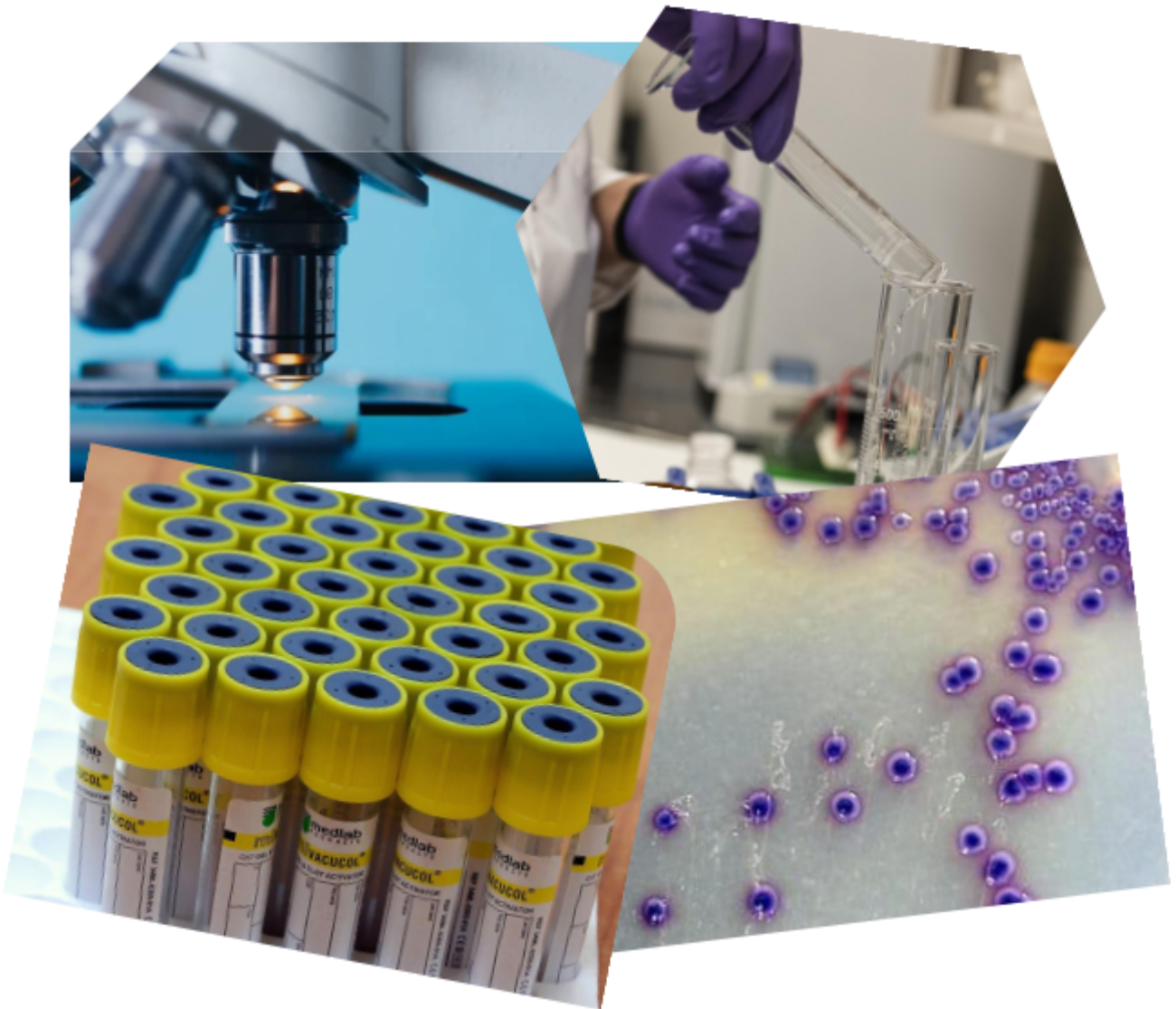


INFORMATION BROCHURE



**Hands-on Industrial Training
and Project/ Dissertation Work**

**Helix BioGenesis Pvt. Ltd.
D-34, Sector-2, Noida
+91-9717117289**

Introduction:

