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Human Reproduction

3. Female reproductive system consists of a pair of ovaries, secondary sex organs, external genitalia and mammary glands.

(i) Ovaries are primary female sex organs which produce female gametes called ova and secrete the female sex hormones.

(a) These are located one on each side of the lower abdomen.

(b) It is almond-shaped, 2-4 cm in length, 1.5 cm in width.

(c) It is connected to the pelvic wall and uterus by ligaments.

(d) Each ovary is covered by a thin epithelium which encloses the ovarian stroma.

(e) Stroma is divided into two regions, i.e. peripheral cortex and inner medulla.

(ii) The female accessory ducts constitute oviducts (Fallopian tubes), uterus and vagina.

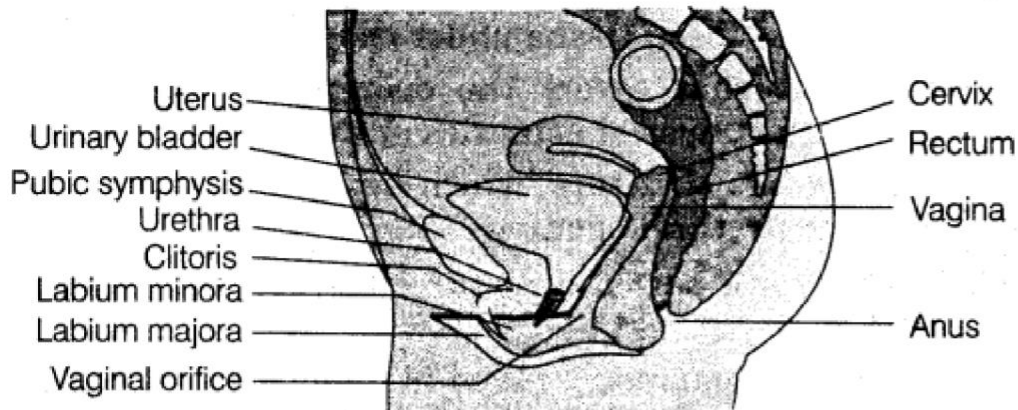
(iii) Each Fallopian tube is about 10-12 cm long and extends from the periphery of each ovary to the uterus.

(a) The part of oviduct closer to the ovary is funnel-shaped infundibulum.

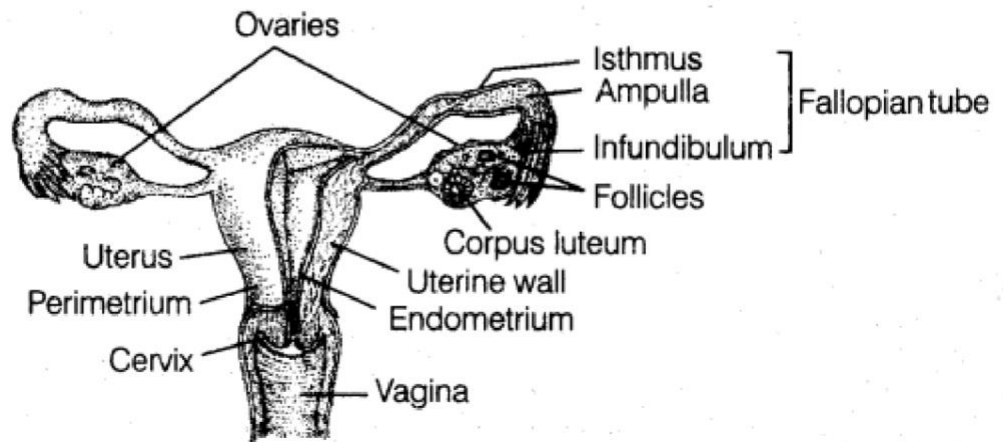
(b) The edges of infundibulum possess finger-like projections called fimbriae, which help in collection of the ovum after ovulation.

(c) Infundibulum leads to a wider part of the oviduct called ampulla.

(d) Isthmus is the last part of the oviduct, which has a narrow lumen and it joins the uterus. (iv) Uterus or womb is a pear-shaped muscular organ. It is attached to the pelvic wall and supported by ligaments.



(a)



(b)

Female reproductive system (a) Lateral view (b) Sectional view

- (a) Wall of the uterus has three layers of tissue.
- (b) Perimetrium is the outermost thin membranous layer, myometrium is the middle thick layer of smooth muscles and endometrium is the innermost glandular layer which lines the uterine cavity.
- (c) Uterus opens into the vagina through a narrow cervix, its cavity is called cervical canal, which along with vagina forms birth canal.
- (d) Endometrium layer undergoes cyclic changes during menstrual cycle.
- (e) Smooth muscles in myometrium contract during parturition to deliver the baby.
- (v) **Vagina is a muscular tube**-like structure that opens to the outside. It receives spermatozoa during insemination and serve as birth canal.
- (vi) **Female external genitalia** include mons pubis, labia majora, labia minora, clitoris and hymen.
 - (a) Mons pubis is a cushion of fatty tissue covered by skin and pubic hair.
 - (b) Labia majora are fleshy folds of tissue which extend down from the mons pubis and surround the vaginal opening.
 - (c) Labia minora are paired folds of tissue under the labia majora.

(d) Hymen is a membrane that covers the opening of vagina partially. It gets ruptured during vigorous physical activities or during the first coitus.

(e) Clitoris is a tiny finger-like structure, which lies at the upper junction of the two labia minora above the urethral opening.

(vii) Mammary glands (breasts) are paired structures that contain glandular tissue and variable amount of fat.

(a) Glandular tissue of each mammary gland is divided into 15-20 mammary lobes containing the cluster of cells called alveoli.

(b) The cells of alveoli secrete milk, which is stored in the cavities (lumen) of alveoli.

(c) Alveoli open into mammary tubules. The tubules of each lobe join to form a mammary duct. (d) Several mammary ducts join to form a wider mammary ampulla, which is connected to lactiferous duct through which milk is sucked out.