शैक्षणिक परिषद की 01/2022-23 बैठक का कार्यवृत्त

MINUTES OF THE 01/2022-23 MEETING OF THE ACADEMIC COUNCIL

15TH FEB, 2023

उन्नत प्रौद्योगिकी रक्षा संस्थान

(सम–विश्वविद्यालय)

गिरीनगर, पुणे – 411025

DEFENCE INSTITUTE OF ADVANCED TECHNOLOGY

(DEEMED TO BE UNIVERSITY UNDER SECTION 3 OF UGC ACT 1956)

GIRINAGAR, PUNE - 411025

DEFENCE INSTITUTE OF ADVANCED TECHNOLOGY

(DEEMED TO BE UNIVERSITY), GIRINAGAR, PUNE

1/2022-23 MEETING OF THE ACADEMIC COUNCIL
10:00 HRS, WEDNESDAY, 15th Feb 2023

Item.No.	Particulars
1	Opening remarks by the Vice-Chancellor and Chairman Academic Council
2	Progress/Action taken report on minutes of the last Academic Council meeting
3	Confirmation of the minutes of the last Academic council meeting held on 09th May 2022.
4	Reporting Items
5.	**AGENDA POINTS FOR DISCUSSION** Introduction of New programs - (02) M.Sc programme and one M.Sc. (tech.) program in Applied Chemistry, Applied Physics
6	Discontinuation of M.Tech programs i.e. Material Science & Chemical Technology and Opto Electronics & Communications Systems (with specialization in Lasers & Electro Optics)
7	Award of Certificate/Diploma/Degree to Student/Staff officers of MILIT from DIAT(DU)
8	Proposal to offer M.Sc. in Information Technology to officers of INS Hamla.
9	**Any other point with the permission of the chair**

DEFENCE INSTITUTE OF A DEFENCE INSTITUTE OF ADVANCED TECHNOLOGY
(Deemed to be University under Section 3 of UGC Act 1956)
Girinagar, Pune-411 025

DIAT/F/REG/ACAD/AC/01-2022-23 Dated 15th Feb 2023

Minutes of the Meeting of Academic Council held on 15th Feb, 2023 at 1000 Hrs, 4th Floor Conference Room, DIAT, Pune

The Following Members were present: -

1.	Dr. C P Ramanarayanan Vice Chancellor	**Chairman**
2.	Dr. S K Singh DHRD, DRDO HQ, New Delhi	Member (Thru Video Conf.)
3.	Prof. K Sudhakar Dept. of Aerospace Engg, IIT, Bombay, Powai	Member (Thru Video Conf.)
4.	Prof. Rajeev Srivastava Dept. of Computer Science and Engg, IIT(BHU), Varanasi	Member (Thru Video Conf.)
5.	Prof. K. Balasubramanian Dean (Academics) , HoD, Metallurgical & Materials Engg. & IQAC Director	Member
6.	Prof. A Kumaraswamy Dean (Student Affairs) & Director, School of Robotics & HoD, Dept. of Mech Engg	Member
7.	Prof. P K Khanna HoD, Dept. of Applied Chemistry	Member
8.	Prof. G Raghavan Director, School of Quantum Technology	Member
9.	Prof. Sangeeta Kale Dept. of Applied Physics, CoE	Member/ Permanent invitee
10.	Prof. S K Panigrahi Dept. of Mechanical Engg, Dean (Sponsored Research)	Member
11.	Prof. D G Thakur Dept. of Mechanical Engg	Member
12.	Prof. C R S Kumar School of Computers Engineering and Mathematical Science	Member

13.	Prof. Shaibal Banerjee Chairman, PGC & Dept. of Applied Chemistry	Member
14.	Dr. Manisha Nene Director, School of Computers Engineering and Mathematical Science	Member
15.	Dr Sumati.S HoD, Technology Mgmt	Member
16.	Dr. Suwarna Datar HoD, Dept. of Applied Physics	Member
17.	Dr. Tejashree Bhave Assoc. Prof, Dept of Applied Physics	Member
18.	Dr. Arokia Bazil Raj A Assoc. Prof, Dept of Electronics Engg.	Member
19.	Dr. Debashish Pradhan Asst. Prof, School of Computers Engineering and Mathematical Science	Member
20.	Dr. Sunita Dhavale Asst. Prof, School of Computers Engineering and Mathematical Science	Member
21.	Dr. S. Sirurmath University Librarian	Member
22.	Dr. Vidya Gargote Finance Officer	Member
23.	Dr. H S Panda Joint Registrar (Academics)I/c	Permanent Invitee
24.	Shri. Kamal Kumar Bajre Registrar	Secretary