Helix BioGenesis (A unit of Helix BioGenesis Pvt. Ltd.), a fast growing **ISO 9001:2008 certified** company engaged in the field of Biotechnology/ Medical Diagnostics Research and Live Project based Training situated in Noida. Currently, Helix BioGenesis undertakes research in the frontier areas of Molecular biology, Microbiology, Immunology, Medical biotech and Diagnostic services. We have developed 15 days to 6 months Hands-on Industrial Training/ Project/ Dissertation Work and Summer & Winter Training Programs for the students of any field of Biotechnology/Life Sciences and Medical Biotechnology. This is a rigorous and comprehensive Industrial Training designed and developed for those with basic knowledge of Biotechnology, and looking for a career in Biotech and Pharmaceuticals sector as well as in research organizations in India and abroad.

This training will prepare the candidates for a brighter future in biotechnology by providing knowledge & experience in advanced technologies currently being employed in research. It will also help the candidates in designing of experiments, formulating project protocols, together with hands-on-training in advanced techniques in molecular biology & r-DNA technology, biotechnology, and drug discovery. Actual data from the research laboratories will be discussed, and a comprehensive protocol booklet will be provided to each trainee for future reference.

Industrial Training/ Project Work/ Dissertation Program (1-6 Months)

Helix BioGenesis has developed 15 days to 6 months rigorous Hands-on Industrial Training/ Project Training/ Dissertation & Summer/ Winter Training Program for the students of any stream of Biotechnology/ life sciences. Certificates will be provided to the candidates on successful completion of the training/ project work. The candidates who are pursuing or have completed their B.Tech, B. Sc., M.Tech, M.Sc., M. Phil and Ph.D in Biology/ Biotech/ Medical Biotech or any stream of Life Sciences from a recognized University are eligible for industrial training with us.

Helix BioGenesis also undertakes live research/ Project work in the frontier areas of Biotechnology. Students can undertake any of the fields, mentioned below, as per their requirement/ interest. Duration of the program can be from 1-6 months. We conduct live industry oriented research work in the following areas:

- Molecular Biology,
- Industrial Microbiology,
- Fermentation Technology,
- Food Technology,
- Probiotics,
- Metabolomics,
- Medical biotechnology
- Diagnostic service

Objective of the project or dissertation work is to inculcate good laboratory practices, real hands-on expertise and industrial exposure among students. This work includes a thorough understanding of research topic, meticulous experimental designing, and developing keen observation skills along with analytical power to understand and interpret the results/ findings of their hard work. A list of various ongoing or tentative projects for the HB-10 program can be obtained from our office.

- Customised/ Special modules of 21 days are also available to the students coming in groups or as per the need of a University/ Institution. For details please contact our office.
- Study material/ Protocol booklet will be provided to trainees for each Lab work. **Industrial Training Certificate will be provided to every student on the last day of the training.**

Detailed Batch Schedule

Month	1 st Batch	2 nd Batch
November, 2021	November 08, 2021	November 15, 2021
December, 2021	December 01, 2021	December 15, 2021
January, 2022	January 03, 2022	January 17, 2022
February, 2022	February 01, 2022	February 15, 2022
March, 2022	March 01, 2022	March 15, 2022
April, 2022	April 01, 2022	April 15, 2022

- For detailed information on the batch in a particular month please contact the office on 9717117289.

Eligibility Criteria:

The candidates who have completed/pursuing their B.Sc., B.Tech., M.Sc., M.Tech., M.Phil. and Ph.D. in any field of Biotechnology/Life Sciences and Medical Biotechnology stream from a recognized University are eligible to apply. Selection will be purely on “First Come, First Serve Basis”. **There will be a maximum of 15 students in each batch.**

Application Procedure:

- Fill the application form directly on our website [www.helixbiogenesis.com /applyonline](http://www.helixbiogenesis.com/applyonline).** Alternatively you can download the application form from our website and fill it completely as per the instructions.
- Transfer registration fee through NEFT/Online banking or by using Paytm (Paytm No. 9717117289) the following account and send us a copy of receipt of transfer (with UTR No.) along with scanned copy of application form.

