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Period _____

AP Biology

Date _____

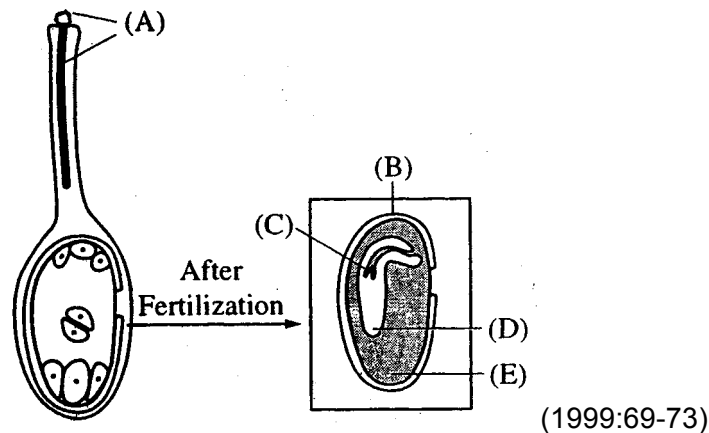
REVIEW UNIT 8: PLANT FORM & FUNCTION — SAMPLE QUESTIONS

A. Sample Multiple Choice Questions

Complete the multiple choice questions to review this unit.

1. Plant stems bend towards the light source as a result of increased (1999:30)
 - a. chlorophyll synthesis on the side of the stem near the light source
 - b. cell division on the side of the stem near the light source
 - c. cell division on the side of the stem away from the light source
 - d. cell elongation on the side of the stem near the light source
 - e. cell elongation on the side of the stem away from the light source
2. The gametophyte is the dominant generation in which of the following plants (1999:33)
 - a. Dicots
 - b. Monocots
 - c. Gymnosperm
 - d. Ferns
 - e. Mosses
3. The driving force for the movement of materials in the phloem of plants is (1999:35)
 - a. gravity
 - b. a difference in osmotic potential between the source and the sink
 - c. root pressure
 - d. transpiration of water through stomates
 - e. adhesion of water to vessel elements
4. In plants, the initiation of flowering in response to photoperiod is triggered by changes in (1999:36)
 - a. ethylene
 - b. auxin
 - c. gibberellic acid
 - d. phytochrome
 - e. cytokinin

5. The rate of flow of water through the xylem is regulated by (1999:48)
- passive transport by the pith
 - the force of transpirational pull
 - the number of companion cells in the phloem
 - active transport by the sieve-tube members
 - active transport by tracheid and vessel cells
6. On a sunny day, the closing of stomata in plant leaves results in (1999:52)
- a decrease in CO_2 intake
 - a shift from C_3 photosynthesis to C_4 photosynthesis
 - an increase in transpiration
 - an increase in the concentration of CO_2 in mesophyll cells
 - an increase in the rate of production of starch



- Root meristem
- Male gametophyte
- Triploid nutritive tissue (endosperm)
- Seed coat
- Apical meristem of the shoot

B. Sample Free Response Questions

1. 2005:3

Angiosperms (flowering plants) have wide distribution in the biosphere and the largest number of species in the plant kingdom.

- a. **Discuss** the function of FOUR structures for reproduction found in angiosperms and the adaptive (evolutionary) significance of each.
- b. Mosses (bryophytes) have not achieved the widespread terrestrial success of angiosperms. **Discuss** how the anatomy and reproductive strategies of mosses limit their distribution.
- c. **Explain** alternation of generations in either angiosperms or mosses.

2. 2003B:2

Hormones play important roles in regulating the lives of many living organisms.

- a. For TWO of the following physiological responses, **explain** how hormones cause the response in plants.
 - increase in height
 - adjustment to change in light
 - adjustment to lack of water
- b. For TWO of the following physiological responses, **explain** how hormones cause the response in animals.
 - increase in height
 - adjustment to change in light
 - adjustment to lack of water
- c. **Describe** TWO different mechanisms by which hormones cause their effects at the cellular level.

3. 2003:2

Regulatory (control) mechanisms in organisms are necessary for survival. Choose **THREE** of the following examples and explain how each is **regulated**.

- Flowering in plants
- Water balance in plants
- (Water balance in terrestrial vertebrates)
- (Body temperature in terrestrial vertebrates)