Leave of absence was granted to the following:

1. Prof. Avinash Mahajan, Dept. of Physics, IIT Bombay, Powai, Mumbai
2. Prof. K.P Ray, HoD, Dept. of Electronics Engg.,
3. Prof. Somanchi V.S.S.N.V.G. Murthy School of Computers Engg and Mathematical Science, DIAT
4. Dr. Ajay Misra, HoD, Dept. of Aerospace Engineering, DIAT

1. **Welcome Remarks by Vice Chancellor & Chairman, Academic Council:**

At the outset, the Chairman thanked all the outgoing members Dr. V Natarajan, Director, RIC (DRDO), Chennai, Prof. Aditya Abyankar, Dean, Faculty of Technology SSPU, Pune, for their valuable services to the DIAT, Academic Council and welcomed all the new members of the Council Prof. K Sudhakar, Dept. of Aerospace Engg., IIT Bombay, and Prof. Rajeev Srivastava, Dept. of Computer Science and Engg., IIT(BHU) Varanasi and Prof. Avinash Mahajan, Dept. of Physics, IIT Bombay. Chairman also welcomed Prof. Sangeeta Kale, on assumption of charge of CoE, DIAT and Shri Kamal Kumar Bajre newly joined Registrar, DIAT (DU)

The Chairman, expressed deep condolences on sad demise of Ex- Registrar, Cmde A. K. Sinha (Retd), due to ill health.

2. **Progress/Action Taken Report on Minutes of the Last Academic Council Meeting:**

The Registrar presented the Action Taken Report on the decisions taken in the last AC Meeting held on 09th May 2022 as given below: -

Sr. No.	Para of Minutes of the AC Meeting held on 09th May, 2022	Agenda Point	Status/Action
1.	4(i)	**Presentation of Results** The list of M.Tech. (2020 - 22 batch), Master of Science (by Research), M.Sc Food Technology (2020-22) and Ph.D students who have successfully completed the Final Viva-voce.	Action Completed
2	4(ii)	Fee structure of M.Sc. in Material Science	Action Completed
3.	4(iii)	Fee structure of FFC Officers in INS Hamla PG Diploma	Action Completed

3. **Confirmation of the Minutes of the Last Academic Council Meeting held on 09th May 2022.**

The Minutes of the Academic Council Meeting held on 9th May, 2022 has been circulated to all the members and no comments have been received. Therefore, the minutes of the AC meeting held on 9th May 2022 was confirmed.

4. **Reporting Items:**

The following reporting Items were noted by the AC:

- The Institute has been accredited by NAAC with a score of 3.21/4 (A Grade) for five years (2022-27)

- M.Tech programme in Mechanical Engg., and Electronics Engg., received NBA accreditation for 6 years and 3 years respectively.
- The course of the second semester in all M.Tech programmes has been restructured recently, in accordance with AICTE.
- Dr K Balasubramanain, Professor, has been felicitated by "Royal Society of Chemistry", UK with "Fellow Royal Society Chemistry".
- Prof P K Khanna, Prof K Balasubramanian, Dr PS Kulkarni & Dr A A Bazil Raj were listed in Worlds top 2 percent Scientists for the year 2022 of Stanford University.
- Dr K Balasubramanian, Professor has got the highly cited from IOP-UK and ACS, USA
- Mr. Harish Chandra Kumawat, PhD student of Electronics Engg dept is awarded by IET on extraction of Doppler signature of Micro to Macro rotations using continuous wave radar measurement assisted system
- Ms Shruti Gupta, Student of Metallurgical & Materials Engg dept awarded by International Materials Society on Silk based materials for Effluent Treatment in the verticals of Green Technology.

