GITAM
UNIVERSITY
(Estd. u/s 3 of the UGC Act, 1956)
Centre for Distance Learning
(Approved by Joint Committee of UGC-AICTE-DEC)
Third Floor, Balaji Metro Plaza, Dondaparthi Main Road, Visakhapatnam-530 016.
Phone: 0891-2796499, 2797499, 7799668883 E-mail: cdl@gitam.edu

SPDBT – 201: MOLECULAR BIOLOGY

ASSIGNMENT - I **5 X 3 =15 Marks**

1. Write an account on organization of genetic material in eukaryotes.
2. Explain briefly different repair mechanism of DNA damage.
3. Describe various transcription factors.
4. Describe about targeting of different proteins.
5. Give an account on enhances cis elements and trans elements.

ASSIGNMENT - II **5 X 3 =15 Marks**

6. Explain briefly about different kind of genes.
7. Explain briefly on the regulation of DNA replication.
8. Write about mechanism of transcription.
9. Write the difference between prokaryotic and eukaryotic translation.
10. Give an account on RNAi technology and its applications.

SPDBT - 202: GENETIC ENGINEERING

ASSIGNMENT - I **5 X 3 =15 Marks**

1. Give an account on restriction endonucleases and their classification.
2. Write about artificial chromosomes BAC and YAC.
3. Give an account on Gene transfer techniques used in genetic engineering.
4. Explain basic principle and variations of PCR.
5. Give an account on human genome project (HGP).

ASSIGNMENT - II **5 X 3 =15 Marks**

6. Explain the importance of DNA ligase and reverse transcriptase.
7. Give an account on viral vectors.
8. What is reported gene assay? Explain with examples.
9. Explain the importance of southern and northern blotting techniques.
10. Give an account on applications of genetic engineering in agriculture.

SPDBT – 203: PLANT BIOTECHNOLOGY

ASSIGNMENT - I **5 X 3 =15 Marks**

1. Explain different types of phytohormones and their functions in plant tissue culture?
2. Explain the production of haploids and their applications?
3. Describe the applications of molecular markers in crop improvement?
4. What are the procedures involved in development of herbicide resistance plants?
5. Describe the pathway of symbiotic and asymbiotic nitrogen fixation?

ASSIGNMENT - II **5 X 3 =15 Marks**

6. Define somatic embryogenesis? Write different types and their applications?
7. Write a note on Micropropagation and its applications?
8. Explain the methods of gene transfer in plants?
9. What are the procedures involved in development of disease resistance plants?
10. Write a note on mycorrizhal biofertilizers and their applications?

SPDBT - 204: ANIMAL AND MEDICAL BIOTECHNOLOGY

ASSIGNMENT - I **5 X 3 =15 Marks**

1. Briefly describe different types of culture media.
2. Explain briefly about embryonic stem cells.
3. Describe briefly about IVF methodology.
4. Explain procedure for the production of Bio artificial skin, liver and pancreas.
5. Give an account on the production of transgenic cattle.

ASSIGNMENT - II **5 X 3 =15 Marks**

6. Explain about different methods for measuring cell viability and toxicity.
7. Briefly explain about isolation and culture of stem cells and their applications.
8. Explain the process of embryo culture and transfer and its applications.
9. Give an account on the production of interferons and Hepatitis–B vaccine by rDNA technology.
10. Explain the procedure of animal cloning by embryonic stem cell nuclear transfer.

SPDBT- 205: INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY

ASSIGNMENT - II **5 X 3 =15 Marks**

1. Give an account on strain improvement by mutations
2. Give description of different types of bioreactors.
3. Describe the production of organic solvents.
4. Describe the role of microbes in oil spills
5. With a flow diagram explain the functioning of waste water treatment

ASSIGNMENT - II **5 X 3 =15 Marks**

6. Explain different types of fermentation processes.
7. Give an account on isolation and purification of fermentation products.
8. Explain process of industrial production of antibiotics.
9. Give an account on types and applications of bioremediation.
10. Discuss briefly about solid waste management.

NOTE:

1) **Last date for submission of assignments for all the courses / papers is- 15-10-2017**
2) **Non-submission of assignments as per the scheduled date mentioned above attracts a fine of Rs. 200/- upto 31-10-2017 per each assignment of a course / paper and under any circumstances the assignments will not be accepted from 1st November, 2017.**
3) **Assignments are to be written in the Book-lets provided by CDL and other formats are not accepted.**
4) **Answer all 10 questions, in a single book only.**