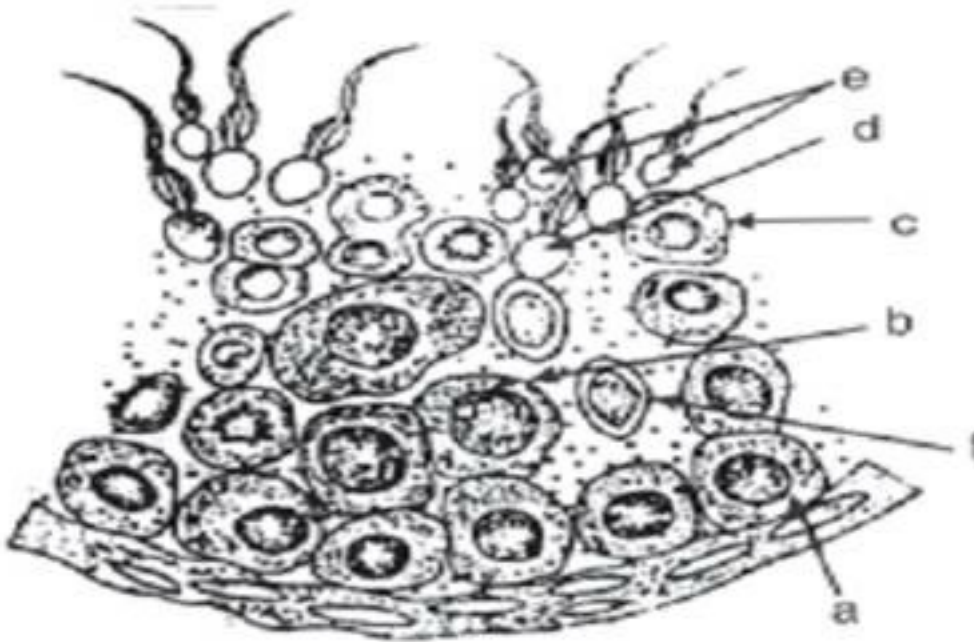


CBSE Class 12 Biology
Important Questions
Chapter 3
Human Reproduction

5 Marks Questions

1.



Ans. (i) 'D' Spermatids = undergo spermiogenesis

(ii) 'A' = Spermatogonium; B = Primary spermatocyte

(iii) 'B' = Diploid E = Haploid

(iv) 'F' = Sertoli cells - Nutrition to germ cells

(v) Mitosis in Cell 'A', Meiosis in cell 'B'

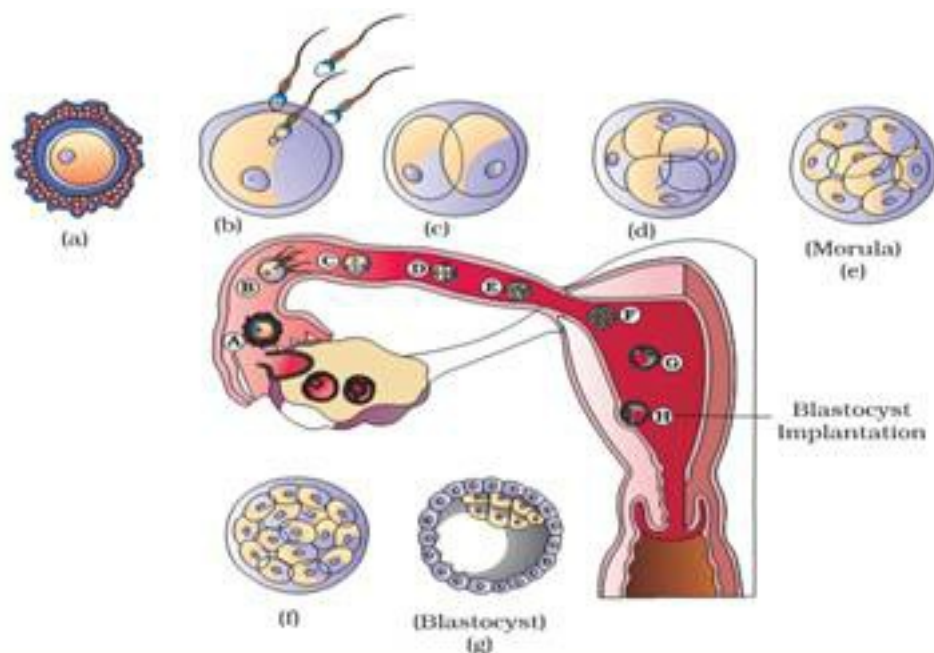
2. Explain the development of human embryo with diagrams.

Ans. The Fusion of the sperm and the egg in humans result into formation of the diploid structure called zygote. The zygote starts dividing mitotically as it moves through the oviduct

into the uterus to form 2,4,8,16 daughter cells called blastomeres. The stage is called morula. The Morula divides further and differentiates into blastocysts. The outer layer of blastomeres called trophoblast gets attached to the endometrial layer of the uterus.

The uterine wall divides and encloses the blastocysts and this is referred to as implantation.

The inner layer of blastomeres in the blastocysts gives rise to the embryo.