Agenda Points for discussion:

5. Introduction of New Program - (03) M.Sc and (01) M.Sc (Tech) program in Applied Chemistry, Applied Physics and SCEMS.

The newly introduced program of M.Sc. in Applied Chemistry and M.Sc. in Applied Physics (Photonics) and M.Sc.(Tech.) in Photonics was presented by HoD, Applied Chemistry and HoD, Applied Physics respectively.

The AC advised to incorporate the following:

- Be specific in dividing Lecture/Tutorial/ Practical hours.
- Electives to be kept open for the students of M.Sc. in Applied Physics (Photonics) & M.Sc. (Tech) in Photonics without restrictions.
- M.Sc. (Tech.) in Photonics should have guides from both Science and Engineering faculty so as to have interdisciplinary flavour.

With above advice, the house approved the introduction of M.Sc. programs in Applied Chemistry and Applied Physics from the next Academic Year. The final program structure is attached:

(a) M.Sc. in Applied Chemistry (**Annexure- I**)

(b) M.Sc. in Applied Physics (Photonics) (**Annexure- II**)

(c) M.Sc. (Tech.) in Photonics (**Annexure- III**)

Action: HoD, Applied Chemistry,
HoD Applied Physics

6. **Discontinuation of M.Tech programs i.e. Material Science & Chemical Technology and Opto Electronics & Communications Systems (with specialization in Lasers & Electro Optics)**

The HoD, Metallurgical and Materials Engg. and HoD, Applied Physics presented the above proposal, and the rationale for discontinuation of the programmes. The AC noted that the subscription to the above programs have been fluctuating in spite of revision of syllabus and other efforts. The AC also noted the ongoing M.Tech in Materials Engg., which is well subscribed.
After a brief discussion, Academic Council resolved to discontinue M.Tech programs: i.e. (i) Material Science & Chemical Technology and (ii) Opto Electronics & Communications Systems (with specialization in Lasers & Electro Optics).

Action: HoD, Metallurgical and Materials Engg. and HoD, Applied Physics

7. **Award of Certificate/Diploma/Degree to Students/Staff officers of MILIT from DIAT (DU)**

The Chairman, PGC informed about the working agreement between the DIAT (DU) and MILIT for issuance of certificate/Diploma/Degree to students/staff officers of MILIT from DIAT (DU).

The AC appreciated the working agreement between the DIAT (DU) & MILIT and noted that, the eligibility requirements, academic curriculum, and examination is to be as per DIAT norms. For the award of Diploma/Degree certificate detail program structure be submitted to the Academic Council.The AC also noted that a fee of Rs. 500/- per candidate for courses of duration 01-05-weeks and Rs. 1000/- for courses of duration beyond 05 weeks.

With above, the A.C. resolved to approved the proposal for award of certificate to students/staff officers of MILIT from DIAT (DU).

Action: Chairman, PGC

8. **Proposal to offer M.Sc. in Information Technology to officers of INS Hamla.**

The Director, School of Computers Engineering and Mathematical Science presented the proposal for introduction of M.Sc. in Information Technology program. After a brief discussion, the AC approved to introduce M.Sc. in Information Technology for officers of INS-Hamla in accordance MoU Between DIAT and INS Hamla. The final program structure is at **Annexure- IV.**

Action: Director, School of Computers Engineering and Mathematical Science

9. **Additional agenda point placed on the table with the permission of the Chair:**

With the permission of the Chair, Prof. Sangeeta Kale, CoE put forward a proposal to remove the Mis-Muster examination from the program structure. After detailed discussion, the AC approved for the proposal and resolved not to conduct the mis-muster examination from admission of next academic year. A student, who fail in the semester examination, need to take the re-exam in the next semester. For graduating student, re-examination mis muster may be conducted so as to enable timely graduation.

Action: COE, DIAT

10. **Concluding remarks by Chairman**:

In the concluding remarks, the Chairman briefed the Academic Council as below:

- **Patent filing**: Now onwards, DIAT shall file patents with the help of local Attorney with DIAT funds, so as to expedite patent filing cycle.
- Introduction of two new M.Sc. Programs in Data Science and Quantum Technology is under consideration.
- The proposal for recognition of DIAT as "Institute of National Important" is under process.

