

# KENDRIYA VIDYALAYA VIJAYAPURA

## SAMPLE PAPER FOR HALF YEARLY EXAM (2019-20)

**SUBJECT: MATHEMATICS**  
**CLASS : VIII**

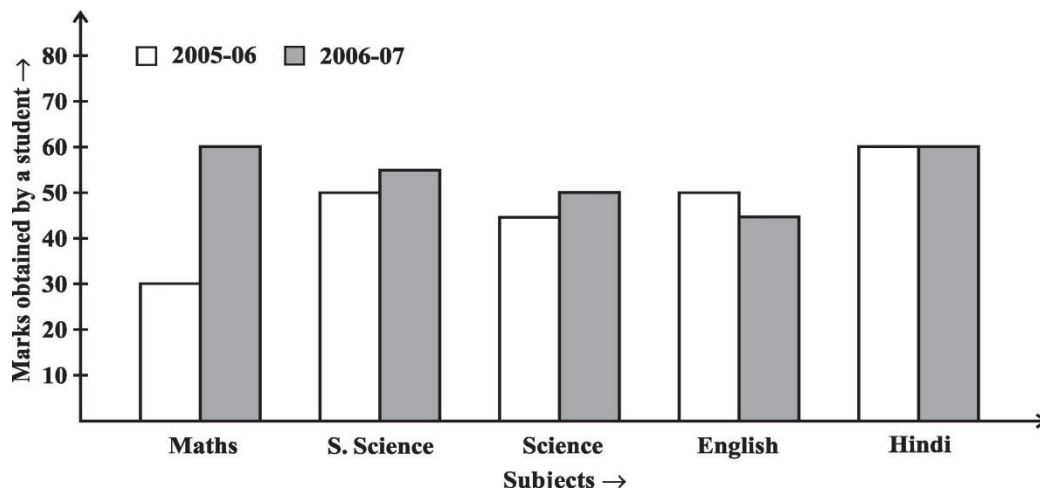
**MAX. MARKS : 80**  
**DURATION : 2 ½ HRS**

- (i). All questions are compulsory.
- (ii). This question paper contains 40 questions divided into four Sections A, B, C and D.
- (iii). **Section A** comprises of 20 questions of **1 mark** each. **Section B** comprises of 6 questions of **2 marks** each. **Section C** comprises of 8 questions of **3 marks** each and **Section D** comprises of 6 questions of **4 marks** each.
- (iv). There is no overall choice. However, an internal choice has been provided in two questions of 2 marks each, two questions of 3 marks each and two questions of 4 marks each. You have to attempt only one of the alternatives in all such questions.
- (v). Use of Calculators is not permitted

### SECTION – A

Questions 1 to 20 carry 1 mark each.

Following bar graph shows marks obtained by a student in 2005–06 and 2006–07 subject wise. Read and answer the questions from Q1 – Q2



1. In which subject has the performance deteriorated ?  
(a) English                      (b) Science                      (c) S.Science                      (d) None of these
2. Find the marks obtained in Maths by a student in 2005 – 06.  
(a) 30                              (b) 60                              (c) 50                              (d) 40
3. The smallest natural number by which 704 must be divided to obtain a perfect cube is ....  
(a) 22                              (b) 12                              (c) 11                              (d) 13
4. What will be the number of digits in the square root of 1296?  
(a) 3                              (b) 2                              (c) 1                              (d) 4
5. Minimum possible interior angle in a regular polygon is .....  
(a)  $60^{\circ}$                               (b)  $70^{\circ}$                               (c)  $120^{\circ}$                               (d)  $90^{\circ}$
6. What is the number of sides in Heptagon?  
(a) 4                              (b) 7                              (c) 6                              (d) 5
7. Sum of two numbers is 95. If one exceeds the other by 15, find the numbers.

