

Subject – Biology

Class- 12

Topic – Menstrual cycle

Menstrual Cycle in Human

### Practice Questions

#### Multiple Choice Questions

1. What is the reproductive cycle called that takes place every month in female mammals?  
(a) Estrous cycle  
(b) Menstrual cycle  
(c) Both above  
(d) None of the above
2. Menstruation/Menstrual cycle is of how many days in women?  
(a) 18 days  
(b) 38 days  
(c) 28 days  
(d) 12 days
3. During menstrual cycle menstruation/menses lasts for how many days?  
(a) 4-7 days  
(b) 13-20 days  
(c) 8-12 days  
(d) 26-30 days
4. The hormone for ovulation is—  
(a) FSH  
(b) Estrogen  
(c) LH  
(d) Oxytocin
5. The hormone for Lactation is—  
(a) FSH  
(b) Estrogen  
(c) LH  
(d) Oxytocin

LH

### Very Short Answer Questions

1. Menstrual cycle is of how many days? *47 days*
2. Write the names of reproductive cycles found in female mammals. *Estrus*
3. During parturition which hormone is secreted? *Oxytocin*
4. During pregnancy period which hormone is secreted? *Luteinizing*

### Short Answer Questions

1. What is estrous cycle? *103*
2. What is menstrual cycle? *103*
3. Which is the ovulation stage? *103*

### Essay Type Questions

1. Explain in detail about menstrual cycle. *103, 104*
2. Write an essay on parturition in human (female). *104*
3. Write an essay on lactation in human (female). *104, 105*

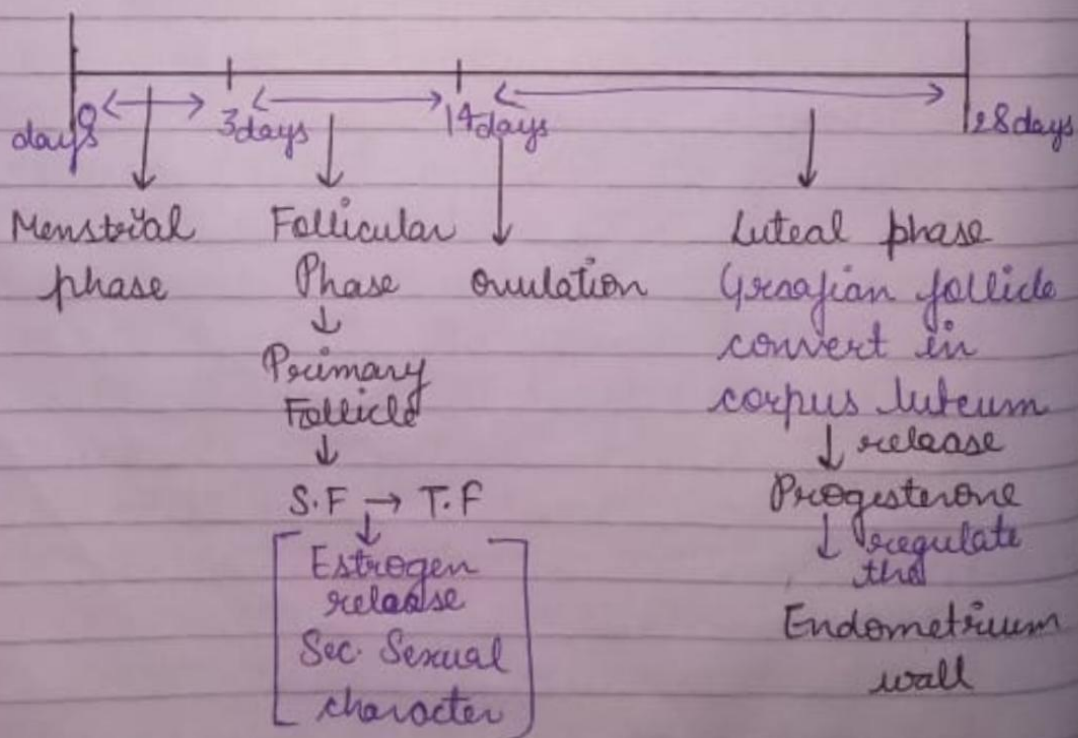
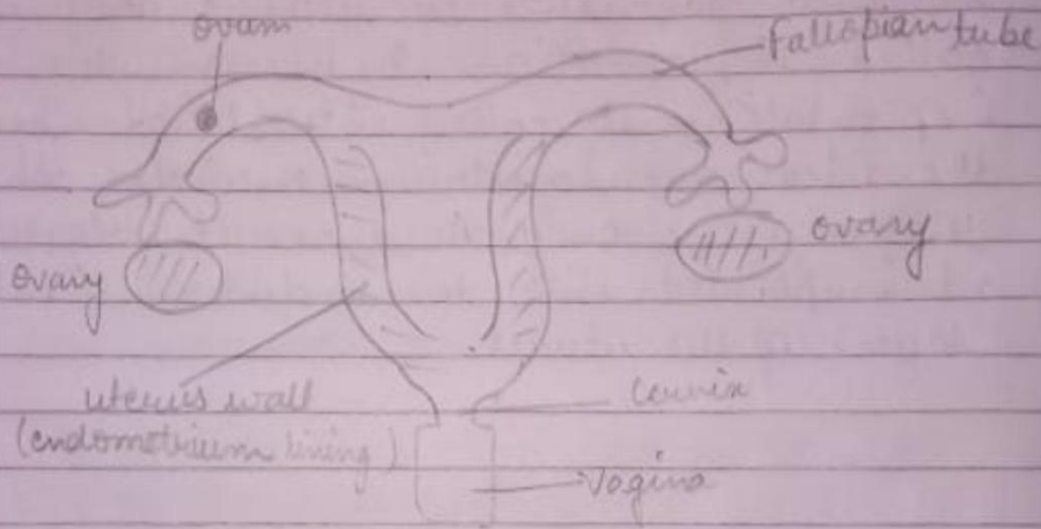
**Answer :** 1. (c), 2. (b), 3. (a), 4. (b), 5. (d).

