SC/BIOL 2010.040 Plant Biology
Final Exam (winter term, 2011)

NAME:_____

STUDENT ID:_____

Instructions:

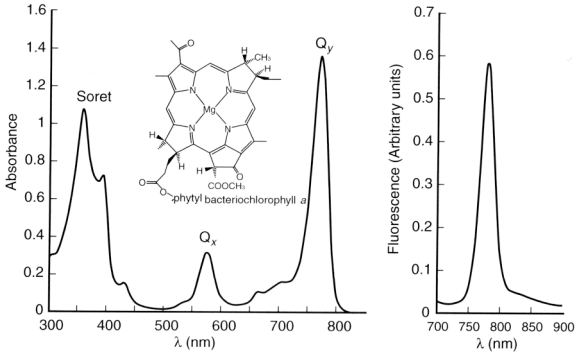
- **Please have your photo card and sessional card ready to show the invigilator when you sign the sign-in sheet.**
- **Please make sure that your name and student ID number are entered correctly on the scantron sheet!**
- **Answer all questions and ensure that they are transferred to the scantron sheet accurately!**
- **When you have finished, please hand in *both* the exam and your scantron sheet (and please be quiet for the sake of others still taking the exam).**

http://xkcd.com/877/

[01] Which of the following atmospheric gas(es) do not absorb significant amounts of solar radiation at the visible wavelengths (*ca* 400–700 nm)?

A. N_2 (nitrogen) B. O_3 (ozone) C. Ar (argon) D. CO_2 (carbon dioxide)
E. O_2 (oxygen) F. B and D G. B and E
H. Visible wavelengths are not absorbed by any of these atmospheric gas(es).

There are two *major* electron orbital transitions allowed in bacteriochlorophyll (the structure and spectrum of the pigment, found in photosynthetic purple bacteria, are shown at right; the two major transitions are the Soret and Q_y bands). What wavelength range do these transition energies correspond to (choose the best —that is, closest— answer)?



[02] Most energetic transition:

A: UV (250-300 nm) B: violet (375-425 nm) C: blue (450-500 nm) D: green (485-535 nm)
E: yellow (545-595 nm) F: orange (565-615 nm) G: red (625-675 nm) H: infrared (>740 nm)

[03] Least energetic transition:

A: UV (250-300 nm) B: violet (375-425 nm) C: blue (450-500 nm) D: green (485-535 nm)
E: yellow (545-595 nm) F: orange (565-615 nm) G: red (625-675 nm) H: infrared (>740 nm)

[04] In the 'Z-scheme' of photosynthesis, Raven describes three major complexes: Photosystems I and II, and the cytochrome b_6/f complex. Which of these three complex(es) will contribute to the acidification of the lumen (creating the electrochemical proton gradient that 'powers' the synthesis of ATP by the ATP synthase complex)?

A. Photosystem I.
B. cytochrome b_6/f complex.
C. Photosystem II.
D. ATP synthesis *only* occurs during cyclic electron flow by Photosystem I and the cytochrome b_6/f complex.
E. A and B.
F. A and C
G. B and D
H. All of the complexes (A, B and C)

[05] Which of the following would be considered limiting factor(s) in photosynthesis (choose the best answer)?

1. temperature
2. oxygen concentration
3. light intensity
4. NADPH
5. H_2O concentration
6. carbon dioxide

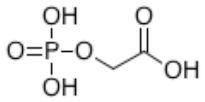
A. 1, 2 and 3
B. 2, 3 and 4
C. 3, 4 and 5
D. 4, 5 and 6
E. 1, 3 and 6
F. 1, 2 and 5
G. 1, 2 and 6
H. 1, 3 and 5

[06] Which one of the following is a product of the light reactions of photosynthesis?

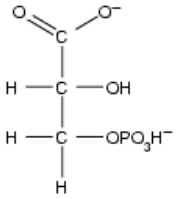
A. $FADH_2$ B. NADPH C. NADH D. ribulose 1,5 - diphosphate
E. phosphoenolpyruvate F. oxaloacetate G. H_20 H. None of the above

[07] Which of the following structure(s) would be produced at high levels when atmospheric oxygen levels are higher than 21% (such that oxygenase activity is greater than carboxylase activity) (Choose the best answer)?

