

**F. No.19-1/2023-TS.VII**  
Government of India  
Ministry of Education  
Department of Higher Education

Shastri Bhawan, New Delhi,  
Dated 10<sup>th</sup> February, 2023

To,

1. **The Vice-Chancellors of all Central Universities/State Universities/Deemed Universities.**
2. **The Directors of all IITs/ IIMs/NITs/SPAs/NITTTRs**
3. **The Directors of all ISSERs.**
4. **The Directors of NITIE-Mumbai/ NIFFT-Ranchi/ NERIST-Itanagar/ SLIET-Longowal/ CIT-Kokrajhar/ GKCIET-Malda.**

**Subject:** - Short term Indian faculty secondment to Asian Institute of Technology (AIT), Bangkok by the Government of India for a period upto 16 weeks - Inviting nominations/applications for semester commencing August, 2023 & January, 2024 - regarding.

Madam/Sir,

Asian Institute of Technology (AIT), Bangkok is an autonomous International Institute providing advanced education in engineering, science and allied fields. The AIT's academic year has two semesters, which begin in August and January. The Government of India provides support to the AIT by way of faculty secondment for a period upto 16 weeks in selected areas of specialization. The areas under consideration for faculty secondment for August 2023 and January 2024 terms are enclosed (**Annexure-1**). The period of secondment coincides with an academic term of AIT, Bangkok.

2. The entire cost of secondment of Indian faculty to AIT, Bangkok is borne by the Government of India. The seconded faculties are entitled to travel by air by economy class in shortest route from the nearest port of embarkation in India to Bangkok and also for excess baggage charges as per instructions issued by Government of India. The seconded faculties are entitled to daily allowance/accommodation/medical facilities in Bangkok through Embassy of India. AIT also provides accommodation in the campus subject to availability. The above-mentioned terms and conditions of secondment are tentative and subject to approval by the Ministry of Finance at the time of secondment.

3. The seconded faculties are also entitled to draw their pay plus special pay, if any, and allowances as admissible to them in India, during their deputation period, from their parent institutions.

4. You are requested to circulate the notice amongst faculties of your institution, especially from the concerned department, for the courses to be taught during the semesters **starting from August 2023 & January 2024**. You may also to nominate suitable faculty of your institution. The nominee/applicant must have a doctorate degree in the relevant area, postgraduate teaching experience relevant to the course description indicated against the area and substantial research publications in the area to his credit. Nominations/applications may kindly be sent in respect of



contd/-

only those candidates, who could be spared, in the event of their selection, for undertaking the proposed assignment at AIT, Bangkok for a period upto 16 weeks. Since it is the endeavour of the Government to send the best faculties from India to project the right kind of images at the international level, it is requested to nominate or forward applications of, only those faculties who strictly meet the above-mentioned requirement. The Selection Committee gives its recommendations to the Government based on the bio-data of the applications placed before it. Therefore, five copies of the bio-data of the faculty, as in the enclosed proforma (**Annexure-2**), duly filled and signed both by the applicant/nominee and well as the Head of the nominating Institution, may be sent for consideration of the Selection Committee to the address given below by **17<sup>th</sup> March, 2023**. The soft copy of the Bio-data of the applications **must** also be mailed at **ts7.edu@nic.in**.

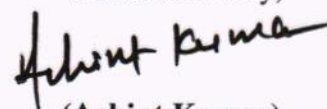
**Under Secretary (TS-VII)**

Department of Higher Education,  
Ministry of Education,  
Room No.433, 'C' Wing  
Shastri Bhawan,  
New Delhi - 110001.

4. A copy of this notice has also been hosted on the website of this Ministry **www.education.gov.in**.

**Encl: as above**

Yours faithfully,



**(Achint Kumar)**

Under Secretary to the Govt. of India  
Tele: 011-23070425

Copy to:- **Director, NIC:** *It is requested the request to upload this letter and its annexures on the website of Ministry of Education.*