# Menstrual Cycle in Human

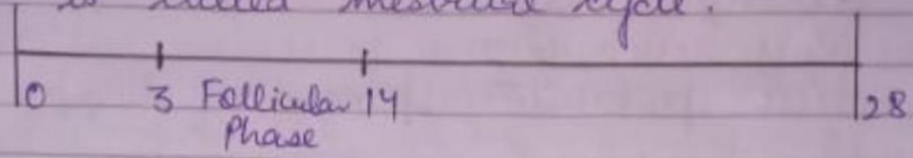
⇒ Notes

→ Menstrual Cycle - 28 days.

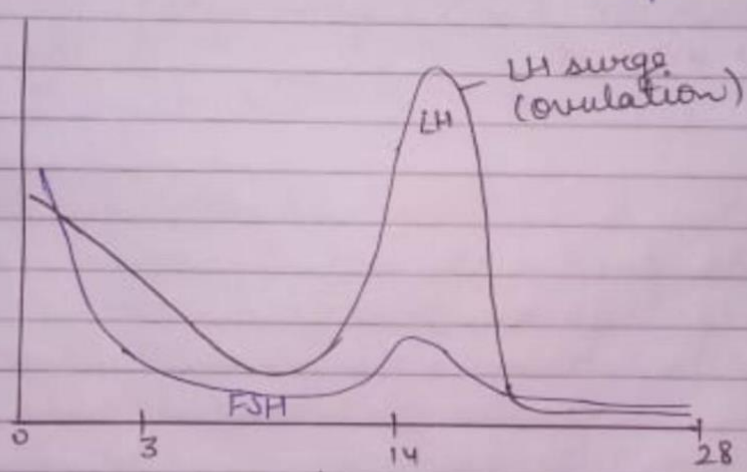
→ Birth = 60,000 - 80,000 Primary follicles



