

BLG1502

October/November 2012

ANIMAL AND PLANT DIVERSITY

Duration 2 Hours

100 Marks

EXAMINERS

FIRST

SECOND

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Closed book examination

This examination question paper remains the property of the University of South Africa and may not be removed from the examination venue

This paper consists of FOUR (4) pages.

ANSWER ALL THE QUESTIONS IN THE EXAMINATION ANSWER BOOK PROVIDED.

[TURN OVER]

QUESTION 1

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

- 1 1 Regeneration, the growth of lost body parts, normally follows after
A fragmentation
B all types of asexual reproduction
C all types of sexual reproduction
D fission
E parthenogenesis
- 1 2 A cloaca is an anatomical structure found in many nonmammalian vertebrates, and function as
A source of nutrients for developing sperm in the testes
B a specialized sperm-transfer device produced by males
C a gland that secretes mucus to lubricate the vaginal opening
D common exit for the digestive, excretory, and reproductive systems
E region bordered by the labia minora and clitoris in females
- 1 3 An example of connective tissue is the
A nerves
B cuboidal epithelium
C skin
D blood
E smooth muscles
- 1 4 Connective tissues have
A a supporting material such as chondroitin sulphate
B many densely-packed cells without an extracellular matrix
C the ability to transit electrochemical impulses
D relatively few cells and a large amount of extracellular matrix
E an epithelial origin
- 1 5 Septic shock, a systemic response including high fever and low blood pressure, can be life threatening. What causes septic shock?
A Certain bacterial infections
B Increased production of neutrophils
C The presence of natural killer cells
D A fever of >103 degrees in adults
E Specific forms of viruses

[TURN OVER]

- 1 6 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 7 Which feature(s) do ferns share with all other land plants?
- A Sporophyte and gametophyte life cycle stages
 - B Gametophytes supported by a thallus
 - C Dispersal of spores from a sorus
 - D Asexual reproduction by way of gemmae
 - E Water uptake by means of rhizoids
- 1 8 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 these are correct
- 1 9 Which of the following characteristics of plants is absent in their closest relatives, the charophytes?
- A Chlorophyll
 - B Cellulose in cell walls
 - C Formation of cell plate during cytokinesis
 - D Sexual reproduction
 - E Alternation of generations
- 1 10 Which one of the following is an INCORRECT contrast between dicotyledons (stated first) and monocotyledons (stated last)?
- A Two cotyledons - one cotyledon
 - B Leaves net veined - leaf veins parallel
 - C Stem vascular bundles scattered - stem vascular bundles in a ring
 - D Flower parts in fours or fives - flower parts in threes
 - E All of these are a correct contrast

[10X2=20]

QUESTION 2

- 2 1 Describe the binomial system of classification (5)
- 2 2 Name the five characteristics that define land plants (5)
- [10]**

[TURN OVER]

QUESTION 3

- 3 1 Write explanatory notes on each of the following structures and give functions in each case
- a Dermal tissues
 - b Vascular tissues
 - c Ground tissues

- 3 2 Explain the structure of the different zones of primary growth in a root tip

(15)
(10)
[25]

QUESTION 4

- 4 1 Describe asexual reproduction of fungi
- 4 2 Discuss the elimination of waste products from animal bodies

(5)
(10)
[15]

QUESTION 5

Describe what an apicomplexan is and using an annotated drawing, explain the two-host life history of *Plasmodium*, which causes malaria

[10]

QUESTION 6

Distinguish between open and closed circulatory systems and give an example of an animal in which each occurs. Also name the three basic components common to both systems

[6]

QUESTION 7

Name the hormones of

- 7 1 The anterior pituitary gland
- 7 2 Gonads
- 7 3 Adrenal gland
- 7 4 Pineal gland

[14]

TOTAL: 100 marks