**AIT SCHOOL REQUESTS FOR INDIAN FACULTY SHORT-TERM SECONDMENTS**  
**For August 2023 and January 2024 semesters**

**FOR AUGUST 2023 SEMESTER****I. School of Engineering and Technology (August 2023 Semester)**

<b>Course Code, Title, Credits</b>	<b>Course Description</b>
AT72.01 Deterministic Optimization Models, 3(3-0)	<p>The objective of this course is to provide the students knowledge on the deterministic decision models which can facilitate the decision making process. Modeling concepts and applications of linear, integer, nonlinear, and dynamic programming as well as network models are addressed. Solution methodologies for each type of optimization models are discussed. The student will also learn how to use modeling and optimization software.</p> <p>The students on the completion of this course would be able to</p> <ul style="list-style-type: none"><li>• Formulate mathematical programs for practical optimization problems.</li><li>• Apply appropriate mathematical programs to solve real world problems.</li><li>• Formulate solutions for network flow problems.</li></ul> <p>Course Outline: Deterministic Optimization Modeling, Software Packages, Linear Programming, Integer Programming and Combinatorial Optimization, Dynamic Programming, Network Flow, Nonlinear Programming</p>
AT74.01 Kinematics, Dynamics and Control of Robots, 3(2-3)	<p>Currently robots are extensively used in many industrial applications. Further the robotics has extended the horizons to bio medical, entertainment and elderly care applications in the recent past. Main objective of this course it to impart knowledge and experiences of robot design and analysis, to students. This course integrates the knowledge on control systems, kinematics and dynamics which students have studied in their undergraduate level to be applied for robot design, control and analysis.</p> <p>Upon completion of this course, the students would be able to:</p> <ul style="list-style-type: none"><li>• Select an appropriate robot for a given application based on the specifications.</li><li>• Analyze a given robot design in terms of kinematics and dynamics.</li><li>• Design and develop a robot to accomplish a specified task.</li><li>• Apply the classical control theory for controlling and programming a robot.</li></ul> <p>Course Outline: Introduction to Robotics and Mechanisms,</p>

	Robot Kinematics-Rotation Kinematics, Orientation Kinematics, Robot Dynamics, Robot Control etc.
AT84.03 Catalysis, Enzyme Kinetics and Thermodynamics, 3(3-0)	<p>The objective of this course is to teach students about catalysts and enzyme kinetics from the perspective of nanotechnology and the relationships between nanomaterials and thermodynamics. Synthesis, preparations, kinetics and experimental approaches are presented and discussed to give students a comprehensive view.</p> <p>The students on completion of this course would be able to:</p> <ul style="list-style-type: none"> <li>Analyze structure/function relationships in biocatalyzed reactions.</li> <li>Evaluate the possible catalytic mechanisms of given reaction types.</li> <li>Develop strategies for the analysis of kinetic mechanisms of catalyzed reactions.</li> <li>Apply the biocatalysts concepts for industrial applications.</li> </ul> <p>Course Outline: General Principles of Catalysis and Characterization, Catalyst Thermodynamics, Catalyst Kinetics, Enzyme Processes, Energetics, Catalyst Design, Nanoscale Metal Catalyst, Biological Catalysts</p>

## II. School of Environment, Resources and Development (August 2023 Semester)

Course Code, Title, Credits	Course Description
ED82.13 Analytical Tools for Climate Change Adaptation at Local Level, 3(2-3)	<p>The objective of the course is to provide students with methods and tools to analyze climate change adaptation at local level. This will enable students to analyze the vulnerability and resilience at various levels, especially in rural areas, from farm level to socio-ecological systems and territorial level; and to build scenarios towards sustainable development and improved adaptive capacities to climate change based on participatory foresight analysis.</p>

## **FOR JANUARY 2024 SEMESTER**

### **III. School of Engineering and Technology (January 2024 Semester)**

<b>Course Code, Title, Credits</b>	<b>Course Description</b>
AT74.07 Automation Technology, 3(2 3)	<p>With today's industrial development, factories intend to enhance the productivity and profitability through automation. This requires knowledge on control systems, actuators and sensors should be integrated in a holistic way. The course integrates these skills to accomplish industrial automation. The main objective is to impart knowledge and practical experiences in advanced control and programming of automation systems.</p> <p>Upon completion of this course, the students should be able to:</p> <ul style="list-style-type: none"><li>• Recommend whether a process of interest should be automated or not based on economic and technical information.</li><li>• Select appropriate and compatible hardware to carry out the automation.</li><li>• Program a PLC using relay ladder logic for a given application.</li><li>• Design and implement an automation system.</li></ul> <p>Course Outline: Principles of Automation Technology, Programmable Logic Controllers (PLC), Digital Communication, Feedback Control, Man-Machine Communication, Pneumatic and Hydraulic Applications</p>
AT84.06 Biomimetics, 3 (2-3)	<p>This course aims to familiarize students with a selection of processes and methods of establishing principles for transforming nature into innovative solutions in order to tackle our global challenges including water, energy, materials and health issues. Going beyond using nature as an analogy, students will explore fundamental mechanisms underlying natural systems and how these mechanisms can be applied to the design and synthesis of man-made systems.</p> <p>Upon completion of this course, students will be able to:</p> <ul style="list-style-type: none"><li>• Define and apply the key concepts employed in biomimetic designs.</li><li>• Evaluate constraints in natural and engineering design.</li><li>• Differentiate between nature's unifying patterns, strategies and functions.</li><li>• Apply biomimetics concepts to human-made robust systems.</li></ul>

