KENDRIYA VIDYALAYA, EMBASSY OF INDIA, KATHMANDU, NEPAL
PRACTICE PAPER 03 (2025-26)
CHAPTER 07 COORDINATE GEOMETRY

SUBJECT: MATHEMATICS   MAX. MARKS : 40
CLASS : X   DURATION : 1½ hrs

General Instructions:
(i).   **All** questions are compulsory.
(ii).   This question paper contains 2**0** questions divided into five Sections A, B, C, D and E.
(iii). **Section A** comprises of **10 MCQs** of **1 mark** each. **Section B** comprises of 4 questions of **2 marks**
        each. **Section C** comprises of 3 questions of **3 marks** each. **Section D** comprises of 1 question of **5**
        marks each and **Section E** comprises of 2 Case Study Based Questions of **4 marks** each.
(iv).   There is no overall choice.
(v).   **Use of Calculators is not permitted**

SECTION – A
Questions 1 to 10 carry 1 mark each.

1. Points A(3, 1), B(5, 1), C(a, b) and D(4, 3) are vertices of a parallelogram ABCD. The values of
    a and b are respectively
    (a) a = 6, b = 3   (b) a = 2, b = 1   (c) a = 4, b = 2   (d) None of these

2. If the distance between the points $(x, -1)$ and $(3, 2)$ is 5, then the value of x is
    (a) –7 or –1   (b) –7 or 1   (c) 7 or 1   (d) 7 or –1

3. The ratio in which x-axis divides the join of (2, -3) and (5, 6) is:
    (a) 1: 2   (b) 3 : 4   (c) 1: 3   (d) 1: 5

4. Points A(–1, y) and B(5, 7) lie on a circle with centre O(2, –3y). The values of y are
    (a) 1, –7   (b) –1, 7   (c) 2, 7   (d) –2, –7

5. If C(1, –1) is the mid-point of the line segment AB joining points A(4, x) and B(– 2, 4), then
    value of x is :
    (a) 5   (b) – 5   (c) 6   (d) – 6

6. The coordinate of point P on X-axis equidistant from the points A (–1, 0) and B (5, 0) is
    (a) (2, 0)   (b) (0, 2)   (c) (3, 0)   (d) (2, 2)

7. The ratio in which the line segment joining the points P(-3, 10) and Q(6, –8) is divided by O(-1,
    6) is:
    (a) 1:3   (b) 3:4   (c) 2:7   (d) 2:5

8. The vertices of a parallelogram in order are A(1, 2), B(4, y), C(x, 6) and D(3, 5). Then (x, y) is:
    (a) (6, 3)   (b) (3, 6)   (c) (5, 6)   (d) (1, 4)

In the following questions 9 and 10, a statement of assertion (A) is followed by a statement of
reason (R). Mark the correct choice as:
(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
(c) Assertion (A) is true but reason (R) is false.
(d) Assertion (A) is false but reason (R) is true.

9. **Assertion (A):** The value of y is 3, if the distance between the points P(2, -3) and Q(10, y) is 10.
    Reason (R): Distance between two points is given by $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

10. Assertion (A): The point (–1, 6) divides the line segment joining the points (–3, 10) and (6, –8) in the ratio 2 : 7 internally.
Reason (R): Given three points, i.e. A, B, C form an equilateral triangle, then AB = BC = AC.

SECTION – B
Questions 11 to 14 carry 2 marks each.

11. Find the ratio in which the line segment joining the points (6, 4) and (1, –7) is divided by x-axis.

12. The line segment AB joining the points A(3, –4) and B(1, 2) is trisected at the points P(p, –2) and Q(5/3, q). Find the values of p and q.

13. What point on the x-axis is equidistant from (7, 6) and (– 3, 4)?

14. Use distance formula to show that the points A(– 2, 3), B(1, 2) and C(7, 0) are collinear.

SECTION – C
Questions 15 to 17 carry 3 marks each.

15. Show that the points A(1, 2), B(5, 4), C(3, 8) and D (–1, 6) are the vertices of a square.

16. If A(5, 3), B(11, –5) and C(12, y) are vertices of a right triangle right angled at C, then find the value of y.
OR
Find the coordinates of the point of trisection of the line segment joining (1, –2) and (–3, 4).
Ans: Let the points P and Q trisect AB.

17. In what ratio does the line $x - y - 2 = 0$ divide the line segment joining (3, –1) and (8, 9)?
OR
Find the ratio in which the point (2, y) divides the line segment joining the points A(–2, 2) and B(3, 7). Also find the value of y.

SECTION – D
Questions 18 carry 5 marks.

18. Find the centre of a circle passing through (5, – 8), (2, – 9) and (2, 1).
OR
If the points (10, 5), (8, 4) and (6, 6) are the mid-points of the sides of a triangle, find its vertices.

SECTION – E (Case Study Based Questions)
## Questions 19 to 20 carry 4 marks each.

19. In the sport of cricket the Captain sets the field according to a plan. He instructs the players to take a position at a particular place. There are two reasons to set a cricket field—to take wickets and to stop runs being scored.

The following graph shows the position of players during a cricket match.

(i) Find the coordinate of the point on y-axis which are equidistant from the points representing the players at Cover P(2, –5) and Mid-wicket Q(–2, 9)
(ii) Find the ratio in which x-axis divides the line segment joining the points Extra Cover S(3, –3) and Fine Leg (–2, 7).

