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**Subject: Biology**

**Topic: Sexual Reproduction in Flowering Plants**

**M.M. 360 COMPETITIVE TEST**  **Time: 60 Min.**

1. Ubisch bodies are connected with the formation of

|  |  |  |  |
| --- | --- | --- | --- |
| a) Sporopollenin | b) Intine and pollen kit | c) Exine | d) Pollen kit and pollinia |

1. cells present in mature male gametophyte of angiospermic plants are :

|  |  |  |  |
| --- | --- | --- | --- |
| a) One | b) Two | c) Three | d) Four |

1. Which one is diploid?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Synergids | b) Secondary nucleus | c) Antipodal | d) Egg |

1. Meiosis is best seen in

|  |  |  |  |
| --- | --- | --- | --- |
| a) Gamete | b) Microsporangium | c) Pollen grain | d) Anther wall |

1. An anther having four microsporocytes shall produce how many pollen grains

|  |  |  |  |
| --- | --- | --- | --- |
| a) 24 | b) 12 | c) 8 | d) 16 |

1. Formation of embryo sac in flowering plants is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Mega sporogenesis | b) Mega gametogenesis | c) Micro gametogenesis | d) None of the above |

1. When root cells have 42 chromosomes. The number of chromosomes in a cell of pollen grain is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 14 | b) 21 | c) 28 | d) 42 |

1. Embryo sac is also named as :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Micro gametophyte | b) Microsporangium | c) Mega gametophyte | d) Mega sporangium |

1. A mature male gametophyte is formed from pollen mother cell by :

|  |  |
| --- | --- |
| a) One meiotic division | b) Two meiotic division |
| c) One meiotic and two meiotic division | d) Three meiosis division |

1. Pollen kit in flower is formed from :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Endothecium | b) Middle layers | c) Microspore mother cell | d) Tapetum |

1. Egg apparatus in the embryo sac of angiosperm consists of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Egg and antipodals | b) Polar nuclei | c) Egg and synergids | d) Egg |

1. Number of chromosomes in 24 in Nucellus. Number of chromosomes in microspore mother cell would be :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 36 | b) 30 | c) 24 | d) 12 |

1. Largest cell of embryo sac is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Antipodal cells | b) Megaspore mother cell | c) Central cell | d) Size of cell variable |

1. In epigeal seed germination :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Epicotyl grows earlier | b) Hypocotyl grows earlier | c) Both grows together | d) None of these |

1. In 80 % angiosperm families, ovule is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Anatropous | b) Orthotropous | c) Amphitropous | d) Circinotropous |

1. Largest nucleus in pollen grain of flowering plants id :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Tube nucleus | b) Sperm nucleus | c) Generative nucleus | d) None of these |

1. Ploidy level of synergids are :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Haploid | b) Diploid | c) Triploid | d) Tetraploid |

1. Which of the following statement about sporopollenin is false?

a) Exine is made up of sporopollenin

b) Sporopollenin is one of the resistant organic materials

c) Exine has apertures called germ pores where sporopollenin are absent

d) Sporopollenin can withstand high temperatures and strong acids.

1. Which of the following is the function of Tapetum?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Respiratory | b) Nutritive | c) Reproductive | d) Protective |

1. The body of ovule is fused with funicle at a point called :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Integument | b) Hilum | c) Micropyle | d) Chalaza |

1. Megaspores are produced from the megaspore mother cell after :

|  |  |
| --- | --- |
| a) Mitotic division | b) Formation of thick wall |
| c) Differentiation | d) Meiotic division |

1. Which one of the following features are common to both wind and water pollinated flowers?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| i) pollen grains are long and ribbon like | | ii) Stigma is large and feathery | | |
| iii) The flowers are not colorful | | iv) The flowers don not produce nectar | | |
| a) (iii) & (iv) | b) (ii) & (iii) | | c) (i) & (ii) | d) (ii) | |

1. With respect to angiosperms, identify the incorrect pair form the following :

|  |  |
| --- | --- |
| a) Primary endosperm nucleus – 3n | b) Antipodals – 2n |
| c) Cells of nucellus of ovule – 2n | d) Vegetative cell of male gametophyte – n |

1. The germ pores in the pollen grain are the regions :

a) Which are made of lignin and suberin

b) That can withstand high temperature and strong acids and alkalis

c) Which lack sporopollenin

d) Through which sperms are released into the female gametophyte

1. In angiosperms the formation of two male gametes from a pollen grains involves………………….. division

|  |  |
| --- | --- |
| a) One meiotic and one mitotic | b) Two meiotic and two mitotic |
| c) Only Two mitotic | d) Only Two meiotic |