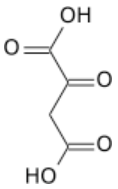
A. 2-phosphoglycolate



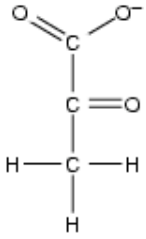
B. 3-phosphoglycerate



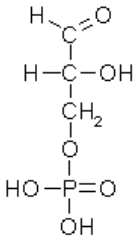
C. oxaloacetate



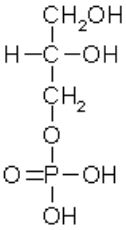
D. pyruvate



E. 3-phosphoglyceraldehyde



F. glycerol-3-phosphate



G. A and C H. A and D

[08] What is/are major feature(s) that distinguish(es) prokaryotes from eukaryotes?

A. Prokaryotes have a single circular DNA chromosome that aggregates in the nucleoid.
B. Prokaryotes have no internal membrane structures; eukaryotes have an endomembrane system.
C. Prokaryotic flagella utilize a molecular dyenin motor that uses an electrochemical proton gradient to turn the flagellar filament.
D. Prokaryotes lack double membrane organelles.
E. A and B F. A, B and C G. A and D H. All of the above

[09] What is a cyanobacteria?

A. anoxygenic photosynthetic prokaryote
B. oxygenic photosynthetic prokaryote
C. archae known for their blue-green pigmentation
D. eukarya known for their blue-green pigmentation
E. bacteria that produce cyanide (cyanogenic)
F. a cyanogenic thermophile
G. A and E
H. B and E

Match the three unicellular, autotrophic divisions of the Protists with the one most distinguishing characteristic for each division. Choose the best answer.

[10] Cryptophyta
[11] Haptophyta
[12] Euglenophyta

A. Chlorophyll a; phycobilins
B. No cell wall, or silicaceous (rarely cellulosic) scales
C. Layer of vesicles beneath the plasma membrane, with or without cellulose
D. Fucoxanthin
E. Chlorophylls a and c; phycobilins
F. Chrysolaminarin
G. Laminarin
H. Paramylon

[13] Indicate the unique characteristic of the Bacillariophyta compared to the closely related Chrysophyta division of autotrophic, unicellular protists (Choose the best answer).

A. Contain chlorophyll a
B. none or two flagella
C. none or one flagella
D. Storage 'food' is chrysolaminarin
E. Cellulose cell walls
F. major carotenoid is fucoxanthin
G. Proteinaceous cell walls
H. none of the above

[14] Within the Phaeophyta group, sexual reproduction has which one of the following properties?

A. mostly gametic meiosis
B. mostly amboebic meiosis
C. dikaryotic stage
D. mostly zygotic meiosis
E. sexual dimorphism
F. none of the above
G. mostly sporic meiosis
H. diploid zoospores

[15] The Chlorophyta is divided into three major groups (the Ulvophyceae, Chlorophyceae and the Charophyceae). Which of the following trait(s) distinguishes the Chlorophyceae from the Charophyceae (Choose the best answer)?

A. Cellular division invloves a phycoplast in the Charophyceae and a phragmoplast in the Chlorophyceae
B. Cellular division involves a phycoplast in the Chlorophyceae and a phragmoplast in the Charophyceae
C. Charophyceae life cycles are mostly gametic meiosis, while Chlorophyceae is mostly ameboid meiosis
D. Chlorophyceae life cycles are mostly gametic meiosis, while Charophyceae is mostly ameboid meiosis
E. Charophyceae is mostly marine, while Chlorophyceae is mostly freshwater
F. Chlorophyceae is mostly marine, while Charoophyceae is mostly freshwater
G. B and D
H. None of the above

[16] Acetabularia is an example of a siphonous algae, a member of which one of the following groups?

