II. SCOPE OF STUDY

In the present investigation, an attempt has been made to obtain necessary information for developing the cultivation techniques of mycelial biomass under surface or submerged culture technique. Primarily, *Tricholoma crassum* (Berk) Sacc. is selected for studying some aspects of physiology in relation to growth of the mycelium. Moreover, extra-cellular cellulytic enzymes have also been assayed in the culture filtrate of *T. crassum*, *Volvariella volvacea* (Bull. ex Fr.) Singer, and *Pleurotus sajor-caju* (Fr.) Singer. A brief outline of the work done is given below:

1. The effect of temperature and hydrogen-ion concentration on the growth of the mycelia of *T. crassum*.
2. Effect of different carbon sources on the growth of the mycelia of *T. crassum*.
3. Effect of different nitrogen sources on the growth of the mycelia of *T. crassum*.
4. Effect of different concentrations of the best source of carbon on the growth of the mycelia of *T. crassum*.
5. Effect of different concentrations of the best source of nitrogen on the growth of the mycelia of *T. crassum*.
6. Effect of different carbon-nitrogen ratios on the growth of the mycelia of *T. crassum*.
7. Effect of different macro- and micro-elements on the growth of the mycelia of *T. crassum*. 
8. Effect of different vitamins on the growth of the mycelia of *T. crassum*.

9. Effect of different hormones on the growth of the mycelia of *T. crassum*.

10. Determination of the mycelial protein content and quantitative and qualitative estimation of amino acids in mycelial protein of *T. crassum*.

11. Determination of biological value of mycelial protein of *T. crassum*.

12. Study on some aspects of carbohydrate metabolism in mycelia of *T. crassum*.

13. Study on the extra-cellular cellulolytic enzymatic activities of *T. crassum, V. volvacea* and *P. sajor-caju* in relation to different growth factors viz., temperature, hydrogen-ion concentration and carbon sources.

The data obtained from the experimental findings of the above mentioned experiments have been furnished in the subsequent pages along with the methodology and necessary discussion.