While doing the online payment, please use the following details

Payee Name: Helix Biogenesis Pvt Ltd; **Account Number:** 003105029384 **Type:** Current Account; **Bank Name:** ICICI Bank; **IFSC Code:** ICIC0000031 **Branch Address:** Sector-18, Noida.

- Send scanned copy of application form along with registration fee details (Screen-shot of payment) through mail at helix.noida@gmail.com.
- You can also fill the application form by directly visiting our office at Helix BioGenesis, D-34, Sector-2, Noida, U.P., 201301. You can collect the training application form from our office, fill it and submit it along with the requisite amount in cash directly to the office.
- We will contact you after receiving your application form and will confirm/ register your seat for the batch and program of your choice.
- Training fee has to be paid at the time of joining through cash/cheque/ or online mode.**
- Registration of the candidate would be valid for next six month from the date of registration. For further assistance, please contact our office or email us at “helix.noida@gmail.com”.

FACILITIES @ HELIX BIOGENESIS

- Individual Hands-on-experiment based learning of all techniques (every student will be able to perform every experiment on their own).
- Frequent visits and lectures by renowned Scientist/researchers from Industry and Academia.
- Fully air conditioned laboratory with Wi-Fi facility.
- Well-equipped lab with separate class cum waiting room.
- Printed Protocol Booklet/study material for every student.
- Library and e-book facility along with computer facility.

- Approved Certificate to all students on successful completion of training.
- Well-connected location with metro train facility at walking distance.
- **Accommodation Info:** Accommodation should be booked in nearby PG hostels/guesthouses and hotels directly. If you need help then please call on 09717117289 or email @ helix.noida@gmail.com.
- Career counseling services to all the trainees.
- Dedicated Research Paper Publication support facility for students doing project work.
- Dedicated team well-connected through Facebook & WhatsApp for guiding students.

INDUSTRIAL TRAINING PROGRAM DETAILS

Advance Industrial Microbiology (30 Days/4 Weeks) Program:

Course Name	Course Code	Duration*	Fee (INR)
Advance Industrial Microbiology	HB-01	30 Days/ 4 weeks	8500/-

1. Introduction to Good Laboratory Practices and General Safety Instructions	13. IMViC Test <ul style="list-style-type: none"> • Indole test • Methyl red test • Voges-Proskauer test • Citrate utilization test
2. Instrumentation: Working with Autoclave, Laminar Air Flow System, Incubator/ Shaker, Hot Air Oven, Microscope and Other Instruments	
3. Various Media (Solid/Liquid) preparation and Its Sterilization	14. Oxidase activity Test
4. Isolation and Screening of Microorganisms using Serial Dilution Method	15. Bacterial Growth Curve Analysis/Growth Kinetics
	16. Optimization of Growth Condition For Industrially Important Microorganisms
5. Pure Culture Techniques (Streaking, Pouring & Plating, etc.)	17. Antibiotics Sensitivity Test
6. Culturing & Sub Culturing Methods of Microbes	18. Culturing Techniques for <i>E. coli.</i> or Industrially Important Microorganisms
7. Isolation and Culturing of microbes from Soil Samples	19. Isolation and identification of enzyme producing microbe
8. Isolation and Culturing of microbes from Water	20. Isolation of antibiotic producing microbe by crowded plate method
9. Isolation and Culturing of microbes from Air	21. Isolation of antibiotic resistance (MDR) microbe
10. To study the Components, use and care of Compound Microscope	22. To study the Chemical Control of Microbes
11. Screening of Microbes (Staining Techniques) <ul style="list-style-type: none"> • Gram Staining • Endospore Staining • Capsular Staining • Flagellar Staining 	23. To study the Effect of Temperature on Growth of Bacteria
	24. To study the Effect of pH on Growth of Bacteria
	25. Isolation of Lipolytic Microbes from Butter
12. Fungal Staining & Actinomycetes staining	26. Effect of PH, Temperature, Pressure, Inhibitors on Growth of Microbes
	27. Effect of physical & chemical mutagen of growth of microbes

