



M. P. COUNCIL OF SCIENCE AND TECHNOLOGY
Vigyan Bhawan, Nehru Nagar, Bhopal-462003 (M.P.)

Centre of Excellence in Biotechnology

APPLICATIONS CALL FOR:

Applications are invited for following hands on training programs in various streams for the students, research scholars, scientists and faculties. The detail schedule of training programs is as follows:

S. No.	Training Programs	Eligibility & Other details	Training Duration
1.	Hands on Training Program on “Application of Molecular Markers for Identification, Authentication and Conservation of life at Species Level”	<ul style="list-style-type: none">➤ Postgraduate, Research Scholars and Faculties of Life Sciences.➤ Intake 15 Participants.➤ Fee 3,000/-	Five Days (24 th - 28 th Sep., 2019)
2.	Hands on Training Program on “Polyphasic Characterization of Microbes and Microbial Diversity”	<ul style="list-style-type: none">➤ Graduate, Postgraduate, Research Scholars and Faculties of Life Sciences.➤ Intake 15 Participants.➤ Fee 3,000/-	Five Days (19 th - 23 rd Nov., 2019)
3.	Workshop on “HPTLC Uses & Applications in Pharmaceutical Industries” under Skill Development Program	<ul style="list-style-type: none">➤ Postgraduate, Research Scholars of related subjects.➤ Intake 30 Participants.➤ Fee 2,000/-	Two Days (10 th - 11 th Dec., 2019)

1. Application form and Course contents are available on website www.mpcost.gov.in
2. The application form along with demand draft (drawn in favor of “Director General MPCST” Bhopal) should be sent to “In-charge UI & HRD, M.P. Council of Science & Technology, Vigyan Bhawan, Nehru Nagar, Bhopal-462003” at least one week before the commencement of respective programme.
3. The selection of participants will be on first come and first serve basis, However, Preference will be given to candidate belonging to Madhya Pradesh and will be informed by mail or telephonically.
4. Fee submitted by selected candidate will not be refunded in any case. However, the candidates not selected for the training program will get refund of their fee.
5. In un-avoidable circumstances Training programs may be rescheduled.
6. For further information candidates may contact to Dr. R.K. Garg, Joint Project Director & Incharge, Biotech Division on 0755-2433124 or rkgarg@mpcost.nic.in

HEAD
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COURSE CONTENTS

A. Course content for Hands on training programme on “Polyphasic Characterization of Microbes and Microbial Diversity”

❖ ***Microbial identification using polyphasic approach***

- Isolation, purification and morphological characterization of microorganisms.
- Biochemical characterization of bacteria for identification (Screening of enzymes and proteins).

❖ ***Genotypic characterization***

- DNA isolation from bacteria, fungi
- Amplification of 16S rRNA gene from bacteria and ITS from fungi
- RAPD molecular markers for diversity analysis of microorganisms (DNA Fingerprinting)
- Sequencing and sequence analysis
- Phylogenetic characterization of bacteria and Fungi (PHYLIP, MEGA) for Analysis of molecular marker data for determination of genetic diversity.
- Submission of Sequenced data to NCBI.

B. Course content for Hands on training programme on “Application of Molecular Markers for Identification, Authentication and Conservation of life at Species Level”

❖ ***Wet Laboratory Experimental Work***

- Applications of Molecular Biology
- Isolation of Genomic DNA from Plant Tissues
- Isolation of Genomic DNA from Animals (Fish) Tissues
- Isolation of Bacterial Genomic DNA
- Quantification of Genomic DNA Using UV-Vis Spectrophotometer
- Integrity Checking of Genomic DNA by Agarose Gel Electrophoresis
- Amplification of Genomic DNA Using Random Primers
- Amplification of Plant matK and rbcL Gene through Specific Primers
- Amplification of Fish MTCOX1 Gene through Specific Primers
- Amplification of Bacterial Genomic DNA Using 16s r-RNA Primer
- Agarose Gel Electrophoresis of PCR Amplified Products
- Cycle Sequencing Reaction (PCR Product) Run on PCR.
- Post Cycle Sequencing and its Purification.
- Capillary Based DNA Sequencing of PCR product by ABI 3500 DNA Sequencer.

❖ ***Dry Laboratory (Hands On) Bioinformatics***

- Sequence Alignments
- Bioinformatics and Genetic Diversity
- Phylogenetic Analyses
- Basic Local Alignment Search Tool (BLAST)
- Analysis of DNA sequence Data (ABI 3500 Genetic Analyzer: DNA Sequencer) on Sequencing Analysis Software 5.2 ver.

- Multiple Sequence Alignment and Database searching.
- Software's for Population Genetic Analysis/phylogenetic Analysis: www.megasoftware.net, www.dnasp5.0 software.
- DNA sequences/Sequenced gene submission on NCBI through BankIt and Sequin.
- Development of DNA barcodes through <http://www.boldsystems.org> for authentication and identification of species.

- **Workshop on “HPTLC Uses & Applications in Pharmaceutical Industries under Skill Development Program**
 - Introduction and Applications of HPTLC.
 - Guidance on Drug Formulations and uses of HPTLC techniques in Industries
 - Discussions on Job Prospects in the field of Pharmaceuticals Industries.
 - Academic and Technical requirements of Pharmaceuticals Industries.
 - Uses of HPTLC in Pharmaceutical, Natural and Other Products.
 - Interactions with Pharma-Industries and Identification of Job possibilities in the Pharmaceuticals.
 - Hands on Practices on HPTLC techniques in Laboratory.

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REGISTRATION FORM

Affix your
recent passport
size
photograph
with duly
signature

Title of the Training/Awareness Program:.....

Program Dates:.....

Name of Applicant (In Capital letters):

Father's Name:.....

Mother's

Name:.....

Permanent

Address:.....

City:..... State:.....

Contact Number:..... Email.....

Date of Birth:.....

Nationality:.....; Gender: Male/Female:.....; Category: Gen./ST/SC/OBC:.....

Educational Qualification from Higher Secondary onwards:

S. No.	Degree with Specialization	School/College/University	Year passing	Grade & %
1.				
2.				
3.				
4.				

Present Status (Faculties/Research Scholar/Students).

Accommodation Required: Yes/No.....

Fee Details: 1. Fee amount.....; DD/Cash..... DD No.....

Bank..... Issuing Date.....

Declaration

I hereby declared that all above given information are correct and best to my knowledge and belief. In case of any accident (within or outside the Council and laboratory), during the training program there would be no responsibility of the Council. Participant would be himself or herself responsible for it and they shall not claim for this.

Date:.....

Signature of the Candidate

Place:.....