ICSE 2027 — REPRODUCTIVE SYSTEM QUESTION BANK

BIOLOGY (SCIENCE PAPER 3) — CLASS X

Indian Certificate of Secondary Education

Topic covered

Human Anatomy and Physiology — 5(v) Reproductive System: organs, fertilisation, placenta, menstrual cycle, sex hormones, identical and fraternal twins, male and female reproductive structures, gestation and parturition.

Papers included

Board papers: 2023, 2024, 2025, 2026 (Science Paper 3, Biology). Specimen papers: 2023S, 2024S, 2025S, 2026S, 2027S. The 2023S and 2025S specimens are scanned; their questions were read by OCR, so check any item marked with a note.

How to use this bank

1. Every question is taken from the papers listed above. Only light trimming has been applied to wording.
2. Three categories: A. Multiple Choice Questions (1 mark each); B. Short Questions (1 or 2 marks); C. Long Questions (3 marks or more).
3. Source tags follow each question. A board paper is tagged by its year, for example [2025]; a specimen paper by its year and S, for example [2027S]. Identical wording (ignoring capitals, punctuation and "the") is entered once with every year listed.
4. Figures are shown as red placeholders in the form [FIGURE: short description — paste from source paper, YEAR CODE Q#].
5. There are no answers, marking schemes or answer keys in this bank.
6. Questions that belong to other chapters but appeared in mixed items are included only for their reproductive sub-parts.

Human Anatomy and Physiology: Reproductive System

A. Multiple Choice Questions (1 mark each)

1. During which phase of menstrual cycle does the endometrium shed? [1] **[2026]**
   (a) Follicular phase
   (b) Ovulatory phase
   (c) Menstrual phase
   (d) Luteal phase

2. The hormone that maintains the thickening of the endometrium during pregnancy is: [1] **[2026S]**
   (a) Oestrogen
   (b) ACTH
   (c) Progesterone
   (d) Oxytocin

3. The onset of menstruation in a human female is called: [1] **[2025S] [2026S]**
   (a) Menopause
   (b) Menarche
   (c) Ovulation
   (d) Oogenesis

4. The hormone that induces vigorous contractions of the uterus in a pregnant mother is: [1] **[2025]**
   (a) Oestrogen
   (b) Prolactin
   (c) Oxytocin
   (d) Progesterone

5. Assertion (A): Seminal vesicles pour an alkaline secretion into the semen as it passes through the ureter.
   Reason (R): The female vagina is acidic and needs to be neutralized for sperm survival. [1] **[2025]**
   (a) (A) is true and (R) is false.
   (b) (A) is false and (R) is true.
   (c) Both (A) and (R) are true.
   (d) Both (A) and (R) are false.

6. The structure related to storage and maturation of sperms in a human male is: [1] **[2024S]**
   (a) Epididymis
   (b) Epidermis
   (c) Epithelium
   (d) Endothelium

7. Gestation period of human foetus is: [1] **[2023S]**
   (a) 40 days
   (b) 280 days
   (c) 280 weeks
   (d) 40 months

8. The part that is cut in Vasectomy is: [1] **[2023S]**
   (a) Urethra
   (b) Oviduct
   (c) Fallopian tube
   (d) Vas deferens

9. On which day of the menstrual cycle does ovulation take place? [1] **[2023S]**
   (a) Ist day
   (b) 5th day
   (c) 14th day
   (d) 28th day

10. Assertion (A): The foetus respires but does not breathe.
    Reason (R): The maternal blood supplies oxygen to the foetus through placenta. [1] **[2025S]**
    (a) (A) is true and (R) is false.
    (b) (A) is false and (R) is true.
    (c) Both (A) and (R) are true.
    (d) Both (A) and (R) are false.