Advance Microbiology (15 Days/2 Weeks): Program Code- HB-01-A

Course Name	Course Code	Duration*	Fee (INR)
Advance Industrial Microbiology	HB-01-A	15 Days/ 2 weeks	4500/-

1. Introduction to Good Laboratory Practices and General Safety Instruction	2. Instrumentation: Working with Autoclave, Laminar Air Flow System, Incubator/ Shaker, Hot Air Oven, Microscope and Other Instruments
3. Various Media (Solid/Liquid) preparation and Its	

Sterilization	
4. Serial Dilution Method	5. Isolation and Screening of Microorganisms
6. Culturing & Sub Culturing Methods of Microbes	7. Pure Culture (Streaking, Pouring & Plating, etc.)
8. Isolation and Culturing of microbes from Water	9. Isolation and Culturing of microbes from Soil
10. IMViC Test • Indole test ♣ Methyl red test • Voges-Proskauer test ♣ Citrate utilization test	11. Antibiotics Sensitivity Test
13. Screening of Microbes (Staining Techniques) • Gram Staining ♣ Endospore Staining	12. Bacterial Growth Curve Analysis/ Growth Kinetics
16. Isolation and identification of enzyme producing microbe	14. Culturing Techniques for E. coli. or Industrially Important Microorganisms
17. Isolation of antibiotic resistance (MDR) microbe from soil sample.	15. Isolation of antibiotic producing microbe by crowded plate method
	18. Free Special Lecture/Talk on Future Prospects in Biotech (With Certificate)

Advance Molecular Biology & r-DNA Technology (30 Days/4 Weeks):

Course Name	Course Code	Duration*	Fee (INR)
Advance Molecular Biology & r-DNA Technology	HB-02	30Days/ 4 weeks	8500/-

1. Working in Molecular Biology Laboratory	2. Good Laboratory Practices and General Safety Instructions
3. Basics of Calculations; Buffers and Reagent Preparation	4. Sterilization Techniques: Dry, Wet and Chemical Sterilization
5. Preparation of Luria Bertani Media and its Sterilization	6. Isolation and Purification of Prokaryotic (Bacterial) Genomic DNA
7. Agarose Gel Electrophoresis of Genomic DNA	8. Culturing of Microbes (E. coli DH5 α Strain for Plasmid DNA Isolation)
9. Isolation & Purification of Plasmid DNA from E. coli DH5 α Strain	10. Agarose Gel Electrophoresis of Isolated Plasmid DNA
11. Determination of Purity and Quantification of Isolated Plasmid DNA	12. Isolation & Purification of Genomic DNA from Plants
13. Gel Electrophoresis of Isolated Plant DNA	14. RNA Isolation from Plant Sources
15. Denaturing Gel Electrophoresis of RNA	16. Northern Blotting Technique
17. Purification & Quantification of RNA	18. Quantitative analysis of DNA using DPA reagent
19. Qualitative & Quantitative analysis of Nucleic Acids using Qubit/ Nanodrop	20. Primer Designing and Optimization of PCR
21. Polymerase Chain Reaction (PCR)	22. Gel Electrophoresis of PCR Products
23. Restriction Digestion of DNA	24. Electrophoresis of Digested DNA Product
25. Southern Blotting Technique	26. Competent Cell Preparation of E. coli
27. cDNA Preparation and Cloning	28. Cloning of cDNA into Plasmid (cDNA Ligation)
29. Transformation of cDNA into Competent Cells	30. Screening of the Transformed Cells (Blue-White selection)
31. Colony PCR for Screening of Transformed Cells	

Advance Molecular Biology (15 Days/2 Weeks): Program Code- HB-02-A

Course Name	Course Code	Duration*	Fee (INR)
Advance Molecular Biology	HB-02-A	15Days/ 2 weeks	4500/-

