



DELHI PUBLIC SCHOOL, RANCHI

ANNUAL EXAMINATION (2016-17)

Class: VII
Time: 3hrs.

Subject: mathematics
M.M: 90

General Instructions:

1. All questions are compulsory.
2. The question paper consists of 31 questions divided into 4 sections A,B,C and D. **Section A** comprises of 4 questions of **1 mark** each, **Section B** comprises of 6 questions of **2 marks** each, **Section C** comprises of 10 questions of **3 marks** each, **Section D** comprises of 11 questions of **4 marks** each.
3. Handwriting should be neat and clean.

Section - A

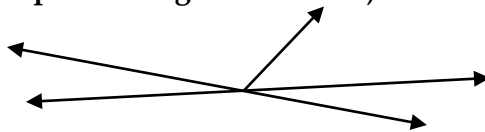
- Q1. Arrange the following in descending order : $\frac{1}{5}, \frac{3}{7}, \frac{7}{10}$
- Q2. Solve the following equation : $5(P-2) = 4 + 4(P-1)$
- Q3. Here are two nets to make dice (cubes); Insert suitable numbers in the blanks.
- Q4. Find the area of an isosceles triangle having the base 6cm and the length of each equal side 5cm.

Section-B

Q5. Give the steps you will use to separate the variable and solve the following equations:

a) $3N - 2 = 46$ b) $\frac{20p}{3} = 40$

Q6. Indicate which pairs of angles are : i) vertically opposite angles ii) Linear pairs



- Q7. Find the product, using suitable properties : a) $26x(-48) + (-48)X (-36)$ b) $7x(50-2)$.
- Q8. The temperature at 12 noon was 10°C above zero.If it decreases at the rate of 2°C per hour until midnight , at what time would the temperature be 8°C below zero? What would be the temperature at midnight?
- Q9. What are the coefficients of y in the following expressions? $4x - 3y, 8 + yz, 2yz + 5, my + m$.

Q10. A map is given with a scale of 2 cm = 1000 km. What is the actual distance between the two places in kms, if the distance in the map is 2.5 cm?

Section - C

Q11. Amal and Vimal went for a picnic. Their mother gave them a water bottle that contained 6 litres of water. Amal Consumed $\frac{2}{6}$ of the water. Vimal consumed the remaining water. A) How much water did Amal drink? B) what fraction of the total quantity of water did Vimal drink?

Q12. Raju's father's age is 5 years more than three times Raju's age. Find Raju's age, if his father is 44 years old.

Q13. The dimensions of a cuboid are 5 cm, 3 cm and 2 cm. Draw three different oblique sketches of this cuboid.

Q14. Juhi sells a washing machine for RS.13,500. She loses 20% in the bargain. What was the price at which she bought it?

Q15. Satpal walks $\frac{2}{3}$ km from a place P, towards east and then from there $1\frac{5}{7}$ km towards west. Where will he be now from P?

Q16. The adjoining figure shows two circles with the same centre. The radius of the larger circle is 10 cm and the radius of the smaller circle is 4 cm. Find: (a) the area of the larger circle (b) the area of the smaller circle (c) the shaded area between the two circles. ($\pi = 3.14$)

Q17. Two cross roads, each of width 5 m, run at right angles through the centre of a rectangular park of length 70 m and breadth 45 m and parallel to its sides. Find the area of the roads. Also, find the cost of constructing the roads at the rate of Rs.105 per m².

Q18. Simplify the expressions and find the value, if x is equal to 2: (i) $x + 7 + 4(x - 5)$ (ii) $3(x + 2) + 5a - 7$.

Q19. (A) Draw and Give three examples of shapes with no line of symmetry.

(B) Draw and give three examples of figures that have both line symmetry and rotational symmetry.

Q20. Simplify: i) $\frac{(2^5)^2 \times 7^3}{8^3 \times 7}$ ii) $\frac{25 \times 5^2 \times t^8}{10^3 \times t^4}$.

Section - D

Q21. Consider the following two collections of data giving the average daily hours of sunshine in two cities Aberdeen and Margate for all the twelve months of the year. These cities are near the south pole and hence have only a few hours of sunshine each day.

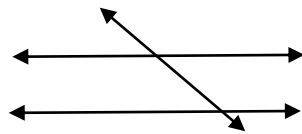
In Margate	Jan	Feb	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Average hours of sunshine	2	$3\frac{1}{4}$	4	4	$7\frac{3}{4}$	8	$7\frac{1}{2}$	7	$6\frac{1}{4}$	6	4	2
In Aberdeen												
Average hours of sunshine	$1\frac{1}{2}$	3	$3\frac{1}{2}$	6	$5\frac{1}{2}$	$6\frac{1}{2}$	$5\frac{1}{2}$	5	$4\frac{1}{2}$	4	3	$1\frac{3}{4}$

By drawing double bar graphs answer the following questions:

- (i) In which month does each city has maximum sunlight?
- (ii) In which months does each city has minimum sunlight?

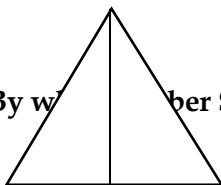
Q22. The three angles of a triangle are in the ratio 1:2:1. Find all the angles of the triangle. Classify the triangle in two different ways.

Q23. In the adjoining figure, identify



- (i) the pairs of corresponding angles.
- (ii) the pairs of alternate interior angles.
- (iii) the pairs of interior angles on the same side of the transversal.
- (iv) the vertically opposite angles.

Q24. In Fig. $AB = AC$ and D is the mid-point of BC . (i) State the three pairs of equal parts in $\triangle ADB$ and $\triangle ADC$. (ii) Is $\triangle ADB \cong \triangle ADC$? Give reasons. (iii) Is $\angle B = \angle C$? Why?



Q25. (a) By what number should we multiply $-8/13$ so that the product may be 24?

(b) Select those rational numbers which can be written as a rational number with denominator 4:
 $\frac{7}{8}$, $\frac{64}{16}$, $\frac{36}{-12}$, $\frac{-16}{17}$, $\frac{5}{-4}$, $\frac{140}{28}$.

Q26. (a) Find the value of n : $2^{n-5} \times 5^{n-4} = 5$.

(b) Compare the following number: 2.7×10^{12} and 1.5×10^8 .

Q27. Three times the sum of $[2x+y - \{5 - (x - 3y)\}]$ and $7x - 4y + 3$ is subtracted from $3x - 4y + 7$.

Q28. Draw a triangle ABC in which $BC = 4$ cm, $AB = 3$ cm and $\angle B = 45^\circ$. Also, draw a perpendicular from A on BC. (Write steps of construction)

Q29. Let l be a line and P be a point not on l . Through P, draw a line m parallel to l . Now join P to any point Q on l . Choose any other point R on m . Through R, draw a line parallel to PQ. Let this meet l at S. What shape do the two sets of parallel lines enclose?

Q30. If Rs.2500 is to be divided amongst Ravi, Raju and Roy, so that Ravi gets two parts, Raju three parts and Roy five parts. How much money will each get? What will it be in percentages?

Q31. 50 students of class VII planned a visit to an old age home and to spend the whole day with its inmates. The old age home was situated on a square shaped land of side 100m. At each corner of the land there is a flower bed in the form of a quadrant of radius 14m. i) Find the area of the remaining part of the land ii) Which value is depicted by the students?