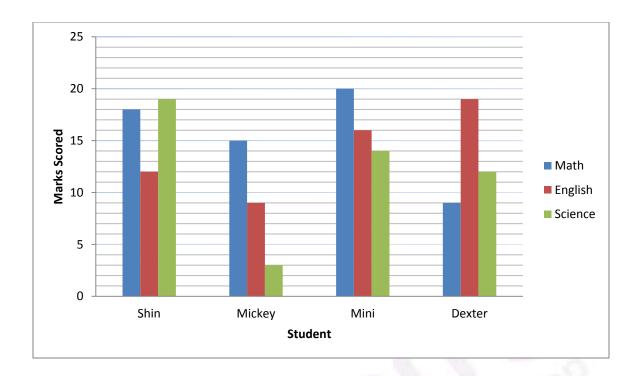
- 11. A line segment of length 24 cm was divided into 3 equal parts namely AB, BC and CD starting from left to right. On the rightmost end, a mirror is kept. What is the distance of an object kept at point D from the image of point D in the mirror?
- 12. The tally marks given below represents what frequency?



13. According to the following table, what is the difference between the number of bikes sold in 2006 and 2010.

| Year | Bikes Sold | 0 |
|------|------------|---|
| 2005 | 153225     |   |
| 2006 | 226525     |   |
| 2007 | 854263     |   |
| 2008 | 685422     |   |
| 2009 | 212552     |   |
| 2010 | 584622     |   |

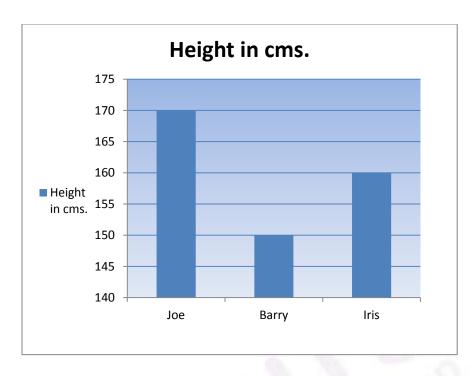
14. The marks scored by 4 students in three different subjects are as shown. Who scored maximum in Math?



- 15. Area of a rectangular field is 450 m<sup>2</sup>. The breadth of the field is 15 m. What is the ratio of length and area of the rectangular field?
- 16. In the following equation, find the ratio of a and b.

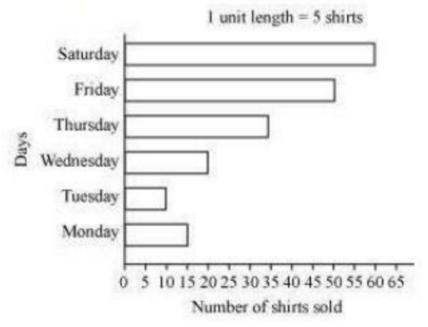
$$\frac{a}{50} = \frac{8}{b} = \frac{2}{5}$$

- 17. For every step that Ram takes, Sita takes 3 steps. If the number of steps taken by Sitais x, then what will be the number of steps taken by Ram?
- 18. If  $y = \frac{x+3}{12}$  Find the value of y if x = 45
- 19. The total number of lotuses in a lake grows in such a way that their number is increases twice the previous day. For e.g. If there are x lotuses on  $1^{st}$  day, then on  $2^{nd}$  day there will be 2x lotuses,  $3^{rd}$  day there will be  $(2 \times 2x = 4x)$  lotuses and so on. If there are 255 lotuses on  $5^{th}$  day, find the total number of lotuses on  $7^{th}$  day.
- 20. The heights of 3 students are given by the bar graph below. What is the difference between the height of Barry and Joe?



#### **SECTION C**

- 21. The ration of length and breadth of a rectangular field are in the ratio 3:2. The cost of fencing the field at Rs. 6.50 per meter is Rs. 520. Find the dimension of the field.
- 22. Draw the perpendicular bisector of line segment PQ of length 10. 2 cm.
- 23. The bar graph given below shows the sale of shirts in a shop from Monday to Saturday



- a. What is the scale chosen on the horizontal line representing the number of shirts
- b. On which day was the maximum number of shirts sold and how many shirts were sold on that day?

- c. On which day was the minimum number of shirts sold and how many shirts were sold on that day?
- d. How many shirts were sold on Thursday?
- 24. A child has x marbles initially. He goes on adding 10 marbles to his collection every day. Find the total number of marbles he has on  $31^{st}$  day.
- 25. Solve for x:

$$\frac{4}{5}x - \frac{9}{5} = \frac{6}{10}$$

#### **SECTION D**

- 26. Construct an angle of 135° using ruler and compass only.
- 27. A car requires 108 litres of petrol for covering a distance of 594 km. How much petrol will be required by the car to cover 1650 km?
- 28. Cost of 5 kg wheat is Rs. 30.50
  - a. What will be the cost of 8 kg wheat?
  - b. What quantity of wheat can be purchased for Rs. 61?
- 29. Consider the letters of English alphabet, A to Z. List among them the letters which have
  - a. Vertical lines of symmetry
  - b. Horizontal lines of symmetry
  - c. No lines of symmetry
- 30. A bus travels at v km/hr. It is going from Lucknow to Gorakhpur. After the bus has travelled for 5 hours, Gorakhpur is still 20 km away. What is the distance from Lucknow to Gorakhpur? Express it using v.