



भारतीय प्रौद्योगिकी संस्थान गुवाहाटी

Indian Institute of Technology Guwahati

शासी मंडल की 105th वीं बैठक का कार्यवृत्त

MINUTES OF THE ONE HUNDRED AND FIFTH MEETING OF THE BOARD OF GOVERNORS

कार्यवृत्त

MINUTES

तारीख एवं समय : 30th नवंबर 2020 सुबह 09.00 बजे

DATE & TIME: 30TH NOVEMBER 2020 AT 09.00 AM

THOUGH VIDEO CONFERENCING MODE

VENUE: IIT GUWAHATI

**MINUTES OF THE 105TH MEETING OF THE
BOARD OF GOVERNORS TO BE HELD ON
30.11.2020**

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Minutes of the 105th Meeting of the Board of Governors of Indian Institute of Technology Guwahati to be held on 30.11.2020

The Hundredth Fifth Meeting of the Board of Governors of the Institute was held on 30.11.2020 in the Board Room of the Administrative Building and the following members were present :

1. Dr. Rajiv I. Modi	Chairman
2. Prof. T.G. Sitharam	Director
3. Prof. S.K. Srivastava	Member
4. Padmashri Dr. Prahlada Rama Rao	Member via Video-conference Mode
5. Prof. Varadraj B. Bapat	Member via Video-conference Mode
6. Prof. Bishnupada Mandal	Member
7. Prof. Diganta Goswami	Member
8. Prof. Sashindra Kumar Kakoty	Special Invitee
9. Prof. Suresh S.M.	Registrar and Secretary

Sh Rakesh Ranjan, Additional Secretary (HE) MoE, Er Vikedosie Kehie and Commissioner & Secretary to the Government of Assam, could not attend the meeting due to their prior engagements and they were granted leave of absence.

At the outset Prof. T. G. Sitharam, Director of the Institute welcomed all the members for the Board Meeting.

Comments from the Ministry related to Agenda Item(s) were received and was considered during the course of the Meeting.

The agenda for the day was taken up as below :

SECTION - A: Confirmation of Minute , Action Taken Report

Item No. 1

Confirmation of the Minutes of the 104th Meeting of the Board of Governors of the Institute held on 04.09.2020:

The One Hundredth Fourth Meeting of the Board of Governors of the Institute was held on 04.09.2020. The Minutes of the meeting as given in **Annexure-1** (Already Uploaded) was circulated amongst the members of the Board for their comments / observations, if any. No comments have been received from the members.

The Board was requested to consider the comments/ observations of the members, if any, and to confirm the minutes.

The minutes of the Meeting was confirmed as below :

Resolution No: R_105BOG/01/2020

RESOLVED that the Minutes of the 104th Meeting of the Board of Governors of the Institute held on 04.09.2020 be **CONFIRMED** as per circulation and as placed as **Annexure-1**.

Item No. 2

Consider the action taken report of the decisions of the 104th Meeting of the Board of Governors of the Institute held on 04.09.2020:

Action taken report on the decisions of the 104th Meeting of the Board of Governors of the Institute held on 04.09.2020 is placed at **Annexure-2(pg24-26)**.

The Board was requested to consider, note and advice, if any.

Resolution No: R_105BOG/02/2020

RESOLVED that the actions taken on the decision of the 104th Meeting of the Board of Governors of the Institute held on 04.09.2020 be NOTED as reported.

SECTION- B: Administrative items requiring approval of the Board

Item No. 3

Consider the proposal to start 2(Two) new Academic and Research Centres :

- a. Centre for Intelligent Cyber-Physical Systems**
- b. Centre for Disaster Management and Research**

The Board was informed that proposals were received to start two (02) new Academic and Research Centres: (a) Centre for Intelligent Cyber-Physical Systems and (b) Centre for Disaster Management and Research.

