ROLL NUMBER				

SET A

INDIAN SCHOOL MUSCAT

FIRST PERIODIC TEST

BIOLOGY

CLASS: XII Sub.Code: 044 Time Allotted: 50mts.

19 .04.2023 Max .Marks: 20

GENERAL INSTRUCTIONS:

1.There are three sections in the question paper.

2.All questions are compulsory, but internal choice is given in one question each of sections B and C and attempt any one question in such case.

3.Draw neat labeled diagram wherever required

SECTION A

1. What is the key advantage to the plant for having a strong pollen grain wall? 1

   (a) It protects the vital genetic material in the pollen grain
   (b) It allows pollen to serve as a valuable record for the study of ancient plants
   (c) It prevents the pollen tube from growing out before the pollen grain reaches the stigma of a compatible species
   (d) It gives weight to the pollen grain, allowing it to cling better to the body surfaces of insect pollinators

2. 256 microspore tetrads will form by the meiosis of- 1

   (a) 128 pollen mother cells
   (b) 256 pollen mother cells
   (c) 64 microspore mother cells
   (d) 512 microspore mother cells

3. Match the correct structures given in column I with the fruit in column II in the chart given below: 1

	Column I (Structure)		Column II (Fruit)
P	Perisperm	i	Maize
Q	Thalamus	ii	Black pepper
R	Pericarp	iii	Strawberry
S	Endosperm	iv	Mango

(a) P- i Q- ii R- iii S-ii
(b) P- ii Q- iii R- iv S-i
(c) P- iii Q- i R- i S-iv
(d) P- iv Q- i R- ii S-iv

4. The male gametes in pollen are formed from 1
   (a) Vegetative cell
   (b) Generative cell
   (c) Tube cell
   (d) Megaspore

5. The pollen moves from the anther of one flower to the stigma of another flower of a different plant of the same species in 1
   (a) Autogamy
   (b) Xenogamy
   (c) Geitonogamy
   (d) Cleistogamy

6. **Assertion**: If pollen mother cell has 42 chromosomes, the pollen has only 21 chromosomes. 1

   Reason: Pollens are formed after meiosis in pollen mother cell.

   (a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.

   (b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

   (c) Assertion is true but Reason is false.

   (d) both Assertion and Reason are false.

7. **Assertion**: Castor and Maize are monoecious 1

   Reason: They prevent autogamy not geitonogamy

(a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) Assertion is true but Reason is false.

(d) Both Assertion and Reason are false.

SECTION B

8. Give reasons for the following: 2

   (a) A seed of an orange has many embryos
   (b) Cashew is a false fruit but Guava is a true fruit

OR

What is apomixis? Write its significance.

9. Differentiate between microsporogenesis and megasporogenesis. (Any two points). 2

SECTION C

10. Double fertilization is an event unique to all flowering plants. Explain the process. 3

11. Explain the process of the development of a male gametophyte in an angiosperm. Why is it called a male gametophyte? 3

OR

Embryo sac is 7 celled and 8 nucleated. Justify.

12. What will be the ploidy of the cells of the nucellus, MMC, The functional megaspore and PEN? Endosperm development precedes embryo development. Why? 3

ROLL NUMBER				

SET B

INDIAN SCHOOL MUSCAT

FIRST PERIODIC TEST

BIOLOGY

CLASS: XII Sub.Code: 044 Time Allotted: 50mts.

19 .04.2023 Max. Marks: 20

GENERAL INSTRUCTIONS:

1.There are three sections in the question paper.

2.All questions are compulsory, but internal choice is given in one question each of sections B and C and attempt any one question in such case.

3. Draw neat labeled diagram wherever required

SECTION A

1. 256 microspore tetrads will form by the meiosis of- 1

   (a) 128 pollen mother cells
   (b) 256 pollen mother cells
   (c) 64 microspore mother cells
   (d) 512 microspore mother cells

2. Match the correct structures given in column I with the fruit in column II in the chart given below: 1

	Column I (Structure)		Column II (Fruit)
P	Perisperm	i	Maize
Q	Thalamus	ii	Black pepper
R	Pericarp	iii	Strawberry
S	Endosperm	iv	Mango

(a) P- i Q- ii R- iii S-ii
(b) P- ii Q- iii R- iv S-i
(c) P- iii Q- i R- i S-iv
(d) P- iv Q- i R- ii S-iv

3. Ovule is attached to the placenta by 1

(a) Funicle
(b) Raphae
(c) Integument
(d) Hilum

4. The pollen moves from the anther of one flower to the stigma of another flower of the same plant in 1

(a) Autogamy
(b) Xenogamy
(c) Geitonogamy
(d) Cleistogamy

5. Which of the following best describes the function of the pollen tube? 1

(a) It acts as a conduit to transport male gametes from the anther to the ovule
(b) It acts as a conduit to transport male gametes from the stigma to the ovule
(c) It contains key nutrients that serve to nourish the newly-formed zygote
(d) It digests the tissues of the stigma, style and ovary.

