

The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc./B.Ed. Degree Programme



Department	: Botany
Level	: 05
Name of the examination	: B.Sc. Degree Programme-Final Examination
Course Title and Code	: Plant Growth and Development BYU5302/BYE5302
Academic Year	: 2025/2026
Date	: 13th January 2026
Time	: 9.30 a.m. - 11.30 a.m.

General Instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of 06 questions in 03 pages.
 3. Answers any **04** questions only. All questions carry equal marks.
 4. Answer for each question should commence from a new page.
 5. Draw fully labelled diagrams where necessary.
 6. Involvement in any activity that is considered as an examination offense will lead to punishment.
 7. Use blue or black ink to answer the questions.
 8. Clearly state your Index Number in your answer script.
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1. a) Name four (04) prominent naturally occurring cytokinins found in plants? (20 marks)
b) Briefly explain the structure and activity relationship of cytokinins. (20 marks)
c) Briefly describe how the endogenous cytokinin levels are regulated in plants (30 marks)
d) Describe a cytokinin bioassay which is based on promotion of cell enlargement in certain tissues and organs. (30 marks)
2. a) Describe growth kinetics of higher plants. (40 marks)
b) How does the formation of new cells take place during the growth of a higher plant? (30 marks)
c) Briefly describe the different patterns of multiple hormonal control in plants (30 marks)
3. a) Define the three main categories of plants classified according to their flowering responses to day length. (30 marks)
b) What are blue light photoreceptors in plants? Give brief introduction for each. (20 marks)
c) Briefly describe the key blue light responses of plants. (20 marks)
d) Briefly explain how phytochromes help plants to sense shading by other plants (30 marks)
4. Write short notes on the following. (100 marks)
 - a) Double fertilization in angiosperms
 - b) Role of brassinosteroids in plants
 - c) Floral evocation
5. a) Define the phenomena “seed dormancy” and “seed germination”. (30 marks)
b) Describe different methods of overcoming seed dormancy. (40 marks)
c) Briefly explain the stages of seed germination. (30 marks)

6. a) Explain the involvement of 'Auxin' and 'Absciscic acid' in abscission. (20 marks)
- b) Summarize the events take place during abscission. (30 marks)
- c) What are the horticultural and agricultural implications of abscission? (30 marks)
- B) Briefly explain how stomatal closure take place in response to water stress. (20 marks)

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