

# ATOMIC ENERGY EDUCATION SOCIETY

## TERM –I EXAMINATION (2017-18)

**Date of Exam - 14 Sept. 2017**

**Class: VIII**  
**Subject : Mathematics**

**Time allowed: 3 hours**  
**Maximum Marks :80**

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### General Instructions:

1. This paper consists of 4 sections.
2. Section A has 10 Multiple Choice Questions and each question carries 1 mark.
3. Section B has 10 Questions and each question carries 2 marks.
4. Section C has 10 Questions and each question carries 3 marks.
5. Section D has 5 Questions and each question carries 4 marks.
6. Use of calculator is not permitted.

### SECTION A ( 10 X 1 = 10 M)

**I. Choose the correct answer from the alternatives given below.**

- 1) Multiplying  $\frac{6}{13}$  by the reciprocal of  $\frac{-7}{13}$  is
- a)  $\frac{-7}{6}$       b)  $\frac{6}{-7}$       c) 1      d)  $\frac{-42}{169}$
- 2) The degree of the linear equation is
- a) 0      b) 1      c) 2      d) not defined
- 3) The angle sum of a convex polygon with n sides is
- a)  $360^0$       b)  $(n-2) \times 180^0$       c)  $(n+2) \times 180^0$       d)  $180^0$
- 4) The difference between the upper class limit and the lower class limit is
- a) Range      b) Data      c) Frequency      d) Width
- 5) The one's digit in the cube of the number 52698 is
- a) 6      b) 4      c) 8      d) 2
- 6) The measure of each interior angle of a regular polygon of 9 sides is
- a)  $220^0$       b)  $180^0$       c)  $40^0$       d)  $140^0$
- 7) The number of digits in the square root of the number 100000000 is
- a) 5      b) 8      c) 1      d) 9

8) The volume of a cubical box is  $64 \text{ cm}^3$ , which of the following is the side of the box?

- a) 4 cm      b) 2cm      c) 6cm      d) 8cm

9) The additive inverse of  $\frac{-7}{19}$  is

- a)  $\frac{7}{19}$       b)  $\frac{19}{-7}$       c) 1      d)  $\frac{19}{7}$

10) The number of diagonals in a regular octagon is

- a) 8      b) 64      c) 20      d) 40

**II ) SECTION B ( 10 X 2 = 20 M)**

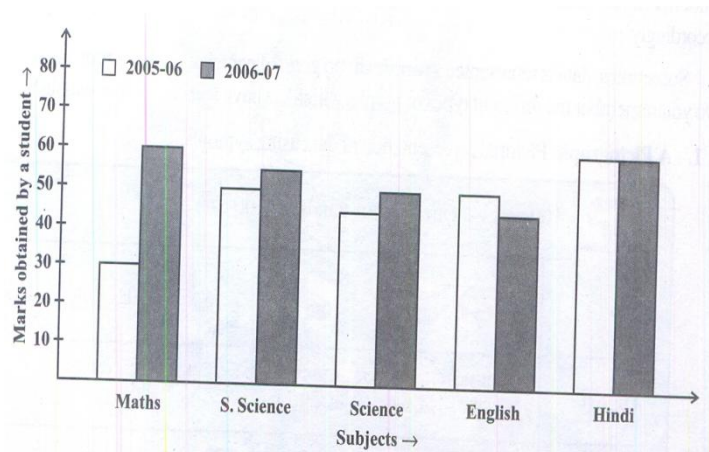
11. Find two rational numbers between  $\frac{-2}{3}$  and  $\frac{1}{4}$ .

12. Solve :  $m - \frac{m-1}{2} = 1 - \frac{m-2}{3}$

13. Explain how a square is a) a quadrilateral b) a rhombus

14. Draw  $AB = 5\text{cm}$  and construct  $\angle ABC = 105^\circ$ .

15. Read the following Double bar graph and answer the questions.



- a) What is the information given by the double bar graph?  
b) In which subject has the performance improved the most?  
c) In which subject has the performance deteriorated?  
d) In which subject has the performance at par?