There being no further points for discussion, the chairman thanked all the members for their constructive suggestion and, the meeting concluded with a vote of thanks to the Chair.

02/03/23.

(Kamal Kumar Bajre)
Registrar & Secretary, AC

Annexure - I

New Programme:

1) **M.Sc. in Applied Chemistry by Department of Applied Chemistry**

Eligibility criteria:-

1. The eligibility for the M.Sc. postgraduate programme is B.Sc. or equivalent in Chemistry/Industrial Chemistry/Applied Chemistry
2. Intake : 15
3. Admission Process: Centralized Counselling procedure (CCMN) for admission to M.Sc. Applied Chemistry Programme
4. Sponsored candidates selection will be through interview process except the candidates selected through R&T and PGT
5. Fee structure will be for General: Rs 15000, SC/ST: Rs 10000, Sponsored: Rs 35000.

M.Sc. in Applied Chemistry

SEMESTER - I

Sr. No.	Course Code	Course	Contact Hours/week		Credits
			L	T/P	
1	AC 501	Inorganic Chemistry-I	3	1	4
2	AC 502	Organic Chemistry-I	3	1	4
3	AC 503	Physical Chemistry-I	3	1	4
4	AC 504	Analytical Chemistry	3	1	4
5	AC 541	Applied Chemistry Laboratory-I	3	1	2
		Total	15	5	18

SEMESTER - II

Sr. No	Course Code	Course	Contact Hours/Week		Credits
			L	T/P	
1	AC 505	Inorganic Chemistry-II	3	1	4
2	AC 506	Organic Chemistry –II	3	1	4
3	AC 507	Physical Chemistry-II	3	1	4
4	AC 508	Molecular Spectroscopy-I	3	1	4
5	AC 509	Polymer Chemistry	3	1	4
6	AC 542	Applied Chemistry Laboratory-II		2	2
		Total	15	7	22

SEMESTER - III

Sr.No	Course No.	Subject	Contact Hours		Credits
			L	T/P	
1	AC 510	Organometallic Chemistry and Catalysis	3	1	4
2	AC 511	Industrial Chemistry	3	1	4
3		Elective I	3	1	4
4		Elective II	3	1	4
5		Elective III	3	1	4
6	AC 543	Industrial Chemistry laboratory	3	2	2
		Total	18	7	22

SEMESTER - IV

Sr. No	Course No.	Subject	Contact Hours		Credits
			L	T/P	
1	AC 544	M.Sc. Project Dissertation	3	1	23
		Total			23

List of Elective Courses

S. No.	Course Code	Course
1	AC-607	Nano Chemistry
2	AC-610	Recent Advances in Chemistry
3	AC 512	Molecular Spectroscopy II
4	AC-513	Defence Chemistry
5	PGC-601	Research Methodology
6		Online courses from NPTEL, MOOC. SWAYAM
7		Open elective from any Department
8		Biochemistry
9		Quantum Chemistry

2) M.Sc. in Applied physics (Photonics)

Eligibility criteria :

The candidate should possess Bachelor's degree or equivalent in Physics, Applied Physics, Engineering Physics, Electronic Science, Photonics, Optics, Material Science, Instrumentation Science or any equivalent branch

OR

B. Tech. (Any discipline)

Intake : 15

- Selection Procedure: Selection of civilian students will be based on CCMN
- Sponsored candidates selection will be through interview process except the candidates selected through R&T and PGT
- Fee structure will be same as M.Sc in Materials Science program (General: Rs 15000, SC/ST: Rs 10000, Sponsored: Rs 35000)

Credit Structure

SEMESTER I

Sl. No.	Course Code	Course	Contact Hours/week			Credits
			L	T	P	
1	AM-606	Mathematical methods	3	1		4
2	AP-501	Quantum Mechanics	3	1		4
3	AP -502	Introduction to Optics &	3		1	4
4	AP -503	Introduction to Lasers	3		1	4
5	AP - 504	Semiconductor Photonic	3	1		4
6	AP - 505	Photonics Lab -1	0		4	2
		Total	15	03	06	22

