

A) Gametogenesis

Items:

1. Primordial germ cells
2. Spermatogenesis
3. Oogenesis
4. Folliculogenesis
5. Types of ova

B) Fertilization and cleavage

Items:

1. Types of fertilization and journey for sperm and oocyte
2. Fertilization sequences (mechanism of fertilization)
3. Definition and types of cleavage
4. Cleavage in birds
5. Cleavage in mammals

C) Gastrulation and implantation

Items:

1. Definition and features of gastrulation
2. Mechanism of gastrulation in birds
3. Derivatives of the three germinal layers
4. Types of implantation
5. Mechanism of implantation

D) Development of fetal membranes and placenta

Items:

1. Development of fetal membranes in birds
2. Development of fetal membranes in mammals
3. Development of the umbilical cord

4. Morphological and histological classification of placenta.
5. Characteristic features of placenta in equine and ruminants.

E) Comparative anatomy of urinary system

Items:

1. Macroscopic structure of kidney of domestic animals.
- 2- Comparative anatomy of kidney and renal pelvis of domestic animals.
- 3- Blood supply of kidney
- 4- Structure of urinary bladder.
- 5- Anatomical description of female urethra.

F) Comparative anatomy of male genital system

Items:

- 1- Anatomical description and structure of testis.
- 2- Components of spermatic cord.
- 3- Accessory genital glands in different domestic animals.
- 4- Structure of scrotum and thermo regulatory mechanism of testis
- 5- Structure and different types of penis.
- 6- Male urethra

G) Comparative anatomy of female genital system

Items:

- 1- Comparative anatomy of ovary of domestic animals.
- 2- Comparative anatomy of uterus of domestic animals.
- 3- Uterine tube (course, structure)
- 4- Vagina, potiovaginalis, fornix in domestic animals
- 5- External genitalia

H) Development of mammalian gonads

Items:

- 1- Indifferent stage of gonadal development.
- 2- Differentiation of the testis.
- 3- Descent of the testis and cryptorchidism
- 4- Differentiation of the ovary.
- 5- Descent of the ovary.

I) Development of mesonephros and metanephros

Items:

- 1- Origin nephrogenic cord
- 2- Origin and development of Mesonephric duct and tubules
- 3- Formation of internal glomeruli.
- 4- Primordia of the metanephros
- 5- Development of urine forming unit (nephron).
- 6- Formation of the urine excreting ducts.
- 7- Development of the urinary bladder.

J) Differentiation of mammalian sexual duct system and external genitalia

Items:

- 1- Indifferent stage of sexual duct system
- 2- Differentiation of male sexual duct system and accessory sex glands
- 3- Differentiation of female sexual ducts and accessory sex glands
- 4- Indifferent stage of external genitalia
- 5- Development of external genital organs in the male
- 6- Development of external genital organs of the female