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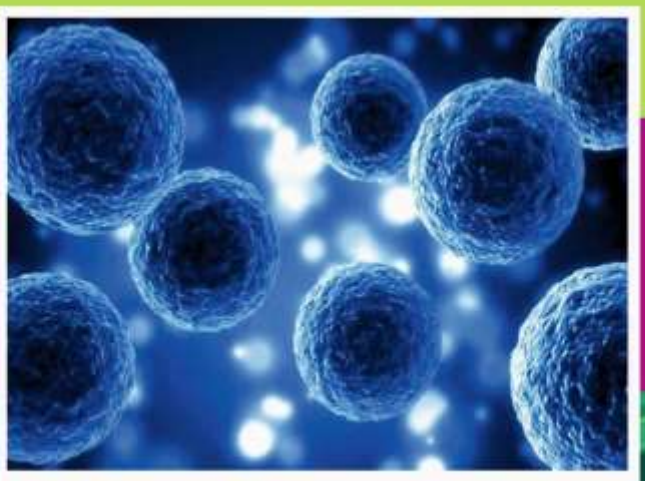

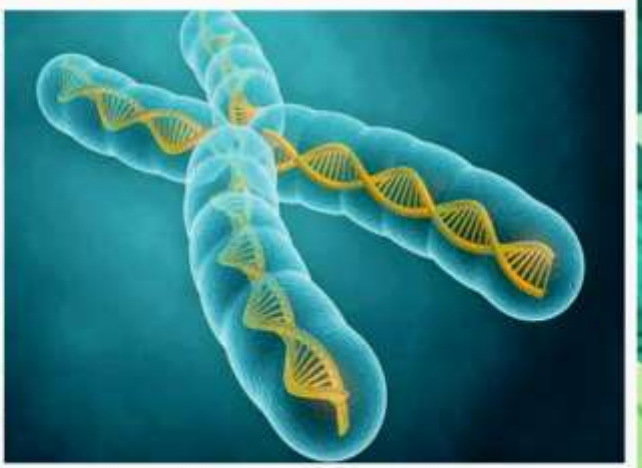

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PREFACE

For a wide range of issues in the production of food, fibre, and energy that the expanding global population faces, understanding the fundamental ideas of CELL BIOLOGY, GENETICS AND PLANT BREEDING is crucial. Graduate students in the Plant Breeding, Genetics and Genomics programme receive training in a variety of subjects, including breeding, biotechnology, molecular biology, plant physiology, biochemistry, and genetics. We support interdisciplinary education that offers thorough preparation for careers in research and instruction in genetics, plant biology, and related fields.

The students will be able to:

- Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
- Explain the organization of a eukaryotic chromosome and the structure of genetic material.
- Demonstrate techniques to observe the cell and its components under a microscope.
- Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
- Elucidate the role of extra-chromosomal genetic material for inheritance of characters.
- Evaluate the structure, function and regulation of genetic material.
- Understand the application of principles and modern techniques in plant breeding.
- Explain the procedures of selection and hybridization for improvement of crops.

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