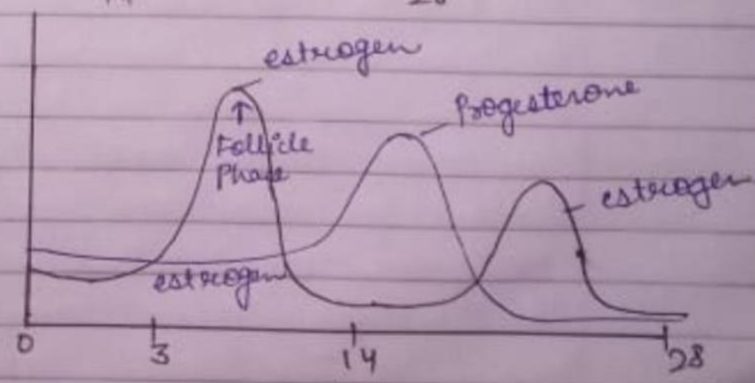
If fertilization occurs, corpus luteum continues release progesterone. If fertilization do not take place corpus luteum degenerated and formation of progesterone are to stopped. Therefore, shaded of endometrium line and this is called menstrual cycle.



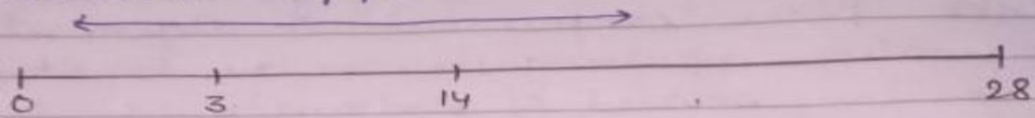
Pituitary → FSH  
 → LH  
 FSH → PBFS, FTF  
 LH → graafian follicle  
 ↓  
 corpus luteum.



Pituitary FSH, LH  
 Ovarian Progesterone, estrogen



→ If sexual intercourse occur pregnancy egg doesn't happen.



Firstly - 7 days  
Last seven days  
Less probability pregnancy happens.

→ degenerated corpus luteum called as corpus albicans.

\* Ques / Ans :->

1. Menstrual cycle is of how many days?  
4-7 days.
2. Write the names of reproductive cycles found in female mammals.  
Estrous & Menstrual.
3. During parturition which hormone is secreted?  
Oxytocin.
4. During pregnancy period which hormone is secreted?  
LH, Progesterone.
5. What is estrous cycle?  
Estrous cycle is for some time. It is associated with sexual maturity. Excluding primate mammals this cycle is found in rest of all the mammals. During this cycle the female animal receives the male for mating.
6. What is menstrual cycle?  
Reproductive cycle that takes place in primate mammals is called menstrual cycle or menses. This cycle starts from the first day of the blood discharge that lasts upto 3-5 days.

7. What is the ovulation stage?

On the 14th day of the menstrual cycle the graafian follicle bursts/ruptures and the mature ovum is released. This process is called ovulation.

8. Write an essay on parturition in human female.

In human from fertilization to parturition on an average it takes 9 months / 38 weeks / 266 days. Parturition is induced by a complex neuro-endocrine process. The indicate for parturition is due to the complete developed foetus and placenta. The process of birth of a child is called parturition. The labour pain starts by contraction of cervix and the opening of the mouth of cervix.

Due to the indication produce by the developed foetus and placenta in uterus light contractions are developed which are called foetal ejection reflex. This reflex stimulates the pituitary gland to secrete oxytocin. This hormone induces contraction in smooth muscles of the uterus. As a result the contraction speeds up which pushes the foetus towards the cervix due to which oxytocin is secreted and the contraction become maximum and the foetus comes out from the birth canal which is called

labour expulsion. To induce labour pain doctors use misoprostol or pitocine.