1. Working in Molecular Biology Laboratory	2. Good Lab Practices & Safety Instructions
3. Basics of Calculations; Buffers and Reagent Preparation	4. Sterilization Techniques: Dry, Wet and Chemical Sterilization

5. Preparation of Luria-Bertani Media and its Sterilization	6. Culturing of Microbes (<i>E. coli</i> DH5 α Strain for Plasmid/ Genomic DNA Isolation)
7. Isolation and Purification of Prokaryotic DNA	8. Agarose Gel Electrophoresis of Genomic DNA
9. Isolation & Purification of Genomic DNA from Plants	10. Agarose Gel Electrophoresis of Isolated Plant Genomic DNA
11. Isolation & Purification of Plasmid DNA	12. Purity and Quantification of Plasmid DNA
13. Gel Electrophoresis of Isolated Plasmid DNA	14. Quantitative analysis of DNA using DPA reagent
15. Qualitative & Quantitative analysis of Nucleic Acids using Qubit 2.0/Nanodrop	16. Gel Electrophoresis of PCR Products with Molecular Markers
17. Polymerase Chain Reaction (PCR)	18. Primer Designing and Optimization of PCR

Advance Biochemistry & Metabolomics (30 Days/4 Weeks):

Course Name	Course Code	Duration*	Fee (INR)
Biochemistry, Chromatography & Metabolomics	HB-03	30 Days/ 4 weeks	8500/-

1. Introduction to good Laboratory practices and general safety instructions	14. Principle and handling of laboratory equipments
2. Buffer And solution preparation	15. Dilution Preparation of Buffers and Solutions, Labelling & Storage
3. Process of sterilization and decontamination	16. Protein isolation from Plant sample
4. Partial Purification of plant Protein by Ammonium sulphate Precipitation Method	17. Quantification of Protein Concentration by Bradford Method
5. Quantification of Protein Concentration by Biuret Method	18. Quantification of Protein Concentration by Lowry's Method
6. SDS – PAGE along with molecular Markers	19. Bacterial Protein Isolation and quantification
7. ELISA	20. Western Blotting
8. Amylase Enzyme Assay	21. Beta Galactosidase Enzyme activity assay
9. Paper Chromatography	22. Thin Layer Chromatography
10. Column Chromatography	23. Estimation of Starch
11. Isolation of plant secondary metabolites from various plants	24. Determination of potency of plant secondary metabolites
12. Phytochemical Analysis of Plant Secondary Metabolites	25. Extraction of Antimicrobial Peptides from various microbes
13. To Quantify Total Serum Protein in Human Blood Sample	26. To Quantify Calcium Concentration in Human Blood Sample

Advance Biochemistry & Metabolomics (15 Days/2 Weeks):

Course Name	Course Code	Duration*	Fee (INR)
Advance Biochemistry & Chromatography	HB-03-A	15 Days/ 2 weeks	4500/-

1. Introduction to good Laboratory practices and general safety instructions	9. Quantification of Protein Concentration by Biuret Method
2. Principle and handling of laboratory equipments	10. Quantification of Protein Conc. by Lowry's Method
3. Buffer And solution preparation	11. SDS – PAGE along with molecular Markers
4. Dilution Preparation of Buffers and Solutions, Labelling & Storage	12. Bacterial Protein Isolation and quantification
5. Process of sterilization and decontamination	13. Paper Chromatography
6. Protein isolation from Plant sample	14. Thin Layer Chromatography
7. Partial Purification of plant Protein by Ammonium	15. Amylase Enzyme Essay

sulphate Precipitation Method	
8. Quantification of Protein Concentration by Bradford Method	16. Free Special Lecture/Talk on Future Prospects in Biotech (With Certificate)

Advance Immunology/ Medical Diagnostics (15 Days/2 Weeks):

Course Name	Course Code	Duration*	Fee (INR)
Medical Immunology/ Diagnostics	HB-04-A	15 Days/ 2 weeks	5000/-

