

Government of West Bengal
Department of Science & Technology and Biotechnology (DSTBT)
Vigyan Chetana Bhavan, Block-DD, Plot-26/B, Sector-I
Salt Lake, Kolkata-700064

Application Format for Science Popularization Programme

1. Programme Type (ref SN 11 of the Memorandum): **Science Popularisation Programme (Workshop)**
2. Title of the proposed Programme: **WILD BENGAL SUMMIT: The Science of Survival, Speed & Strategy.**
3. Target Group (Faculty, Teacher, Research Scholar, School/College/ University Student, Community): **Students, Teachers, Athletes and Youth Entrepreneurs.**
4. Duration (days): **2 Days**; Tentative Dates of the proposed Programme: **5 & 6 March, 2026.**
5. Aims, Objectives and Details of the Programme (attach separate sheet, if necessary): **Details in the attachment.**
6. Name, Designation, Postal Address, mobile no. and e-mail id of the (only one) Programme Co-ordinator (PC) (attach separate sheet, if necessary):

Mr. Avishek Tunga
Assistant Professor,
Department of Mechanical Engineering,
Meghnad Saha Institute of Technology,
Nazirabad, East Kolkata Township, Kolkata – 700150
Mob: **8013093371**
Email: **avishek.tunga@msit.edu.in**

7. Legal status of the Institute (School/College/ University/ Institute/ Polytechnic/ ITI/ Autonomous body / registered NGO / Trust etc.): **Private Engineering College (AICTE Approved) under Techno India Group.**
8. Date wise detail Programme Schedule (attach separate sheet, if necessary): **Details in the attachment**
9. Collaborating Institutions/ Organizations, if any, with their specific contribution: **Nil**
10. Expected number of participants and list of Resource Persons/ Invited Speakers: **100**
11. Give details of the grant received from DSTBT in last three Financial Years, if any along with the date of submission of UC, Audited SoE, Report etc.: **Nil**
12. Name and address of the authority to whom the allotted amount is to be credited (if sanctioned) who will also be responsible for submitting the UC, audited SoE, Programme Completion Report, Feedback, Still and Video photographs etc. of the grant:

The Principal,
Meghnad Saha Institute of Technology,
Nazirabad, East Kolkata Township, Kolkata – 700150
13. other sources (C) / Grant expected from DSTBT (D):
D: ₹ 1,50,000 = (A: ₹ 1,50,000 – B: ₹ 0 – C: ₹ 0)

(provide detail Budget break-up as per Annexure-I and Bank details as per Annexure-II):

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Check List (put tick) of attachments to be submitted with the application

- Proposed Total Budget with break-up (Annexure-I) and Bank Details (Annexure-II) in Institute/ Organization's letter head: **YES**
- For registered NGO/ Trust, filled in Application Format recommended by the appropriate Recommending Authority, viz., Jt.BDO/ BDO/ SDO/ DM/ Executive Officer- Municipality/ Commissioner-Municipal Corporation as the case may be (where the programme is actually going to be held): **NA**
- For registered NGO/ Trust, attested copies of the registration certificate, latest renewal certificate, Memorandum and Rules & Regulations of the Organization, last three years Audited Statement of Accounts, Annual Reports etc., List of recommended beneficiaries: **NA**

DECLARATION

Certified that the details furnished in the filled in format are correct to the best of our knowledge & belief and that the amount of financial assistance, if sanctioned, will be utilized for the purpose for which it is granted within the time as prescribed by DSTBT. We also undertake to abide by the General Guidelines and Terms & Condition prescribed by DSTBT and provide due coverage to DSTBT during the Programme and publications/ print and electronic media made from the Programme in future. We also declare that within one month after completion of the Programme we shall submit the Utilisation Certificate (UC), Audited Statement of Expenditure (Audited-SoE), Programme Completion Report, Feedbacks from the Participants, still and video photographs etc.

Signature: *Avishek Tunga*

Date: *15/12/25*

Name of PC: Mr. Avishek Tunga

Designation: Assistant professor

Address: MSIT, Kolkata

Signature: *Manash Chanda*

Date: *15/12/25* **Principal**
Meghnad Saha Institute of Technology

Name of HOI: Dr. Manash Chanda

Designation: Professor

Address: MSIT, Kolkata



(Office Seal)

RECOMMENDATION

(only for registered NGO/ Trust)

Certified that the said Organisation is reputed in this field and I/ we recommend the said proposal for getting grant-in-aid from DSTBT, Govt of West Bengal for the benefit of the local College/ University Students/ Community etc.

