**HUMAN GENETICS SEMESTER 6TH (CBCS)**

**Course Title: Reproductive Genetics**

**Code : DSE –HG-16-602**

**UNIT I: Male Reproductive System**

* 1. Anatomy of Male reproductive system.
  2. Male sex hormones
  3. Spermatogenesis
  4. Hormonal control of reproduction

**Unit II. Female Reproductive System**

2.1 Anatomy of female reproductive system

2.2. Female sex hormones

2.3 Oogenesis

2.4 Hormonal control of oogenesis

**Unit III.** **Female reproductive Cycle and Pregnancy**

3.1. Menstrual Cycle

3.2 Hormonal control of menstrual cycle

3.3 Fertilization

3.4. Embryonic development upto three germ layers

**UNIT III: Reproductive Genetics**

4.1 Genetics of sex determination & sexual differentiation

4.2 Reproductive technologies, artificial insemination, cryo-preservation of oocyte, sperm &

embryo

4.3 In vitro fertilization, embryo transfer, intra-cytoplasmic sperm injection, ethical issues,

prenatal diagnosis, pre-implantation genetic diagnosis (PGD)

4.4 Genetic technologies used in PGD, Genetic causes of male and female infertility,

**Practicals**

Study of Histological studies

1. Male Reproductive System

a) T.S. Testes, T.S. Sperm Structure,C.S. Penis

b) Spermatogenesis

2. Female Reproductive System

a) structure of mammalian Ovary

b) Oogenesis in Mammals

3. Study of Embryo upto three germ layers in mammals (various stages)