---
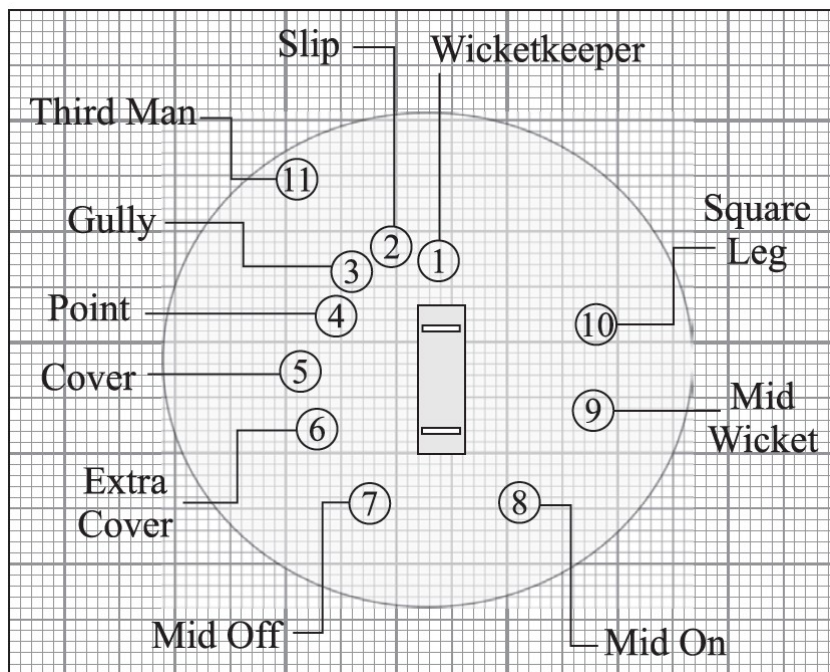
20. Aditya, Ritesh and Damodar are fast friend since childhood. They always want to sit in a row in the classroom . But teacher doesn't allow them and rotate the seats row-wise everyday. Ritesh is very good in maths and he does distance calculation everyday. He consider the centre of class as origin and marks their position on a paper in a co-ordinate system. One day Ritesh make the following diagram of their seating position marked Aditya as A, Ritesh as B and Damodar as C.
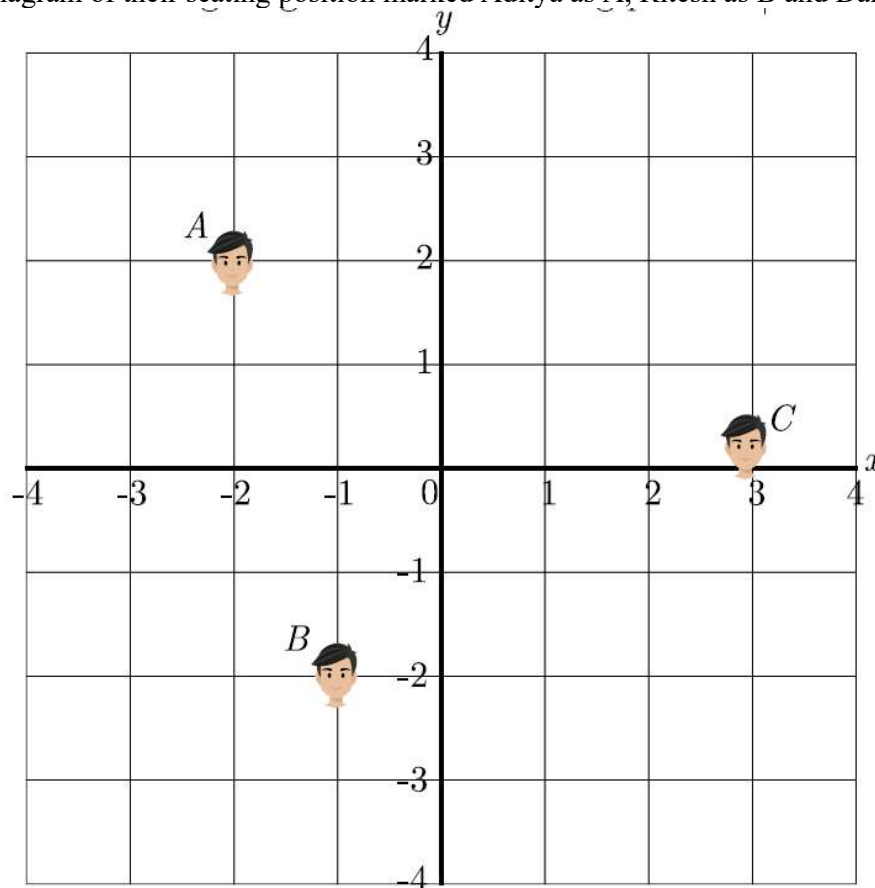
(i) What is the distance between A and B ? [1]
(ii) What is the distance between B and C ? [1]

(iii) A point D lies on the line segment between points A and B such that AD :DB = 4 : 3 . What are the the coordinates of point D ? [2]

OR

(iii) If the point P(k, 0) divides the line segment joining the points A(2, –2) and B(–7, 4) in the ratio 1 : 2, then find the value of k [2]