B. Short Questions (1 or 2 marks)

11. Name the canal through which the testes descend into scrotum just before the birth of a male baby. [2] **[2025] [2027S]**
12. The permanent stoppage of menstruation in human females around the age of 45 years. [1] **[2023]**
13. The process of attachment of fertilized ovum to the wall of uterus. [1] **[2024]**
14. Differentiate between Menarche and Menopause. [2] **[2023S] [2024S]**
15. Explain the term Menarche. [1] **[2026S]**
16. Give the biological term for the surgical method of contraception in human females. [2] **[2024]**
17. What are the two hormones secreted by Corpus luteum? [2] **[2024S]**
18. What is the significance of placenta in the growth of foetus? [2] **[2024S]**

19. A 28-year-old pregnant lady goes to a gynaecologist for a check-up. Her doctor explains that there is normal growth of the foetus and the placenta is functioning well.
(a) Mention one function of the placenta.
(b) What connects the placenta to the foetus? [2] **[2026]**

20. Mention any two secondary sexual characteristics in a 15-year-old boy. [2] **[2026]**

21. The fully developed part of the ovary containing a mature ovum. [2] **[2025]**
Stem: "Name the following:" — sub-part (a) of the 2025 board Q2(i).

22. Mention any two functions of amniotic fluid. [2] **[2025]**

23. Differentiate between the functions of Urethra and Uterus. [2] **[2025]**

24. What is the significance of the human testes being located in scrotal sacs outside the abdomen? [2] **[2023]**

25. Identical twins are always of the same gender. Explain why. [2] **[2026S]**

26. State one difference between identical twins and fraternal twins. [2] **[2027S]**

27. What is the significance of Testes being placed in Scrotal sacs? [2] **[2025S]**
Different wording from the 2023 board item; kept separately.

28. State the difference between Micturition and Parturition. [2] **[2025S]**
Different wording from the 2025 board item "What is Micturition? Explain."; kept separately.

29. Mention the surgical methods of contraception in males and females [2 marks] [2] **[2025S]**

30. Choose the odd term out from the following and name the category to which the remaining three belong: Morula, Blastocyst, Oviduct, Foetus. [2] **[2026]**
Mixed stem: the 2026 board Q2(iii)(e) is one of five sub-parts. Only the reproductive sub-part is shown.

31. Arrange and rewrite the terms in each group in the correct order so as to be in a logical sequence beginning with the term that is underlined: Embryo, Foetus, Blastocyst, Morula. [2] **[2024S]**

32. Arrange and rewrite the terms in each group in the correct order so as to be in a logical sequence beginning with the term that is underlined: Testis, Urethra, Sperm duct, Epididymis. [2] **[2023]**

33. Arrange and rewrite the terms in each group in the correct order so as to be in a logical sequence beginning with the term that is underlined: Sperm, Urethra, Sperm duct, Epididymis. [2] **[2023S]**

34. Choose the odd one out from each of the following sets of terms and name the category to which the remaining three belong: Uterus, Urethra, Urinary bladder, Ureter. [2] **[2023]**

35. Choose the odd one out from each of the following sets of terms and name the category to which the remaining three belong: Menstrual phase, Telophase, Follicular phase, Luteal phase. [2] **[2023]**

36. Choose the odd term out from the following and name the category to which the remaining three belong: Ureter, Urethra, Uterus, Renal Pelvis. [2] **[2026S]**

37. Choose the odd one out from the following terms and name the category to which the others belong: Vas deferens, Endometrium, Seminiferous tubule, Vas efferens. [2] **[2027S]**

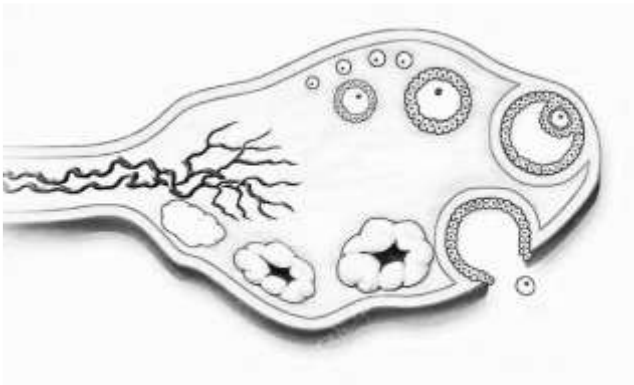
38. The gestation period lasts for _____ weeks. [2] **[2027S]**

39. Read the explanations given below and name the structure:
(c) The structure that connects placenta and the human foetus. [2] **[2025S]**

40. Give the reason and name the following: fill-in passage on the ovaries — the gametes produced by ovaries are called _____; the release of a mature ovum from graafian follicle is known as _____; implantation of the embryo is in the _____. [2] **[2027S]**