- (a) 55,35                      (b) 50, 45                      (c) 40, 25                      (d) none of these

8. The sum of rational numbers  $-\frac{5}{16}$  and  $\frac{7}{12}$

- (a)  $-\frac{7}{48}$                       (b)  $-\frac{11}{30}$                       (c)  $\frac{13}{48}$                       (d)  $\frac{1}{3}$

9. Find the ratio of the speed of the cycle 15km per hour to the speed of scooter 30km per hour.

- (a) 2 : 1                      (b) 4 : 5                      (c) 1 : 2                      (d) none of these

10. In a computer lab, there are 3 computers for every 6 students. How many computers will be needed for 24 students?

- (a) 12                      (b) 14                      (c) 16                      (d) none of these

11. A bag has 4 red balls and 2 yellow balls, (The balls are identical in all respects other than colour). A ball is drawn from the bag without looking into the bag. What is the probability of getting a red ball?

- (a)  $\frac{4}{6}$                       (b)  $\frac{2}{6}$                       (c)  $\frac{1}{4}$                       (d)  $\frac{1}{2}$

12. Solve for  $y : y + 3 = 10$

- (a) 7                      (b) 5                      (c) 10                      (d) 3

13. Solve  $3x = 2x + 18$

- (a) 10                      (b) 8                      (c) 18                      (d) - 18

14. Write the multiplicative inverse of  $-\frac{7}{5}$

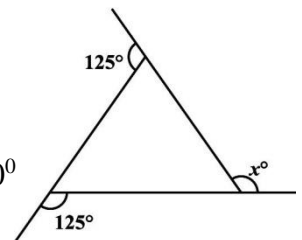
- (a)  $-\frac{5}{7}$                       (b)  $\frac{5}{7}$                       (c)  $\frac{7}{5}$                       (d)  $-\frac{7}{5}$

15. The list price of a frock is Rs. 220. A discount of 20% is announced on sales. What is the amount of discount on it?

- (a) 40                      (b) 44                      (c) 34                      (d) 50

16. The value of  $x$  in the adjoining figure is .....

- (a)  $140^{\circ}$                       (b)  $40^{\circ}$                       (c)  $110^{\circ}$                       (d)  $100^{\circ}$



17. The square of the number 32 is .....

- (a) 764                      (b) 1764                      (c) 1024                      (d) 1264

18. Find the measure of each of the exterior angle of a regular polygon of 9 sides.

- (a)  $60^{\circ}$                       (b)  $40^{\circ}$                       (c)  $90^{\circ}$                       (d)  $100^{\circ}$

19. Find the cube root of 17576 through estimation.

- (a) 36                      (b) 48                      (c) 46                      (d) 56

20. If chameli had Rs. 600 left after spending 75% of her money, how much did she have in the beginning?

- (a) 2000                      (b) 2400                      (c) 3600                      (d) 3000

## SECTION – B

Questions 21 to 26 carry 2 marks each

21. Find two rational numbers between  $\frac{3}{5}$  and  $\frac{3}{4}$ .

OR

Find  $\frac{-4}{3} \times \frac{3}{7} \times \frac{15}{16} \times \frac{-14}{9}$

22. After 12 years, Kanwar shall be 3 times as old as he was 4 years ago. Find his present age.  
 23. Using prime factorization, find the cube roots of 512.  
 24. Find the number of sides of regular polygon whose each exterior angle has a measure of  $45^\circ$ .

OR

How many sides does a regular polygon have if the measure of an exterior angle is  $24^\circ$ ?

25. The weekly wages (in Rs) of 30 workers in a factory are:

830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855,  
 845, 804, 808, 812, 840, 885, 835, 835, 836, 878, 840, 868, 890, 806, 840

Using tally marks make frequency table with class intervals as 800 – 810, 810 – 820, and so on.

