Contents

Reproductive System

The process of producing young ones of their own kinds is called reproduction.

Purpose of reproduction

Reproduction is done to maintain the continuity of their races.

Sexual Characteristic of Human

- Human beings are unisexual.
- The other term for unisexual is dioecious.
  - Male and Female reproductive systems are found in separate individuals.

Primary sex organs

- The primary sex organs are
  - gonads

Male Reproductive System

The parts of male reproductive system are

- Scrotum
- Testes
  - The number of testes is two.
- Epididymis
  - The number of epididymis is two.
- Vasa deferentia,
  - The number of vasa deferentia is two.
- Ejaculatory ducts,
  - The number of ejaculatory ducts is two.

- Urethra
- Penis and
- Accessory sex glands.

Scrotum

Scrotum is a pouch of pigmented skin.

Division of scrotum

- Scrotum has internal division.
- Scrotum is divided internally into
  - Right scrotal sac
  - Left scrotal sac
- The partition is a muscular partition.
- The name for the partition for scrotum is
  - Septum scroti.

Type of muscle in scrotum

Scrotum contains dartos muscles.

Temperature in scrotum

- The temperature of scrotum is lower than the normal body temperature.
- The temperature of scrotum is
  - Normal Temperature - 2 $^{\circ}C$
- The temperature of scrotum is congenial for sperm production.

Testes

Testes are primary sex organs in humans.

Anatomy of Testes

- The size of testis is small.
- The colour of testes is pink.
- The shape of testes is
  - oval

Location of testes

- Testes are located in scrotal sac.
- The supporting structure of testes is
  - spermatic cord.

Covering of testes

- The testis is covered by three coats.
- The three coverings of testis are
  - tunica vaginalis
  - tunica albugenia
  - tunica vasculosa
- The outer covering of testes is
  - Tunica vaginalis
- The middle covering of testes is
  - Tunica albuginea
  - Tunica albugenia is a fibrous covering.
- The inner covering of testes is
  - Tunica vasculosa.

Histology of Testes

Lobules

- The number of lobules in a testes is
  - 200-300

Quantity of lobules

Testis consists - 200-300 lobules.

Contents of testicular lobules

The contents of testicular lobules are

- Seminiferous tubules
  - The quantity of seminiferous tubules is
    - 1-4
- Blood vessels
- Nerves

The contents of testicular lobules are embedded in

- loose connective tissue

Lining of seminiferous tubules

- The seminiferous tubule is lined by
  - germinal epithelium.

Number of types germinal epithelium

- The number of types of germinal epithelium are 2

Types of germinal epithelium

- The types of germinal epithelium cells are
  - Sertoli cells
  - Spermatogenic cells

Functions of spermatogenic cells

- Spermatogenic cells produce spermatoza.

Functions of sertoli cells

- Sertoli cells nourish the developing spermatogenic cells.

Location of Leydig cells

- Leydig cells are located in between seminiferous tubules.

Term for leydig cells

- The other term for leydig cells is interstitial cells.

Functions of leydig cells

- Leydig cells secrete testosterone.

Structure of Epididymis

The epididymis is a mass of highly coiled tubes.

Term for highly coiled tubes of epididymis

The other term for highly coiled tubes of epididymis is vasa recta.

Location of epididymis

Epididymis lies outside and partially encircling the testis.

Function of epididymis

Epididymis is a reservoir of spermatozoa.

Number of division of epididymis

The number of division of epididymis is 3.

Region of Division of epididymis

The regions of division of epididymis are

- caput epididymis
- corpus epididymis
- cauda epididymis

Location of caput epididymis

Caput epididymis is present at the upper part of epididymis.

Structure of caput epididymis

Caput epididymis is wider.

Function of caput epididymis

Caput epididymis recieves vasa effrentia.

Location of corpus epididymis

Corpus epididymis is present at the middle part of epididymis.

Structure of corpus epididymis

Corpus epididymis is narrow.

Location of cauda epididymis

Cauda epididymis is present at the lower part of epididymis.

Functions of cauda epididymis

Cauda epididymis opens into the vas deferens.

Location of vasa differtia

- Vasa differentia ascends into abdominal cavity.
- Vasa differentia forms a loop around the urinary bladder.

Inguinal canal

Inguinal canal is the canal through which vasa differentia ascends to the abdominal canal..

Anatomy Vasa Deferentia

Vasa differentia is a tube.