Signature:

Date:

Name of Recommending Authority:

Designation:

Address:

(Office Seal)

Proposed Total Budget with break-ups

A. Total Estimated Expenditure

Sl. No.	Items required with justification and rate	Total Expenditure (A) (₹)
1	Seminar Hall (Auditorium) Booking	20,000
2	Honorarium to Resource Persons / Experts (6 no.)	30,000
3	Study materials, Consumables expenses	20,000
4	Welcome Kit & Certificates	15,000
5	Publicity materials	10,000
6	Refreshments for participants & guests	50,000
7	T.A. to the external Resource Persons / Experts	20,000
8	Documentation expenses including audio-visual	8,000
9	Auditors' fee	5,000
10	Equipment hiring expenses	8,000
11	Contingency	4,000
Grand Total Expenditure (₹):		1,90,000

Please mention:

B. Institution / Organization Contribution* in ₹: **20,000 (Seminar Hall for Workshop)**

☒ Contribution from any other sources (with name & Address) in ₹:
10,000 (DQUESTS Adventure, Tamluk, Purba Medinipur, West Bengal – 721636)
10,000 (from registration of participants)

D. Grant expected from DSTBT (₹) = (A-B-C): **1,50,000**


 Signature of Authorized Personnel with seal
Principal
Meghnad Saha Institute of Technology



If C= 0

Undertaking: This organization/ institution is not receiving any kind of financial assistance from any other sources

Signature of Authorized Personnel with seal

* At least 10% of the total budget contribution from the Institute/ Organization is desirable



Meghnad Saha Institute of Technology

Nazirabad, P.O.: Uchhepota, Kolkata - 700 150

Website : www.msit.edu.in

Annexure-II

Bank details of the Applicant Organisation

Name of the Organization	Meghnad Saha Institute of Technology
Bank Account number & name of the Account holder/ Organization	4548002100001557 Meghnad Saha Institute of Technology
Type of Account (Savings Current A/c)	Current
Name of the Bank	Punjab National Bank
Name of the Branch with Branch address	Salt Lake City, Sector-V branch
IFSC of the Branch	PUNB0454800
Mobile Number of the Programme Coordinator/ Head of the Organization	8013093371
PAN / TAN of the Account holder/ Organization	AABTA0977D


Signature of Authorised Personnel with seal

Principal
Meghnad Saha Institute of Technology



MEGHNAD SAHA INSTITUTE OF TECHNOLOGY (MSIT)

Techno India Group, Nazirabad, East Kolkata Township, Kolkata - 700150

Department of Science & Technology and Biotechnology (DSTBT) Grant Application

ANNEXURE-A: DETAILED AIMS, OBJECTIVES & OUTCOMES

Programme Title: WILD BENGAL SUMMIT: The Science of Survival, Speed & Strategy

1. AIMS AND SCIENTIFIC OBJECTIVES

The primary aim of this summit is to demystify the scientific principles that govern adventure sports and human survival. The workshop bridges the gap between theoretical engineering/science concepts and their practical applications in the diverse topography of West Bengal.

A. To Analyze the Physics of Motion (Aero & Hydro Dynamics)

- **Aerodynamics:** To demonstrate the application of *Bernoulli's Principle* and *Fluid Dynamics* in paragliding. Participants will learn how thermal columns (convection currents) create lift and how drag coefficients affect flight stability.
- **Hydrodynamics:** To study the physics of buoyancy (Archimedes' principle) and flow resistance. The objective is to understand how competitive swimmers and sailors utilize laminar flow and minimize drag to move efficiently through water.

B. To Decode the Physiology of Endurance (Biomechanics)

- **Bio-Energetics:** To educate students on the body's energy systems—specifically the transition between Aerobic (Oxygen-dependent) and Anaerobic (Lactate-producing) respiration during high-intensity trekking or running.
- **Human Limits:** To scientifically explain concepts like VO₂ Max, Heart Rate Variability (HRV), and the biochemical importance of electrolyte balance in preventing muscle fatigue and hypothermia.

C. To Master Scientific Navigation (Geospatial Science)

- **Geodesy & Topography:** To move beyond reliance on digital GPS by teaching the fundamental science of Map Reading (interpreting contour lines, relief, and gradients).
- **Triangulation:** To teach the geometry of location-finding using Magnetic Compasses, correcting for Magnetic Declination (the angle between True North and Magnetic North).

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D. To Understand Geology & Material Science

- **Petrology:** To identify different rock types (Granite vs. Sandstone) found in West Bengal's climbing zones and understand their surface friction properties for safety.
- **Material Physics:** To analyze the tensile strength, elasticity, and load-bearing capacity of climbing ropes, focusing on the physics of "Mechanical Advantage" in pulley systems used for rescue.

