UNIVERSITY OF JOHANNESBURG

FACULTY OF SCIENCE

DEPARTMENT OF BOTANY AND PLANT BIOTECHNOLOGY

MODULE **BOT8X00 SCIENTIFIC METHODS**

CAMPUS **APK**

EXAM **2019 SUPPLEMENTARY**

DATE: **SESSION:**

ASSESSOR: **DR A OSKOLSKII**

INTERNAL MODERATOR: **DR N NGOBESE**

DURATION: 2 HOURS **MARKS: 50**

NUMBER OF PAGES: 2 PAGES

INSTRUCTIONS: ANSWER ALL THE QUESTIONS.

REQUIREMENTS: EXAM BOOK

BOT0087 – SCIENTIFIC METHODS

QUESTION 1

Study the branch of *Combretum* provided, and draw diagram of its shoot system
(10)

QUESTION 2

Study the flower of *Bignonia* provided, and draw its floral diagram. Positions of shoot stem and subtending leaf as well as of all floral organs must be indicated.
(10)

QUESTION 3
Study the microslide of *Dais cotinifolia* wood and answer the following questions:

3.1. Name the mounting medium and its solvent used for preparation of this microslide. (3)

3.2. Indicate the following traits of this wood:

3.2.1. Ring-porous wood or diffuse-porous wood. (3)

3.2.2. Perforation plates simple or scalariform. (3)

3.2.3. Intervessel pits scalariform, opposite or alternate. (3)

3.2.4. Rays exclusively uniseriate, exclusively multiseriate, or both. (3)

3.2.5. Rays consist of only procumbent cells, or square/upright ray cells are also abundant. (3)

QUESTION 4

Mention the information (at least five items) which must be recorded when an anatomical sample is collected in the field. (4)

QUESTION 5

Suppose you need to study the fine structure of the seed coat surface of a watermelon seed.

3.1. What would be the most suitable method of examination for this study? (2)

3.3. Mention the most important steps (at least four ones) of sample preparation for this method. (6)

TOTAL [50]

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