

**KENDRIYA VIDYALAYA GACHIBOWLI , GPRA CAMPUS, HYD-32**  
**SAMPLE PAPER 02 FOR HALF YEARLY EXAM (2019-20)**

SUBJECT: MATHEMATICS

**BLUE PRINT FOR HALF YEARLY EXAM: CLASS VII**

| Chapter                            | MCQ<br>(1 mark) | VSA<br>(1 mark) | SA – I<br>(2 marks) | SA – II<br>(3 marks) | LA<br>(4 marks) | Total         |
|------------------------------------|-----------------|-----------------|---------------------|----------------------|-----------------|---------------|
| <b>Integers</b>                    | 1(1)            | 1(1)            | <b>2(1)*</b>        | --                   | 4(1)            | <b>8(4)</b>   |
| <b>Fractions and Decimals</b>      | 1(1)            | 2(2)            | 2(1)                | <b>3(1)*</b>         | --              | <b>8(5)</b>   |
| <b>Data Handlings</b>              | 1(1)            | 1(1)            | --                  | 3(1)                 | <b>4(1)*</b>    | <b>9(4)</b>   |
| <b>Simple Equations</b>            | 1(1)            | 1(1)            | <b>2(1)*</b>        | 3(1)                 | 4(1)            | <b>11(5)</b>  |
| <b>Lines and Angles</b>            | 2(2)            | 1(1)            | 2(1)                | <b>3(1)*</b>         | 4(1)            | <b>12(6)</b>  |
| <b>Triangle and its properties</b> | 1(1)            | 1(1)            | 2(1)                | 6(2)                 | --              | <b>10(5)</b>  |
| <b>Congruence of Triangles</b>     | 1(1)            | 1(1)            | 2(1)                | 3(1)                 | 4(1)            | <b>11(5)</b>  |
| <b>Comparing Quantities</b>        | 2(2)            | 2(2)            | --                  | 3(1)                 | <b>4(1)*</b>    | <b>11(6)</b>  |
| <b>Total</b>                       | <b>10(10)</b>   | <b>10(10)</b>   | <b>12(6)</b>        | <b>24(8)</b>         | <b>24(6)</b>    | <b>80(40)</b> |

**MARKING SCHEME FOR PERIODIC TEST - II**

| SECTION            | MARKS | NO. OF QUESTIONS | TOTAL     |
|--------------------|-------|------------------|-----------|
| <b>MCQ</b>         | 1     | 10               | 10        |
| <b>VSA</b>         | 1     | 10               | 10        |
| <b>SA – I</b>      | 2     | 6                | 12        |
| <b>SA – II</b>     | 3     | 8                | 24        |
| <b>LA</b>          | 4     | 6                | 24        |
| <b>GRAND TOTAL</b> |       |                  | <b>80</b> |

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**SUBJECT: MATHEMATICS**  
**CLASS : VII**

**MAX. MARKS : 80**  
**DURATION : 3 HRS**

**General Instructions:**

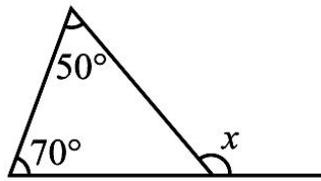
- (i). All questions are compulsory.
- (ii). This question paper contains 40 questions divided into four Sections A, B, C and D.
- (iii). **Section A** comprises of 20 questions of **1 mark** each. **Section B** comprises of 6 questions of **2 marks** each. **Section C** comprises of 8 questions of **3 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.**