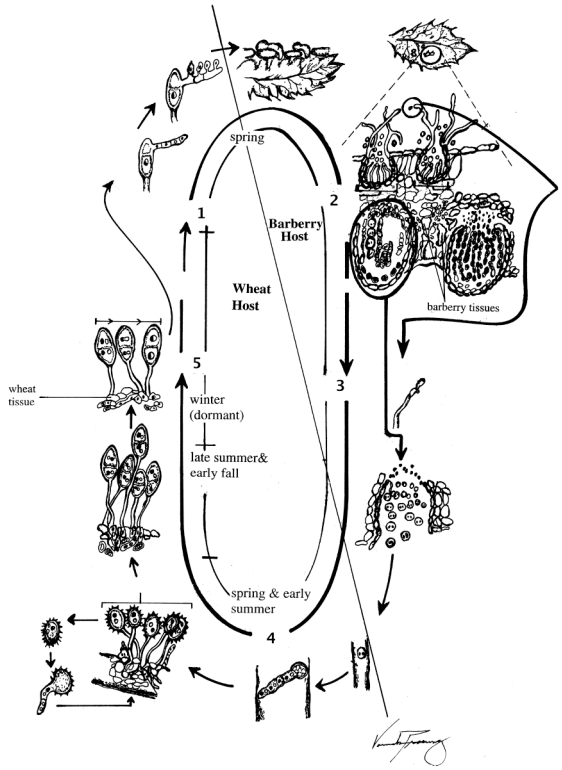
A. Ulvophyceae
B. Phaeophyta
C. Chlorophyceae
D. Bacillariophyta
E. Charophyceae
F. Euglenophyta
G. Siphonophyta
H. none of the above

[17] What is an oogonium?

A. 'oo' means large, gonio means to be born. Therefore it is a large sexual spore dispersing structure
B. in Basidiomycota (the puff ball group), the oogonium is the 'egg-shaped' structure that holds basidospores prior to release
C. it is a specialized structure containing 'female' gametes ('eggs')
D. the assexual spore dispersing structure of the Oogoniomycota
E. the thick-walled zygote characteristics of the oomycetes
F.a sterile filament growing among the reproductive cell in the fruiting body in certain fungi
G. it is a specialized structure containing oogametes
H. None of the above

[18] Among the heterotrophic divisions of the protists, which group lacks flagella during all parts of its life cycle?

A. Ascomycota
B. Dictyosteliomycota
G. Myxomycota
D. Oomycota
E. Teliomycota
F. Coleochaetales
G. Chytridiomycota
H. None of the above



Identify the numbered stage in the wheat rust ((*Puccinia graminis* var *tritici*) with the following life cycle event.

[19] plasmogamy

A. 1 B. 2 C. 3 D. 4 E. 5

[20] Which of the following stages contribute the most to the ability of the rust fungus to optimize pathogenicity (Choose the best answer)?

A. urediniospores and aeciospores
B. urediniospores and teliospores
C. basidiospores and urediniospores
D. basidiospores and aeciospores
E. basidiospores and teliospores
F. teliospores and aeciospores
G. all spores exhibit genetic and/or selective pressures to evolve enhanced pathogenicity

[21] Which one of the following terms does not describe a common trait, structure or characteristic of one or more fungal divisions?

A. ascomata	B. haustorium	C. hymenium	D. sporangium
E. gametangia	F. pileus	G. basidiomata	H. None of the above

[22] Phycomyces is an experimental organism used to established which of the following properties characteristic of walled cell in a terrestrial environment?

A. heterogamy	B. action potentials	C. programmed cell death	D. hydrostatic pressure
E. ion accumulation	F. slow growth	G. gametic conjugation	H. None of the above

[23] Endomycorrhiza are another example of a fungal/plant symbiotic relationship. Another name for endomycorrhizae, vesicular arbuscular mycorrhizae refers to which of the following characteristics of the symbiotic relationship?

A. mycorrhizae, either endo- or ecto- don't have vesicular arbuscular structures
B. the fungi invades the plant cell, forming a characteristic tree-like structure within the plant cell
C. the fungi surrounding the plant root has a vesicular structure and causes hyperbranching (hyper = 'more') of the roots to create a tree-like morphology (arbuscular)
D. the symbiotic relation only occurs between vesicular fungi and arbuscular plants (that is, trees)
E. the fungal vesicles (vesicular) cause plants to grow into large trees (arbuscular)
F. the fungus forms vesicular arbuscular structures around the plant root, maximizing its ability to accumulate phosphate which is then 'shared' with the plant
G. vesicular arbuscular sturctures are only observed in ectomycorrhizae, not in endomycorrhizae
H. none of the above

Match the following terms with the most appropriate definition (Choose the best answer)?

