

# **Question Bank for Unit V: Reproductive System and Genetics**

## **Human Anatomy and Physiology-II (Theory, BP201T)**

Pharmacy Council of India

Semester II, B. Pharm Program

### **Introduction**

This question bank is designed for Unit V: Reproductive System and Genetics of the course Human Anatomy and Physiology-II (Theory, BP201T) as per the PCI Regulation for B. Pharm Semester II. It aligns with the course outcome (CO5): Assess the anatomy, physiology, and hormonal regulation of the reproductive system, and explain basic genetic principles of inheritance. The questions are categorized into three types: Elaborate (10 marks each), Notes (5 marks each), and Short Answers (2 marks each), reflecting the examination structure of The Tamil Nadu Dr. M.G.R. Medical University (2018–2024). The questions cover all topics in Unit V, including anatomy and functions of male and female reproductive systems, sex hormones, physiology of menstruation, fertilization, spermatogenesis, oogenesis, pregnancy, parturition, and introduction to genetics (chromosomes, genes, DNA, protein synthesis, genetic pattern of inheritance). They are designed to support the AAA (Align, Assess, Achieve) guidelines, ensuring alignment with learning objectives, varied assessment methods, and achievement of pharmaceutical knowledge relevant to reproductive and genetic processes.

### **Question Bank**

#### **I. Elaborate on (10 Marks Each)**

1. a) Explain about anatomy of female reproductive system. b) Give a brief note on menstrual cycle. (Sep 2018)
2. a) Explain ovulation. b) Outline the various events of menstrual cycle. (Mar 2019)
3. Discuss in detail the anatomy and functions of Male reproductive system. (Mar 2021)

4. Explain the structure and functions of male and female reproductive system. (Mar 2020)
5. Explain the anatomy and physiology of female reproductive system with neat diagram. (Aug 2023)
6. a) Explain the anatomy of female reproductive system. b) Give a brief note on menstrual cycle. (Mar 2023)
7. Give the physiological functions of Female Sex hormones. Discuss the various stages of Menstrual Cycle. (Jan 2022)
8. Explain the menstrual cycle and add a note on human chorionic gonadotrophins. (Oct 2024)
9. Discuss the structure and functions of chromosomes, genes, and DNA, and explain the process of protein synthesis with a diagram.
10. Explain the anatomy of male reproductive system and the physiology of spermatogenesis with a neat labeled diagram.

## **II. Write Notes on (5 Marks Each)**

1. Spermatogenesis. (Sep 2018)
2. Spermatogenesis. (Mar 2019)
3. Discuss the various stages of the menstrual cycle. (Mar 2020)
4. Discuss about the internal structure of the female reproductive system with diagram. (Sep 2019)
5. Describe about Oogenesis. (Sep 2019)
6. Write a brief note on pregnancy and parturition. (Sep 2019)
7. Genetic pattern of inheritance. (Sep 2019)
8. Define gene and explain the functions of the gene. (Mar 2020)
9. Protein synthesis. (Mar 2020)
10. Write about Oogenesis. (Mar 2021)
11. Discuss Fertilization. (Mar 2021)
12. Write short notes on Male Sex Hormones. (Jan 2022)
13. Define Pregnancy and add stages of pregnancy. (May 2022)
14. Write a brief note on pregnancy and parturition. (Oct 2022)
15. Genetic pattern of inheritance. (Oct 2022)
16. Brief note on Oogenesis. (Mar 2023)

17. Explain the phases in spermatogenesis and oogenesis. (Dec 2023)
18. Describe the physiology of fertilization and implantation.
19. Explain the role of sex hormones in reproductive functions.
20. Discuss the process of protein synthesis and its significance in genetics.

### **III. Short Answers on (2 Marks Each)**

1. Define oogenesis. (Sep 2018)
2. Parturition. (Mar 2019)
3. Write on chromosomes. (Mar 2019)
4. Fertilization. (Mar 2019)
5. What is genetic pattern of inheritance? (Mar 2019)
6. Function of Uterus. (Jan 2022)
7. What is transcription and translation? (Jan 2022)
8. Define Chromosomes. (Jan 2022)
9. Spermatogenesis. (Mar 2020)
10. Role of different hormones in parturition. (Mar 2020)
11. Components of DNA. (Mar 2020)
12. Hormones of parturition. (Mar 2021)
13. Write the function of placenta. (May 2022)
14. Define Genetic code. (May 2022)
15. What are Androgens and Estrogens? (May 2022)
16. Short answer on gene. (Oct 2022)
17. Give short notes on Oogenesis. (Oct 2022)
18. Give male and female sex hormones. (Oct 2022)
19. Short answer on DNA. (Mar 2023)
20. What is menopause? (Dec 2023)
21. Define the role of human chorionic gonadotropin (hCG) in pregnancy.
22. Name two genetic disorders and their inheritance patterns.
23. List the stages of the menstrual cycle.
24. Define crossing over in genetics.
25. Name the primary sex organs in males and females.

## Notes

- **Source:** Questions 1–8 (Elaborate), 1–17 (Notes), and 1–20 (Short Answers) are directly extracted or adapted from the provided examination papers (2018–2024). Additional questions (9–10 in Elaborate, 18–20 in Notes, 21–25 in Short Answers) were created to ensure comprehensive coverage of Unit V topics, such as sex hormones, DNA structure, protein synthesis, and fertilization physiology, which were underrepresented in the papers.
- **Alignment:** Questions cover all Unit V topics and align with CO5, emphasizing pharmaceutical knowledge (PO1) and critical thinking (PO2).
- **Assessment:** Questions span knowledge (e.g., define oogenesis), comprehension (e.g., explain menstrual cycle), and application (e.g., discuss protein synthesis), supporting varied assessment methods.
- **Achieve:** Questions link to pharmacy applications (e.g., hormonal contraceptives, pharmacogenomics for genetic disorders), enhancing relevance.
- **Exam Structure:** Follows the BP201T exam pattern: Elaborate (2 out of 3, 20 marks), Notes (7 out of 9, 35 marks), Short Answers (all 10, 20 marks).
- **Adaptability:** Questions can be used for in-class quizzes, assignments, or exams, and are adaptable for online platforms (e.g., MCQ platforms like Kahoot).
- **Exclusion:** Questions related to other units (e.g., endocrine hormones in Unit IV, except for sex hormones explicitly part of Unit V) were excluded to focus strictly on Unit V (reproductive system and genetics).