PROJECT GUIDELINES FOR 6TH SEMESTER STUDENTS:

1. The project work should be done by a group of TWO - FIVE members.

2. They should submit their project dissertation reports in duplicate. One copy for the department and one copy for self duly signed by the project guide.

3. The project dissertation reports should contain the following:
   a) Title Page
   b) Certificate
   c) Acknowledgement
   d) Chapter – 1: Introduction
   e) Chapter – 2: Material and Methodology
   f) Chapter – 3: Result and Discussion
   g) Chapter – 4: Conclusions
   h) Bibliography/ references

**Scheme of valuation - Project - 50 Marks**

The Project work and Dissertation – 40M
Viva voce by the examiner (On their Specific Project) - 10M

----------------- 50 M
ACHARYA NAGARJUNA UNIVERSITY:: NAGARJUNA NAGAR-522510
III B.SC. : SEMESTER –VI
(For Cluster Elective –I/II/III)
MODEL PAPER-Theory (Question paper Setting Pattern)
BIOTECHNOLOGY
Title of the Paper

Time: 3 hours Max. Marks: 75

Section –A (Short Answers Questions)

Answer any five of the following questions 5X5=25 M

1. ..................................................
2. ..................................................
3. ..................................................
4. ..................................................
5. ..................................................
6. ..................................................
7. ..................................................
8. ..................................................

(At least one question from each unit)

Section –B (Essay Questions)

Answer all of the following questions 5X10=50M

Answer ALL of the following questions.

9. (From UNIT –I)
(a) ..............................................................................................
(Or)
(b) ..............................................................................................

10. (From UNIT –II)
(a) ..............................................................................................
(Or)
(b) ..............................................................................................

11. (From UNIT –III)
(a) ..............................................................................................
(Or)
(b) ..............................................................................................

12. (From UNIT –IV)
(a) ..............................................................................................
(Or)
(b) ..............................................................................................

13. (From UNIT –V)
(a) ..............................................................................................
(Or)
(b) ..............................................................................................
ACHARYA NAGARJUNA UNIVERSITY: NAGARJUNA NAGAR-522510
III B.SC. : SEMESTER –VI
THEORY MODEL PAPER
PAPER-VIIA*
BTT- 601: GENETICS

Time: 3 hours Max. 
Marks: 75

Section –A (Short Answers Questions)

Answer any five of the following questions 
5X5=25 M

1. Multiple alleles
2. Pleiotropism
3. Histone proteins
4. Interaction between gene and environment
5. Point mutations
6. SOS repair system
7. Retroposans
8. Yeast Ty elements

Section –B (Essay Questions)

Answer all of the following questions 
5X10=50M

9. a) Define genetics? Write an account on Mendel’s laws of inheritance. 
Or

10. a) Write an essay on organization of Eukaryotic Chromosome. 
Or
b) Discuss about Structure of gene in Eukaryotes

11. a) Define Mutation? Discuss about different types of mutations. 
Or
b) Define Mutagens? Discuss about physical and chemical mutagens.

12. a) Write an essay on DNA damage. 
Or
b) Discuss about Excision and mismatch repair systems.

13. a) Describe the structure and molecular basis of Ac-Ds transpositions in maize
Or
b) Discuss about “P” elements of Drosophila.
Section -A (Short Answers Questions)

Answer any five of the following questions 5X5=25 M

1. Callus culture
2. Suspension culture
3. Ti plasmids
4. Micro propagation
5. Cell lines
6. Somatostatin
7. Recombinant vaccine
8. Patent

Section -B (Essay Questions)

Answer all of the following questions 5X10=50M

9. a) Discuss about plant tissue culture media composition and preparation.  

Or

b) Describe the Methods for Obtaining Single Cell Clones from Callus Culture

10. a) Discuss about transgenic plants and its applications.  

Or

b) Write an essay on Somatic hybridization

11. a) Discuss about animal tissue culture media  

Or

b) Give a complete note on characteristics of cells in culture.

12. a) Define gene therapy? Write an essay on in vitro gene therapy  

Or

b) Discuss about In vitro fertilization (IVF)

13. a) Give a complete note on Intellectual property rights.  

Or

b) Write an essay on ethical aspects of Biotechnology
ACHARYA NAGARJUNA UNIVERSITY: NAGARJUNA NAGAR-522510
III B.SC. : SEMESTER -VI
THEORY MODEL PAPER
PAPER-VIIC*
BTT- 603: INDUSTRIAL BIOTECHNOLOGY

Time: 3 hours Max. Marks: 75

Section –A (Short Answers Questions)

Answer any five of the following questions 5X5=25 M

1. Inoculum preparation
2. Sterilization of media
3. Air lift Bioreactor
4. Fed batch fermentation
5. Wine production
6. SCP
7. Recombinant Vaccine
8. Production of Insulin

Section –B (Essay Questions)

Answer all of the following questions 5X10=50M

9. a) Explain how industrially important microbial strains are improved.
   Or
   b) Discuss about methods used to preserve the microorganisms

10. a) Discuss about basic principles and design of Bioreactor
    Or
    b) Write an essay on batch fermentation

11. a) Describe the commercial production of citric acid.
    Or
    b) Give a complete note on production of Beer.

12. a) Describe the production of Amylase.
    Or
    b) Discuss about production of Penicillin.

13. a) Discuss about production of Monoclonal antibodies.
    Or
    b) Write an essay on production of Growth hormone by recombinant DNA technology
MODEL PAPER-Practical (Question paper Setting Pattern)

I/II/III B.Sc., Degree Examinations Semester-I/II/III/IV/V/VI

BIOTECHNOLOGY

Title of the Paper

Time: 3 hours

Maximum marks: 50 marks

Section A

I. Major practical: Perform the given practical; write the principle, procedure, result and discussion. 15 marks

Scheme of valuation:

- Performance of Practical: 5 marks
- Aim & Principle: 3 marks
- Procedure: 4 marks
- Results and discussion: 3 marks

II. Minor Practical: write the principle, procedure, result and discussion for the given practical. 10 marks

Scheme of valuation:

- Aim & Principle: 4 marks
- Procedure: 4 marks
- Results and discussion: 2 marks

Section B

III. Spotters (Five Spotters) 5X3=15 marks

A.
B.
C.
D.
E.

Scheme of valuation:

- Identification of spotter: 1 mark
- Description (at least 4-6 points): 2 marks

IV. Viva voce 5 marks

V. Record 5 marks

Total 50 marks