1. **TOPIC: VERIFICATION OF ALTERNATE SEGMENT THEOREM**

**OBJECTIVE:** To verify that: If a line touches a circle and from the point of contact a chord is drawn, the angles between the tangent and the chord respectively are equal to the angles in the corresponding alternate segments.

**MATERIALS REQUIRED:**

1. Geometry box
2. Practical workbook
3. Coloured chart papers – yellow, blue and red
4. Scissors
5. Scale
6. Sketch pen
7. Adhesives or glue sticks
8. Tracing papers – 2

**PROCEDURE:**

1. Draw a circle of 5 cm radius on a blue coloured chart paper. Use black sketch pen for drawing.
2. Cut out the circle.
3. Take a yellow chart paper. Cut it in the size of an A4 sheet and paste the circle on it.



1. Fold the sheet in such a way that it just touches the circle at A. Unfold the paper and draw the tangent PQ.



1. Fold the paper starting from A such that the chord AB is obtained. Draw AB.



1. $∠BAP$ and $∠BAQ$ are the angles formed between the chord AB and the tangent PQ.
2. Take a point C on the major arc. Form a crease joining AC. Draw AC.
3. Form a crease joining BC. Draw BC.



1. Take a point D on the minor arc. Form a crease joining AD. Draw AC.
2. Form a crease joining BD. Draw BD.



1. Make a replica of $∠ACB$ using a tracing paper. Place it on $∠BAQ$.

 

1. Make a replica of $∠BDA$ using a tracing paper. Place it on $∠BAP$.

 

 **RESULT:**

It is noted that $∠BAP and ∠BAQ are the angles formed between the chord AB and the tangent PQ.$. $∠BAQ$ is completely covered with $ ∠ACB$ and $∠BAP$ is completely covered with $∠ADB$. Thus the theorem is verified.

**LAST DATE OF SUBMISSION OF PROJECT: 23rd April, 2018**

1. **TOPIC: ANGLES IN THE SAME SEGMENT OF A CIRCLE ARE EQUAL**

**OBJECTIVE:** To verify that the angle in the same segment of a circle are equal using the method of cutting, pasting and folding.

**MATERIALS REQUIRED:**

1. Geometry box
2. Practical workbook
3. Coloured chart papers – yellow, blue and red
4. Scissors
5. Scale
6. Sketch pen
7. Adhesives or glue sticks
8. Tracing papers – 2

**PROCEDURE:**

1. Draw a circle of 5 cm radius on a blue coloured chart paper. Use black sketch pen for drawing.
2. Cut out the circle.
3. Take a yellow chart paper. Cut it in the size of an A4 sheet and paste the circle on it.



1. Fold the circle in any way such that a chord is made. Draw the line segment AB.
2. Take two points P and Q on the circle in the same segment.



1. Form a crease joining AP. Draw AP.



1. Form a crease joining BP. Draw BP.



1. $∠APB$ is formed in the major segment.
2. Form a crease joining AQ Draw AQ.
3. Form a crease joining BQ. Draw BQ.



1. $∠AQB$ is formed in the major segment.
2. Place tracing paper on the circle and draw a replica of the $∠APB$ and $∠AQB$. Prepare two such replicas of $∠APB$ with green or red chart papers.



1. Place the cutout of $∠APB$ on $∠AQB$. Stick the other replica along the edge BQ.

 **RESULT:**

It is noted that $∠APB$ = $∠AQB$ and these angles are in the same segment. $∠APB$ is completely covered with $∠AQB$ and thus the theorem is verified.

**LAST DATE OF SUBMISSION OF PROJECT: 7th May, 2018**