Histology of vasa deferentia

Vasa differentia contains thick walled muscles.

Length of vasa differentia

The length of vasa differentia is 40cm.

Function of vasa differentia

Vasa differentia transmits sperms from epididymis to ejaculatory duct.

Length of Ejaculatory Ducts

The length of ejaculatory ducts is 2cm.

Anatomy of ejaculatory ducts

Ejaculatory ducts are thin walled tubes.

Formation of ejaculatory ducts

Ejaculatory ducts are formed by the union of seminal vesicle and a vas deferens.

Function of ejaculatory ducts.

- Ejaculatory ducts carries sperm.
- Ejaculatory ducts carries the secretion of seminal vesicles.

Length of urethra

The length of male urethra is 18-20cm.

Location of urethra

Urethra arises from the neck of urinary bladder.

Function of urethra

Urethra is a discharge tube of urine and semen.

Number of regions of urethra

The number of regions of urethra is 3.

Regions of the urethra

The regions of urethra are

- Prostatic urethra
- Membranous urethra
- Penile urethra.

Penis

Penis is an erectile copulatory organ.

Contents of penis

The contents of penis are

- The long shaft
- The glans penis.

Location of prepuce

Prepuce covers the glans penis.

Prepuce

Prepuce is a fold of skin.

Contents of penis

The contents of penis are

- Erectile tissues
- Corpora cavernosa
- Corpus spongiosum.

Number of erectile tissues

The number of erectile tissues is

- 3 column

Number of corpora cavernosa

The number of corpora cavernosa is

- 2

Number of corpus spongiosum

The number of corpus spongiosum is - 1

Cause Erection of penis

The erection of penis is due to the rush of arterial blood.

Destination of arterial blood in erection of penis

The arterial blood rushes into

- sinuses of erectile tissues of penis

Function of penis

The function of penis is to deposit semen into vagina.

Number of Accessory sex glands in males

The number of accessory sex glands is 3.

Types of accessory glands in males

The accessory sex glands are

- Seminal vesicles
- Prostrate gland
- Cowper's gland

Number of Seminal Vesicles

The number of seminal vesicles present is

- a pair.

Structure of seminal vesicle

- Seminal vesicle is lobulated
- Seminal vesicle is elongated.

Anatomy of a seminal vesicle

Seminal vesicle is a sac.

Location of seminal vesicle

The seminal vesicle is located

- near the base of urinary bladder.

Functions of seminal vesicles

The seminal vesicles secrete seminal fluid.

Colour of seminal fluid

The colour of seminal fluid is yellowish.

Chemical property of seminal fluid

The seminal fluid is alkaline.

Contents of seminal fluid

The contents of seminal fluid are

- Fructose
- Citrate
- Proteins
- Prostaglandins

Prostate gland

Prostrate gland is the largest accessory gland of male reproductive system.

Location of prostrate gland

The prostrate gland lies below the neck of urinary bladder.

Structure of secretion of prostrate gland

The secretion of prostrate gland is

- Thin
- Milky

Chemical calssificaion of secretion of prostrate gland

The secretion of prostrate gland is

- slightly acidic

Function of secretion of prostrate gland

- The secretion of prostrate glands makes sperm mobile.
- The secretion of prostrate gland nourishes sperms.

Number of Cowper's glands

The number of copwer's gland is a pair.

Term for cowpers gland

The other term for cowper's gland is bulbourethral gland.

Size of Cowper's gland

The size of cowper's gland is pea sized.

Location of cowper's gland

The cowper's gland is located

- Below the prostate gland
- At the base of penis.

Function of cowper's gland

Cowper's gland secrete mucus like fluid.

Function of mucus like fluid of cowper's gland

The mucus like secretion of cowper's gland acts as lubricant for vagina.

Semen

Semen is the collective composition of fluids.

Contents in the fluid of semen

The contents in the fluid of semen are

- Products of the testes
- Products of the prostrate gland
- Fluid from seminal vesicles

pH of Semen

The value of pH of Semen is

- 7.35-7.5

Organs of female reproductive system

The organs of female reproductive system are

- Ovaries
- Fallopian tube
- Uterus
- Vagina
- External genitalia
- Accessory genital glands
- Mammary glands

Number of ovaries

The number of ovaries in female reproductive system is

- a pair

Primary sex organ of female

The are primary sex organ of female is

- ovary

Colour of ovary

The colour of ovary is

- greyish-pink

Shape of ovary

The shape of ovary is

- almond

Location of ovary

- The ovary is located in the posterior abdominal cavity.
- The ovary is located on either side of vertebral column
- The ovary is located behind the kidney.

