

BLG1502

May/June 2012

ANIMAL AND PLANT DIVERSITY

Duration 2 Hours

100 Marks

EXAMINERS

FIRST

SECOND

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This examination paper consists of FIVE pages.

ANSWER ALL QUESTIONS

[TURN OVER]

QUESTION 1

WRITE ONLY THE CORRECT LETTER NEXT TO THE CORRESPONDING NUMBER IN YOUR ANSWER BOOK, FOR EXAMPLE: 1.1C

- 1.1 The primary function of fruit is to
- a) provide food for the developing seed.
 - b) provide food for the developing seedling.
 - c) disperse pollen.
 - d) disperse seeds
 - e) None of the above.
- 1 2 Which of the following flower parts develops into a fleshy fruit?
- a) stigma
 - b) style
 - c) ovule
 - d) ovary
 - e) micropyle
- 1 3 Which of these is the most common compound in the cell wall of gram-positive bacteria?
- a) cellulose
 - b) lipopolysaccharide
 - c) lignin
 - d) peptidoglycan
 - e) protein
- 1.4 An unknown organism was found in a park. It was one-celled, had no nuclear membrane around its DNA, and contained no mitochondria and no chloroplasts. It belongs to the group.....
- a) eukaryotes.
 - b) vertebrates or plants.
 - c) bacteria or archaea.
 - d) plants or fungi
 - e) fungi
- 1 5 In the moss life cycle, the sporophyte.....
- a) consists of leafy green shoots
 - b) is a heart-shaped prothallus.
 - c) consists of a foot, seta and stalk
 - d) is the dominant generation.
 - e) All of the above are correct

[TURN OVER]

- 1 6 The scientific discipline concerned with naming of organisms is called.
- taxonomy.
 - cladistics.
 - binomial nomenclature
 - systematic.
 - phylocode.
- 1 7 The correct sequence, from the most to the least comprehensive, of the taxonomic levels listed here is.....
- family, phylum, class, kingdom, order, species, genus.
 - kingdom, phylum, class, order, family, genus, species.
 - kingdom, phylum, order, class, family, genus, species
 - phylum, kingdom, order, class, species, family, genus.
 - phylum, family, class, order, kingdom, genus, species
- 1.8 Which features do ferns share with all other land plants?
- sporophyte and gametophyte life-cycle stages.
 - gametophytes supported by a thallus
 - aispersal of spores from a sorus.
 - asexual reproduction by way of gemmae.
 - water uptake by means of rhizoids.
- 1 9 An example of connective tissue is the
- nerves .
 - cuboidal epithelium.
 - Skin
 - Blood.
 - Smooth muscles.
- 1 10 Connective tissues have
- a supporting material such as chondroitin sulphate.
 - many densely-packed cells without an extracellular matrix
 - the ability to transit electrochemical impulses.
 - relatively few cells and large.
 - an epithelial origin

[10X2=20]

[TURN OVER]

QUESTION 2**Give one or two words for each of the following:**

- 2.1 The creation of offspring by the fusion of haploid gametes to form a zygote which is diploid
- 2.2 The male gamete.
- 2.3 Asexual reproductions in which new individuals arise from outgrowths of existing ones.
- 2.4 Asexual reproduction in which the body breaks in several pieces, some or all develop in complete adults
- 2.5 An egg develops without being fertilized.

[10]**QUESTION 3**List **FOUR** advantages and **FOUR** disadvantages of algae**[8]****QUESTION 4**

- 4.1 Write a brief report on the ecological importance of fungi. Use headings and sub-headings in your report. (10)
- 4.2 Describe the format of a scientific name and explain why biologists use scientific names. (5)

[15]**QUESTION 5**Describe what an apicomplexan is and using an annotated drawing, explain the two-host life history of Plasmodium, which causes malaria. **[12]****QUESTION 6**

- 6.1 Name the four unique characteristics of chordates. (4)
- 6.2 Name the five characteristics that define land plants (5)

[9]**[TURN OVER]**

QUESTION 7

Describe and compare the processes of conduction, convection, radiation and evaporation. [8]

QUESTION 8

The process of double fertilization occurs mainly in angiosperms. Define and briefly explain this process. [4]

QUESTION 9

Name the hormones of.

9.1 The anterior pituitary gland.

9.2 Gonads

9.3 Adrenal gland.

9.4 Pineal gland

[14]

TOTAL MARKS: 100