16. Write a Pythagorean triplet whose one member is 15.

17. Parikshit makes a cuboid of plasticine of sides 5cm, 2cm, 5cm. How many such cuboids will he need to form a cube?

18. Represent the following numbers on the number line :  $-\frac{5}{3}$  and  $\frac{7}{3}$ .

19. The sum of three consecutive numbers is 51. Find these numbers?

20. How many numbers lie between squares of the numbers 12 and 13. Write the rule used.

### **III - SECTION C ( 10 X 3 = 30 M)**

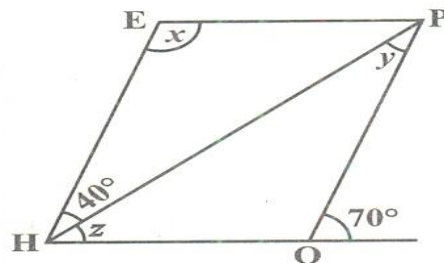
21. Using appropriate properties find:

a)  $-\frac{2}{3} \times \frac{3}{5} + \frac{5}{2} - \frac{3}{5} \times \frac{1}{6}$

b)  $\frac{4}{3} + \frac{3}{5} + \frac{-2}{3} + \frac{-11}{5}$

22. Ankit is now 9 years older than Bobby. In 10 years Ankit will be twice as old as Bobby was 10 years ago. Find their present ages.

23. The adjacent figure HOPE is a parallelogram. Find the angle measures x, y and z. State the properties you use to find them.



24. Construct a square in which each diagonal is 5cm long.

25. The table shows the colours preferred by a group of people. Draw a pie chart showing the given information

Colour	red	blue	green	yellow	total
Number of people	18	9	3	6	36

26. Find the square root of:

a)  $\sqrt{81}$  ( repeated subtraction method)

b)  $\sqrt{3249}$  ( long division method )

27. Three numbers are in the ratio 1: 2: 3 and the sum of their cubes is 4500. Find the numbers.

28. Simplify and solve the following linear equations:

a)  $15(y - 4) - 2(y - 9) + 5(y + 6) = 0$

b)  $5t + 9 = 5 + 3t$

29. A die is thrown

a) List the possible outcomes.

b) What is the probability of getting a factor of 6?

c) What is the probability of getting a number greater than 6?

30. Find the cube root of :

a) 216 ( prime factorization method )

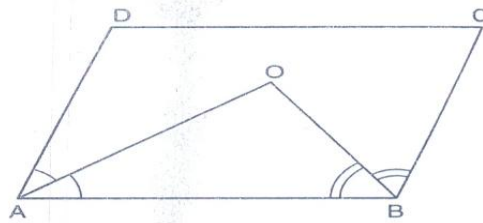
b) 12167 ( Estimation method )

### **SECTION D ( 5 X 4 = 20 M)**

31. A number consists of 2 digits whose sum is 8. If 18 is added to the number its digits are reversed. Find the number.

32. In a parallelogram ABCD , the bisectors of  $\angle A$  and  $\angle B$  meet at o.

Find  $\angle AOB$ .



33. Construct a quadrilateral DEAR where DE = 4cm , EA= 5 cm, AR = 4.5 cm,

$$\angle E = 60^\circ \text{ and } \angle A = 90^\circ.$$

34. Is 2925 a perfect square? If no, find the smallest whole number by which it should be divided so as to get a perfect square. Also find the square root of the square number so obtained.

35. The marks obtained by 40 students of class VIII in an examination are given below.

18	8	12	0	8	16	12	5	23	2
16	23	2	10	20	12	9	7	6	5
3	5	13	21	13	15	20	24	1	7
21	16	13	18	23	7	3	18	17	16

Using tally marks make frequency table with intervals 0-5, 5-10 and so on. Also draw a histogram for the frequency table made.