

**ACHARYA NAGARJUNA UNIVERSITY
NAGARJUNA NAGAR, GUNTUR
DEPARTMENT OF BIOTECHNOLOGY**

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 -50Marks

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

	50 M

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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

(At least one question from each unit)

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

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).....

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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
b) Define Epistasis and write about 12:3:1, 9:3:4, and 9:6:1.
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.

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III B.SC. : SEMESTER –VI

THEORY MODEL PAPER

PAPER-VIIB*

BTT- 602: PLANT AND ANIMAL BIOTECHNOLOGY

Time: 3 hours Max.

Marks:75

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

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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 -----5marks
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----- 4marks
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