SEMESTER II

Sl. No.	Course Code	Course	Contact			Credits
			L	T	P	
1	AP-506	Electronic devices and	3		1	4
2	AP-507	Solid State Physics	3	1		4
3	AP -508	Computational Photonics	2		2	4
4	AP -509	Nanophotonics	3	1		4
5	AP - 510	Electronics and Photonics	0		4	2
6		Elective 1	3			4
		Total	14	02	07	21

List of Electives

1. Laser Applications AP-631
2. Tera Hertz Devices and Applications AP-642
3. Free Space Optical Communication AP-643

SEMESTER III

Sl. No.	Course Code	Course	Contact Hours/week			Credits
			L	T	P	
1	EE-624	Digital System Design using	2		2	4
2	AP-623	Introduction to Fiber Optics	3		1	4
3	AP -511	Non-linear Optics	3	1		4
4	AP -512	Advanced Photonics Lab	0		4	2
5	PGC 601	PGC 601 Research	3	0		2
6		Elective II	3			4
		Total	14	01	07	19

Elective: II.

1. NPTEL MOOC course
2. AP 513 Introduction to Programming
3. Fabrication Technology AP 603

SEMESTER IV

Sl. No.	Course Code	Course	Contact Hours /week			Credits
			L	T	P	
1	AP-520	Project Phase			40	20
		Total				20

Annexure - III

3) M.Sc. (Tech.) in Photonics

Eligibility for Students:

The candidate should possess Bachelor's degree or equivalent in Physics, Applied Physics, Engineering Physics, Electronic Science, Photonics, Optics, Material Science, Instrumentation Science or any equivalent branch

OR

B. Tech. (Any discipline)

Credit Structure

SEMESTER I

Sl. No.	Course Code	Course	Contact Hours/week			Credits
			L	T	P	
1	AM-606	Mathematical methods	3	1		4
2	AP-501	Quantum Mechanics	3	1		4
3	AP -502	Introduction to Optics & Photonics	3		1	4
4	AP -503	Introduction to Lasers	3	1		4
5	AP - 504	Semiconductor Photonic Devices	3	1		4
6	AP - 505	Photonics Lab -1			4	2
		Total	15	04		22

SEMESTER II

Sl. No.	Course Code	Course	Contact Hours/week			Credits
			L	T	P	
1	AP-506	Electronics Devices and	3		1	4
2	AP-507	Solid State Physics	3	1		4
3	AP -508	Computational Photonics	2		2	4
4	AP -509	Nanophotonics	3	1		4
5	AP - 510	Electronics and Photonics Lab			4	2
6	AP-631	Laser Applications	3	1		4
		Total	14	03	07	22

SEMESTER III

Sl. No.	Course Code		Contact Hours/week			Credits
			L	T	P	
1	EE-624	Digital System Design using	2		2	4
2	AP-623	Introduction to Fiber Optics	3		1	4
3	AP -511	Non-linear Optics	3	1		4
4	AP -512	Advanced Photonics Lab	0		4	2
5	PGC 601	PGC 601 Research	3	0		2
6		Elective I	3			4
		Total	15	1	7	19

Elective: I

4. NPTEL MOOC course
5. AP 513 Introduction to Programming
6. Fabrication Technology AP 603

SEMESTER IV

Sl. No.	Course Code	Course	Contact Hours			Credits
			L	T	P	
1	AP 641	High Power Lasers	3	1		4
2	AP-642	Tera Hertz Devices and	3	1		4
3	AP 643	Free Space Optical	3	1		4
		Elective II	3			4
4	AP 524	Mini Project				4
		Total	12	3		19

Elective: II

1. Machine Learning AP 608
2. MOOC NPTEL

SEMESTER V

Sl. No.	Course Code	Course	Contact Hours		Credits
			L	P	
1	AP-525	Project Phase I		28	14
		Total			

SEMESTER VI

Sl. No.	Course Code	Course	Contact Hours		Credits
			L	P	
1	AP-526	Project Phase I		28	14
		Total			

4). M.Sc. INFORMATION TECHNOLOGY DEGREE FOR OFFICERS OF ITMC, INS HAMLA

Eligibility, Course Fee & Selection Procedure

- **Eligibility:** All Students are to have Graduate Degree in Science or Technology Streams
- **Selection Procedure:** Students will be shortlisted by Indian Navy
- **Fee:** Course Fee shall be Rs 5,000/- per Semester per Student
- **Intake :** 25 students

Semester I (20 weeks and 24 Credits).

