

HSSTA Exam Series for XII –August 2020

**XII BIOLOGY; Part A. BOTANY**

(Reproduction in Organisms & Sexual Reproduction in Flowering Plants)

Max.Score : 30

Time : 1 Hr 10 minutes (including Cool Off time)

**Que. 1-5 ; Answer any 3 only ,each carries 1 score; 1X3=3**

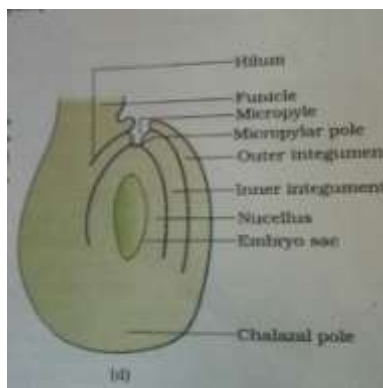
1. The residual persistent nucellus found in the seeds of Black pepper is the .....
2. The pollen viability maintain for months in some members of the family  
A) Rosaceae              B) Leguminoseae      C) Solanaceae              D) all the above
3. The term Clone is used to describe the morphologically and genetically similar individuals .

*Say Whether the above statement is **True** or **False***

4. Name the most invasive weed in standing fresh water bodies popularly known as 'Terror of Bengal'.
5. Male gametophyte : \_\_\_\_\_ ; Female gametophyte : Embryosac.

**Que.6-16 ; Answer any 9 only , each carries 2 score ; 2 X 9 =18**

6. Which one of the given organisms is Homothallic ? Marchantia or Chara  
Suggest another term to denote homothallic nature in plants.
7. The 4 layers of the anther wall are  
Epidermis , \_\_\_\_\_ , Middle layers & \_\_\_\_\_ .  
Write the function of the inner most layer.
8. Differentiate between the terms Integument & Pericarp
9. Expand MMC. What you mean by Monosporic embryosac development ?
10. Observe the given diagram of the ovule and write the 4 types of cells found inside the embryosac



11. Double fertilization involves two fusions between male & female gametes. Which are the fusions?  
What is parthenogenesis ?
12. Endosperm is the triploid tissue found inside the seed which nourish the embryo. What are the two types of endosperm ? Give examples.
13. Differentiate between True fruits & False fruits.
14. Define the term Apomixis ? What is the importance of understanding the genetics of apomixis?
15. Match the columns A & B , after understanding the method of asexual reproduction

**A**

- i) zoospore
- ii) conidia
- III) gemmule
- iv) budding

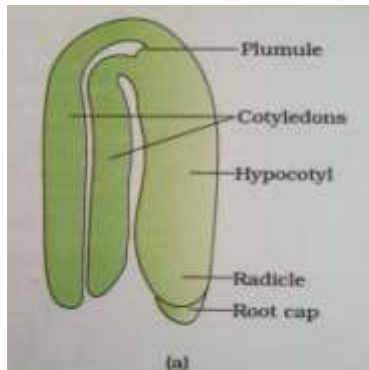
**B**

- A) Sponges
- B) Hydra
- C) Chlamydomonas
- D) Penicillium

16. Outbreeding devices are the adaptations in flowering plants to discourage self pollination and to promote cross pollination. Write any 2 of them.

**Que.17-20 ; Answer any 3 only , each carries 3 scores; 3X3=9**

17. A) Identify the given Picture .



- B) Write the 2 sequential stages of development after zygote.
- C) What is Hypocotyl ?
18. A) Write any 4 features of the wind pollinated flowers
- B) Give 2 examples for the water pollinated plants.
19. A) Define pollination.
- B) Geitonogamy is considered as Self pollination. Justify ?
- C) Define Emasculation
20. A) Vegetative propagation is the method of asexual reproduction found in some higher plants. Find out and write the methods of reproduction found in the following plants.
- i) Ginger      ii) Bryophyllum      iii) Agave      iv) Dahlia

B) Write any 2 differences between Asexual & Sexual reproduction

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