



*(Knowledge for Development)*

# KIBABII UNIVERSITY

## UNIVERSITY EXAMINATIONS 2019/2020 ACADEMIC YEAR

### THIRD YEAR FIRST SEMESTER SPECIAL/SUPPLEMENTARY EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE RENEWBLE  
ENERGY

**COURSE CODE:** SUT 371

**COURSE TITLE:** PRINCIPLES OF BIOTECHNOLOGY

**DATE:** 4/02/2021

**TIME:** 8:00 - 10:00 AM

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#### INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

(12)

Repeats

C  
Valencia 2  
Betis 2



This paper consists of 2 printed pages. Please Turn Over

KIBU observes ZERO tolerance to examination cheating

Chelsea 1 ✓  
 Valencia 2 ✓  
 Albar Birm ✓  
 Leganes 2 ✓  
 Barcelona 2 ✓  
~~Atletico 2~~  
 ✓ Rayo Vallecano  
 ✓ Betis 2 ✓  
 Real Madrid

**Question 1**

- a) Give five benefits of genetically modified plants?(5marks)
- b) Biotechnology is a multidisciplinary in nature. State four fields it gets input from(4marks)
- c) Write short notes on gene therapy (5marks)
- d) List four applications of biotechnology(4marks)
- e) Explain the role of restriction enzymes in gene technology (5marks).
- f) Name the four gene expression control mechanisms(4marks)
- g) Write short notes on polymerase chain reaction(3marks)

Spain 6 firm

**Question 2**

Describe the five steps involved in creation of recombinant DNA (20 marks).  
Six steps of Recombinant DNA

Inter 162a 2  
 Osasuna 12  
 Cadiz 47 X

**Question 3**

Discuss expression of proteins using recombinant DNA technology (20 marks).

**Question 4**

Describe various gene transfer mechanisms (20 marks).

**Question 5**

Discuss the various applications of genetic engineering in biofuel technology (20 marks)

Cadiz 1/2 Hi

Charby 2  
 Osasuna 12  
 Milan 1  
 Brichon 1 X  
 Redstar 12  
 Bastia 2  
 Juventus 6 G  
 Almere G Cr

Lazio 1  
 Sassuolo 1  
 Sevilla 2  
 Bubbao 2  
 Juventus 12  
 \*A. Madrid 2  
 Cadiz Hi X  
 Cholet 1

Charby - 2  
 Osasuna 12  
 Milan 1  
 Brichon 1 X  
 Redstar 12  
 Bastia 2  
 Juventus G G  
 Almere G G