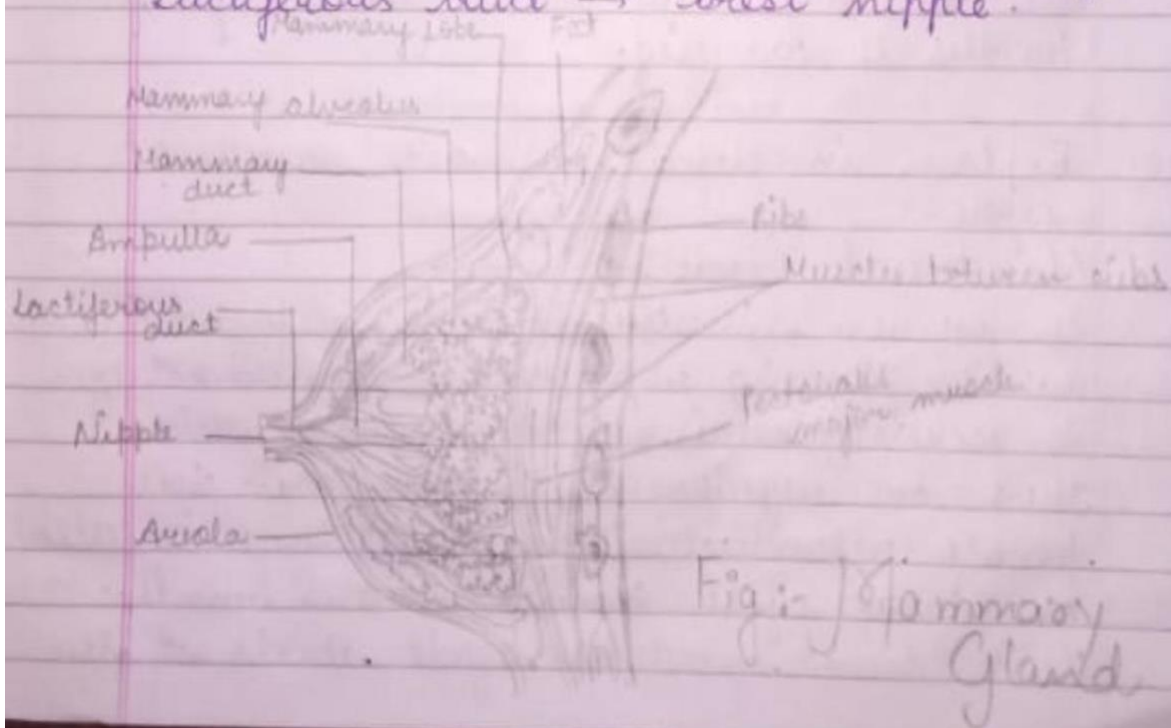
9. Write an essay on lactation in human female.

From the 5th week of the pregnancy to the parturition prolactin (PRL) hormone is secreted by the anterior lobe of pituitary gland which is responsible for the lactation.

From the birth till a few days the female mammary gland secretes a liquid which is called colostrum. It has protein and lactose quantity similar to milk, it also has antibody IgA which develops passive immunity in the child.

Lactation is by alveoli - after this milk flows via →

Ductile → mammary gland → Mammary sinus  
Lactiferous duct → breast nipple.



By which the child receives it. For this secretion hormonal and neurological reflex is required. Oxytocin secreted by pituitary gland is responsible for lactation. When the new born baby suck the breast then somatic neuromuscular stimulus (impulse) reaches the hypothalamus and secretes oxytocin. This along with blood reaches the breast and contracts the epithelial cells of mammary glands alveoli. The milk flow through ducts to which new baby gets milk. Prolactin hormone secreted by the anterior pituitary gland secretes oxytocin hormone is responsible for milk secretion (lactation). Lactation is a conditional reflex in which sucking reflex and ejection reflex both combined processes cause lactation. For a healthy child's for its overall development of a healthy child breast feeding for few months is advised.

10. Explain in detail about menstrual cycle.

### Menstrual Cycle:-

In women menstrual cycle is found in which during reproductive period estrogen is secreted continuously. Due to which there are regular cyclic changes in the female reproductive system. Which is called menstrual cycle. Menses means month. First time menstrual cycle starts at the



age of 12-14 age of at puberty which is called Menarche. This cycle stops at when about the age of 50 yrs. This stage is called Menopause. In women menstrual cycle on a average is of 28 days. In women menstrual cycle can be studied in following stages:

