

**BIO-BOTANY (MARKS: 25)****PART-I.****SECTION-I****CHOOSE THE CORRECT ANSWER AND WRITE WITH OPTION CODE:****5 × 1 = 5**

1. In majority of plants pollen grains liberated at  
a) 1 Cell stage      b) 2 Cell stage      c) 3 Cell stage      d) 4 Cell stage
2. First cell of male gametophyte in angiosperm is  
a) Microspore      b) Megaspore      c) Nucellus      d) Primary Endosperm Nucleus
3. ABO Blood group in human is an example of  
a) Incomplete dominance      b) Dominant epistasis  
c) Codominance      d) Complementary gene interaction
4. In *Haplopappus gracilis* number of chromosomes in cell of nucellus is 4, what will be the Chromosome number in primary endosperm cell  
a) 8      b) 12      c) 6      d) 2
5. Gene which suppresses other genes activity but does not lie on the same locus is called as  
a) Epistatic      b) Supplement only      c) Hypostatic      d) Co dominant

**SECTION -II****ANSWER ANY THREE OF THE FOLLOWINGS:****3 × 2 = 6**

6. What is a Sexual reproduction?
7. Define ruminant endosperm and give an example
8. Draw the diagram of T.S of anther and label any four parts
9. What is alleles?
10. Define lethal genes

**SECTION -III****ANSWER ANY THREE OF THE FOLLOWINGS.****QUESTION NO.14 IS COMPULSORY****3 × 3 = 9**

11. List out the functions of tapetum
12. Write short notes on pollen kit
13. Write down the significance of parthenocarpy
14. Differentiate incomplete dominance and co dominance
15. What is Polyembryony? How it can commercially exploited

**SECTION -IV****ANSWER THE FOLLOWING****1 × 5 = 5**

16. a) Explain the structure of an ovule with suitable diagram  
(or)  
b) Explain about the dominant epistasis in summer squash

**BIO-ZOOLOGY (MARKS: 25)**

**PART –II**

**SECTION-I**

**CHOOSE THE CORRECT ANSWER AND WRITE WITH OPTION CODE:**

**5 × 1 = 5**

1. In which mode of reproduction variations are seen  
a) Asexual                      b) Parthenogenesis                      c) Sexual                      d) Both a and b
2. Which one of the following is not a seasonal breeder?  
a) Honey bees                      b) Frogs                      c) Lizards                      d) Birds
3. The foetal membrane that forms the basis of the umbilical cord is  
a) Amnion                      b) Allantois                      c) Yolk sac                      d) Chorion
4. Find the mismatching pair  
a) Gestation period                      -                      40 weeks  
b) First Trimester                      -                      Development of Heart  
c) Second Trimester                      -                      Development of Face  
d) Third Trimester                      -                      By the end of 8<sup>th</sup> month
5. The wall of the uterus which exhibits strong contractions during parturition  
a) Perimetrium                      b) Myometrium                      c) Mesovarium                      d) Endometrium

**SECTION - II**

**ANSWER ANY THREE OF THE FOLLOWINGS:**

**3 × 2 = 6**

6. Differentiate between Asexual reproduction and Sexual reproduction
7. How is juvenile phase different from reproductive phase?
8. Mention the importance of the position of the testes in humans.
9. What is the composition of Semen?
10. What is meant by Chorionic Villi?

**SECTION - III**

**ANSWER ANY THREE OF THE FOLLOWINGS.**

**3 × 3 = 9**

**QUESTION NO.13 IS COMPULSORY.**

11. Write a short note on Conjugation
12. Write a short note on various type of Natural parthenogenesis.
13. Draw a labelled sketch of a Spermatozoan.
14. Placenta is an endocrine tissue – Justify
15. Differentiate between Identical twins and Fraternal twins.

**SECTION - IV**

**ANSWER THE FOLLOWING**

**1 × 5 = 5**

16. a) What is parthenogenesis? Describe the various types of parthenogenesis.  
(or)  
b) Describe the structure of the human ovum with a neat labelled diagram.
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