1. The hypotenuse of a right triangle is 17 cm long. If one of the remaining two sides is 8 cm in length, then the length of the other side is  
(a) 15 cm            (b) 12 cm            (c) 13 cm            (d) none of these.
2. In triangles ABC and PQR,  $\angle B = 90^\circ$ , AC = 8 cm, AB = 3 cm,  $\angle P = 90^\circ$ , PR = 3 cm, QR = 8 cm  
By which congruence rule the triangles are congruent ?  
(a) SAS            (b) RHS            (c) ASS            (d) none of these
3. A school team won 6 games this year against 4 games won last year. What is the per cent increase?  
(a) 75%            (b) 50%            (c) 60%            (d) none of these
4. The number of illiterate persons in a country decreased from 150 lakhs to 100 lakhs in 10 years. What is the percentage of decrease?  
(a) 30%            (b) 50%            (c) 33 %            (d) none of these
5. Find the angle, which is equal to its complement.  
(a)  $30^\circ$             (b)  $25^\circ$             (c)  $35^\circ$             (d)  $45^\circ$
6. If two adjacent angles are supplementary, then they form \_\_\_\_\_ .  
(a) Corresponding angles            (b) vertically opposite angles  
(c) a linear pair of angles            (d) a ray
7. Write the statements “One third of a number plus 5 is 8” in the form of equations:  
(a)  $3m + 5 = 8$             (b)  $m + 5 = 8$             (c)  $\frac{1}{3}m + 5 = 8$             (d)  $\frac{1}{3}m + 8 = 5$
8. The mean of the first seven natural number is \_\_\_\_\_ .  
(a) 2            (b) 5            (c) 3            (d) 4
9. The value of  $1.3 \times 3.1$  is  
(a) 403            (b) 0.403            (c) 4.03            (d) 0.0403
10.  $-6 \div (-3)$  gives  
(a) -9            (b) 2            (c) -2            (d) 3

11. Solve:  $3n + 7 = 25$
12. Evaluate:  $(-31) \div [(-30) + (-1)]$
13. Express 7 rupees 7 paise as rupees using decimals.
14. Find the value of  $0.5 \div 1000$
15. A school team won 6 games this year against 4 games won last year. What is the percent increase?
16. Find the angle which is equal to its supplement.
17. What is the side included between the angles M and N of  $\triangle MNP$ ?
18. Find the value of the unknown exterior angle  $x$  in the below diagrams:



19. Find the ratio of 9 m to 27 cm
20. Ashish studies for 4 hours, 5 hours and 3 hours respectively on three consecutive days. How many hours does he study daily on an average?

### SECTION – B

Questions 21 to 26 carry 2 marks each.

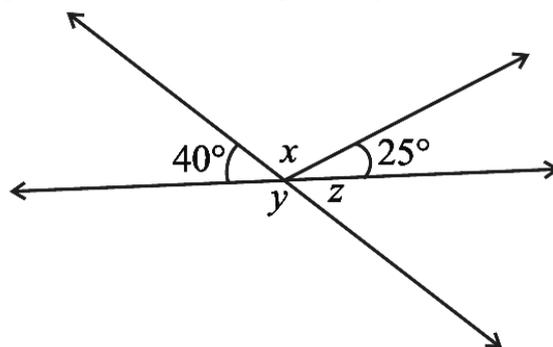
21. The temperature at 12 noon was  $10^\circ\text{C}$  above zero. If it decreases at the rate of  $2^\circ\text{C}$  per hour until midnight, at what time would the temperature be  $8^\circ\text{C}$  below zero? What would be the temperature at mid-night?

**OR**

Evaluate each of the following:

(a)  $[(-36) \div 12] \div 3$  (b)  $[(-6) + 5] \div [(-2) + 1]$

22. Find the values of the angles  $x$ ,  $y$ , and  $z$  in the given figure:



23. If  $\triangle DEF \cong \triangle BCA$ , write the part(s) of  $\triangle BCA$  that correspond to (i)  $\angle E$  (ii)  $EF$  (iii)  $\angle F$  (iv)  $DF$
24.  $PQR$  is a triangle right angled at  $P$ . If  $PQ = 10$  cm and  $PR = 24$  cm, find  $QR$ .

