



CLASS – 12

## MATHS PRACTICAL WORK

### GENERAL INSTRUCTIONS:

1. Please do all the activities in **MODERN'S abc** (lab manual).
2. Draw the diagrams and write observations with pencil on the blank side of file. Paste the graphs (if required).
3. On the ruled side, write objective, material required, steps of construction (or procedure), demonstration and conclusion with a pen.
4. The Following 10 **activities** have to be done :
  - a) 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.
  - b) 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.
  - c) To demonstrate a function which is not one-one but is onto.
  - d) To demonstrate a function which is one-one but not onto.
  - e) To understand the concepts of local maxima, local minima and point of inflection.
  - f) To understand the concepts of absolute maximum and minimum values of a function in a given closed interval through its graph.
  - g) To construct an open box of maximum volume from a given rectangular sheet by cutting equal squares from each corner.
  - h) To verify that amongst all the rectangles of the same perimeter, the square has the maximum area.
  - i) To demonstrate the equation of a plane in normal form.
  - j) 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.
5. All the activities should be completed till **7 November 2020** .
6. Please note that this lab manual will carry weightage of 10 marks in the internal assessment.