[24] conidium *pl*. conidia **[25]** rhizoids **[26]** septum *pl*. septa

A. Branched rootlike extensions of fungi (and algae) that absorb water, food and nutrients.
B. A single tubular filament of a fungus, oomycete, or chytrid.
C. A tough, resistant, resistant, nitrogen-containing polysaccharide forming the cell walls of certain fungi.
D. An asexual fungal spore not contained within a sporangium; it may be produced singly or in chains; it is often multinucleate.
E. A small mass of vegetative tissue; an outgrowth of the thallus, for example in liverworts or certain fungi.
F. A cell or multicellular structure in which gametes are formed.
G. A projection of a fungal hypha that functions as a penetrating and absorbing organ.
H. None of the above

[27] Identify the most appropriate group on the basis of the reproductive structure diagrammed in the figure (Choose the best answer)?

A. Teliomycete B. Chytridiomycete C. Hymenomycete
D. Gasteromycete E. Basidiomycete F. Ustilago
G. Zygomycete H. Ascomycete

[28] Which of the following is/are propagules of lichens —containing both the mycobiont and algal or cyanobacterial photobiont— that serve to disseminate this unusual example of a symbiotic organism (Choose the best answer)?

A. calyptra B. soredia C. gemma D. operculum
E. ascospore F. peristome G. A and E H. D and F

[29] Which of the following characteristics are key <u>adaptive</u> component(s) of the successful invasion of land by plants (Choose the best answer)?

1. indeterminate growth of the gametophyte
2. embryophyta
3. vascular tissue
4. chlorophylls a and b
5. determinate growth of the gametophyte
6. heterospory
7. stomata

A. 1, 2, 3 and 4 B. 1, 2, 3 and 7
C. 2, 3, 6 and 7 D. 2, 3, 5 and 7
E. 1, 3, 4 and 6 F. 1, 2, 4 and 7
G. 1, 3, 5 and 6 H. 3, 4, 6 and 7

Match the following divisions of the 'lower' land plants with the characteristic that <u>uniquely distinguishes</u> it from the other 'lower' plant groups. Choose the best answer.

[30] Anthocerophyta (Hornworts)
[31] Hepatophyta (Liverworts)
[32] Bryophyta (Mosses)

A. protonemata B. archegonial head
C. stomates D. antheridial head
E. sporangia F. xylem
G. rhizoids H. none of the above

[33] Which of the following best distinguishes leptosporangial from eusporangial ferns (Choose the best answer)?

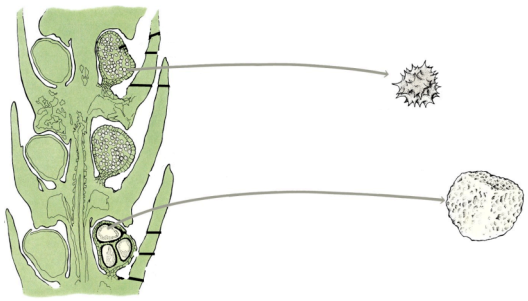
A. Eusporangial development culminates in the formation of a tapetum surrounding the spores.
B. Leptosporangial development culminates in the formation of a tapetum surrounding the spores.
C. A single apical cell is the progenitor of the multi-cellular sporangia in leptosporangial ferns; multiple superficial initials are the progenitor of the multi-cellular sporangia in eusporangial ferns.
D. A single apical cell is the progenitor of the multi-cellular sporangia in eusporangial ferns; multiple superficial initials are the progenitor of the multi-cellular sporangia in leptosporangial ferns.
E. A and C F. A and D G. B and C H. B and D

[34] Which of the following groups of seedless vascular plants has elators as part of the spore dispersal mechanism (Choose the best answer)?

A. Cycadophyta B. Ginkgophyta C. Coniferophyta D. Sphenophyta (horsetails)
E. Lycopodiaceae F. Selaginellaceae G. Psilotum H. None of the above

[35] Identify the most appropriate group matching the diagram of the reproductive structure (Choose the best answer)?

A. Bryophyta B. Lycophyta
C. Sphenophyta (horsetails) D. Psilotum
E. Selaginellaceae F. Cycadophyta
G. Lycopodiaceae H. None of the above



36] Which of these typify the special nature of seeded vascular plants *compared to* other vascular and non-vascular land plants (Choose the best answer)?