2. EXPECTED OUTCOMES

By the end of this 2-day summit, the participants are expected to achieve the following:

- **Technical Competency:** Participants will be able to read and interpret Topographic Maps, calculate elevation gains scientifically, and understand the mathematical logic behind Rope Knots and Anchor systems.
- **Behavioral Change (Safety Culture):** A shift in perspective from "Thrills" to "Calculated Scientific Risk." Participants will learn to use statistical probability and weather data to make informed decisions, drastically reducing accident risks.
- **Academic Application:** Engineering students will witness the direct application of Fluid Mechanics, Kinematics, and Material Science in real-world adventure scenarios, reinforcing their classroom learning.
- **Industry Awareness:** Participants will gain insight into the burgeoning Adventure Tourism Industry in West Bengal, viewing it as a potential field for entrepreneurship and scientific research.

Aviraj Tunga 15/12/25

Signature of Programme Coordinator

MEGHNAD SAHA INSTITUTE OF TECHNOLOGY (MSIT)

Techno India Group, Nazirabad, East Kolkata Township, Kolkata - 700150

Department of Science & Technology and Biotechnology (DSTBT) Grant Application

ANNEXURE-B: DETAILED PROGRAMME SCHEDULE

Programme Title: WILD BENGAL SUMMIT: The Science of Survival, Speed & Strategy

Format: 2 Days (4 Technical Sessions + 2 Workshops)

DAY 1: WIND, WATER & THE SCIENCE OF MOTION		
Time	Module / Session	Details & Scientific Particulars
10:00 AM to 10:30 AM	Inauguration & Keynote	Theme: "West Bengal: The Laboratory of Nature" Focus: Introduction to the topography of Bengal (Himalayas to Bay of Bengal) and scope of scientific exploration.
10:30 AM to 11:45 AM	SESSION 1: Aero-Science of Paragliding	Scientific Scope: <ul style="list-style-type: none">• Aerodynamics: Bernoulli's Principle, Angle of Attack, and Lift-to-Drag Ratios.• Meteorology: Understanding Thermal Columns (Convection currents) and Lapse Rates. Demo: Analysis of flight instruments (Variometer).
11:45 AM to 01:00 PM	SESSION 2: Physics of Sailing & Hydrodynamics	Scientific Scope: <ul style="list-style-type: none">• Fluid Dynamics: Archimedes' Principle (Buoyancy) and Laminar vs. Turbulent Flow.• Navigation Physics: Vectors involved in "Tacking" (sailing against the wind). Focus: Scuba diving physics (Boyle's Law) & River currents.
01:00 PM to 02:00 PM	LUNCH BREAK	Networking Lunch.
02:00 PM to 03:15 PM	SESSION 3: Adventure Tourism Geography	Scientific Scope: <ul style="list-style-type: none">• Bio-Geography: Mapping ecological zones of WB.• Conservation: "Leave No Trace" principles and carbon footprint analysis.
03:15 PM to 04:30 PM	WORKSHOP A: Scientific Navigation	Technical Workshop: <ul style="list-style-type: none">• Geodesy: Topographic Maps (Contours, Relief, Scale).• Triangulation: Using Magnetic Compasses (without GPS).• Astronomy: Finding Cardinal directions using Celestial bodies.

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DAY 2: ROCK, ENDURANCE & RESCUE SCIENCE		
Time	Module / Session	Details & Scientific Particulars
10:00 AM to 11:15 AM	SESSION 4: Geology of Trekking & Climbing	Scientific Scope: <ul style="list-style-type: none"> Petrology: Identifying rock types (Granite Gneiss vs. Sandstone) and load-bearing capacity. Friction Physics: Coefficient of friction in climbing shoes vs. rock surfaces. Case Study: Susunia and Ajodhya Hills (Purulia).
11:15 AM to 12:30 PM	SESSION 5: Endurance Sports Physiology	Scientific Scope: <ul style="list-style-type: none"> Bio-Energetics: Aerobic vs. Anaerobic respiration pathways. Metrics: VO2 Max, Lactate Threshold, and Heart Rate Variability (HRV). Chemistry: Electrolyte balance and Hydration science.
12:30 PM to 01:30 PM	LUNCH BREAK	Networking Lunch.
01:30 PM to 02:45 PM	SESSION 6: Safety Standards & Risk Mgmt	Scientific Scope: <ul style="list-style-type: none"> Statistical Analysis: Accident probability in sports. SOPs: The science of checklists and redundancy. Medical: Hypothermia, AMS (Acute Mountain Sickness).
02:45 PM to 04:00 PM	WORKSHOP B: Ropework & Mechanical Advantage	Technical Workshop: <ul style="list-style-type: none"> Physics of Pulleys: Demonstrating "Mechanical Advantage" (3:1 / 5:1 systems) for lifting loads. Topology: Knots (Bowline, Clove Hitch) and strength retention. Activity: Hands-on knot tying & load bearing demo.
04:00 PM to 04:30 PM	Valediction	Distribution of Certificates & "Scientific Explorer Kits". Vote of Thanks.

Avinash Kumar

Signature of
Programme Coordinator

[Signature]

Signature & Seal of
Principal / Head of Institution
(MSIT)

Principal
Meghnad Saha Institute of Technology

