



Gujarat State Biotechnology Mission

Summer Internship 2020



Summer Internship Programme - 2020

1. Objective:

To facilitate on-project Industrial training & capacity building of students pursuing B.E. (BT)/M.Sc. Biotechnology and allied areas of Biotechnology for one month.

2. Eligibility Criteria.

- M.Sc. Biotechnology and allied areas (First Year/2nd semester completed or pursuing)
- B.E. (B.Tech.) Biotechnology and allied area (Sixth Semester completed or pursuing)
- Domicile of Gujarat or having education form Gujarat.

3. Duration of Internship Programme:

1 Month, during Summer Vacation. Most probable date of start of summer internship is 01st May 2020.

4. Stipend to student:

No stipend will be provided to the applicant student.

5. Training Support to the Trainer Companies:

GSBTM will pay an amount of Rs. 2,500/- per student to the trainer companies

6. Method of Selection and allotment of applicants:

All the applications received before due date, will be screened for eligibility. If found eligible, candidates will be invited for examination and/or allotted companies based on merit and/or location. Decision of the selection process will be decided based on the number of applications, and the decision of the Mission Director, GSBTM, will be final and binding to all.

7. Syllabus for the Entrance Test

- Biochemistry:** Biomolecules-structure and functions; Biological membranes, structure, action potential and transport processes; Enzymes- classification, kinetics and mechanism of action; Basic concepts and designs of metabolism (carbohydrates, lipids, amino acids and nucleic acids) photosynthesis, respiration and electron transport chain; Bioenergetics
- Microbiology:** Viruses- structure and classification; Microbial classification and diversity (bacterial, algal and fungal); Methods in microbiology; Microbial growth and nutrition; Aerobic and anaerobic respiration; Nitrogen fixation; Microbial diseases and host-pathogen interaction
- Cell Biology:** Prokaryotic and eukaryotic cell structure; Cell cycle and cell growth control; Cell-Cell communication, Cell signalling and signal transduction
- Molecular Biology and Genetics:** Molecular structure of genes and chromosomes; Mutations and mutagenesis; Nucleic acid replication, transcription, translation and



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their regulatory mechanisms in prokaryotes and eukaryotes; Mendelian inheritance; Gene interaction; Complementation; Linkage, recombination and chromosome mapping; Extra chromosomal inheritance; Microbial genetics (plasmids, transformation, transduction, conjugation); Horizontal gene transfer and Transposable elements; RNA interference; DNA damage and repair; Chromosomal variation; Molecular basis of genetic diseases

- v. **Immunology:** History of Immunology; Innate, humoral and cell mediated immunity; Antigen; Antibody structure and function; Molecular basis of antibody diversity; Synthesis of antibody and secretion; Antigen-antibody reaction; Complement; Primary and secondary lymphoid organ; B and T cells and macrophages; Major histocompatibility complex (MHC); Antigen processing and presentation; Polyclonal and monoclonal antibody; Regulation of immune response; Immune tolerance; Hypersensitivity; Autoimmunity; Graft versus host reaction.
- vi. **Logical Reasoning:** Series Completion, Coding and Decoding, Blood Relation, Analogy

Below table is the Distribution of Questions section wise:

Sr. No.	Section	Number of Question
1	Biochemistry	09
2	Microbiology	09
3	Cell Biology	09
4	Molecular Biology and Genetics	09
5	Immunology	09
6	Logical Reasoning	05
Total		50

8. Important Dates:

Sr. No.	Particulars	Date
1	Application Start Date	11 th March 2020
2	Last Date of Application	10 th April 2020
3	List of eligible candidates on GSBTM website	Will be intimated through Email to selected candidates.
4	Last date for clarification about eligibility	
5	Examination date	
6	Joining Date in Industries	

[Click here to Apply Online](#)

Note:

- For any query other than mentioned above, you can contact at gsbtm.ibtp@gmail.com or can call at 079-23252197 (Ext. 67).
- Decision taken from this office from time to time regarding this programme are binding to candidates.