



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF HEALTH AND APPLIED SCIENCES

DEPARTMENT OF NATURAL AND APPLIED SCIENCES

QUALIFICATION: BACHELOR OF SCIENCE HONOURS	
QUALIFICATION CODE: 08BOSH	LEVEL: 8
COURSE CODE: PAB811S	COURSE NAME: PLANT AND ANIMAL BIOTECHNOLOGY
SESSION: JUNE 2019	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS	
<ol style="list-style-type: none">1. Write clearly and neatly2. Number the answers clearly3. All written work MUST be done in blue or black ink4. No books, notes and other additional aids are allowed5. Mark all answers clearly with their respective question numbers	

PERMISSIBLE MATERIALS

None

THIS QUESTION PAPER CONSISTS OF 3 PAGES

(Including this front page)

QUESTION 1: [4]

Define the following terms:

- 1.1 Secondary cell cultures (1)
- 1.2 Xenotransplantation (1)
- 1.3 Honolulu technique (1)
- 1.4 Biofilms (1)

QUESTION 2: [6]

Distinguish between the pairs of the following terms:

- 2.1 Organogenesis; somatic embryogenesis (2)
- 2.2 Warm trypsinization; cold trypsinization (2)
- 2.3 RFLP; RAPD (2)

QUESTION 3: [4]

What do the following abbreviation stands for?

- 3.1 ABA (1)
- 3.2 Bt (1)
- 3.3 SCNT (1)
- 3.4 HA (1)

QUESTION 4: [16]

Short answers questions

- 4.1 Name the scientist who developed pest resistant plant by using RNA interference technique. (1)
- 4.2 Why is embryo twinning not known as cloning. (1)
- 4.3 What is the other word (name) for polyculture? (1)

- 4.4 What is the application of the medical product squalamine? (1)
- 4.5 What is the function of auxin and name three frequently used auxin in plant culture media? (3)
- 4.6 Give a reason why activated charcoal should be supplemented in plant culture media? (2)
- 4.7 What are the differences between plant cell culture and animal cell culture? (3)
- 4.8 Give a brief explanation on synthetic seeds. (4)

QUESTION 5: [40]
Long answers questions

- 5.1 Give any three benefits and problems associated with aquaculture. (6)
- 5.2 Describe the different types of natural media used to promote cell growth. (8)
- 5.3 Explain how to obtain pest resistant plants by using RNA interference technique. (8)
- 5.4 Describe the embryonic stem cell transfer technology for the production of transgenic. (8)
- 5.5 Describe the process used to create monoclonal antibodies from hybridomas. (10)

QUESTIONS 6: [30]
Essay questions

- 6.1 A business man wishes to venture into the new business of micropropagation and selling of high quality disease-free ornamental plants in Namibia. Advise the businessman on how he should design/layout his laboratory and you are giving him an advice what he will require to succeed at his new business venture. (15)
- 6.2 Describe the principle, procedure and application of Southern blotting. (15)

THE END