DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 5

Topic :- Human Reproduction

1 **(c)**

Progesterone hormone is the main hormone, which maintains the endometrium wall. Generally, menstrual cycle have four phases

(i) **Menstrual phase** (a) The soft tissue of endometrial lining of the uterus disintegrates causing bleeding.

(b) The unfertilized egg and soft tissue are discharged.

(c) It lasts 3-5 days.

(ii) **Follicular Phase/Proliferative Phase** (a) The primary follicles in the ovary grow and become a fully mature Graafian follicle.

(b) The endometrium of the uterus is regenerated due to the secretion of LH and FSH from anterior pituitary and ovarian hormone, estrogen.

(c) It least for about 10-14 days.

(iii) **Ovulatory Phase** (a) Rapid secretion of LH (LH surge) induces rupture of Graafian follicle, thereby leading to ovulation (release of ovum).

(b) It lasts for only about 48 hr.

(iv) **Luteal Phase/Secretor Phase** (a) In this phase the ruptured follicle changes into corpus luteum in the ovary and it begins to secrete the hormone progesterone.

(b) The endometrium thickens further and their glands secrete a fluid into the uterus.

c) If ovum is not fertilized, the corpus luteum undergoes degeneration and this causes disintegration of the endometrium leading to menstruation

2 **(c)**

The target of Interstitial Cell Stimulating Hormone (ICSH) is the interstitial cell. Interstitial cells produces testosterone which is responsible for the development of secondary sexual characters

3 **(d)**

Oestrogen hormone is screted by growing ovarian follicles during menstrual cycle. It provokes a thickening of the endometrium (proliferative phase or menstrual cycle).

4 **(c)**

Seminal vesicles secrete and alkaline, nutritive, spermatozoa activating fluid called seminal fluid which forms about 60% part of semen. This fluid contains various substances like fructose, citrate, inositol, prostaglandins and several proteins. Sperms use fructose as an energy source (respiratory substrate).

5 **(c)**

Teratogens, which produces abnormality in the developing embryo.

Thalidomide is a drug which causes no or underdevelopment of the limbs (phoeomelia)

6 **(b)**

Human cell contain 46 chromosomes including 44 autosomes. Primary spermatocyte contain 2 *n* number of chromosome *i.e.,* the number of autosomes, will be 44.

7 **(b)**

Seminal vesicles are present at the base of bladder and joins to the ejaculatory duct. They produces alkaline secretion, which forms 60% of the semen. Their secretion contains, fructose, prostaglandin and clotting factor

8 **(b)**

The part of the Fallopian tubes (oviducts) closer to the ovary is the funnel-shaped infundibulum. The edges of the infundibulum possess finger-like projections called **fimbriae**, which help in collection of the ovum after ovulation

9 **(a)**

Saheli is a new oral contraceptive for the females. It contains a non-steroidal preparation. It is once a weeks' pill with very low side effects and high contraceptive value.

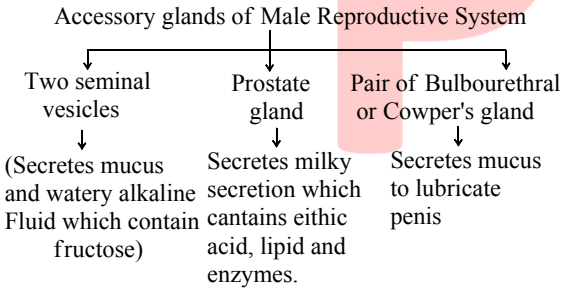
10 **(b)**

Sertoli cells.

Sertoli cells present in the mammalian testis, nourishes the sperms. That's why Sertoli cells are also called nurse cells. These cells also produces the inhibin hormone which halts spermatogenesis

11 **(c)**

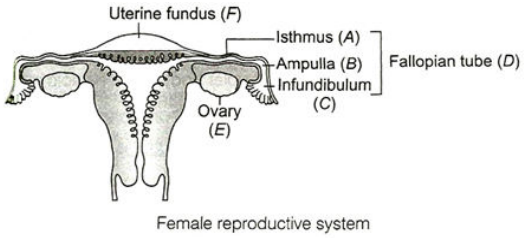
A-Vas deferens, B-Seminal vesicle, C-Prostate gland, D-Bulbourethral gland.



External genitalia of humans is called **penis**. Its outer skin, which covers the forehead of penis called foreskin or prepuce. It is the single opening for semen and urine in males

12 **(c)**

A- Isthums, B- Ampulla, C-Infundibulum, D-Fallopian tube, E-Ovary, F-Uterine fundus



Female reproductive system

13 **(a)**

In the given options, only labia minora belongs to the external genitalia of females

14 **(b)**

Development of corpus luteum is done by progesterone and LH not by FSH. Progesterone and LH are secreted by anterior lobe of pituitary

15 **(c)**

Ejaculatory Ducts The ejaculatory ducts are the two short tubes each formed by the union of ducts from seminal vesicle and vas deferens. They pass through the prostate gland and join the prostatic part of the urethra. The ejaculatory ducts are composed of the fibrous, muscular and columnar epithelial tissue. Ejaculatory ducts carry sperms and secretion of seminal vesicles

16 **(a)**

Zygote is implanted in human female at 32-celled stage because fertilized egg in human are not divide beyond 32-celled stage in natural zygote.

17 **(a)**

Notochord, connective tissues including loose areolar tissue, ligaments, tendons, dermis of skin, specialized connective tissue like adipose tissue, reticular tissue, cartilage and bones are mesodermal in origin.

18 **(a)**

Chorionic villi is the modification of outer trophoblast layer of blastocyst, which get attached to the endometrium of uterus. This is called implantation

19 **(c)**

Sperm entry stimulates the secondary oocyte to complete the suspended second meiotic division. This produces a haploid mature ovum and a second polar body. The head of the sperm which contains the nucleus separates from the middle piece and tail and becomes male pronucleus. The second polar body and the sperm tail degenerates. The nucleus of the ovum is now called female pronucleus. The male and female pronucleus move towards each other. Their nuclear membrane disintegrates; mixing up of the chromosome of a sperm and an ovum is called *karyogamy* or amphimixis. The fertilized ovum (egg) is now called zygote

20 **(b)**

A-GnRH, B-Hypothalamus, C-Anterior, D-LH, E-FSH

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**C**	**C**	**D**	**C**	**C**	**B**	**B**	**B**	**A**	**B**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**C**	**C**	**A**	**B**	**C**	**C**	**A**	**A**	**C**	**B**