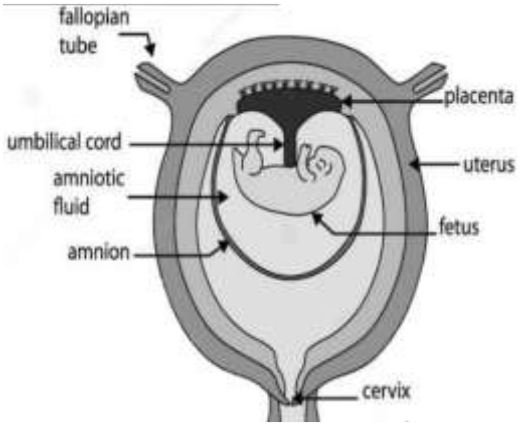
41. Mention the function of the following: (a) Leydig cells (b) Seminiferous tubules. [2] **[2026]**

42. Name the structure marked 1 and 2 in the diagram of a section of the human ovary. (a) Name the process for the release of the part labelled 1. (b) Write the name of the structure marked 2. [2] **[2024]**

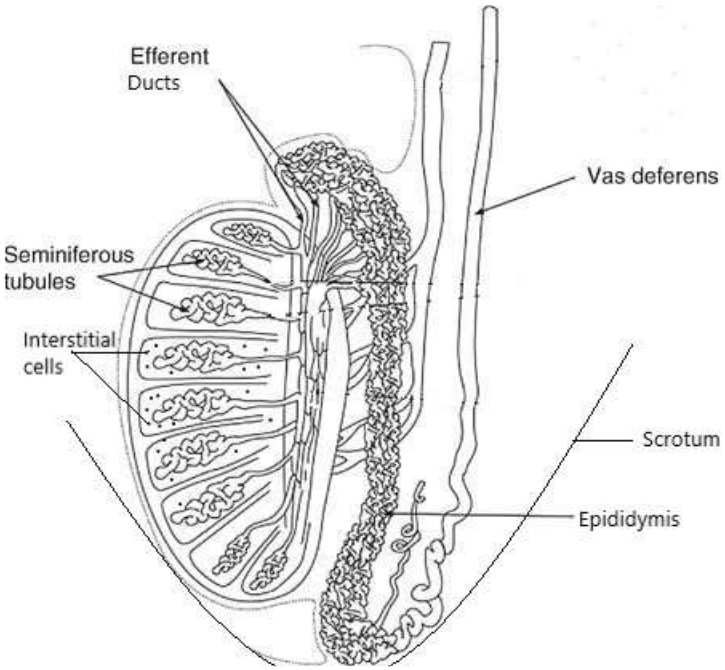


C. Long Questions (3 marks or more)

43. Study the diagram given below and match the structure with its function:
Example: Fallopian tube – (f)
(a) Allows diffusion of glucose from maternal blood into foetal blood
(b) A tube-like structure that transports substances to and from the foetus
(c) Protective membrane surrounding the foetus
(d) Cushions the foetus and absorbs mechanical shocks
(e) Dilates to enable the birth of baby
(f) Site of fertilisation [5] **[2027S]**



44. Study the diagram given below and match the structure with its function: Example: Scrotum – (f). (a) Secrete Testosterone (b) Transports sperms to Epididymis (c) Stores sperms till maturation (d) Transport sperms to urethra (e) Produce sperms (f) Regulates temperature of Testis. [5] **[2026S]**



45. Given below is the picture of a human sperm. Diagram: Draw a neat, labelled diagram of a human sperm. [5] **[2023] [2025S]**

46. Draw a neat, labelled diagram of a human gamete that has the sex chromosome Y. [3] **[2024S]**

47. The human sperm head cap and associated organelles. Fill in the blanks:



The head of the sperm has a cap like organelle called (a) ___ (Lysosome / Acrosome); it produces an enzyme (b) ___ (Hyaluronidase / Amylase); the nucleus has (c) ___ (23 / 46) chromosomes; the middle piece has (d) ___ (Chloroplast / Mitochondria); (e) ___ (Semen / Hymen) is a mixture of sperms and fluids. [5] **[2026]**