1. Perisperm is :

|  |  |
| --- | --- |
| a) Outer part of embryo sac | b) Degenerate synergids |
| c) Degenerate secondary nucleus | d) Remains of nucellus |

1. Triple fusion occurs between

|  |  |
| --- | --- |
| a) Egg and male gametes | b) Male gamete and secondary nucleus |
| c) Antipodal cells and male gamete | d) Egg and antipodal cells |

1. Apomixis is common in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Asteracy | b) Grasses | c) Both (a) & (b) | d) Solanaceae |

1. A diploid male angiospermic plant is crossed with tetraploid female plant. Endosperm in seed will be :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Haploid | b) Triploid | c) tetraploid | d) Pentaploid |

1. In mesogamy, the pollen tube enters the ovule through :

|  |  |
| --- | --- |
| a) between micropyle and chalaza | b) from chalaza |
| c) from micropyle | d) from hilum |

1. Anemophily occurs in

|  |  |  |  |
| --- | --- | --- | --- |
| a) Grasses and maize | b) legumes and Rafflesia | c) Euphorbia and hydrilla | d) Annona and Zostera |

1. Pollination by birds is referred as :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Malacophily | b) Myrmecophily | c) Entomophily | d) Ornithophily |

1. Maturation of anthers and stigma at the same time is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Allogamy | b) Xenogamy | c) Homogamy | d) Dichogamy |

1. Contrivance for self-pollination is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Cleistogamy | b) Bisexuality | c) Homogamy | d) All the these |

1. Epihydrophily is exhibited by :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Zostera | b) Vallisneria | c) Water hyacinth | d) Water lily |

1. In zostera, fertilization takes place through :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Air | b) Fresh water | c) Sea water | d) Honey bee |

1. Endosperm of flowering plants develops from:

|  |  |  |  |
| --- | --- | --- | --- |
| a) haploid nucleus | b) Diploid nucleus | c) triploid nucleus | d) Tetraploid nucleus |

1. Fig plant is pollinated by :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Ant | b) Blastophaga | c) bee | d) Butterfly |

1. In a monocot, endosperm cells have 24 chromosomes. What shall be the chromosome number in embryo:

|  |  |  |  |
| --- | --- | --- | --- |
| a) 24 | b) 16 | c) 12 | d) 8 |

1. Wind pollinated flowers are :

|  |  |
| --- | --- |
| a) small , scented and colourless | b) Small , non-scented and colourless |
| c) Big , scented and coloured | d) Big , non-scented and colourless |

1. Aleurone layer in maize grain is specially rich in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Lipids | b) Auxins | c) Proteins | d) Starch |

1. Total number of nuclei involved in double fertilization is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 2 | b) 3 | c) 4 | d) 5 |

1. A diploid female plant is crossed with tetraploid male. The ploidy level of endosperm will be :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Tetraploidy | b) Pentaploidy | c) Triploidy | d) Diploidy |

1. In nature, cleistogamous flowers are :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Wind pollinated | b) Bird pollinated | c) Self pollinated | d) Insect pollinated |

1. In some plants, anther and stigma grows and mature at same time. This phenomenon is called as :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Homogamy | b) Syngamy | c) Allogamy | d) Fusion |

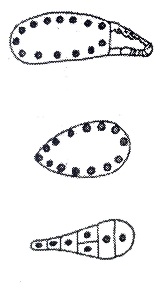
1. The fertilization in which male gametes are carried through pollen tube is known as :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Syngamy | b) Porogamy | c) Siphnogamy | d) Chalazogamy |

1. Type of pollination in Commelina is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Chasmogamy | b) Autogamy | c) Xenogamy | d) Cleistogamy |

1. Select the correct order of endosperm types:



|  |  |
| --- | --- |
| a) Cellular , Helobial , Free nuclear | b) Cellular , Free nuclear , Helobial |
| c) Helobial , Free nuclear , Cellular | d) Free nuclear , Cellular , Helobial |

1. Vegetative fertilization is also called as

|  |  |  |  |
| --- | --- | --- | --- |
| a) Triple fusion | b) True fertilization | c) Syngamy | d) Generative fertilization |

