

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): **Faculty Development Programme**
2. Title of the proposed Programme: **Faculty Development Programme on Applied Artificial Intelligence for Smart System Development**
3. Target Group (Faculty, Teacher, Research Scholar, School/College/ University Student, Community): **Faculty, Teacher, Research Scholar, College/ University Student.**
4. Duration (days): 5 days; Tentative Dates of the proposed Programme: 2nd Week of February/ 3rd Week of March
5. Aims, Objectives and Details of the Programme (attach separate sheet, if necessary):

About the Programme:

Artificial Intelligence (AI) has emerged as a key enabling technology for the development of *smart and intelligent systems* across diverse domains such as smart cities, healthcare, industry, transportation, and education. The rapid evolution of AI techniques—including *machine learning, deep learning, knowledge representation, reasoning, and intelligent agents*—has created an urgent need for *capacity building and upskilling* among faculty members and researchers across disciplines.

This Faculty Development Programme (FDP) on “**Applied Artificial Intelligence for Smart System Development**” is designed to provide participants with a **balanced integration of theoretical foundations and practical implementation** of AI techniques. Through *hands-on laboratory sessions, case-study-based discussions, and domain-oriented examples*, the programme aims to bridge the gap between AI concepts and their real-world deployment in smart systems across domains.

Aim (Novel and Outcome-Driven)

The aim of this FDP is to **enable participants to translate Artificial Intelligence concepts into deployable smart system solutions**, fostering domain-independent problem-solving skills and practical competence in AI-driven system design.

Objectives:

1. To develop a **conceptual and practical understanding** of core Artificial Intelligence methodologies, including learning, reasoning, and decision-making.
2. To apply **machine learning and deep learning techniques** for solving real-world, domain-specific problems through hands-on experimentation.
3. To design and evaluate **intelligent and smart systems** by integrating AI techniques with real-time data, case studies, and emerging platforms.

Key Takeaways

Participants will be able to:

- Understand *how AI techniques are adapted across different application domains*
- Gain *practical experience* with AI tools, models, and frameworks
- Develop the ability to *map real-world problems to AI solutions*
- Learn best practices for *designing scalable and intelligent systems*
- Identify *research and project opportunities* in applied AI

Expected Outcomes

- Improved understanding of *applied Artificial Intelligence concepts and workflows*
- Enhanced ability to *model, analyze, and solve real-world problems using AI*
- Practical exposure to *AI-based smart system development*
- Strengthened *teaching and research capabilities* in AI-related domains
- Readiness to develop *AI-driven smart applications across multiple domains*

Impact

Academic Impact

- Strengthens interdisciplinary AI teaching and curriculum development
- Enhances research quality and promotes collaborative AI research initiatives

Industry & Technological Impact

- Prepares participants to develop *industry-relevant AI solutions*
- Encourages adoption of AI for automation, optimization, and intelligent decision-making

Societal Impact

- Supports AI-enabled solutions for *healthcare, smart infrastructure, and sustainability*
- Promotes responsible and effective use of AI technologies across domains

6. Name, Designation, Postal Address, mobile no. and e-mail id of the (only one) Programme Co-ordinator (PC) (attach separate sheet, if necessary):

Prof. (Dr.) Anupam Basu
Head, Cognitive Computing Research Lab, TIG, Kolkata
Emeritus Professor, Sister Nivedita University,
Former Professor, IIT Kharagpur,
Former Director, NIT Durgapur

Address: DG-1 BLOCK, NEW TOWN, KOLKATA, WEST BENGAL, INDIA, PIN. 700156
Mob. No.: 8335881836
Email: anupam.bas@gmail.com

7. Legal status of the Institute (School/College/ University/ Institute/ Polytechnic/ ITI/ Autonomous body/ registered NGO/ Trust etc.):

STATE PRIVATE UNIVERSITY.

8. Date wise detail Programme Schedule (attach separate sheet, if necessary):

Programme Duration and Detailed Schedule: Five Days (30 Hours)

Each day: 6 hours including lectures, case studies, and hands-on/discussion sessions.

Day 1: Foundations of Artificial Intelligence

10:00 – 11:30: Introduction to Artificial Intelligence

11:30 – 01:00: Problem Solving with Artificial Intelligence

02:00 – 03:30: Knowledge Representation and Inference

03:30 – 05:00: Case Study & Design – Automatic Agent using Basic AI Search

Day 2: Reasoning Under Uncertainty & Knowledge Modelling

10:00 – 11:30: Fuzzy Logic and Reasoning under Uncertainty

11:30 – 01:00: Semantic Networks and Ontologies

02:00 – 03:30: RDF-Based Ontology and Knowledge Representation

03:30 – 05:00: Case Study & Design – Ontology-Based Knowledge Representation

Day 3: Neural Networks and Data Understanding

10:00 – 11:30: Artificial Neural Networks – Concepts

11:30 – 01:00: Artificial Neural Networks – Continuation

02:00 – 03:30: Data Processing and Visualization

03:30 – 05:00: Case Study & Design – Exploratory Data Analysis

Day 4: Machine Learning and Deep Learning

10:00 – 11:30: Machine Learning – State of the Art

11:30 – 01:00: Machine Learning – Continuation

02:00 – 03:30: Deep Learning – Basic Framework

03:30 – 05:00: Case Study & Design – Modelling a Real-World Problem

Day 5: NLP and Emerging AI Tools

10:00 – 11:30: Natural Language Processing – Basics

11:30 – 01:00: Modern AI Tools and Platforms

02:00 – 03:30: Panel Discussion – Artificial Intelligence Systems for Emerging Development Applications in the New Normal

03:30 – 05:00: Valedictory Session

9. Collaborating Institutions/ Organizations, if any, with their specific contribution:

Techno International New Town, Resource Person and organization support.