Mesovarium

Mesovarium is a fold of peritoneum.

Function of mesovarium

Mesovarium attaches ovaries to the dorsal body wall.

Number of histological structure of ovary

The number of histological structure of ovary is

- 3

Histological layers of the ovary

The histological layers of the ovary are

- Germinal epithelium
- Cortex
- Medulla

Location of tunica albugenia

Tunica albugenia is present in between the germinal epithelium and cortex.

Structure if tunica albugenia

Tunica albugenia is a thickened stomal layer.

Contents of cortex

The cortex contains ovarian follicles of different stages of development.

Graafian follicle

Graafian follicle is a fully matured ovarian follicle.

Membrana granulosa

Membrana granulosa is the outer covering sheath of graffian follicle.

Function of membrana granulosa

Membrana granulosa encloses follicular cavity.

Contents of membrana granulosa

The contents of membrana granulosa are

- Colorless fluid
- Ovum

Membranes surrounding ovum

The membranes that surround ovum are

- Zona pellucida
- Zona radiata

Corpus luteum

Corpus luteum is the structure of follicular cavity after ovulation.

Function of corpus luteum

Corpus luteum secretes progesterone.

Corpus albicans

Corpus albicans is a structure formed by corpus luteum.

Term for Fallopian tubes

The term for fallopian tubes is oviducts.

Number of fallopian tubes

The number of fallopian tubes is

- a pair

Anatomy of fallopian tube

- Fallopian tube is a tube.

Histology of fallopian tube

The fallopian tube is

- Muscular
- Ciliated

Length of fallopian tube

The length of fallopian tube is

- 10-12 cm

Location of fallopian tube

Fallopian tube arise near ovary and extends up to uterus .

Number of layers of fallopian tube

The number of layers of fallopian tubes is - 3

Layers of fallopian tube

The layers of fallopian tube are

- Serosa
- Muscularis
- Mucosa

Types of cells of epithelial mucosa

The types of cells of epithelial mucosa is

- Simple columnar cells
- Secretory cells

Number of division of oviduct

The number of division of oviduct is

- 3

Division of oviducts

The parts of oviducts are

- Infundibulum
- Ampulla
- Isthmus
- Uterine

Shape of infundibulum

The infundibulum is funnel shaped.

Ostium

Ostium is an aperture opened by infundibulum.

Fimbriae

Fimbriae are the finger like processes of infundibulum.

Function of fimbriae

Fimbriae collect ovum.

Function of ampulla

Fertilization takes place in ampulla.

Anatomy of ampulla

Ampulla is dilated.

Histology of ampulla

Ampulla is thin walled .

Location of ampulla

The location of ampulla is

- next to infundibulum

Anatomy of isthmus

Isthmus is

- narrow
- short

Location of isthmus

The location of isthmus is

- next to ampulla

Histology of isthmus

Isthmus is thick walled.

Location of uterine

Uterine is located near the uterus.

Function of oviducts

Oviducts carry ovum from. The ovum is carried from ovary to uterus.

Uterus

Shape of uterus

The shape of uterus is

- Pear

Anatomy of uterus

Uterus is hollow.

Compositional histology of uterus

- The uterus is muscular.
- The uterus is thick walled.

Divisional histology of uterus

The uterus is divided into

- Perimetrium
- Myometrium
- Endometrium

Location of perimetrium

The location of perimetrium is outside the uterus.

Location of myometrium

The location of myometrium is in between perimetrium and endometrium

Location of endometrium

The location of endometrium is inside the uterus.

Anatomy of endometrium

Endometrium contains tubular glands.

Histology of endometrium

The cells of endometrium are

- simple columnar epithelium

Mesometrium

Mesometrium is a double fold of pertitoneum.

Function of mesometrium

Mesometrium attaches uterus to the body wall.

Parts of uterus

The parts of uterus are

- Fundus
- Body
- Cervix

Location of fundus

The fundus lies at the upper part.

Size of fundus

The size of fundus is wide.

Shape of fundus

The shape of fundus is

- dome

Location of body

The location of body is

- at the middle

Size of body

- The body is large.

Location of cervix

- The location of cervix is the lower part of the uterus.