25. The length of a rectangle is 7.1 cm and its breadth is 2.5 cm. What is the area of the rectangle?

26. Solve the following equations.

(a)  $10 = 4 + 3(t + 2)$  (b)  $28 = 4 + 3(t + 5)$

**OR**

The sum of three times a number and 11 is 32. Find the number.

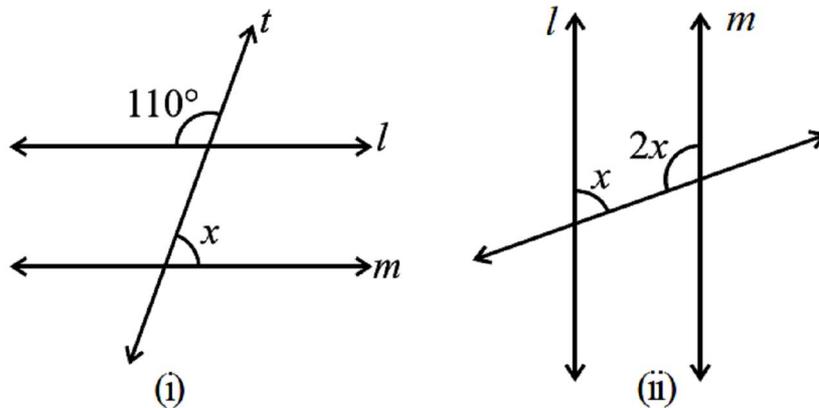
### SECTION – C

Questions 27 to 34 carry 3 marks each.

27. The marks (out of 100) obtained by a group of students in a science test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75. Find the:

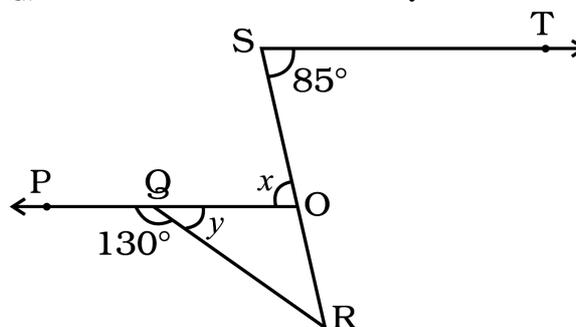
- (i) Range of the marks obtained.
- (ii) Mean marks obtained by the group.
- (iii) What you will do to get good marks?

28. Find the value of  $x$  in each of the following figures if  $l \parallel m$ .



**OR**

In the below figure, if  $PQ \parallel ST$  then find the value of  $x + y$ .



29. If Meena gives an interest of Rs 45 for one year at 9% rate p.a.. What is the sum she has borrowed?

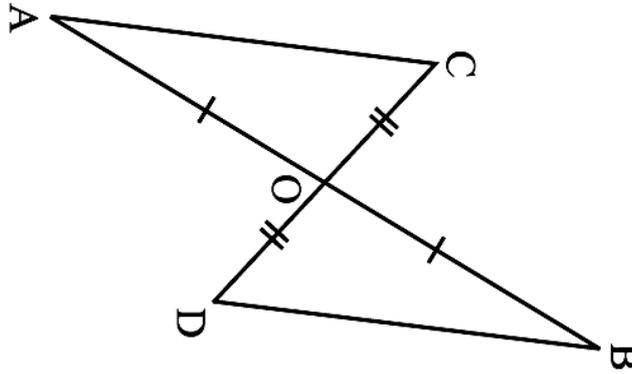
30. Solve (a)  $4(m + 3) = 18$  (b)  $-2(x + 3) = 5$

31. Sushant reads  $\frac{1}{3}$  part of a book in 1 hour. How much part of the book will he read in  $2\frac{1}{5}$  hours?