1. To Perform Blood Grouping Test	9. To Calculate Total Calcium in Blood
2. To detect the Presence of <i>Salmonella</i> sp. by Qualitative Slide Agglutination Test (Widal Test)	10. To Calculate Total Cholesterol in Serum
3. Isolation of Serum and Plasma from Blood	11. To Perform HDL Cholesterol Estimation Test
4. To Perform VDRL Test	12. To Perform LDL Cholesterol Estimation Test
5. ELISA Test	13. Isolation and Purification of (IgG)
6. Blood Sugar Test	14. To Perform Radial Immunodiffusion Test
7. To Perform Liver Function Tests (LFT)	15. To Study the Reaction Pattern of an Antigen with a set of Antibodies by Ouchterlony Double Diffusion Method
8. To Calculate Total Serum Protein in Blood Sample	16. Determination of the Rheumatoid Arthritis (RA)

Advance Medical Microbiology (15 Days/2 Weeks):

Course Name	Course Code	Duration*	Fee (INR)
Medical Microbiology	HB-04-B	15 Days/ 2 weeks	5000/-

1. Introduction to Good Laboratory Practices and General Safety Instructions	2. Various Media (Solid/Liquid) preparation and Its Sterilization
3. Isolation of Microbes from Clinical Samples	4. Polymerase Chain Reaction (PCR)
5. Isolation and Screening of Microorganisms	6. Oxidase activity Test
7. Catalase activity Test	8. To Study Blood Microscopy
9. Identification of Bacteria of Clinical Importance by Staining Method	10. To Determine the Hemoglobin Content in Blood Sample
11. To Perform Antibiotic Sensitivity Test	12. Urine Sample Analysis
13. Identification of Bacteria of Clinical Importance by IMViC test	14. To Perform Kidney Function Test (KFT)
<ul style="list-style-type: none"> • Indole test • Methyl red test • Voges-Proskauer test • Citrate utilization test 	15. DNA Isolation from Blood Sample
	16. Gel Electrophoresis of PCR Products with Molecular Markers

Advance Food Biotechnology/ Microbiology (30 Days/4 Weeks):

Course Name	Course Code	Duration*	Fee (INR)
Food Biotechnology/ Food Microbiology	HB-04-C	30 Days/ 4 weeks	8500/-

1. Introduction to the basic Microbiology Laboratory practice and Equipments	2. Enumeration of coliform, fecal coliforms from food sample / water sample
3. Cleaning & Sterilization of glasswares and Lab Safety & Ethics	4. Assessing the quality of Jam, Jelly & Fruit juice
5. Preparation of chemical & Reagents used in food	6. Sterilization techniques for lab equipments and

tech laboratory	culture media
7. Quality control of Milk and Milk products	8. Milk analysis for fat and SNF
9. Preparation of Slant, Stab & Plates using nutrient agar media	10. To acquaint with the problems of adulteration in Ghee and their detection
11. Pure culture preparation	12. Isolation of microbes from various food items
13. Total carbohydrate estimation in food sample	14. To estimate reducing & non-reducing Sugar
15. Identification of bacteria using IMViC test	16. Determination of pH and acidity of food sample
<ul style="list-style-type: none"> ● Indole test ● Methyl red test ● Voges-Proskauer test ● Citrate utilization test 	17. Studies on food preservation by Temperature, Radiation and Bacteriocins
18. Catalase test	19. Oxidase test
20. To estimate the moisture content of food items	21. Determination of protein in food sample
22. Starch hydrolysis test	23. Estimation of Starch in food sample
24. Degradation of amino acid for hydrogen sulphide production	25. Determination of food adulteration in various commercial food items
26. Enumeration of yeast and molds in food	27. BOD analysis of water
28. Sugar fermentation test	29. Analysis of Spices
30. Enumeration and isolation of <i>E. Coli</i> from food sample	31. Enumeration and isolation of <i>Salmonella</i> , <i>Shigella</i> , <i>Vibrio</i> from food sample
32. Antioxidant analysis of Green tea products	33. Extraction of Genomic DNA from Microbes

Advance Mix Module: (30 Days/4 Weeks):

Course Name	Course Code	Duration*	Fee (INR)
Advance Mix Module (Microbiology, Molecular Biology & Protein Biology)	HB-05	30 Days/ 4 weeks	9000/-

