

Examination Two: Due Monday 29 September before 12 Midnight California Time

Notes: Although there is a minimum word count of 2,000 words for this exam, you will find that it is likely going to require more than the minimum to fully answer the question. You may not copy or quote from any source. All information must be re-written in your own words. Answer all questions. Point value: 100 points. Read the course Style Guide for detailed instructions of structure and format. Exams must be submitted by the due date and time. **Late Exams are NOT accepted without prior approval. Submit early to Turnitin.com**

Do not include the question(s) in your essays and exams.

Question 1: Fungi: Glomeromycota, Ascomycetes and Basidiomycetes (25 points)

Describe the Glomeromycota, Ascomycota and Basidiomycota within the kingdom Fungi. Include in your answer:

- the differences in anatomy and life cycles of the three groups
- symbiotic relationships within the fungi
- the importance of fungi to the success of plants on land

Question 2: Transition to Land (25 points)

Describe and discuss the first land flora (vascular plants) that evolved on Earth. Include in your answer:

- references to geologic time of this flora.
- the nature and structure of vascular tissues and steles in the “rhyniophytes”, the extinct polysporangiophytes.
- a description of the growth habits (shape of plants) of characteristic species of this flora.

Question 3: Survival of Ancient Groups (25 points)

Describe the structures and life histories of Lycophytes, Sphenophytes and Psilophytes, using three modern genera, Selaginella, Equisetum, and Psilotum. Include in your answer:

- descriptions of the life histories and the nature of their spores
- descriptions of their vascular tissue and steles
- descriptions of their gametophytes and their separate or cosexual natures

Question 4: Coal Age Flora (25 points)

Describe and discuss the second major flora (the “Coal Age Flora”) that evolved on Earth. Include in your answer:

- references to geologic time of this flora
- the changes to continents and the atmosphere that contributed to the rise and fall of this flora
- a description of the changes in vascular tissue and steles that allowed trees of great heights
- the nature of and transition from microphylls to megaphylls
- descriptions of dominant members of this flora

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