



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

SET - A

CLASS: XII
 DATE: 23/05/2024

MAX.MARKS:20
 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.	The acrosomal reaction of the sperm occurs due to; (a) its contact with zona pellucida of the ova. (b) reactions within the uterine environment of the female. (c) reactions within the epididymal environment of the male. (d) androgens produced in the uterus.	1
2.	Choose the correct statement from the following. (a) Cleistogamous flowers always exhibit autogamy. (b) Chasmogamous flowers always exhibit geitonogamy. (c) Cleistogamous flowers exhibit both autogamy and geitonogamy. (d) Chasmogamous flowers never exhibit autogamy.	1
3.	The signals of parturition originate from; (a) placenta. (b) fully developed foetus. (c) oxytocin released from pituitary. (d) both placenta and fully developed foetus.	1
4.	During the pollen grain formation, the generative cell divides to give rise to the two male gametes. What is the ploidy of the generative cell? (a) n. (b) 2n. (c) 3n. (d) 4n.	1

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.

- (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 embryo with 8 to 16 blastomeres is called a morula. 1
 Reason: The morula continuously divides to transform into trophoblast.

6. Assertion: The endosperm of angiosperms is generally triploid ($3n$). 1
Reason: It develops from primary endosperm nucleus formed by fusion of haploid male gamete and diploid secondary nucleus.

SECTION - B

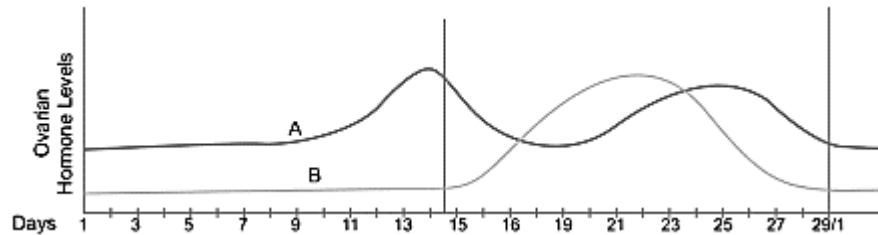
7. In a flowering plant, a microspore mother cell produces four male gametophytes, while a megaspore mother cell forms only one female gametophyte. Explain. 2

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

OR

- (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?

SECTION - E

10. (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. 5
(b) The development of endosperm precedes that of embryo in plants. Justify.

OR

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

- (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?