1. Working in Molecular Biology Laboratory	15. Isolation & Purification of DNA from Plants
2. Good Laboratory Practices and General Safety Instructions	16. Agarose Gel Electrophoresis of Plant Genomic DNA with molecular markers
3. Basics of Calculations; Buffers and Reagent Preparation	17. Qualitative & Quantitative analysis of Nucleic Acids using Nanodrop/Qubit 2.0
4. Media preparation and sterilization	18. Restriction Digestion
5. Serial Dilution Method	19. Polymerase Chain Reaction (PCR)
6. Culturing & Sub Culturing Methods of Microbes	20. Primer Designing and Optimization of PCR
7. Isolation and Culturing of microbes from Soil & Air	21. Southern Blotting Techniques (Transfer of DNA from Gel to membrane)
8. Screening of Microbes (Staining Techniques)	22. Gel Electrophoresis of PCR Products with Molecular Markers
9. IMViC Test <ul style="list-style-type: none"> ● Indole test ● Methyl red test ● Voges-Proskauer test ● Citrate utilization test 	23. Protein Isolation
	24. Estimation of Protein by Bradford Method
	25. Protein Gel Electrophoresis- SDS-PAGE
	26. Enzyme Assay – Amylase Assay
	27. ELISA (Automated)
10. Antibiotics Sensitivity Test	28. Quality control of Milk and Milk products
10. Isolation and Purification of Prokaryotic (Bacterial) Genomic DNA	29. Enumeration and isolation of <i>Salmonella</i> , <i>Shigella</i> , <i>Vibrio</i> from food sample
11. Agarose Gel Electrophoresis of Genomic DNA	30. To estimate the reducing and non-reducing Sugar
12. Isolation & Purification of Plasmid DNA	31. To estimate the moisture content of food items
13. Agarose Gel Electrophoresis of Plasmid DNA	32. BOD analysis of water

Advance Medical Biotechnology (Medical Micro & Immunology/ Diagnostics):

Course Name	Course Code	Duration*	Fee (INR)
Medical Biotechnology (Medical Microbiology & Immunology/Diagnostics)	HB-06	30 Days/ 4 weeks	9000/-

1. Introduction to Good Laboratory Practices and General Safety Instructions	19. ELISA Test
	20. Determination of the Rheumatoid Arthritis (RA)
2. Instrumentation: Working with Autoclave, Laminar Air Flow System, Incubator/ Shaker, Hot Air Oven, Microscope and Other Instruments	21. Isolation of Serum and Plasma from Blood
	22. Blood Sugar Test from Plasma
	23. To Perform Liver Function Tests (LFT)
3. Various Media (Solid/Liquid) preparation and It's Sterilization	24. To Perform Kidney Function Test (KFT)
4. Isolation and Screening of Microorganisms	25. To Calculate Total Serum Protein in Blood Sample
5. Isolation of Microbes from Clinical Samples through Serial Dilution Method	26. To Calculate Total Calcium in Blood
6. Identification of Bacteria of Clinical Importance by various Staining Method	27. To Calculate Total Cholesterol in Serum
7. Identification of Bacteria of Clinical Importance by various Biochemical Tests	28. To Perform HDL Cholesterol Estimation Test
14. IMViC Test <ul style="list-style-type: none"> ● Indole test ♣ Methyl red test ● Voges-Proskauer test ♣ Citrate utilization test 	29. To Perform LDL Cholesterol Estimation Test
	30. Isolation & Purification of (IgG)
	31. To Perform Radial Immunodiffusion Test
8. Catalase activity Test	32. To Study the Reaction Pattern of an Antigen with a set of Antibodies by Ouchterlony Double Diffusion Method
9. Oxidase activity Test	
10. To Perform Antibiotic Sensitivity Test	
11. To Study Blood Microscopy	33. DNA Isolation from Animal Tissue/ Blood Sample
12. Urine Sample Analysis	34. Agarose Gel Electrophoresis of Genomic DNA
13. Laboratory Diagnosis of Blood Parasitic Infection by Smear Method	35. Polymerase Chain Reaction (PCR)
14. To Perform Blood Grouping Test	36. Gel Electrophoresis of PCR Products
15. To Determine the Hemoglobin Content in Blood Sample	37. Special Lecture by Renowned Scientist from Industry or Academia/ One Day Workshop on Soft Skills & Personality Development for Biotech Students. Separate Certificate will be Provided for this Workshop).
16. To detect the Presence of <i>Salmonella</i> sp. by Qualitative Slide Agglutination Test (Widal Test)	
17. To Perform VDRL Test	