- (1) Menstrual : Reproductive cycle that takes place in primate mammals is called menstrual cycle. This cycle starts from the first day of the blood discharge that lasts upto 3-5 day. This is called menstruation or menses. Normally this discharge stops on 5th day. Menstruation comes only when the ovum is not fertilized after the ovulation. Absence of menstruation is indication of pregnancy.
- (2) Follicular Phase : This starts from 6th day to 14th day after menstruation due to which FSH-RF of Hypothalamus stimulates the pituitary gland to release FSH which stimulates the development / transformation of primary follicle to graafian follicle. Uterine glands increase / grow : During this stage estrogen hormone secretion is highest. LH hormone suddenly increases on 13th day.
- (3) Ovulatory phase : LH and FSH hormones reach their maximum level on 14th day of menstrual cycle. This is called LH surge. This surge is essential for ovulation. This process is regulated by LH (Luteinizing hormone).
- (4) Post - Ovulatory phase : This stage period is from 15th day - 28th day. After ovulation

secretion of LH motivates the development of corpus luteum (yellow structure). Now the secretion of estrogen and progesterone from corpus luteum is high. This progesterone prepare the endometrium of uterus for implantation of the fertilized ovum.

If fertilization does not take place then the secretion of estrogen & progesterone by corpus luteum is reduced. As a result the corpus luteum degenerates & the next menstruation cycle starts. From menarche to menarche to menopause period the cyclic menstruation is the indicator of normal reproduction period.

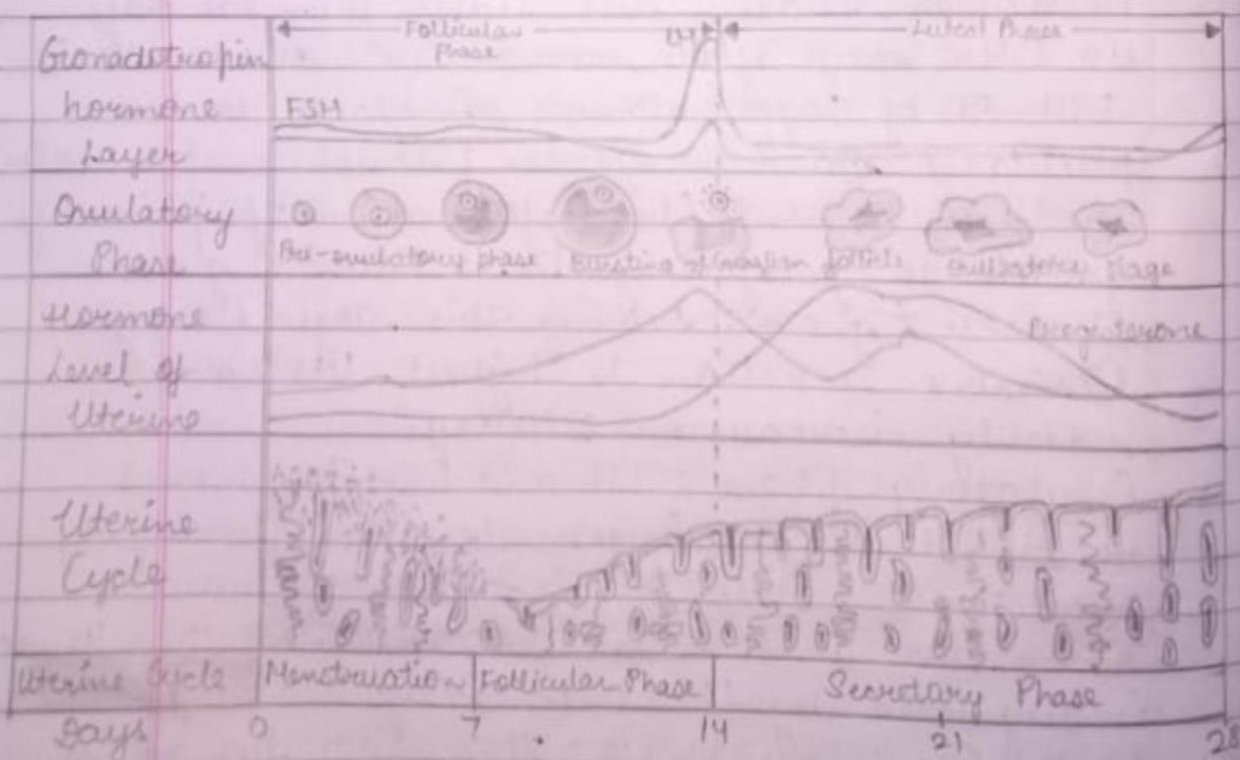


Fig:- Definition of Menstrual Cycle