Course Code	Subject	L-P/T (Hours per subject)	Marks	Credits
MSIT501	**Software Engineering** –SDLC techniques, System Design & Modellingand SSAD	3-1/0	100	04
MSIT502	**Basic Database Management**– RDMS, SQL, Database Replication and Disaster Recovery	3-1/0	100	04
MSIT503	**Software Programming Part-I** - OOPS Concepts & Application Development with insight of C, C++ concepts	3-1/0	100	04
MSIT504	**Networking**– OSI, Topologies and Network configuration	3-1/0	100	04
MSIT505	**Administration of OS** - Windows Server Administration with Microsoft Office SharePoint Server and Microsoft Exchange Server	3-1/0	100	04
MSIT506	**Cyber Security (IN)** - Security Lifecycle and management of IT assets, Risk Management Framework Systems, Cyber Security Guidelines	3-1/0	100	04
Total			**600**	**24**

Semester II (20 weeks and 24 Credits).

Course Code	Subject	L-P/T (Hours per subject)	Marks	Credits
MSIT507	**Software Programming Part-II** - ASP.Net Programming	3-1/0	100	04
MSIT508	**Advance Networking**– VLAN, Wireless and Mobility, Network Security	3-1/0	100	04
MSIT509	**Linux/Unix/Aix & Administration** – Administration, Software Tools, Utilities, Troubleshooting Problems	3-1/0	100	04
MSIT510	**IT(N) Application Orientation** -FIS,ILMS,ICMS,GMS	3-1/0	100	04
MSIT511	**ERP** – Basic terminology, SAP(Basic, ABAP & Security modules)	3-1/0	100	04
MSIT512	**Project Implementation** Software development final phase based on the training imparted in the previous semesters. Evaluation of the project will be done based on timely completion, testing, completion of VA documents, and user acceptance by INS Hamla. VA documents include: - (a) User manual (b) System Specification Manual (c) Installation Manual (d) System Admin Manual (e) Maintenance Manual (f) Cyber Security Policy (g) Risk Assessment & Risk Management Incident Response Plan	-	100	04
Total			**600**	**24**

Semester III - 20 weeks and 20 Credits.

Course Code	Subject	L-P/T (Hours per subject)	Marks	Credits
MSIT513	**PowerBuilder** – Introduction to PowerBuilder application & component, PowerScript language, PowerScript functions, Object-oriented programming with PowerBuilder techniques, Multitier applications with PoweBuilder, Database connection using PowerBuilder	3-1/0	100	04
MSIT514	**Sybase** - Introduction to Sybase, Creating database systems, Security management, Database Backup and Recovery System. Maintenance, Installation of Sybase Server.	3-1/0	100	04
MSIT515	**IT Project Management**	3-1/0	100	04
MSIT516	**NPTEL**- Privacy and Security in Online Social Media **OR** **Naval Cyber Security Administration**	-	100	04
MSIT517	**OJT Phase**. Implementation of existing software at various Ships & establishments, testing of the software for environment acceptance and modification as per user requirements. In addition, the officer will be evaluated by his Commanding Officer/ QIC of the unit based on the utilisation of various naval software and implementation of Naval IT Policies in his/her respective unit.	-	100	04
Total			**500**	20

Semester IV - 20 weeks and 17 Credits.

Course Code	Subject	Marks	Credits
MSIT518	**Dissertation Phase**	425	17

Course Summary

Semester	Weeks	Marks	Credits
I	20	600	24
Semester break	06	-	
II	20	600	24
Semester break	06	-	
III	20	500	20
Semester break	06	-	
IV	20	425	17
Grand Total	**40**	**2125**	**85**