

INTERIM JOINT MATRICULATION BOARD  
AHMADU BELLO UNIVERSITY  
ZARIA



**INTERIM JOINT MATRICULATION BOARD EXAMINATION 2016**

**SUBJECT:** BIOLOGY PAPER II: GENERAL BIOLOGY AND ZOOLOGY  
**DATE SCHEDULED:** SATURDAY 13<sup>TH</sup> FEBRUARY, 2016  
**TIME ALLOWED:** THREE HOURS (3 HRS)

**INSTRUCTION:** Answer questions ONE (1) and any THREE (3) other questions. Question ONE carries 40 marks. The others carry 20 marks each. Use clearly labelled diagrams and examples to illustrate your answer wherever appropriate.

1. a) Explain the following terms:
- Genetic variations
  - Linkage
  - Crossing over
  - Colour blindness
- b) A child with blood group AB is a source of dispute between two contesting fathers one with blood group B and the other father with blood group O. the mother of the child has blood group A. Show using crossings how the blood group of the child, disputing fathers and that of the child's mother can be used in resolving the dispute.
- c) Fill in the blank spaces.
- A nucleotide has three components, namely, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
  - The animal kingdom is made up of many phylogenetic phyla which include the followings.
    - Protozoa
    - Coolentrate/condemica
    - Platyhelminthes
    - Nematoda
    - annelids

**2016 IJMBE BIOLOGY II contd.**

6. Mollusca
7. Arthropoda
8. Vertebrata

iii. Three types of animal connective tissues are \_\_\_\_\_  
\_\_\_\_\_ and \_\_\_\_\_.

2. a) List any ten characteristics of the phylum. Annelida  
b) Give TEN (10) importance of earth worms in agriculture.
  3. a) Using a suitable labeled diagram, show the path of a sound vibration from the pinna to the inner ear naming the structures encountered at each point.  
b) Briefly discuss the mechanism of hearing.
  4. a) Explain the term evolution  
b) In a tabular form state the differences between Darwinism and Lamarckism.
  5. Write notes on any FOUR (4) of the following:
    - a) Pituitary gland
    - b) Sexual reproduction
    - c) Factors affecting growth
    - d) Competitive inhibitors
    - e) Insulin
    - f) Transportation of carbon dioxide in man.
  6. Discuss in detail the genetic basis of Natural selection.
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