Advance Animal Cell Culture & Molecular Biology Training:

Course Name	Course Code	Duration*	Fee (INR)
Advance Animal Cell Culture and Molecular Biology Training	HB-ACC	30 Days/ 4 weeks	12000/-

● Introduction to Good Laboratory Practices & General Safety Information	● MTT Assay for proliferation/cytotoxicity
● Maintenance of Sterility	● Restriction digestion
● Do's & Don'ts in the Animal Tissue Culture Lab	● Ligation
● Exposure to Facility equipment	● DNA gel electrophoresis
● Preparation of medium and required Solutions	● DNA gel extraction
	● Preparation of competent cells

• Cell Lines revival (Recovery)	• Transformation and plating on LBA plates
• Animal Cell Culture and maintenance of human cancer cell lines	• Plasmid DNA isolation
• Subculturing (passaging) & freezing	• Genomic DNA isolation
• Freezing & thawing of human cancer cell lines	• Polymerase Chain Reaction (PCR)
• RNA extraction from human cancer cell lines	• Protein & DNA sequence analysis
• cDNA synthesis	• Primer Designing & Promoter analysis
• Reverse Transcription PCR (RT-PCR)	• Special Lecture by Renowned Scientist from Industry or Academia/ One Day Workshop on Soft Skills & Personality Development for Biotech Students (Separate Certificate will be Provided for this Workshop).
• Induction of proliferation and differentiation in human cancer cell lines	
• Protein extraction from human cancer cell lines	
• SDS-PAGE and Coomassie blue staining	

HB-07: Advance Microbial, Molecular Biology and Biochemical Technology:

Course Name	Course Code	Duration*	Fee (INR)
Microbial, Advance Molecular Biology and Biochemical Technology (3 different modules of 15 days duration or one 30 days and one 15 days module can be opted)	HB-07	45 Days/ (6 weeks)	11000/-

HB-08: Advance Microbio, r-DNA Tech, Biochem & Chromatography Techniques:

Course Name	Course Code	Duration*	Fee (INR)
Microbiology, Advance r-DNA Technology, Biochemistry & Chromatography Techniques (4 different modules of 15 days duration or Two 30 days module can be opted)	HB-08	60 Days/ (8 weeks)	15000/-

Other Specialized Programs (HB-09, HB-10 & Ph.D.):

Course Name	Course Code	Duration*	Fee (INR)
Advance Job Oriented Industrial Training Program	HB-09	3 months/12 weeks	30000/-
1-6 Month Live Project Based Industrial Training/ Dissertation Work	HB-10	1-6 Months	See Next Table
Ph.D. Work (Student must be registered from a recognized University/ College)	HB-11	1-2 Year	80000/-
# Registration Fee: Rs. 500/- will be applicable for all programs (HB-01 to HB-11) and shall not be included in total fee.			

Project/ Dissertation Work Fee Details:

Program Code: HB-10 One Month to six Month Live Project Based Industrial Training/ Dissertation Work. (If student performs well during 3 to 6 month project work, we will help them publish their work at no extra publication cost)	Duration	Charges On One-time Payment Basis (Advance Project)	Charges On One-time Payment Basis (Economic Project)
	1 Month	7000/-	6500/-
	2 Months	13500/-	11000/-
	3 Months	19500/-	15000/-
	4 Months	24000/-	18000/-
	5 Months	30000/-	21000/-
	6 Months	35000/-	24000/-

**** Contact office for Group Discount**



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