A. The common presence of regions of *secondary* cellular divisions (meristems) that allow the development of a more complex final form of the mature plant, especially the vasculature.
B. The presence of heterospory (micro- and mega-spores)
C. The complete dependence of the haploid (gametophyte) stage on the parental sporophyte (diploid).
D. The complete dependence of the haploid (gametophyte) stage *and* sporophyte (diploid) offspring (at least initially) on the parental sporophytes (diploid).
E. A and B
F. A, B and D
G. A and D
H. B and C

[37] Place the following groups in order of increasing complexity of their adaptations to survival on land, or appearance in the fossil record?

1. Hornworts 2. Angiosperms 3. Cycadales 4. Bryidae 5. Liverworts

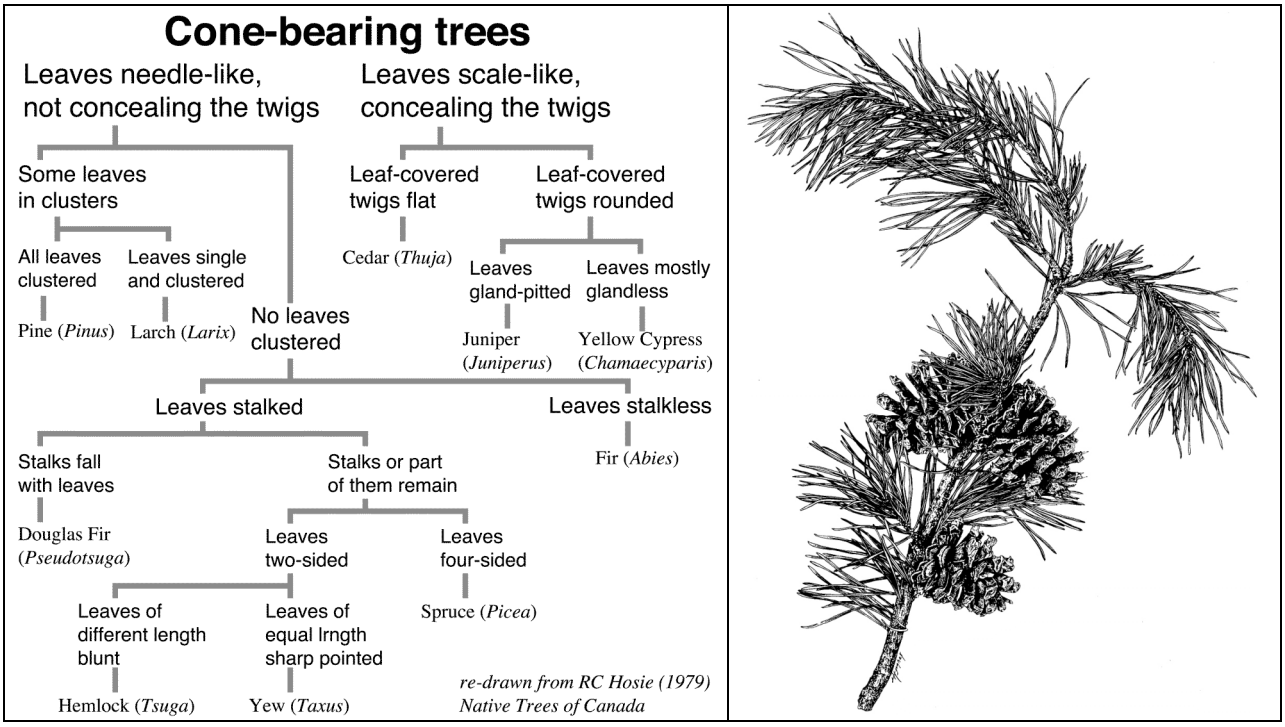
A. 5,4,3,2,1 B. 4,5,3,2,1 C. 3,4,5,1,2 D. 1,2,3,4,5
E. 2,1,4,3,5 F. 3,1,5,4,2 G. 5,4,2,3,1 H. none of the above

[38] Which one of the following major groups of land plants has the smallest number of extant species?

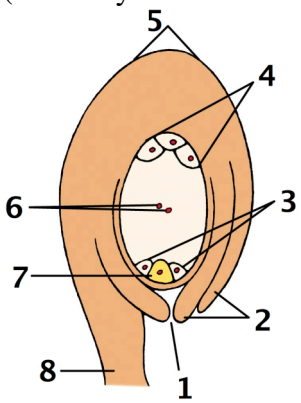
A. Bryophytes B. Pteridophyta (ferns) C. Gymnosperms D. Angiosperms

[39] Identify the Gymnosperm shown below to genus using the key.

