



INDIAN SCHOOL SOHAR
UNIT TEST - I (2024 – 2025)
BIOLOGY (044)

SET - B

CLASS: XII.

MAX.MARKS:20.

DATE: 23/05/2024

TIME: 40 MINUTES.

General Instructions.

- (i) All questions are compulsory.
- (ii) The question paper has five sections and **10** questions.
- (iii) **Section–A** has 6 questions of 1 mark each.
- (iv) **Section–B** has 1 question of 2 marks.
- (v) **Section– C** has 1 question of 3 marks.
- (vi) **Section– D** has 1 case-based questions of 4 marks.
- (vii) **Section–E** has 1 question of 5 marks.
- (viii) Choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- (ix) Wherever necessary, neat and properly labelled diagrams should be drawn.

Q.No	Questions.	Marks.
SECTION - A		
1.	Which of the following statements is incorrect? (a) GnRH stimulates secretion of FSH and LH. (b) LH stimulates the Leydig cells to secrete androgen. (c) FSH acts on the Sertoli cells and stimulates spermiogenesis. (d) None of these.	1
2.	Unisexuality of flowers prevent, (a) geitonogamy. (b) autogamy. (c) xenogamy. (d) both geitonogamy and xenogamy.	1
3.	Mature Graafian follicle is generally present in the ovary of a healthy human female around, (a) 5 – 8 days of menstrual cycle. (b) 11 – 17 days of menstrual cycle. (c) 18 – 23 days of menstrual cycle. (d) 24 – 28 days of menstrual cycle.	1
4.	In a fertilised embryo sac, the haploid, diploid and triploid structures are; (a) synergid, zygote and primary endosperm nucleus. (b) synergid, antipodal and polar nuclei. (c) antipodal, synergid and primary endosperm nucleus. (d) synergid, polar nuclei and zygote.	1
<p>In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.</p>		
	(a) Assertion and reason both are true and reason is correct explanation for assertion. (b) Assertion and reason both are true but reason is not correct explanation for assertion. (c) Assertion is true statement but reason is wrong statement. (d) Assertion is wrong statement but reason is true statement.	
5.	Assertion: The middle piece of the sperm is called its powerhouse. Reason: Numerous mitochondria in the middle piece produce energy for the movement of the tail.	1

6. Assertion: In plants, apomixis is a type of asexual reproduction that mimics sexual reproduction. Reason: In apomixis seeds are produced without the fusion of gametes. 1

SECTION - B

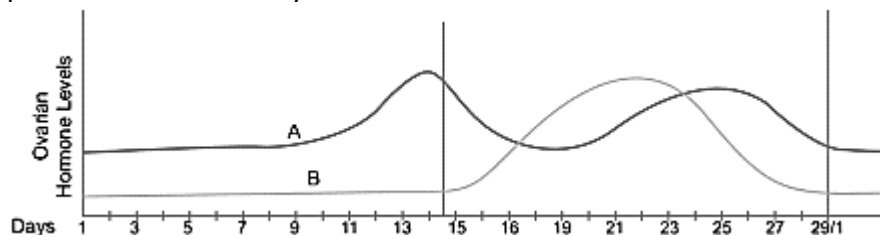
7. In a flowering plant a microspore mother cell produces four male gametophytes while a megaspore mother cell form only one female gametophyte. Explain. 2

SECTION - C

8. Briefly describe the stages of spermatogenesis in humans. 3

SECTION - D

9. The graph given below shows the variation in the levels of ovarian hormones during various phases of menstrual cycle: 4



- (a) Identify 'A' and 'B'.
(b) Specify the source of the hormone marked in the diagram.
(c) Corpus luteum in pregnancy has a long life. However, if fertilisation does not take place, it remains active only for 10–12 days. Why?

OR

- (c) Compare the role of A and B. Reason out why A peaks before B.

SECTION - E

10. A flower of brinjal plant following the process of sexual reproduction produces 360 viable seeds. Answer the following questions giving reasons: 5

- (a) How many ovules are minimally involved?
(b) How many megaspore mother cells are involved?
(c) What is the minimum number of pollen grains that must land on stigma for pollination?
(d) How many male gametes are involved in the above case?
(e) How many microspore mother cells must have undergone reduction division prior to dehiscence of anther in the above case?

OR

- (a) Some angiosperm seeds are said to be 'albuminous', whereas few others are said to have a perisperm. Explain each with the help of an example.
(b) The development of endosperm precedes that of embryo in plants. Justify.