

BLG1502

October/November 2017

ANIMAL AND PLANT DIVERSITY

Duration 2 Hours

100 Marks

EXAMINERS

FIRST

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SECOND

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Closed book examination

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This paper consists of Four (4) pages.

ANSWER ALL THE QUESTIONS IN THE EXAMINATION ANSWER BOOK PROVIDED.

[TURN OVER]

QUESTION 1

Choose the correct answer for each of the following descriptions. Each question has **ONLY ONE** correct answer. Choose the correct answer and write down the letter next to the question number (1.1 - 1.10).

- 1.1 The joint evolution of two interacting species, each in response to selection imposed by the other
- A Commensalism
 - B Symbiosis
 - C Coexistence
 - D Coevolution
- 1.2 The innermost layer of the cortex in plant roots, a cylinder one cell thick that forms the boundary between the cortex and vascular cylinder
- A. Epidermis
 - B Endodermis
 - C Percycle
 - D Stele
- 1.3 An anatomical structure found in many non-mammalian vertebrates which functions as a common exit for digestive, excretory and reproductive systems
- A Caecum
 - B Cloaca
 - C Anus
 - D. Oviduct
- 1.4 The maintenance of internal stability and constancy in living systems
- A Equilibrium
 - B Haemostasis
 - C Homeostasis
 - D Metastasis
- 1.5 A type of a cell with membrane enclosed nucleus and organelles
- A Prokaryotic
 - B Stem
 - C Eukaryotic
 - D Ribosomes
- 1.6 An ovule producing reproductive organ of a flower consisting of the stigma, style and ovary
- A. Pistil
 - B Stamen
 - C Ovule
 - D Anther

[TURN OVER]

1 7 The scientific discipline concerned with the naming of organisms

- A Systematics
- B Cladistics
- C Phylogeny
- D Taxonomy

1 8 The part of a flower that develops into a fleshy fruit

- A Stigma
- B Style
- C Ovary
- D Ovule

1 9 The primary body cavity of most invertebrates, containing circulatory fluid

- A Abdomen
- B Coelom
- C Hemocoel
- D Haemolymph

1 10 A group of small, simple, green land dwelling plants of which a few are aquatic

- A Moss
- B Algae
- C Bryophytes
- D Chlorophytes

[10x1 = 10]

QUESTION 2

- 2.1 Distinguish between phylogeny and systematics (4)
 - 2 2 Write down the four major modes of nutrition in prokaryotes (4)
 - 2 3 Name and describe the three groups of prokaryotes with regard to oxygen (O₂) (6)
- [14]**

QUESTION 3

- 3 1 Write down the names of four main groups of land plants and give an example of each (8)
 - 3 2 Explain the process and function of double fertilization (4)
 - 3 3 Compare and contrast the nutritional mode of a fungus with human nutritional mode (4)
 - 3 4 Describe the type of reproduction as it occurs in fungi (3)
- [18]**

[TURN OVER]

QUESTION 4

- 4.1 What is meant by apical dominance? (2)
- 4.2 Write down the names of three types of plant tissues and their functions (6)
- 4.3 Define the term photosynthesis (2)
- 4.4 Write down the balanced overall reaction equation that take place during photosynthesis (4)
- [14]

QUESTION 5

- 5.1 Distinguish between sexual and asexual reproduction (4)
- 5.2 Write down the three mechanisms of asexual reproduction (3)
- 5.3 Write down the name of female gonads and the hormones they produce (2)
- 5.4 Define fertilization (2)
- [11]

QUESTION 6

- 6.1 Distinguish between herbivores and omnivores also give an example of each (4)
- 6.2 Distinguish between intracellular and extracellular digestion and give an example of an organism in which they occur (4)
- [8]

QUESTION 7

- 7.1 Differentiate between an artery and vein (4)
- 7.2 Write down the names of the chambers of mammalian heart. (2)
- 7.3 Which veins carry oxygenated blood in mammalian circulatory system? (1)
- 7.4 Differentiate between systole and diastole in mammalian heart (4)
- [11]

QUESTION 8

- 8.1 Differentiate between innate and acquired immunity (4)
- 8.2 Write down the names of five classes of antibodies, indicate which ones are pentameric, dimeric or monomeric (8)
- 8.3 Distinguish between polyclonal and monoclonal antibodies (2)
- [14]

TOTAL: 100 marks