26. Using prime factorization, find the square root of 11025.

### SECTION – C

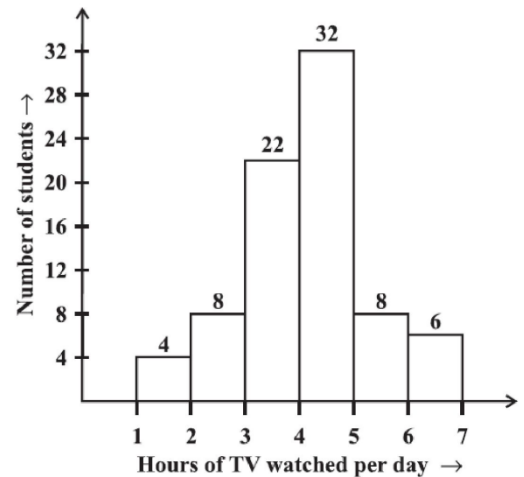
**Questions 27 to 34 carry 3 marks each**

27. Numbers 1 to 20 are written on ten separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of  
 (i) getting a number 6?  
 (ii) getting a number less than 6?  
 (iii) getting a one digit number ?

OR

The number of hours for which students of a particular class watched television during holidays is shown through the given graph. Answer the following.

- (i) For how many hours did the maximum number of students watch TV?  
 (ii) How many students watched TV for less than 4 hours?  
 (iii) How many students spent more than 5 hours in watching TV?



28. Represent these numbers on the number line:

(a)  $\frac{7}{6}$       (b)  $-\frac{5}{6}$       (c)  $\frac{3}{5}$

29. Construct a quadrilateral PQRS where PQ = 4 cm, QR = 6 cm, RS = 5 cm, PS = 5.5 cm and PR = 7 cm.

30. Find CI on Rs 12600 for 2 years at 10% per annum compounded annually.

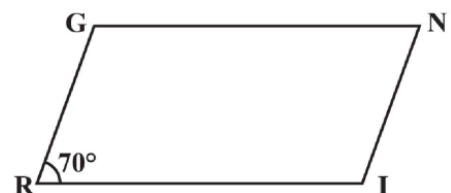
31. Solve :  $\frac{x+1}{2x+3} = \frac{3}{8}$

32. Find the cube root of 13824 by prime factorisation method.

OR

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

33. In a parallelogram RING, (see below Figure) if  $m \angle R = 70^\circ$ , find all the other angles.



34. By what smallest number should 216 be divided so that the quotient is a perfect square. Also find the square root of the quotient.

### **SECTION – D**

**Questions 35 to 40 carry 4 marks each.**

35. The digits of a two-digit number differ by 3. If the digits are interchanged, and the resulting number is added to the original number, we get 143. What can be the original number?

**OR**

Present ages of Anu and Raj are in the ratio 4:5. Eight years from now the ratio of their ages will be 5:6. Find their present ages.

36. During a mass drill exercise, 6250 students of different schools are arranged in rows such that the number of students in each row is equal to the number of rows. In doing so, the instructor finds out that 9 children are left out. Find the number of children in each row of the square.

**OR**

A hall has a capacity of 2704 seats. If the number of rows is equal to the number of seats in each row, then find the number of seats in each row.

37. Difference of two perfect cubes is 189. If the cube root of the smaller of the two numbers is 3, find the cube root of the larger number.




38. Construct a quadrilateral ABCD, where  $AB = 4$  cm,  $BC = 5$  cm,  $CD = 6.5$  cm and  $\angle B = 105^\circ$  and  $\angle C = 80^\circ$ .

39. The population of a place increased to 54,000 in 2003 at a rate of 5% per annum

- (i) Find the population in 2001.
- (ii) What would be its population in 2005?
- (iii) Write any two effects of high populations?

40. A group of 360 people were asked to vote for their favourite season from the three seasons rainy, winter and summer.

- (i) Which season got the most votes?
- (ii) Find the central angle of each sector.
- (iii) Draw a pie chart to show this information.

Season	No. of votes
Summer 	90
Rainy 	120
Winter 	150