

LABORATORY MANUAL OF REPRODUCTIVE ENDOCRINOLOGY AND ASSISTED REPRODUCTIVE TECHNOLOGY

*A Practical, Hands-On
Guide for Students*

Edited by Dr. JYOTI TANEJA AND Dr. PRIYA BHARDWAJ



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Laboratory Manual of Reproductive Endocrinology and Assisted Reproductive Technology

The *Laboratory Manual of Reproductive Endocrinology and Assisted Reproductive Technology* serves as a comprehensive, step-by-step guide for undergraduate and postgraduate students of zoology, life sciences, biotechnology and the medical sciences. It integrates fundamental concepts with advanced experimental approaches, beginning with animal handling and histological examinations and progressing to modern techniques such as hormonal assays, protein profiling, oocyte retrieval, embryo grading and infertility investigations.

Detailed coverage of assisted reproductive technologies (ART) including in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), cryopreservation and embryo transfer is complemented by discussions on ethics, frameworks and the role of artificial intelligence (AI) in reproductive health. To support effective learning, the manual incorporates illustrations, labeled images, video guide, a glossary and references, making it an invaluable resource for both classroom teaching and online learning. Scientifically rigorous and practically oriented, it equips learners with conceptual clarity, technical skills and ethical insight into the evolving field of reproductive biology.

Key Features:

- Step-by-step coverage of both basic and advanced experimental procedures in reproductive biology and endocrinology
- Detailed modules on ART, including IVF, ICSI, embryo grading and cryopreservation
- Integration of contemporary issues such as ethics and AI in reproductive health
- Rich visual aids, including labeled images, illustrations, histological sections and a step-by-step surgical video guide, to support effective learning
- Glossary of key terms and references to relevant literature for further study



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