Course: Project for Class XII

Full Marks: 20

Projects should be conducted regularly throughout the year. A project notebook is to be prepared by each and every student where all the below mentioned activities should be recorded. There should be a project assessment once a year (once in Class XI and once in Class XII) where the student will be asked to do one of the activities and write it in his/her script provided for the purpose. The student should carry his/her project notebook during the assessment. A viva should also be conducted during the assessment to test the knowledge of the student regarding the project activity.

List of Projects for Class XII

Sl. No.	Topics	Activities
1.	Relations and Function	To verify that the relation R in the set L of all straight lines in a plane, defined by $R = \{(l, m): l \parallel m\}$ is an equivalence relation,
2.	Relations and Function	To demonstrate a function which is one-one but not onto.
3.	Relations and Function	To demonstrate a function which is not one-one but onto.
4.	Differential Calculus	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.
5.	Differential Calculus	To verify that amongst all the rectangles of the same perimeter, the square has the maximum area.
6.	Differential Calculus	To understand the concepts of absolute maximum and minimum values of a function in a given closed interval through its graph.
7.	Three-Dimensional Geometry	To explain the concept of octant by three mutually perpendicular planes in space.
8.	Three-Dimensional Geometry	To measure the shortest distance between two skew lines and verify it analytically.
9.	Probability	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.
10.	Linear Inequalities	To verify that a given inequality of the form $ax + by + c < 0$, $a, b > 0$, $c < 0$ represents only one of the two half planes.

Marks division for the Project Assessment

Sl. No.	Item	Marks
1.	Project Notebook	10
2.	Doing and Writing a project during the project assessment	05
3.	Viva	05
	Total	**20**