- (a) **Centre for Intelligent Cyber - Physical Systems:** DST has sanctioned an amount of Rs. 135 Crs. to establish a Technology Innovation Hub (TIH) for implementation and realizing the part of objectives of National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) on “Technologies for Underwater Exploration” in IIT Guwahati. Initially they have released a token amount of Rs. 7.25 Crs. to start the activities. The TIH is now a Section 8 Company named as IIT Guwahati Technology Innovation and Development Foundation which been registered on 4th September 2020 under Companies Act 2013 with CIN U73100AS2020NPL020425. There will be several interdisciplinary research activities through M.Tech and Ph.D. students for which the project has clear provisions. Therefore, the members of “Technology Innovation Hub under NM-ICPS” of IIT Guwahati met online on 21st September 2020 and collectively proposed to start a new centre named as **Centre for Intelligent Cyber-Physical Systems** in IIT Guwahati. The proposed centre will have six major components viz., (i) Technology Development, (ii) Centre of Excellence, (iii) Human Resource Development, (iv) Technology Business Incubation, (v) M.Tech Program, and (vi) Ph.D. program. The details on each of these components have been provided in this proposal and are placed at **Annexure 3(pg.27-43)**. The centre will be funded by TIH for the first five years and it will be self-sustainable after that. The logistics of the self-sustainability have also been explained in this proposal. It is to be noted that the proposed M.Tech curriculum in the Centre

for Intelligent Cyber-Physical Systems is tentative and will be finalized in consultation with the concerned Departments after the approval of the Centre and permission to start the program.

- (b) **Centre for Disaster Management and Research**: Honourable Prime Minister of India, Shri Narendra Modi, in his IITG Convocation address on 22nd September 2020, urged the institute to come up with a Centre for Disaster Management at the earliest. He also emphasized the urgent need for such a centre in the North-East India. With this background, IITGuwahati, hereby, proposes to establish a new independent academic and research Centre for Disaster Management and Research (CDMR) and to offer M.S(R) and Ph.D in Disaster Management and Risk Reduction. While Ph.D program will take care of long-term research or innovation agenda, M.S(R) will be apt for short term goal. Details of this proposal are placed at **Annexure 4(pg.44-66)**.

The coordinators of the proposals, Prof. S.K. Dwivedy (Centre for Intelligent Cyber-Physical Systems) and Prof. Hemant B. Kaushik (Centre for Disaster Management and Research) briefed the proposals through presentations before the Senate. The Senate opined that maximum number of M.Tech students enrolled in the Centre for Intelligent Cyber-Physical Systems are to be funded by the Project.

Both the proposals were approved by the Senate of the Institute with the recommendation that the proposals be submitted to the Board for approval.

The Board was requested to consider and approve the proposal to start 2(Two) new Academic and Research Centres :

- a. Centre for Intelligent Cyber-Physical Systems
- b. Centre for Disaster Management and Research

The Board discussed and resolved as below :

Resolution No: R_105BOG/03/2020

The Board unanimously **APPROVED** the proposal to start 2(Two) new Academic and Research Centres :

- a. Centre for Intelligent Cyber-Physical Systems
- b. Centre for Disaster Management and Research

Item No.4

Consider the recommended names for conferring of the IIT Guwahati Alumni Awards in different categories for the year 2020

The Board was informed that the AER office has initiated to confer IIT Guwahati Alumni Awards in different categories from the year 2020. As per the guidelines approved by the Competent Authority, the following three categories of awards acknowledging achievements made by the alumni of IIT Guwahati were approved viz.

1. Distinguished Alumni Award
2. Young Alumni Achiever Award
3. Outstanding Service Award

Following the approval, the AER office received a total of 24 nominations for the above three categories for the Alumni Awards 2020.

As per the Screening and Selection Committee's recommendations, the Standing Committee, headed by the Director, IIT Guwahati had finalized and recommended the following names for approval of the Senate, IIT Guwahati.

