**KENDRIYA VIDYALAYA GILL NAGAR CHENNAI**

**CLASS X MATHEMATICS**

**REVISION QUESTIONS FOR FA – 3.**

**BLUE PRINT**

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| **Topic** | **Objective type (1 mark)** | **V.S.A(2 Mark)** | **S.A(3mark)** | **Long Answer (4Mark)** | **Total****Marks** |
| **Quadratic Equations** | **3** | **1** |  | **1** | **9** |
| **Arithmetic Progression** | **3** | **1** | **1** | **1** | **12** |
| **Circles** | **4** | **1** | **2** |  | **12** |
| **Construction** |  |  | **1** | **1** | **7** |
| **Total Questions** | **10(1)** | **3(2)** | **4(3)** | **3(4)** | **40** |

**QUADRATIC EQUATIONS**

1. If one root of the quadratic equation 2x2 – 10x + k = 0 is 1 find k.(1 mark)
2. Find the roots of the quadratic equation x – 2x + 1 = 0. (2 marks)
3. Find the value of k if the roots of the quadratic equation kx(x-2) + 6 = 0 are equal (2 marks)
4. Find the value of for which the quadratic equation 4x2 – 2(p + 1)x +(p + 1) =0 has equal roots.

 (2 Marks)

1. The speed of a motor boat is 11 km / hr. in still water.it can go 12 km up stream and return to the same point in 2 hours 45 minutes .Find the speed of the stream. {Ans: 5km/hr. ( 4 marks)}
2. A man travels a distance of 300 km at a uniform speed. If the speed of the train is increased by 5km/hr. then the time taken is reduced by 2 hours. Find the original speed of the train.

 {Ans: 25 km / hr.(4 Marks)}

**ARITHMETIC PROGRESSIONS**

1. If 5, 5-p ,10 + p are in A.P. find the value of p.(1 mark)
2. If an = $\frac{2n+1}{3}$ then find the 10th term of the A.P.(1 mark)
3. The 6th term of A.P. is -10 and the tenth term is -26.determine the 15th term of the A.P.(2 marks)
4. Which term of the A.P. 27,24,21,18… is zero.(2 marks)
5. Find the number of terms of the series (-5)+(-8)+(-11)+………+(-230).( 3 marks)
6. Find the sum of all natural between 100 and 400 which are divisible by 6.( 3 Marks)

**CIRCLES**

1. Find the radius of a circle if the length of the tangent from an external point P is 8 cm and the distance from the centre to the point P is 10 cm.(1 Mark)
2. Prove that the lengths of the tangents drawn from an external point to a circle are equal in length.( 3 Marks)
3. A circle touches the side BC of a triangle ABC at P and AB and AC are produced to meet the circle at Q and R respectively. Prove that AQ is half the perimeter of triangle ABC.( 3 Marks)
4. Prove that a parallelogram circumscribing a circle is a rhombus.( 4 Marks)

**CONSTRUCTION**

1. Construct a pair of tangents to a circle of radius 3 cm at a distance of 7 c m from the centre of the circle. .( 4 marks)
2. Construct a triangle ABC of sides 5cm, 6cm and 5.5 cm. Then construct a similar triangle whose sides are $\frac{4}{3}$ of the sides of triangle ABC.( 4 marks)