Nayagarh autonomous college, Nayagarh

CC-X: Reproductive biology of Angiosperms

Unit-1

1.Answer the following questions:(1×8)

(1)The study of plant pollen_____.

(2)Exine layer of pollen grain is made up of___.

(3) Microsporogenesis is formation of_____.

(4)____layer of microsporangium provides nutrition to developing pollen grains.

(5) The pollinia found in _____ family.

(6)Tectum,baculum,foot layer are the different parts of ___.

(7)The process of double fertilization was discovered by___.

(8)Pollen tube was discovered in 1824 by an Italian mathematician named_____.

(9) ____ meiotic divisions are necessary to produce 100 pollen grains.

2.Answer the following questions:(1.5×8)

(1)Write short note on Generative cell?

(2)Write about the contribution of P.Maheswari

(3)What is Pollinia?

(4)Write scope of palynology?

(5)Write short note on structure of Pollen wall

(6)What is Massulae?

(7)what is Orbicules or Ubisch bodies?

(8)what is Pseudomonads?

3. Answer the following questions:(2×8)

(1)Write short note on pollen viability?

(2) Write short note on pollen germination?

(3) What is sporopollenin?

(4)Write short note on Male germ unit?

(5)Write short note on structure of pollen wall?

(6)Write short note on storage of pollens?

(7)What is callose deposition and it's significance?

(8)Write about the contribution of E. Strasburger?

4. Answer the following questions:(6×4)

(1)Give an account of developments in embryology in 19th century?

(2) Describe the structure and development of anther in a flower?

(3)What is NPC system? Give an account of NPC system and it's significance?

(4)Give an account of various compound pollen grains?

(5) Discuss role of palynology in plant taxonomy?

(6)Give an account microgametogenesis in angiosperms?

(7)Discuss various methods of pollen storage?Write an account on pollen viability?

Unit-2

1.Answer the following questions:(1×8)

(1) In angiosperms, common type of Ovule is____.

(2) The base of Ovule is known as_____.

(3) The embryo sac of angiosperms is embedded in the____.

(4)The point of attachment between Ovule body and funicle is called_____.

(5) In ____ type of Ovule embryo sac become horse shoe shaped.

(6) In ____ type of Ovule,the Ovule becomes horse shoe shaped.

(7)In basal part of nucleus, In between embryo sac and vascular bundle there is a group of cells with lignified and suberized walls is called_____.

(8) Unicellular or multicellular hairs present in basal part of Ovule collectively form_____.

2.Answer the following questions:(1.5×8)

(1)Write notes on Obturator (2)Aril

(3)Egg apartus(4)Synergids(5)Hypostases

(6)Antipodals(7) Amphitropous Ovule

(8)Monosporic Embryo sac

3.Answer the following questions:(2×8)

(1)Write notes on polygonum type of embryo sac?

(2)Draw a labelled diagram of Ovule structure?

(3)Write notes on Chrysanthemum type of embryo sac?

(4)Draw a labelled diagram of embryo sac?

(5)What is caruncle?

(6)Give detail structure of Carpel?

(7)Embryo sac in Drusa

(8)Define Megasporogenesis?

4. Answer the following questions:(6×4)

(1)Give an account of Different types of ovules found in angiosperms?

(2)What are special structures found in an Ovule and what are their functions?

(3) Describe the development of a female gametophyte in angiosperms?

(4)Give an account of structure and organization of a typical embryo sac of angiosperm?

(5)Give an account of bisporic and Monosporic Embryo sac?

Unit-3

1.Answer the following questions:(1×8)

(1) A bisexual flower which never opens in its life time is called_____.

(2)The entry of pollen tube through the micropyle is_____.

(3)If the cell of root in wheat plant has 42 chromosomes,then the number of chromosomes in the synergid cell is____.

(4)Entemophily is the pollination by _____.

(5)In angiosperms, triple fusion results in formation of_____.

(6)In angiosperms pollen tube liberates it's male gamets into the_____.

(7)The term self incompatibility was first coined by_____.

(8)Fusion of male and female gamets is known as_____.

2. Answer the following questions:(1.5×8)

(1)Write notes on Hydrophily?

(2)Define self pollination?

(3)Define Dichogamy?

(4)Write note on advantage of cross pollination?

(5)What is hollow and solid style?

(6)What is Stub pollination?

(7) Define self incompatibility?

(8)What is bud pollination?

3. Answer the following questions:(2×8)

(1) Describe contrivances of cross pollination

(2) Write notes on Ornithophily?

(3)Write notes on Types of Stigma?

(4) Germination of pollen grains?

(5) Distinguish between GSI and SSI?

(6) Write notes on intraovarian and in vitro pollination?

(7)Define Mixed pollination?

(8) Describe significance of self incompatibility?

4. Answer the following questions:(6×4)

(1)What is pollination and what are its importances? Give an account of different modes of pollination?

(2)What do you mean by double fertilization? Describe the syngamy?

(3) Describe the path of the pollen tube from the stigma till it enters the embryo sac?

(4)What do you mean by self incompatibility in plants? Describe different types of self incompatibility in plants?

(5) Give an account of genetic basis of self incompatibility in plants?

(6) Discuss the advantage and disadvantages of self incompatibility in plants.How can you overcome the self incompatibility?

Unit-4

1.Answer the following questions:(1×8)

(1)If the seeds lack endosperm is known as ____.

(2)Endospermic seeds are called as___.

(3)____ recognized 5 types of embryo in angiosperms.

(4)____is an example of nuclear endosperm.

(5) Polyembryony was 1st reported by ____ in ____.

(6) Development of embryo directly from egg without fertilization____.

(7) Dispersal of seeds by birds_____.

(8) Dispersal of seeds by birds_____.

(9)Apomixis in plants means development of a plant without____and ___.

(2) Answer the following questions:(1.5×8)

(1) Write notes on Perisperm

(2)Mosaic endosperm (3)Pseudo embryo sac

(4) Embryo-endosperm interaction

(5)Ruminate endosperm(6)Long distance dispersal of seeds

(7)Seed coat. (8)Types of Apomixis

(9)True Polyembryony (10) causes of Polyembryony

(3)Answer the following questions:(2×8)

(1)Helobial endosperm(2)Suspensor

(3) Nutrition of embryo

(4)Diplospory(5) Apospory

(6) Advantages of Apomixis

(7)Seed structure (8)True Polyembryony

4.Answer the following questions:(6×4)

(1)Give an account of structure and nature of endosperm in angiosperms?

(2) Discuss development of nuclear and cellular types of endosperm?

(3) Discuss the development of monocot embryo with suitable examples?

(4)Discuss development embryo in Capsella-bursa-pasteris (Crucifer type)?

(5)What is dispersal of seeds?Discuss the mechanism of abiotic dispersal of seeds?

(6)Give an account of seed structure?

(7) Discuss the application of Apomixis in plant breeding?

(8)What is Polyembryony? Write a brief account on Classification of of Polyembryony and its causes , significance?

(9) Discuss the application of Apomixis in plant breeding?

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