1. Endosperm is completely consumed by :

|  |  |
| --- | --- |
| a) pea , ground nut and castor | b) ground nut , bean and coconut |
| c) pea , ground nut and bean | d) None of the above |

1. Which one of the following statements is correct?

|  |  |
| --- | --- |
| a) Cleistogamous flowers are always autogamous | b) Xenogamy occurs only by wind pollination |
| c) Chasmogamous flowers do not open at all | d) Geitonogamy floral are of different plants |

1. Select the plant pollinated by water

A. Water hyacinth B. Zostera C. Amorphophallus D. Vallisneria E. Yucca

|  |  |  |  |
| --- | --- | --- | --- |
| a) A , B and E only | b) B and E only | c) B and D only | d) B , C and D only |

1. Emasculation ensures cross-pollination in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Staminate flower | b) Bisexual flower | c) Neuter flower | d) Pistillate flower |

1. An angiospermic male plant 24 chromosomes in its pollen mother cells is crossed with female plant bearing 24 chromosomes in its root cells. What would be the ploidy of embryo and endosperm respectively formed after this cross?

|  |  |  |  |
| --- | --- | --- | --- |
| a) 24 and 48 | b) 24 and 24 | c) 48 and 72 | d) 24 and 36 |

1. Double fertilization involves :

a) Fertilization of egg by two male gametes

b) Fertilization of two eggs in the same embryo sac by two sperms brought by one pollen tube

c) Fertilization of egg and central cell by two sperms brought by different pollen tubes.

d) Fertilization of egg and central cell by two sperms brought by same pollen tubes

1. The arrangement of nuclei in a normal embryo sac from top to bottom in dicot plant is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 3 + 3 + 2 | b) 2 + 4 + 2 | c) 3 + 2 + 3 | d) 2 + 3 + 3 |

1. What would be the number of chromosomes in the cell of Aleurone layer in a plant species with 8 chromosomes in its synergids :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 8 | b) 16 | c) 24 | d) 32 |

1. Which one of the following is surrounds by a callose wall?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Male gamete | b) Egg | c) Pollen grains | d) Microspore mother cell |

1. Which one of the following is resistant to enzyme action?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Pollen Exine | b) Leaf cuticle | c) Cork | d) Wood fibre |

1. Apomictic embryos in citrus arise from:

|  |  |  |  |
| --- | --- | --- | --- |
| a) Nucellus cell | b) Antipodal cells | c) Diploid egg | d) Synergids |

1. wind pollinated flowers are :

|  |  |
| --- | --- |
| a) Small , produce large number of dry pollen | b) Large producing abundant nectar and pollen |
| c) Small , produce nectar and dry pollen | d) Small , brightly coloured |

1. Filiform apparatus is the characteristics feature of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Synergids | b) zygote | c) Suspensor | d) Egg |

1. A characteristic of Tapetum is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Multilayered | b) Multinucleate | c) Stores food | d) Nourished megaspore |

1. Which one of the following statements is correct?

|  |  |
| --- | --- |
| a) Endothecium produces the microspores | b) Tapetum nourishes the developing pollen |
| c) Hard outer layer of pollen is called intine | d) Sporogeneous tissue is haploid |

1. Non-albuminous seed is produced in

|  |  |  |  |
| --- | --- | --- | --- |
| a) Wheat | b) Pea | c) Maize | d) Castor |

1. Function of filiform apparatus is to

|  |  |
| --- | --- |
| a) Produce nectar | b) Guide the entry of pollen tube |
| c) Recognize the suitable pollen at stigma | d) Stimulate division of generative cell |

1. Pollen tablets are available in markets for :

|  |  |  |  |
| --- | --- | --- | --- |
| a) supplement food | b) ex situ conservation | c) In vitro fertilization | d) Breeding program |

1. Which one of the following may require pollinators, but is genetically similar to autogamy?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Geitonogamy | b) Xenogamy | c) Apogamy | d) Cleistogamy |

1. Which of the following are the important floral rewards to the animal pollinators?

|  |  |
| --- | --- |
| a) Colour and large size of flower | b) Nectar and pollen grains |
| c) Floral fragrance and calcium crystals | d) Protein pellicle and stigmatic produces |

1. Male gametophyte in angiosperms produces

|  |  |
| --- | --- |
| a) Single sperm and two vegetative cells | b) Three sperms |
| c) Two sperms and a vegetative cell | d) Single sperms and a vegetative cell |