A. Abies B. Tsuga C. Taxus D. Picea
E. Pinus F. Larix G. Thuja H. Juniperus



For the angiosperm ovule shown in the diagram, identify the five regions/cells (2, 3, 4, 5 and 8) (You may use each answer only once)



[40] 2
[41] 3
[42] 4
[43] 5
[44] 8

A. polar nuclei B. chalzea
C. funiculus D. antipodals
E. integuments F. egg cell
G. micropyle H. synergids

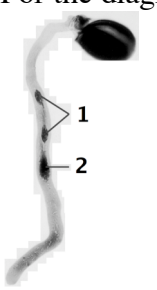
[45] Approximately what percentage of angiosperm species is monoecious (with male and female flowers on the same individual of the species)?

A. 0% B. 5% C. 25% D. 50% E. 75% F. 95% G. 100%

[46] Which of the following is true of megagametogenesis in angiosperms (choose the best answer)?

1. the mature embryo sac contains a total of eight haploid nuclei	A. 1, 2, 3, 4 and 5
2. the synergid cells eventually form the seed coat	B. 2, 3, 4, 5 and 7
3. polar nuclei fuse with a sperm cell nuclei to form the triploid endosperm	C. 1, 3, 4, 5 and 7
4. meiosis results in the formation of four megaspores (some may then degenerate)	D. 3, 4, 5, 6 and 7
5. two synergid cells 'surround' the egg cell	E. 1, 3, 4, 5 and 6
6. the integument surrounds the embryo sac	F. 1, 2, 4, 5 and 7
7. the micropyle is adjacent to the egg cell	G. 2, 3, 4, 5 and 6
8. the antipodal cells eventually form the seed coat	H. All are true

For the diagram shown below, identify the two structure(s) marked 1 and 2



[47] 1
[48] 2

A. polar nuclei B. microspore
C. double cell D. tapetum
E. intine F. exine
G. sperm cells H. None of the above

[49] Which of the following is true of microgametogenesis in angiosperms (choose the best answer)?

1. The haploid microspores undergo mitosis to form a large vegetative cell and small generative cell	A. 1, 2, 3, 4 and 5
2. Dehydration occurs after formation of the inner exine and outer intine of the pollen wall	B. 2, 3, 4, 5 and 7
3. Callase removes the callose wall from the tetrad product of Meiosis I and II	C. 1, 3, 4, 5 and 7
4. Sperm cells are formed either before or after germination of the pollen	D. 3, 4, 5, 6 and 7
5. Nuclear migration occurs prior to formation of the large vegetative cell and small generative cell	E. 1, 3, 4, 5 and 6
6. Hydration of pollen is inhibited in sporophytic incompatibility	F. 1, 2, 4, 5 and 7
7. The initial step in microgametogenesis is the formation of a diploid tapetal initial cell and pollen mother cell	G. 2, 3, 4, 5 and 6
8. The pollen mother cell undergoes meiosis	H. All are true

[50] RNases can inhibit pollination. The pollen germinates, grows, but then pollination tube growth is arrested in the pollination tract. Is this gametophytic and/or sporophytic incompatibility?

A. gametophytic B. sporophytic C. *both* gametophytic *and* sporophytic

[51] What are the most important stages during embryogenesis for subsequent survival of the seed (Choose the best answer)?

A. Asymmetric division B. Protoderm formation C. Dessication
D. heart-shaped embryo E. Protein/lipid/carbohydrate deposition F. C and E
G. All of the above

[52] To examine the light requirement for germination, scientists have mixed red (660 nm) and far-red (730 nm) light together and determined their effect upon seed germination. Which one of the following would you predict to stimulate germination?

A. 100:0 far-red:red light B. 20:80 far-red:red light C. 90:10 far-red:red light
D. 10:90 far-red:red light E. 80:20 far-red:red light F. 0:100 far-red:red light
F. 50:50 far-red:red light H. There would be no difference in germination rates

[53] For 25 days in the middle of the winter, the average temperature was constant at 10 degrees Celsius. For that week, how many degree-days were accumulated?