10. Expected number of participants and list of Resource Persons/ Invited Speakers:

Expected Number of Participants: 60-80

List of Resource Persons:

- I. Prof Sudeshna Sarkar, IIT KGP**
- II. Prof. Pabitra Mitra, IIT KGP**
- III. Prof. Utpal Garain, ISI Kolkata**
- IV. Prof. Swagatam Das, ISI, Kolkata**
- V. Prof. Bhabani Parsad Sinha, Professor Emeritus, SNU, Former Professor, ISI Kolkata**
- VI. Prof Anupam Basu, SNU, and Former Professor, IIT KGP**
- VII. Prof. Satyabrata Maity, Techno International New town, Kolkata**
- VIII. Mr. Sanjay Choudhury, Scientist, CDAC**
- IX. Dr. Krishanu Maity, LTI-MindTree**
- X. Prof. Abriti Pal, IEM, Kolkata**

11. Give details of the grant received from DSTBT in last three Financial Years, if any alongwith the date of submission of UC, Audited SoE, Report etc.: **NA**

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:

Prof. (Dr.) Anupam Basu
Head, Cognitive Computing Research Lab, TIG, Kolkata
Emeritus Professor, Sister Nivedita University,
Former Professor, IIT Kharagpur,
Former Director, NIT Durgapur
Center for Cognitive Research Laboratory

13. Total Estimated Expenditure (**A**)/ Organisation's contribution (**B**)/ Contribution from any other sources (**C**) / Grant expected from DSTBT(**D**):

D: ₹ 1,33,200 = (A: ₹ 1,48,000 – B: ₹ 14,800 – C: ₹ 0)

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

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): **NO**
- 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: **NO**

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: Anupam Basu

Date: 15.12.2025

Name of Programme Coordinator:

Prof. Anupam Basu.
Designation: Emeritus professor.

Address: Sister Nivedita University
Block-DG-1/2, Action Area-I
New Town, Kolk. 700156. (Office Seal)

Signature: Anupam Basu

Date: 15/12/25

Name of Head of Institution SUMANTRA BASU

Designation: REGISTRAR

Address:
Registrar
Sister Nivedita University
Block-DG-1/2, Action Area-I
New Town, Kolkata-700156

Annexure-I

Proposed Total Budget with break-ups

A. Total Estimated Expenditure

Sl. No.	Items required with justification and rate	Total Expenditure (A) (₹)
1.	Honorarium to Resource Persons/ Experts	44000
2.	Study materials, Consumables expenses	15000
3.	Hall rent, if any	NA
4.	Publicity materials	5000
5.	Travel expenses	3000
6.	T.A. to the external Resource Persons/ Experts	12000
7.	Documentation expenses including audio-visual	4000
8.	Light refreshments	57000
9.	Auditors' fee	3000
10.	Other expenses, if any (please specify)	5000
Grand Total Expenditure (₹):		148000

Please mention:

B. Institution/ Organization Contribution* in ₹ 14800/-
C. Contribution from any other sources (with name & Address) in ₹ 0
D. **Grant expected from DSTBT (₹) = (A-B-C) =133200/-**

Registrar
Sister Nivedita University
Block-DG-1/2, Action Area-I
New Town, Kolkata-700156

Signature of Authorised Personnel with seal

If C= 0

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

Registrar
Sister Nivedita University
Block-DG-1/2, Action Area-I
New Town, Kolkata-700156

Signature of Authorised Personnel with seal

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

Annexure-II

Bank details of the Applicant Organisation

Name of the Organization	SISTER NIVEDITA UNIVERSITY
Bank Account number & name of the Account holder/ Organization	SISTER NIVEDITA UNIVERSITY ACCOUNT NO : 918010043533269
Type of Account (Savings or Current A/c)	SAVINGS ACCOUNT
Name of the Bank	AXIS BANK LTD.
Name of the Branch with Branch address	ELECTRONIC COMPLEX BR. SECTOR-V, SALT LAKE, KOLKATA
IFSC of the Branch	UTIB0000319
Mobile Number of the Programme Coordinator/ Head of the Organization	8335881836
✓PAN / TAN of the Account holder/ Organization	AAAJS7313J

Subir Rakshit.

**Signature of Authorised Personnel with
seal**

Chief Finance Officer
Sister Nivedita University
Block-DG-1/2, Action Area-1
New Town, Kolkata-700156