Size of cervix

- The size of cervix is narrow.

Function of cervix

- Cervix projects into vagina

Structure for communication of cervix with uterus

The communication of cervix with uterus is done through

- Internal orifice

Structure for communication of cervix with vagina

The communication of cervix with vagina is done through

- External orifice

iv.Vagina: It is fibro-muscular and

tubular female copulatory organ.

Location of vagina

The vagina is located at

- From cervix to uterus
- Outside the body

Location of hyman in anatomical strtuture

The anatomical structure for the location of hyman is

- The opening of vagina

Location of hyman in social class of structure

The presence of hyman in social classs of structure is

- Virgins

Function of hyman

Hyman covers the vagina.

Size of hyman

The size of hyman is

- Thin

Shape of Hyman

The shape of hyman is

- Ring

Function of vagina

The functions of vagina are

- Vagina serves as birth canal.
- Vagina recieves penis.
  - The penis is recieved by vagina during copulation.
- Vagina allows menstrual flow.

Term for external genitalia

The other term for external genitalia is

- Vulva

Parts of external genitalia

The parts of external genitalia are

- Mons Pubis
- Labia Majora
- Labia Minora
- Clitoris

Location of mons pubis

The location of mons pubis is

- Above labia majora

Histology of mons pubis

- Mons pubis is fleshy

Contents of mons pubis

The contents of mons pubis are

- Pubic hair

Number of labia majora

The number of labia majora is

- 2

Size of labia majora

The labia majora is

- thic
- large

Anatomy of labia majora

The anatomy of labia majora is

- Folds of skin

Functions of labia majora

Labia majora forms the boundary of vulva.

Contents of labia majora

The contents of labia majora are

- Pubic Hair
- Sebaceous Glands

Number of labia minora

The number of labia minora is

- 2

Size of labia minora

The size of labia minora is

- Small

Anatomy of labia minora

The structure of labia minora is

- Folds of skin
- Thin

Material structure of labia minora

The material structure of labia minora is

- moist

Histology of labia minora

Labia minora is

- Fleshy

Location of labia minora

The location of labia minora is - Between labia majora

Vestibule

Vestibule is the space between labia minora.

Size of clitoris

Clitoris is small.

Function of clitoris

Clitoris is erectile organ.

Location of clitoris

The location of clitoris is

- Anterior junction of labia minora

Homologousness of clitoris

The clitoris is homologous to

- Penis

Accessory genital gland

The accessory genital gland in female reproductive system is

- Bartholin's gland

Term for bartholin's gland

The other term for bartholin's gland is

- Vestibular gland

Location of bartholin's gland

They occur one on each side of vaginal orifice.

Nature of secretion of bartholin's gland

The secretion of bartholin's gland is - viscid

Function of secretion of bartholin's gland

- The secretion of bartholin's gland lubricates the vulva.
- The lubrication of vulva by bartholin's gland occurs on sexual excitement.

Breasts

Term for breasts

The other term for breasts is

- Mammary glands

Number of mammary glands in female reproductive system

The number of mammary glands in female reproductive system is

- Pair

Shape of mammary glands

The shape of mammary glands is

- Rounded
- Swollen

Material nature of mammary glands

The material nature of mammary glands is

- Spongy
- Tender
- Smooth

Function of mammary glands in female

- Mammary glands produce milk.

Location of nipple

The nipple is located at

- Middle of breasts

Each breast has a nipple in its middle

Areola

Areola is a pigmented area.

Shape of areola

The shape of areola is

- Circular

Modification of sweat glands

The structure present in female reproductive system as modification of sweat glands is

- Mammary gland

Number of lobes of lactiferous tubules in mammary glands

The number of lobes of lactiferous tubules in mammary glands is

- $15 - 20$

Histology of mammary glands

- Mammary glands contain lobes.
- The lobes which are contained in mammary glands is lactiferous tubules.

Location of lactiferous tubules in mammary glands

The location of lactiferous tubules mammary glands is

- Fatty tissue

Time of development of mammary glands

They are developed in girls at the onset of puberty by the activity of

Role of hormones in the development of mammary glands

The hormones having the role in development of mammary glands are

- Oestrogen
- Pitutiary Gland

Menstrual Cycle

- The other term for menstrual cycle is
  - ovarian cycle.
- Menstrual cycle is a series of cyclic changes.

