Biology | NEET

Class 12 Biology - Human Reproduction

NEET track | Short Notes + 5 CBSE-based questions + 5 NEET PYQ-based questions with solutions

Prepared by: Lakshya Institute Academic Desk	Focus: NEET + CBSE alignment
Format: Quick revision + solved practice	Chapter scope: Class 12 Biology

1. Quick Short Notes

- Male reproductive system includes testes, epididymis, vas deferens, urethra, accessory glands and penis.
- Seminiferous tubules are the sites of spermatogenesis. Leydig cells secrete testosterone.
- Female reproductive system includes ovaries, oviducts, uterus, cervix, vagina and external genitalia.
- Oogenesis starts before birth; usually one ovum is released in each menstrual cycle.
- Menstrual cycle has menstrual, follicular, ovulatory and luteal phases.
- Ovulation in a 28-day cycle usually occurs around day 14 due to LH surge.
- Fertilisation normally occurs at the ampullary-isthmic junction of the oviduct.
- Implantation occurs in the endometrium of uterus. Placenta forms a physiological link between mother and foetus.
- Important hormones: FSH, LH, oestrogen, progesterone, prolactin and oxytocin.
- Board tip: reproductive diagrams score well if labels are neat and hormones are mentioned correctly.

2. CBSE-based Board Practice

Q1. Name the normal site of fertilisation and implantation in human female reproductive system.

Solution: Fertilisation usually occurs at the ampullary-isthmic junction of the oviduct. Implantation occurs in the endometrium of the uterus.

Q2. Differentiate between spermatogenesis and oogenesis in two points.

Solution: Spermatogenesis produces four functional sperms from one primary spermatocyte, while oogenesis produces one large ovum and polar bodies. Spermatogenesis begins at puberty, whereas oogenesis starts before birth.

Q3. List the major phases of the menstrual cycle.

Solution: The major phases are: menstrual phase, follicular (proliferative) phase, ovulation, and luteal (secretory) phase.

Q4. What is placenta? State any two functions.

Solution: Placenta is a temporary vascular organ connecting maternal and foetal tissues. It helps in exchange of oxygen, nutrients and wastes, and it also secretes hormones such as hCG, hPL, oestrogen and progesterone.

Q5. State the roles of FSH and LH in human reproduction.

Solution: FSH stimulates growth of ovarian follicles in females and spermatogenesis in males. LH induces ovulation and corpus luteum formation in females, and stimulates Leydig cells to secrete testosterone in males.

3. NEET PYQ-based Practice

Q1. Which hormone is mainly responsible for milk ejection during lactation?

Solution: Oxytocin is mainly responsible for milk ejection.

Q2. Which structure of sperm helps it penetrate the ovum?

Solution: The acrosome contains enzymes that help the sperm penetrate the ovum.

Q3. Which hormone is secreted by the corpus luteum?

Solution: Corpus luteum mainly secretes progesterone.

Q4. Implantation occurs in which layer of uterus?

Solution: Implantation occurs in the endometrium.

Q5. When does the secondary oocyte complete meiosis II?

Solution: It completes meiosis II only after entry of sperm during fertilisation.

Practice tip: First revise the short notes, then attempt CBSE board questions in written format, and finally solve the exam-specific section in timed mode.