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Answers Key:

Case Study Questions

1. (i) In males, spermatogenesis begins during puberty in the seminiferous tubules of testes.
(ii) LH acts on Leydig cells and stimulates the synthesis and secretion of androgens. FSH acts on Sertoli cells and stimulates the secretion of factors, which promote spermiogenesis.
(iii) At birth, ovary contains primary oocytes arrested at prophase-I of meiotic division.
(iv) First polar body is formed during first meiotic division, when secondary oocyte is formed. Second polar body is extruded when ovum is formed from secondary oocyte.
(V) During spermatogenesis, four spermatozoa are formed whereas during oogenesis, one ovum is formed.

5 Marks

2. Menstrual Cycle. It involves cyclicchanges in the female's reproductive tract culminating in menstruation, that is, flow of cast off uterine and fallopian tube lining along with blood and tissue fluid through the vagina. The endothelial changes during menstrual cycle has been divided into different phases as :
1. Follicular phase. It begins on the fifth day of cycle. It lasts up to fourteenth day. The endometrium becomes normal. The proliferation changes start . The mucosa thickens and the glands get enlarged. The Graafian follicles get matured. It is caused by oestrogen and is controlled by FSR of pituitary. On the 15th day ovulation occurs and corpus luteum develops
2. Luteal phase or progestational phase. It lasts from 15th to 27th day. Mucosal layer thickens, and the glands get enlarged. The luteum grows further and attains maximum size on the 19th day and degenerates on 27th day. It is caused by progesterone. Formation of corpus luteum and secretion of progesterone are controlled by L.R. of anterior pituitary.
3. Ischemic phase. It is on the 28th day in which first discharge of blood takes place. The corpus luteum degenerates. The level of progesterone falls and is controlled by L.R. of pituitary.
4. Menstruation phase. It lasts for 3 to 5 days. Menstruation occurs. Blood, mucus, stripped off endometrium and an unfertilized ovum pass out as discharge. The main cause is the lack of progesterone.

3 Marks

3. One
One
Two

2 Marks

4. The external thin membranous,perimetrium.
The middle,thick layer of smooth muscles,myometrium.
The inner glandular layer lining the uterine cavity,endometrium.Endometrium undergoes cyclic changes.
5. No, semen also contains enzymes, fructose and a medium which helps in survival of sperm and provides a medium of motility.

Multiple Choice Question

6. (a) 14th day
7. (b) suspended cell division
8. (a) Give rise all the tissues and organs
9. (b) Both 'statements are correct