

No.	Book	Content	Mark xx / 10	Teache r Sign.	Date
<b>1. Relations and Functions</b>					
1	NCERT	Activity 1: To verify that the relation R in the set L of all lines in a plane, defined by $R = \{(l, m): l \perp m\}$ is symmetric but neither reflexive nor transitive.			
2	NCERT	Activity 2: To verify that the relation R in the set L of all lines in a plane, defined by $R = \{(l, m) : l \parallel m\}$ is an equivalence relation.			
3	NCERT	Activity 3: To demonstrate a function which is not one-one but is onto.			
4	NCERT	Activity 4: To demonstrate a function which is one-one but not onto.			
<b>2. Inverse Trigonometric Functions</b>					
1	NCERT	Activity 1: To draw the graph of $\sin^{-1} x$ , using the graph of $\sin x$ and demonstrate the concept of mirror reflection (about the line $y = x$ ).			
2	NCERT	Activity 2: To explore the principal value of the function $\sin^{-1} x$ using a unit circle.			
3	NCERT	Activity 3: To sketch the graphs of $a^x$ and $\log_a x$ , $a > 0$ , $a \neq 1$ and to examine that they are mirror images of each other.			
4	NCERT	Activity 4: To establish a relationship between common logarithm (to the base 10) and natural logarithm (to the base e) of the number x.			
<b>3. Matrices</b>					
<b>4. Determinants</b>					
<b>5. Continuity and Differentiability</b>					
1	NCERT	Activity 1: To verify Rolle's Theorem.			
2	NCERT	Activity 2: To verify Lagrange's Mean Value Theorem.			
<b>6. Application of Derivatives</b>					

1	NCERT	Activity 1: To understand the concepts of decreasing and increasing functions.			
2	NCERT	Activity 2: To understand the concepts of local maxima, local minima and point of inflection.			
3	NCERT	Activity 3: To understand the concepts of absolute maximum and minimum values of a function in a given closed interval through its graph.			
4	NCERT	Activity 4: To construct an open box of maximum volume from a given rectangular sheet by cutting equal squares from each corner.			
5	NCERT	Activity 5: To find the time when the area of a rectangle of given dimensions become maximum, if the length is decreasing and the breadth is increasing at given rates.			
6	NCERT	Activity 6: To verify that amongst all the rectangles of the same perimeter, the square has the maximum area.			
<b>7. Integrals</b>					
1	NCERT	Activity 1: To evaluate the definite integral $\int_a^b \sqrt{1-x^2} dx$ as the limit of a sum and verify it by actual integration.			
2	NCERT	Activity 2: To verify geometrically that $\overline{c} \times (\overline{a} + \overline{b}) = \overline{c} \times \overline{a} + \overline{c} \times \overline{b}$			
<b>8. Application of Integrals</b>					
<b>9. Differential Equations</b>					
<b>10. Vector Algebra</b>					
1	NCERT	Activity 1: To find analytically the limit of a function $f(x)$ at $x = c$ and also to check the continuity of the function at that point.			
2	NCERT	Activity 2: To verify that for a function $f$ to be continuous at given point $x_0$ , $\Delta y =  f(x_0 + \Delta x) - f(x_0) $ is arbitrarily small provided. $\Delta x$ is sufficiently small.			
4	NCERT	Activity 4: To verify that angle in a semi-circle is a right angle, using vector method.			
<b>11. Three dimensional geometry</b>					

1	NCERT	Activity 1: To locate the points to given coordinates in space, measure the distance between two points in space and then to verify the distance using distance formula.			
2	NCERT	Activity 2: To demonstrate the equation of a plane in normal form.			
3	NCERT	Activity 3: To verify that the angle between two planes is the same as the angle between their normals.			
4	NCERT	Activity 4: To find the distance of given point (in space) from a plane (passing through three non-collinear points) by actual measurement and also analytically.			
5	NCERT	Activity 5: To measure the shortest distance between two skew lines and verify it analytically.			
<b>12. Linear Programming</b>					
<b>13. Probability</b>					
1	NCERT	Activity 1: To explain the computation of conditional probability of a given event A, when event B has already occurred, through an example of throwing a pair of dice.			