1. Coconut water from a tender coconut is :

|  |  |
| --- | --- |
| a) Innermost layers of the seed coat | b) Degenerate nucleus |
| c) Immature embryo | d) Free nuclear endosperm |

1. Apomixis is :

|  |  |
| --- | --- |
| a) Formation of seeds by fusion of gametes | b) Formation of seeds without Syngamy and meiosis |
| c) Formation of seeds with Syngamy and no meiosis | d) none of the above |

1. Pollination in water hyacinth and water lily is brought about by the agency of

|  |  |  |  |
| --- | --- | --- | --- |
| a) Birds | b) Bats | c) Water | d) Insects or wind |

1. Double fertilization is exhibited by :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Angiosperms | b) Gymnosperms | c) Algae | d) Fungi |

1. Functional megaspore in an angiosperm develops into :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Embryo | b) Ovule | c) Endosperm | d) Embryo sac |

1. Pollen grain can be stored for several years in liquid nitrogen having a temperature of :

|  |  |  |  |
| --- | --- | --- | --- |
| a) – 80˚C | b) – 196˚C | c) – 120˚C | d) – 160˚C |

1. An example of sexual deceit is exhibited by :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Salvia | b) Ficus | c) Ophrys | d) None of these |

1. What is the fate of the male gametes discharged in the synergids?

a) All fuse with egg

b) One fuse with the egg and other fused with synergids

c) One fuse with the egg and other fused with central cell nuclei.

d) One fuse with the egg other degenerates in the synergids

1. Which of the following is not found in maize seed?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Coleorhiza | b) Coleoptile | c) Scutellum | d) Perisperm |

1. The hilum is a scar on the

|  |  |
| --- | --- |
| a) Seed , where funicle was attached | b) Fruit, where it was attached to pedicle |
| c) Fruit, where style are present | d) Seed , where micropyle was present |

1. In majority of angiosperms :

|  |  |
| --- | --- |
| a) Reduction division occurs in megaspore mother cell | b) A small central cell is present in the embryo sac |
| c) Egg has a filiform apparatus | d) There are numerous antipodal cells |

1. Identify the incorrect statement related to pollination.

a) Pollination by wind is more common amongst abiotic pollination.

b) Flowers produce foul odours to attract flies and beetles to get pollinated.

c) Moth and butterflies are the most dominating pollinating agent among insects.

d) Pollination by water is quite rare in flowering plants.

1. The term used for transfer of pollen grains from anther to stigma of a different plant which during pollination brings genetically different types of pollen grains to stigma is :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Xenogamy | b) Geitonogamy | c) Chasmogamy | d) Cleistogamy |

1. Diadelphous stamen are found in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) China rose | b) Citrus | c) Pea | d) China rose & citrus |

1. Which of the following is incorrect for wind pollination agents?

|  |  |
| --- | --- |
| a) Well exposed stamens and stigma | b) Many ovules in each ovary |
| c) Flowers are small and not brightly coloured | d) Pollen grains are light and non-sticky |

1. The plant part which consists of two generations, one with the other

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| i) Pollen grains inside anther | | ii) Germinated pollen grains with two male gametes | | |
| iii) Seed inside the fruit | | iv) Embryo sac inside fruit | | |
| a) (i) , (ii) and (iii) | b) (iii) & (iv) | | c) (i) & (iv) | d) (i) | |

1. Winged pollen grains are present in :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Mango | b) Cycas | c) Mustard | d) Pinus |

1. Advantage of cleistogamous flower is :

|  |  |
| --- | --- |
| a) Higher genetic variability | b) More vigorous offspring |
| c) No dependence on pollinators | d) vivipary |

1. Which one of the following represent an ovule, where the embryo sac becomes horse shoe-shaped and the funiculus and micropyle are close to each other?

|  |  |  |  |
| --- | --- | --- | --- |
| a) Amphitropous | b) Circinotropous | c) Atropous | d) Anatropous |

1. The wheat grain has an embryo with one large, shield-shaped cotyledon known as :

|  |  |  |  |
| --- | --- | --- | --- |
| a) Epiblast | b) Coleorhiza | c) Scutellum | d) Coleoptile |

**[Class =12th]**

**Answers**

|  |
| --- |
| 1. a |
| 1. c |
| 1. b |
| 1. b |
| 1. d |
| 1. b |
| 1. b |
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| 1. d |
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| 1. b |
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| 1. d |
| 1. a |

**Topic: Sexual Reproduction in Flowering Plants**

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