

**DEPARTMENT OF BOTANY**  
**PAPER – II BOTANY**  
**Phytohormones and Plant Development**  
**INTERNAL-II QUESTION BANK**

## I. Multiple choice questions

**10 X ½= 5 Marks**

- Senescence in plants refers to  
A. Cell Divison                      B. Maturity  
C. Aging & Death of cells, tissues or organs                      D. Germination
- Which plant hormone promotes senescence  
A. Cytokinin                  B.Auxin                  C. Gibberellin                  D. Ethylene
- Which hormone delays senescence  
A. Absciscic acid                  B. Cytokinin                  C. Ethylene                  D. IAA
- Leaf senescence is usually associated with  
A. Increase in chlorophyll                  B. Nutrient accumulation  
C. Yellowing of leaves                  D. Leaf expansion
- Senescence begins in which part of a plant first  
A. Roots                  B.Older leaves                  C. Young leaves                  D. Shoot
- During senescence, the break down of which pigment is commonly observed  
A.Carotenoids                  B.Anthocyanins                  C.Chlorophyll                  D.Xanthophyll
- The hormone responsible for cell elongation is  
A.Cytokinin                  B. Ethylene                  C.Auxin                  D. ABA
- Which of the following is a natural plant growth inhibitor  
A.Auxin                  B. Gibberellin                  C. Cytokinin                  D. ABA
- The unwanted plants that grow along with crops called  
A. Fertilizers                  B. Pests                  C.Weeds                  D. Pathogens
- A chemical used to kill weeds is known as  
A.Fungicide                  B. Pesticide                  C. Insecticide                  D. Herbicide
- An example of a selective herbicide is  
A. Paraquat                  B. Glyphosate                  C.2,4-D                  D. Atrazine
- The best time to apply herbicides is usually  
A. Before sowing                  B. During flowering                  C. After harvest                  D. When weeds are mature

13. What are Elicitors ( B )  
 A. Suppress plant defense responses B. induce plant defense responses  
 C. Insect hormones D. Synthetic fertilizers
14. A well known phytoalexin in legumes is ( C )  
 A. Canalexin B. Resveratrol C. Pisatin D. Tomatine
15. Which class of compounds do most phytoalexins belong to ( C )  
 A. Proteins B. Alkaloids C. Terpenoids Phenolics D. Nucleic Acids
16. Which plant is associated with the phytoalexin "Canalexin" ( D )  
 A. Soybean B. Tomato C. Potato D. Arabidopsis thaliana
17. Plant growth regulator is commonly used to promote fruit ripening ( C )  
 A. Auxin B. Gibberellin C. Ethylene D. Cytokinin
18. Which PGR is used to increase sugarcane yield by promoting internode elongation ( B )  
 A. ABA B. Gibberellin C. Cytokinin D. Ethylene
19. Spraying of which PGR delays leaf senescence in leafy vegetables ( A )  
 A. Cytokinin B. Auxin C. Ethylene D. ABA
20. Which PGR helps induce flowering in pineapple ( C )  
 A. Auxin B. Cytokinin C. Ethylene D. Gibberellin

## II. Fill in the Blanks

10 X ½ = 5 Marks

- The hypersensitive response (HR) in plants is primarily a Localized cell death to restrict pathogen spread
- HR is mainly associated with Gene for gene resistance
- The Hypersensitive response was first described in Tobacco – TMV plant – pathogen system
- Chitin, Flagellin are biotic elicitors
- Abiotic elicitors are Uv light, Chemicals
- Phytoalexins are anti microbial compounds
- Glyceollin is phytoalexin found in Soybean
- Solavetivone is a phytoalexin found in Potato
- Auxin is used to promote rooting in plants
- The process of producing new plants from explants in a nutrient medium is called Micro propagation
- Pathogenesis – related (PR) proteins are Proteins that kill or inhibit pathogens

12. Phytoalexin synthesis is the primary defence mechanism in plants
13. Phytoalexins are synthesized in plants in response to Pathogen attack
14. Salicylic acid is a hormone plays a key role in systemic acquired resistance.
15. Induced systemic resistance (ISR) is typically mediated by Jasmonic acid, Ethylene
16. The enzyme responsible for synthesizing DNA is DNA polymerase
17. The nitrogen base not found in RNA is Thymine
18. The purines are Adenine, Guanine
19. The pyrimidines are Thymine, Cytosine
20. Nucleoside + Phosphate group forms Nucleotide

### III. One word answers

**5X 1 = 5 Marks**

1. What are Elicitors ?  
A. The molecules that trigger plant defense responses are called elicitors
2. What are phyto alexins ?  
A. Anti microbial compounds produced by plants in response to stress
3. What is senescence ?  
A. Programmed aging and death of plant organs or tissues
4. What is abscission ?  
A. The natural detachment of plant organs such as leaves or fruits.
5. What is hypersensitive reaction ?  
A. Rapid, Localized cell death at the site of pathogen infection
6. What is plant propagation ?  
A. Multiplying or reproducing plants
7. Which hormone is responsible for flowering in plants ?  
A. Florigen.
8. What is vernalization ?  
A. Plants are exposed to low temperature to induce flowering
9. What is pyridine ?  
A. A heterocyclic aromatic organic compound, the molecular formula is  $C_5H_5N$

10. What is phenoxy acetic acid ?  
A. It is a carboxylic acid derivative.

**IV. Assignment**

**1X 5 =5 Marks**