A

INDIAN SCHOOL MUSCAT
SECOND PERIODIC ASSESSMENT

MATHEMATICS

CLASS: XI   Sub. Code: 041   Time Allotted: 50mts.

16.01.2020   Max. Marks: 20

GENERAL INSTRUCTIONS:
- *All questions are compulsory.*
- *Questions 1 to 4 carry Two marks each.*
- *Questions 5 to 7 carry Four marks each.*

1. Find the equation of the set of points which are equidistant from the points (1, 2 , 3) and (3, 2 , -1). **2**

2. Given that P (3 , 2 , -4) ,Q (5 ,4 ,-6) and R (9 , 8 , -10) are collinear. Find the ratio in which Q divides PR. **2**

3. One end of a diameter of the circle $x^2 + y^2 - 6x + 5y - 7 = 0$ is (-1 , 3).Find the coordinates of the other end. **2**

4. Find the equation of the hyperbola where foci are $(\pm 5,0)$ and the transverse axis is of length 8. **2**

5. Find the lengths of the medians of the triangle with vertices A (3 ,-5 , 7), B (-1 ,7,-6) and C (1 , 1 , 2) .Also find the centroid of the triangle. **4**

6. An arch is in the form of a parabola with its axis vertical. The arch is 10 m high and 5 m wide at the base. How wide is it 2 m from the vertex of the parabola? **4**

7. Find the equation of the circle which passes through the points (5 , 0), (1 , 4) and whose centre lies on the line x + y − 3 = 0. **4**

End of the Question Paper

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1. Are the points P (0 , 7 , 10) , Q (-1 , 6 , 6) and R (-4 , 9 , 6), the vertices of a right angled triangle? **2**

2. Given that A (3 , 2 , -4) ,B (5 ,4 ,-6) and C (9 , 8 , -10) are collinear. Find the ratio in which C divides AB. **2**

3. One end of a diameter of the circle $x^2 + y^2 - 6x + 5y - 7 = 0$ is (-1 , 3). Find the coordinates of the other end. **2**

4. Find the equation of the ellipse, whose foci are $(0, \pm 5)$ and the length of the major axis is 20. **2**

5. An arch is in the form of a parabola with its axis vertical. The arch is 10 m high and 5 m wide at the base. How wide is it 2 m from the vertex of the parabola? **4**

6. Find the equation of the circle which passes through the points (2 , -2), (3 , 4) and whose centre lies on the line x + y = 2. **4**

7. Find the lengths of the medians of the triangle with vertices A (3 ,-5 , 7) , B (-1 ,7,-6) and C (1 , 1 , 2) .Also find the centroid of the triangle. **4**

End of the Question Paper

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1. Find the equation of the ellipse, whose foci are $(0, \pm 5)$ and the length of the major axis is 20.   2

2. Given that P (3 , 2 , -4), Q (5 ,4 ,-6) and R (9 , 8 , -10) are collinear. Find the ratio in which Q divides PR.   2

3. One end of a diameter of the circle $x^2 + y^2 - 6x + 5y - 7 = 0$ is (-1 , 3). Find the coordinates of the other end.   2

4. Find the equation of the set of points which are equidistant from the points (1, 2 , 3) and (3 , 2 , -1).   2

5. An arch is in the form of a parabola with its axis vertical. The arch is 10 m high and 5 m wide at the base. How wide is it 2 m from the vertex of the parabola?   4

6. Find the equation of the circle which passes through the points (5 , 0), (1 , 4) and whose centre lies on the line x + y – 3 = 0.   4

7. Find the lengths of the medians of the triangle with vertices A (3 ,-5 , 7) , B (-1 ,7,-6) and C (1 , 1 , 2). Also find the centroid of the triangle.   4

End of the Question Paper