Location of menstrual cycle

- Menstrual cycle occurs in the
  - reproductive tract of human female.

Time of menstrual cycle

- Menstrual cycle is periodic .
- Menstrual cycle occurs with a periodicity of
  - 28 days
- Menstrual cycle starts from
  - 13 years
- Menstrual cycle ends on
  - 40-50 years

Characteristics of menstrual cycle

- There is loss of blood in menstrual cycle.
- The blood lost on menstrual cycle is vaginal."

Hormones of menstrual cycle

- Menstrual cycle is influenced by hormones from
  - pituitary gland
  - ovary

Phases of menstrual cycle

The phases of menstrual cycle are

- Menstrual phase
- Proliferative phase
- Ovulatory phase
- Luteal phase

Menstrual phase

- The other name for menstrual phase is
  - weeping of uterus

Time for menstrual phase

- Menstrual phase occurs for
  - 3-5 days

Process of menstrual phase

- The mucosal lining of endometrium sheds.
- The shedding passes along with the blood.
- The shedding passes along with the connective tissue.

Conditions for menstrual phase

- The amount of progesterone in blood is very low.
- The amount of oestrogen in blood is very low.
- The ovum is unfertilized.

Amount of blood loss in menstrual phase

The amount of blood lost in menstrual phase is

- 50-100 ml

Proliferative phase

- The other name for proliferative phase is
  - follicular phase
- The other name for proliferative phase is
  - oestrogenic phase

Activities in proliferative phase

The activities in proliferative phase are

- Secretion of follicle stimulating hormone.
- Secretion of oestrogen.

Secretion of follicle stimulating hormone

The follicle stimulating hormone is secreted by

- Anterior pituitary gland

Function of follicle stimulating hormone in proliferative phase

Follicle stimulating hormone develops primordial follicle into mature follicle

Term for mature follicle

The other term for mature follicle is

- Graafian follicle

Function of graafian follicle

Graafian follicle secretes oestrogen.

Function of oestrogen in proliferative phase of menstrual cycle

- Oestrogen stimulates the proliferation of endometrial epithelium.

Function of proliferation of endometrial epithelium

The function of proliferation of endometrial epithelium is

- To receive fertilized ovum

Time period for proliferative phase in menstrual cycle in range

The time period for proliferative phase in menstrual cycle in range is

- End of menstruation to ovulation

Time period for proliferative phase in number of days

The time period for proliferative phase in number of days is

- 10

Ovulatory phase

In about middle of the menstrual cycle, usually in the 14th day of 28 day cycle,

Activities in ovulatory phase

The activities in ovulatory phase are

- Secretion of luteinizing hormone

Secretion of luteinizing hormone

The secretion of luteinizing hormone is done by

- Anterior region of pituitary gland

Function of luteinizing hormone in ovulatory phase of menstrual cycle

Luteinizing hormone releases ovum. - The ovum taht luteinzing hormone releases is from graafian follicle.

Term for luteal phase The other term for luteal phase is

- Progestational phase

Function of corpus luteum in luteal phase of menstrual cycle

The function of corpus luteum in luteal phase of menstrual cycle is

- Secretion of progesterone
- Secretion of oestrogen

Time of formation of corpus luteum

The formation of corpus luteum occurs

- After ovulation

Composition for the formation of corpus luteum

The compostition for the formation of corpus luteum is

- Cells of ruptured follicle.

Function of progesterone

The functions of corpus luteum are

- Corpus luteum prevents the maturation of follicles.
- Corpus luteum increases vascularity of endometrium.

Activities in unfertilization

The activities in menstrual phase in unfertilization

- Degeneration of corpus luteum
- Fall of oestrogen and progesterone in blood.
- Shedding of endometrial epithelium

Corpus albicans in luteal phase of menstrual cycle

- Corpus albicans is degenarated structure of corpus lutem.

Condition for formation of corpus albicans

Corpus albicans forms in

- unfetilization

Cause of rupturing of blood vessels of endometrium

The cause of rupturing of blood vessels of endometrium is

- Fall of oestrogen in blood
- Fall of progesterone in blood

Cause of shedding of endometrial epithelium in luteal phase of menstrual cycle

The cause of shedding of endometrial epithelium in luteal phase of menstrual cycle is

- Rupturing of blood vessels of endometrium

Cause of menstruation

The cause of menstruation in menstrual cycle is

- Shedding of endometrial epithelium