A. about 2 degree-days B. about 20 degree-days C. about 200 degree-days
D. about 2000 degree-days E. about 20,000 degree-days F. about 200,000 degree-days
G. about 2,000,000 degree-days
H. no degree-days were accumulated, because the cut-off for degree-day calculations is 10 degrees Celsius

The following data set is for ash (*Fraxinus*) a common temperate tree species. The samara is the wing-like structure which surrounds the seeds (unlike maple seeds, the ash samara is a single wing, rather than a double wing). Germination tests were performed at 20 degrees Celsius.

Biological Material	Germination (%)	ABA (Abscisic Acid) content
Non-treated seeds	0 to 3	1.7 μmol/kg
Stratified seeds	70-95	0.6 μmol/kg
Dormant samara	----	2.8 μmol/kg
Stratified samara	----	1.8 μmol/kg

[54] Choose the best interpretation of the data

A. Unlike many temperate plants, the seeds do not require a chilling treatment. Instead they must be stratified by burying them in soil.
B. ABA leaks out of the seed by leaching into the soil when it is stratified. No longer inhibited by ABA, the seed germinates
C. During the chilling period, ABA is depleted. No longer inhibited by ABA, the seed germinates
D. As is common for many temperate plants, the seeds require a chilling treatment, but this is unrelated to ABA content.
E. The samara is the source of hormones that inhibit germination of the seed.
F. A and B G. B and C H. D and E

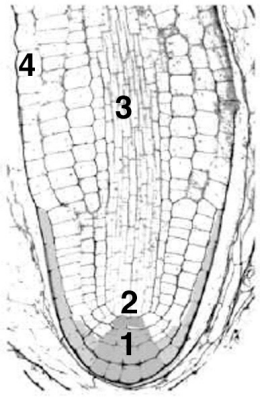
[55] At what month would the soil temperature at a depth of 2.5 cm be warmest in Toronto?

A. None of the below B. April C. May D. June
E. July F. August G. September H. November

[56] Which of the following pigment(s) undergo photoconversion into forms with either a red light or far-red light absorption maximum?

A. None of the below B. carotenoids C. xanthophylls D. chlorophylls
E. anthocyanins F. phytochrome G. bilins H. C and E

Identify the marked regions on the root diagram. You may use each answer more than once.



[57] region 1	A. root cap	B. stele (vasculature)
[58] region 2	C. cortical cells	D. quiescent center
[59] region 3	E. mucigellar cells	F. epidermis
[60] region 4	G. Casparian strip	H. endodermis

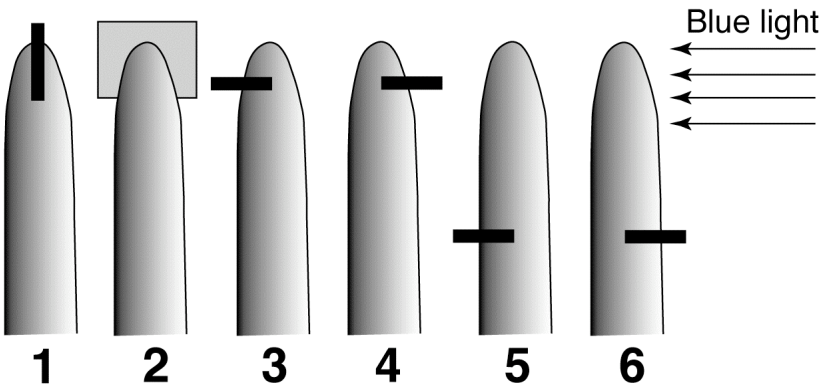
[61] Considering adaptive strategies during root emergence, which one of the following would <u>not</u> be a potential sensing mechanism that controls the direction of root growth (Choose the best answer)?

A. positive gravitropism B. negative phototropism C. positive oxytropism
D. positive hydrotropism E. positive nitrate-tropism F. positive phosphate-tropism
G. All of the above make sense as adaptive strategies.

[62] What cells/structures are important in the positive gravitropism of the emerging radicle?

A. root cap cells B. cellular expansion zone C. statoliths D. endodermis
E. A, B and C F. A, C and D G. B, C and D H. All of the above

[63] In a coleoptile, a mica sliver is placed at the locations and orientations shown below (in 5 and 6, the mica sliver is placed *below* the zone of cell expansion). In which position(s) would positive phototropism be inhibited?



A. 1, 3 and 5 B. 1, 3 and 4
C. 2, 3 and 4 D. 1, 3, 4 and 6
E. 1 and 3 F. 1 and 4
G. 4 and 6 H. 4, 5 and 6

[64] Which of the following process(es) are used by plants to identify the seasonal equinox?