	Course Outline: Biomimicry, Design and Structures, Lotus Effect, Shark Skin Effect, Gecko Effect, Biomimetics in Photonics, Laboratory Sessions
--	---

#### IV. School of Environment, Resources and Development (January 2024 Semester)

Course Code, Title, Credits	Course Description
ED82.08 Economic of Climate Change, 2(2 0)	The objective of the course is to provide a sound understanding of the economics of climate change from multiple viewpoints needed for graduate students specializing in climate change. These viewpoints span from the economic underpinnings of global climate agreements and global costs and benefits as key tenants of climate policy to the cost-benefits analysis as a tool for analyzing projects and policy instruments. The course also provides an opportunity to make students aware of the limitations of the economic approach, valuation difficulties, uncertainty of impacts and other ambiguities which are inherent in the climate change.
ED82.10 Climate Change, Agriculture and Food security, 3(3 0)	The objective of this course is to impart the knowledge on food security, agricultural production and climate change with special emphasis on small farmers of tropical and subtropical regions and to find the 'missing links' between agriculture, food security and climate change. This course also focuses on various strategies and approaches designed/forwarded to meet the challenges of food security and agricultural production under the climate change scenario, and the institutional arrangements for integrating and addressing the climate change and food security.
ED82.12 Climate Change Impacts and Adaptation in Fisheries and Aquaculture, 2(2 0)	The impact of climate change on fisheries and aquaculture resources, as well as their direct or indirect influence on the livelihood of fishers and fish farmers has been well documented. Specifically, most of these impacts are related to the changes in water temperatures, water level rise, and changes in precipitation in the inland and coastal environments, among others. A major goal for aquaculture has been to develop ecologically sustainable farming systems employing appropriate technologies that are highly productive and that provide better returns to farmers. Improved farming technologies and practices to reduce climate change stresses therefore need to be developed and applied as a strategy for adaptation for the most vulnerable sections of fishers and farming communities. This course is intended for students to have a broad understanding of the climate change effects on fisheries and aquaculture, and identify some of the most feasible strategies for adaptation to the perceived global changes in climate and associated impacts on aquatic food production.

**ANNEXURE - II**

BIO-DATA							
(To be submitted in 5 copies)							
AREA OF ASSIGNMENT FOR WHICH NOMINATION SENT							
COURSE CODE							
COURSE TITLE							
APPLIED FOR SEMESTER							
1.	Name (Expanded initials)						
2.	Date and Place of Birth						
3.	Nationality						
4.	Present Post held with complete address of the Institute.						
5.	Present Postal Address Tel. No. /Fax No./E-Mail/Mobile No.						
6.	Educational Qualifications (starts from latest)						
Degree/ Diploma		Division/ Grade	Year	Subjects Taken	Name of University/ Institute		
7.	Professional Experience (start from latest)						
Address of the Office/ Organization/ Institution		Post held	Duration		Specific experience: P.G. Teaching/Research Industrial		
			From (date)	To (date)			
8.	Details of Published work: Books, Articles, Monographs, Papers etc. (If the Space below is insufficient please give full particulars on a separate sheet of paper)						
No. of Patents	No. of Awards/ Recognitions	No. of Ph.D guided (completed and in progress)	No. of publications (National & International)	No. of Books (published & under publication)	No. of Projects (completed & In progress)	Details of Membership in Societies	Other details

Cont...

9.	1) H-index: (as per Google scholar): 2) i10 Index: (as per Google scholar):		
10.	Brief of subjects taught		
11.	Summary of recent/ current projects undertaken		
12.	Current Interests and Assignments		
13.	(a) Visits abroad:		
	Country Visited	Duration of Visit	Purpose of visit
		From (date) To (date)	
	(b) Previous assignment with AIT, if any:		
	Term	Course taught	Seconded by Government of India or directly hired by AIT
14.	Any other relevant information:		
			Signature of Applicant.
15.	Remarks of Head of the Institution:		
			Signature of the Head of the Institution with Office seal.