6. Assertion: If pollen mother cell has 42 chromosomes, the pollen has only 21 chromosomes. 1

Reason: Pollens are formed after meiosis in pollen mother cell.

(a) both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) Assertion is true but Reason is false.

(d) both Assertion and Reason are false.

7. Assertion: In Vallisnaria the pollen grains are long and ribbon like 1

Reason: Female flowers remain submerged in water and pollen grains are released inside the water.

(a) both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) Assertion is true but Reason is false.

(d) both Assertion and Reason are false.

SECTION B

8. Give reason for the following: 2

(a) A seed of an orange has many embryos
(b) Cashew is a false fruit but Guava is a true fruit

OR

What is apomixis? Write its significance.

9. Differentiate between microsporogenesis and megasporogenesis. (Any two points). 2

SECTION C

10. Double fertilization is an event unique to all flowering plants. Explain the process. 3

11. Explain the process of the development of a male gametophyte in an angiosperm. Why is it called a male gametophyte? 3

OR

Embryo sac is 7 celled and 8 nucleated. Justify.

12. What will be the fate of following structures in the angiosperm plant? Ovary wall, Ovule, zygote, outer integument Inner integument and primary endosperm nucleus. 3

ROLL NUMBER				

SETC

INDIAN SCHOOL MUSCAT

FIRST PERIODIC TEST

BIOLOGY

CLASS: XII Sub.Code: 044 Time Allotted: 50mts.

19 .04.2023 Max .Marks: 20

GENERAL INSTRUCTIONS:

1.There are three sections in the question paper.

2.All questions are compulsory, but internal choice is given in one question each of sections B and C and attempt any one question in such case.

3.Draw neat labeled diagram wherever required

SECTION A

1. The pollen moves from the anther of one flower to the stigma of the same flower in 1

   (a) Autogamy
   (b) Xenogamy
   (c) Geitonogamy
   (d) Cleistogamy

2. Refer to the given characteristics of some flowers. 1

   (a) The stamens hang out of the flower, exposing the anthers to the wind.
   (b) The pollen grains are tiny and light
   (c) The flower has a sweet scent
   (d) The flower petals are brightly coloured
   How many of the above characteristics are of insect-pollinated flower?
   (a) One (b) Two (c) Three (d) Four

3. Match the correct structures given in column I with the fruit in column II in the chart given below: 1

	Column I (Structure)		Column II (Fruit)
P	Perisperm	i	Maize
Q	Thalamus	ii	Black pepper
R	Pericarp	iii	Strawberry
S	Endosperm	iv	Mango

(a) P- i Q- ii R- iii S-ii
(b) P- ii Q- iii R- iv S-i
(c) P- iii Q- i R- i S-iv
(d) P- iv Q- i R- ii S-iv

4. Female gametophyte in angiosperm is 1
   (a) Embryo
   (b) Megaspore
   (c) Pollen grain
   (d) Embryosac
5. 256 microspore tetrads will form by the meiosis of- 1
   (a) 128 pollen mother cells
   (b) 256 pollen mother cells
   (c) 64 microspore mother cells
   (d) 512 microspore mother cells
6. Assertion: pollen mother cell has 42 chromosomes, the pollen has only 21 chromosomes. 1

   Reason: Pollens are formed after meiosis in pollen mother cell.

   (a) both Assertion and Reason are true and Reason is the correct explanation of Assertion.

   (b) both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

   (c) Assertion is true but Reason is false.

   (d) both Assertion and Reason are false.

7. Assertion: Castor and Maize are monoecious 1

Reason: Male and female flowers are in the same plant

(a) both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) Assertion is true but Reason is false.

(d) both Assertion and Reason are false.

SECTION B

8. Give reason for the following: 2

(a) A seed of an orange has many embryos
(b) Cashew is a false fruit but Guava is a true fruit

OR

What is apomixis? Write its significance.

9. Differentiate between microsporogenesis and megasporogenesis. (Any two points). 2

SECTION C

10. What will be the ploidy of the cells of the nucellus, MMC, The functional megaspore and PEN? 3

11. Explain the process of the development of a male gametophyte in an angiosperm. Why is it called a male gametophyte? 3

OR

Embryosac is 7 celled and 8 nucleated. Justify.

12. List the advantages offered by seeds to angiosperms. (any three) 3