A. The amount of carbohydrate stored by photosynthetic tissues changes with the duration of sunlight. This is used as a measure of changing day-length to identify the seasonal equinox.
B. The amount of energy equivalents (ATP and NADPH) produced by photosynthetic tissues changes with the duration of sunlight. This is used as a measure of changing day-length to identify the seasonal equinox.
C. The utilization of carbohydrate by respiration is the key metric. This is used as a measure of changing night-length to identify the seasonal equinox.
D. The duration of day-length is measured by the time that phytochrome is maintained in the P_{FR} form.
E. The duration of day-length is measured by the time that phytochrome is maintained in the P_R form.
F. The duration of night-length is measured by the conversion of phytochrome to the P_R form in the dark.
G. The duration of night-length is measured by the conversion of phytochrome to the P_{FR} form in the dark.
H. None of the above

[65] What is/are the major way(s) that plants sense day and night durations to trigger <u>flower initiation</u>?

A. temperature B. amount of photosynthate C. moisture D. chlorophyll
E. phytochrome F. A and D G. D and E H. None of the above

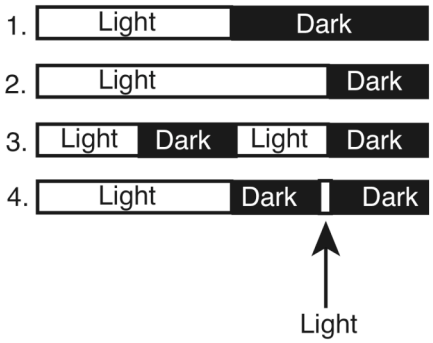
[66] Where are short day plants normally found?

A. North Pole B. Australia C. Near the equator D. South Pole
E. All of the above F. A and C G. A and D H. None of the above

[67] Which one of the following plant hormones is known to stimulate seed germination?

A. indole-3-acetic acid (auxin) B. Abscisic acid C. Gibberellin D. Ethylene
E. Zeatin (a cytokine) F. Jasmonic acid G. Salicyclic acid H. None of the above

In the following diagram, various light treatments (light or dark) are shown for a 24 hour period.
For Case 1: a short day plant will flower, a long day plant will not flower.
For Case 2: a short day plant will not flower, a long day plant will flower.



[68] Which of the following will occur for Case 3?
A. A short day plant will flower, a long day plant will not flower.
B. A short day plant will not flower, a long day plant will flower.
C. Both long day and short day plants will flower.
D. Both long day and short day plants will not flower.
E. Only 50% of short day and long day plants will flower.

[69] Which of the following will occur for Case 4?
A. A short day plant will flower, a long day plant will not flower.
B. A short day plant will not flower, a long day plant will flower.
C. Both long day and short day plants will flower.
D. Both long day and short day plants will not flower.
E. Only 50% of short day and long day plants will flower.

[70] During leaf development, the major functional transition involves export of assimilate (mostly photosynthate). In a perenniel plant, where does this assimilate go?
A. It may be exported to new tissues, both newer leaves and roots.
B. It may be exported to food storage tissues for growth in the next year.
C. It may be exported to newly developing flowers
D. It may be exported to newly developing seeds after fertilization
E. A, B and C F. B, C and D G. A, C and D H. all of the above

[71] What is a sink?
A. a term used to describe carbohydrate movement into the quiescent centers of either the apical meristem or the root tip.
B. a region of low pressure which 'pulls' water through the xylem; the 'pulling' force for water movement in the plant
C. the osmotic gradient which 'pulls' (sinks) water into cells during their expansion
D. the bottom of the plant, where all carbohydrate eventually sinks
E. a term commonly used to describe the absence of cellular division in quiscent regions
F. the sloughing of root cap cells as the root tip 'sinks' into the soil
G. a term used to describe allocation of photosynthate to young growing parts of the plant
H. none of the above

[72] Floral structures in many cases are targeted to pollinations by specific vectors, be they animal, wind, or even water. For a flower with a dish/bowl structure and profuse pollen production, what is the most likely pollination vector?

A. bees B. moths C. wind D. beetles
E. spiders F. bats G. birds H. none of the above

Finis!

Herald

Plant Biology
SC/BIOL 2010

GOreen