3. What is menstruation? What are the specific actions of FSH, LH, estrogen & progesterone in menstrual cycle?

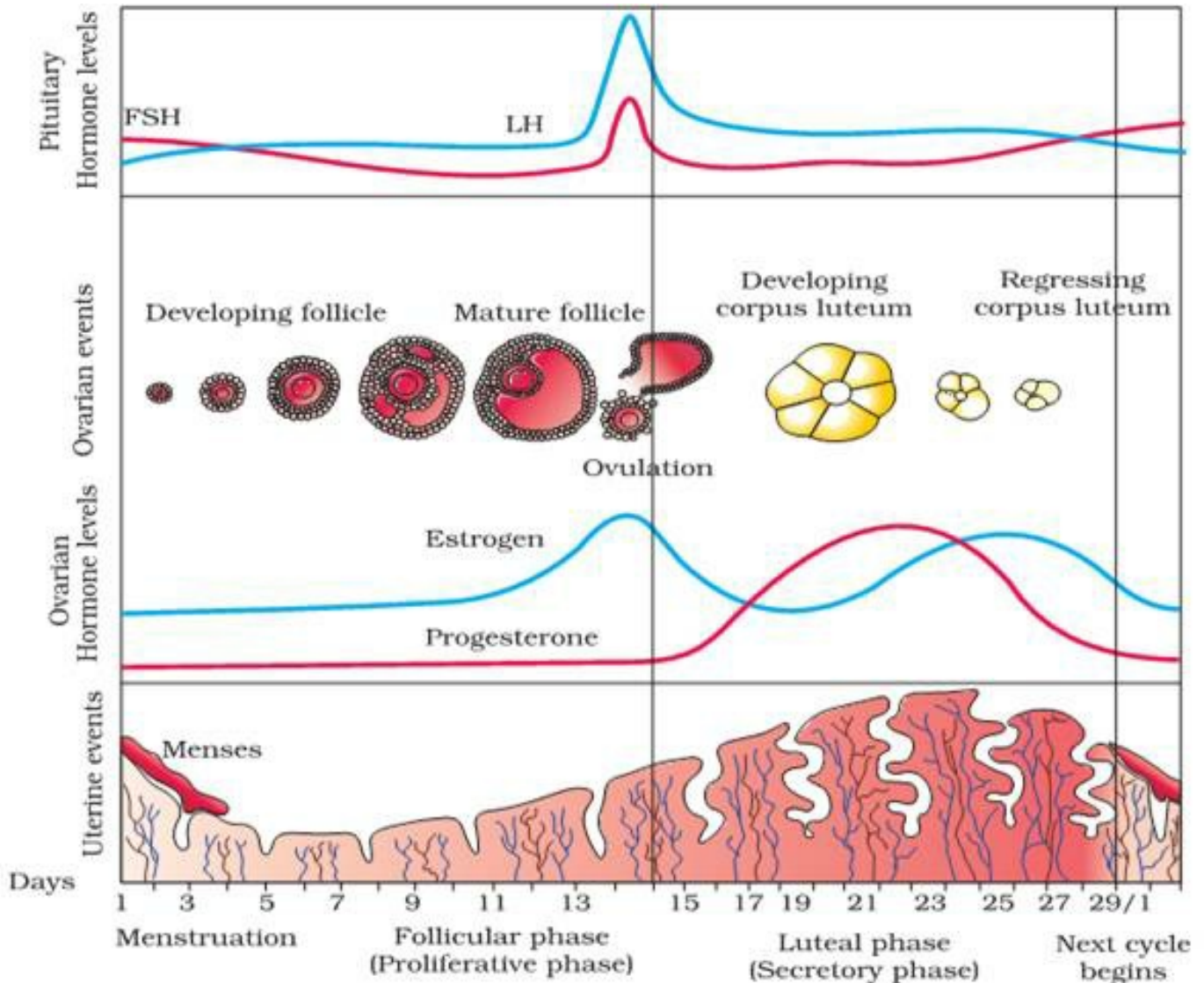
Ans. During menstrual phase of menstrual cycle which starts on 28th day the endometrial lining of female genital tract break down due to lack of progesterone As a result bleeding occurs. This monthly flow of blood is caller menstruation.

During menstrual cycles, the various changes occurs in the ovary under the influence of various hormones :-

1. Menstrual phase :- The levels of hormones LH ,FDH estrogen & progesterone is very less which results in breakdown of endometrial lining of uterus.
2. Follicular phase :- In this phase , the levels of pituitary hormones FSH & LH increases which causes ovarian hormone estrogen to release,. FSH controls the follicular phase , it stimulates the growth of follicles. Both FSH & LH reach their peak level in middle of cycle

(14th day)

3. OVULATORY PHASE :- The level of LH hormones reaches its peak (called LH swing) induces the ruptures of mature Graffian follicle & there by release of ovum
4. Luteal phase :- The LH & FSH hormones begins to decline. After ovulation, the follicle becomes to ruptures & is transformed into corpus Luteum which secretes large quantities of progesterone



4. A woman has conceived & implantation has occurred within her uterus. Discuss the sequence of changes up to parturition which will take place within her body under the influence of various hormones.

Ans. The following changes takes place in the body of women after implantation :-

1. The trophoblast differentiates into two layers outer layer secretes enzymes to dissolve the endometrium of uterus.
2. The inner layer grows out as finger – like projections called chorionic villi into uterine stoma. The chorionic villi & the uterine tissue become inter digitated to form structural & functional unit called placenta.
3. Placenta secretes hormones like HCG, HPL , estrogen & progesterone that are necessary to maintain pregnancy
4. Umbilical cord, the structure that connects the placenta with the foetus is formed.
5. Simultaneously, inner cell mass differentiates into outer layer called ectoderm & inner layer called endoderm. & a middle layer called mesoderm appears between ectoderm & endoderm.
6. The primary germ layers give rise to all the tissues & organs of the adults e.g. after one month heart is formed & after second month digits & limbs are formed.
7. By the end of ninth month of pregnancy, foetus is completely developed & is ready for delivery.
8. During parturition, ovary secretes a hormone called relaxin that facilitates parturition which softens the connective tissue. Mild contraction called foetal ejection reflex is induced. This triggers release of oxytocin from posterior pituitary. Oxytocin induces stronger leads to expulsion of baby from uterus, through birth canal.

