

THE OPEN UNIVERSITY OF SRI LANKA
B. Sc / B. Ed DEGREE PROGRAMME -2010/11
BOTANY – LEVEL 4
BOU2200 / BOE4200: PLANT PHYSIOLOGY
ASSESSMENT TEST 111 (NO BOOK TEST)
DURATION: ONE (01) HOUR



REGISTRATION NO.

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DATE: 23RD APRIL 2011

TIME: 4.00 PM – 5.00 PM

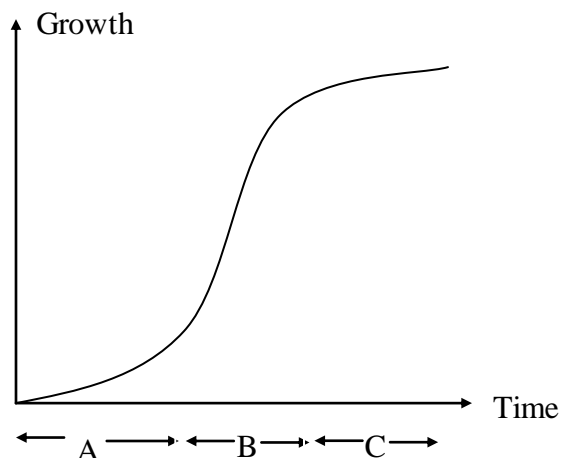
PLEASE ANSWER ALL QUESTIONS IN THE SPACE PROVIDED

1. Define the following terms in relation to plant life.

a. Growth

b. Development

2. Following is the growth curve of an annual plant species. Briefly explain the underlying processes in the phases of growth denoted by A, B and C.



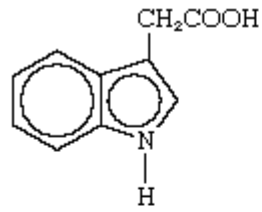
A: -----

B: -----

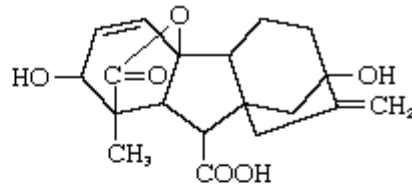
C: -----

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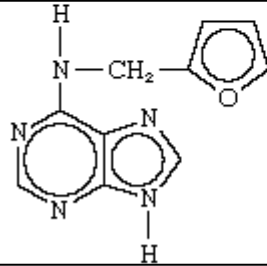
3. Following are the basic chemical structures of 4 plant hormones. Write the names of A, B, C and D in the given space.



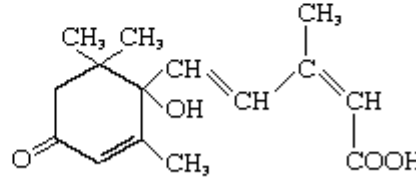
A



B.....



C.....



D.....

4. Classify following auxins into A) natural and synthetic forms and B) mention the major differences of these two forms in relation to plant responsiveness.

IAA | IBA | 2,4-D | a-NAA | 2,4,5-T

A

Natural	Synthetic

B

5. Auxins are widely used in commercial applications of horticulture and agriculture. Write a commercial application of the each function of the auxin listed below.

Function	Commercial Application
1. Cell elongation	
2. Apical dominance	
3. Promotion of root induction	
4. Stimulation of ethylene production	
5. Regulation of fruit development	
6. Causes metabolic imbalance at high concentrations	



13. Identify the specific type of movement displayed by plants in following responses

Response	Plant Movement
1. Bending of apical bud towards light	
2. Root development into the soil	
3. Climber twine around the support	
4. Drooping of leaves of Fabaceae plants at night	
5. Rapid opening of trap door in <i>Utricularia</i>	
6. Leaf rolling in rice during noon	
7. Opening & closing of stomata	

14. Give two processes in plants that are under the control of phytochrome.

a. -----

b. -----

15. Which form of phytochrome predominates after illumination with red light? Explain briefly.

16. Distinguish between stratification and vernalisation ?

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17. How do you distinguish that a plant is affected either by biotic stress or abiotic stress?

18. Salt stress brings about damage to plants in three different levels. List the three levels of damage in correct sequence.

- a.
- b.
- c.

19. What are the two ways by which water stress reduce rate of photosynthesis in plants?

- a. -----

- b. -----

20. Peroxyacetyl nitrate (PAN) is a photochemical derivative of air pollutants that causes stress on plants. List two effects of PAN on plants.

- a. -----

- b. -----