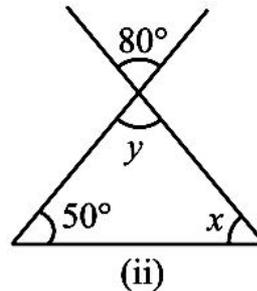
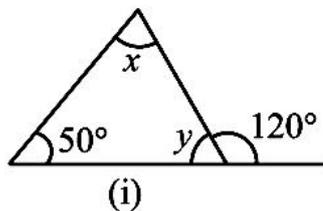
**OR**

Find: (i)  $36 \div 0.2$  (ii)  $3.25 \div 0.5$  (iii)  $30.94 \div 0.7$

32. In the below figure, AB and CD bisect each other at O. Prove that (i)  $\triangle AOC \cong \triangle BOD$  (ii)  $AC = BD$



33. Find the values of the unknowns  $x$  and  $y$  in the following diagrams:



34. The foot of a ladder is 6 m away from its wall and its top reaches a window 8 m above the ground, (a) Find the length of the ladder. (b) If the ladder is shifted in such a way that its foot is 8 m away from the wall, to what height does its top reach?

OR

Two poles of 10 m and 15 m stand upright on a plane ground. If the distance between the tops is 13 m, find the distance between their feet.

### SECTION – D

Questions 35 to 40 carry 4 marks each.

35. Manoj donates Rs. 2000 to a school, the interest on which is to be used for awarding 5 scholarships of equal value every year. If the donator earns an interest of 10% per annum, find the value of each scholarship.

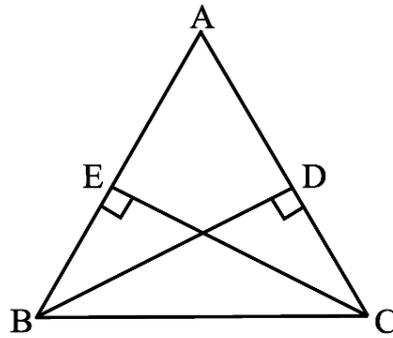
OR

A shopkeeper earns a profit of Re 1 by selling one pen and incurs a loss of 40 paise per pencil while selling pencils of her old stock. (i) In a particular month she incurs a loss of Rs 5. In this period, she sold 45 pens. How many pencils did she sell in this period? (ii) In the next month she earns neither profit nor loss. If she sold 70 pens, how many pencils did she sell?

36. The length of a rectangle is two times its width. The perimeter of the rectangle is 180 cm. Find the dimensions of the rectangle and also find its area.

37. In the below figure, BD and CE are altitudes of  $\triangle ABC$  such that  $BD = CE$ .

- (i) State the three pairs of equal parts in  $\triangle CBD$  and  $\triangle BCE$ .
- (ii) Is  $\triangle CBD \cong \triangle BCE$ ? Why or why not?
- (iii) Is  $\angle DCB = \angle ECB$ ? Why or why not?



38. It takes 17 full specific type of trees to make one tonne of paper. If there are 221 such trees in a forest, then (i) what fraction of forest will be used to make; (a) 5 tonnes of paper. (b) 10 tonnes of paper. (ii) To save  $\frac{7}{13}$  part of the forest how much of paper we have to save.

39. A cement company earns a profit of Rs 8 per bag of white cement sold and a loss of Rs 5 per bag of grey cement sold.

(a) The company sells 3,000 bags of white cement and 5,000 bags of grey cement in a month. What is its profit or loss?

(b) What is the number of white cement bags it must sell to have neither profit nor loss, if the number of grey bags sold is 6,400 bags.

40. Two hundred students of 6th and 7th class were asked to name their favourite colour so as to decide upon what should be the colour of their School Building. The results are shown in the following table. Represent the given data on a bar graph.

| Favourite Colour   | Red | Green | Blue | Yellow | Orange |
|--------------------|-----|-------|------|--------|--------|
| Number of Students | 43  | 19    | 55   | 49     | 34     |

Answer the following questions with the help of the bar graph:

(i) Which is the most preferred colour and which is the least preferred?

(ii) How many colours are there in all? What are they?

