



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SEPTEMBER/OCTOBER 2015 EXAMINATION
SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: BIO 407

COURSE TITLE: BASIC ENTOMOLOGY

TIME ALLOWED: 2HOURS

INSTRUCTION: ANSWER QUESTION 1 (COMPULSORY) AND ANY OTHER THREE QUESTIONS.

- 1a. State **five** characteristics of insects (5marks)
- b. State **five** beneficial effects of insects (5marks)
- c. State **five** detrimental effects of insects (5marks)
- d. Outline **five** factors that contributes to the success of insects (5marks)
- e. Briefly describe the evolution of insects (5marks)

2a The class **Apterygota** is classified as one the most primitive class of insects because they possess certain characteristics. State three of these characteristics (3marks).

- b. Outline **five** characteristics of the **Proturans** (5marks)
- c. Cockroaches belong to the group of insects called **Dictyoptera**. Outline **five** characteristics of this group (5marks)
- d. Outline any **four** economic importance of flies (2marks).

3a. Define Tagmatization in insects (1mark)

- b. The head of insects can be classified into 3 types on the basis of the orientation with the mouth part:
 - i. Mention these **three** types of classifications (3marks)
 - ii. Giving examples, state **two** features in each of these classifications (9marks)
 - iii. Mention the **two** types of simple eyes in insects (2marks)

4a. Briefly describe the mouth part of insects (5marks).

- b. i. Mention **two** basic types of mouth parts found in insects (2marks).
 - ii. State **one** function each of these mouth parts found in insects? (2marks)
- c. State the **two** functions of Maxilla in insects (2marks)
- d. The legs of insects consist of six segments. List any **four** of these segments (4marks)

5a. The foregut of the digestive system of insects is divided into four regions:

- i. List these **four** regions (4marks)
- ii. State **one** characteristic feature/function of each of these regions (4marks)
- b. Mention the **three** divisions of the Visceral Central Nervous system of insects (3marks)
- c. State **one** function each of these divisions of the Visceral Central Nervous system of insects (3marks)
- d. The trachea system of insects is divided into two on the basis of spiracles. Mention these two systems (1mark).

6a. i. Define Moulting in insect (2marks)

- ii. Describe the process of moulting in insects (5marks)
- b. Outline **five** behavioural adaptations of termites (5marks)
- c. Outline **three** behavioural adaptations of bees (3marks)