YOUNG ALUMNI ACHIEVER AWARD

Sl. No.	Name	Designation and Affiliation
1.	Harpreet S. Dhillon	Associate Professor, Department of ECE, Virginia Tech, Blacksburg
2.	Ankit Nagori	Co-Founder CUREFIT, Bangalore

OUTSTANDING SERVICE AWARD

S. No.	Name	Designation and Affiliation
1.	Kiran Kumar Thota	Product Lead, Amazon AWS, President, PAN IIT USA

DISTINGUISHED ALUMNI AWARD

No Recommendation

The proposal for IIT Guwahati Alumni Awards 2020 has been approved by the Senate of the Institute. The Board was requested to consider and approve the proposed names for IIT Guwahati Alumni Awards in different categories for the year 2020.

The Board resolved as below:

Resolution No: R_105BOG/04/2020

RESOLVED to **APPROVE** the proposed names for IIT Guwahati Alumni Awards in different categories for the year 2020.

Item No.5

Consider and approve the recommendation of the Senate for award of original degree certificates to the students excluded from the list of graduates in the 22nd Convocation

The Board was informed that due to some technical issues the name of a few students got inadvertently excluded from the list of graduates in the recently concluded 22nd Convocation. However, after further/repeated verification the following students are found to be eligible for the award of degree :

Sl.No.	Roll No.	Name	Programme/Department
1	140121010	B.S. LOHITH KUMAR	BTech/EP
2	160103019	DASARI RAGHUPRASAD	BTech/ME
3	160103023	DEEPESH CHOUDHURY	BTech/ME
4	160107051	SAMBIT HOTA	BTech/CL
5	174102042	VIJAY KUMAR GARG	MTech/EEE
6	174102047	HIMANSHU SINGH	MTech/EEE
7	174104060	CHANDRA SHEKHAR SOYAL	MTech/CE
8	184104060	NIRDESH KUMAR SHARMA	MTech/CE
9	184104409	DEVASISH LAHKAR	MTech/CE

The printing of the original degree certificates of the students who have recently graduated in the 22nd Convocation will be started by the Academic Section. The students as given in the table above, may also be allowed to be issued original certificates alongwith the graduates of 22nd Convocation.

The Board was requested to consider and approve the same.

Resolution No: R_105BOG/05/2020

The Board **APPROVED** the names of the students excluded from the list of graduates in the 22nd Convocation for award of original degree certificates.

Item No.6

Consider the appointment of Honorary/Adjunct/Visiting/Distinguished Professor and Professor of Practice

The Board was informed that the Institute had invited applications from distinguished academicians and researchers from abroad to pave way to interact and exchange ideas with regular faculty and students that can lead to joint collaborative research and fresh perspective in education, research and technology development. These faculties may have short term visits and are different from the pool of the regular faculty members. Twenty-six applications were received from six countries along with two applications from India. These applications have been evaluated by the Department Faculty Advisory Committee (DFAC) and recommended to Faculty Affairs for consideration.

Faculty Affairs has further evaluated the applications recommended by DFAC with a Screening committee having senior faculties of different branches (five branches) and the report was placed to Institute Faculty Advisory Committee (IFAC) for consideration.

The online meeting of the IFAC was held on 30.10.2020 and IFAC recommended to consider 22 applications for appointment as Honorary/Adjunct/Visiting/Distinguished Professor and Professor of Practice. Further, the Committee also recommended that the selected Honorary/Adjunct/Visiting/Distinguished Professor and Professor of Practice may avail the following facilities:

Accommodation: The faculty members may stay in the IIT Guwahati Guest House on payment basis at official rates. The charges incurred will be borne by the concerned Department/Centre.

Tenure: The applicant may be given two-year appointment, which may be extended as per the recommendation of the Department/Centre based on the performance.

Medical Benefits: The faculty members will be considered to be provided medical OPD facilities for the self ONLY in the IIT Guwahati hospital. Inclusion of the faculty in the Group Medical Insurance Scheme (GMIS) would not be feasible as per the prevailing agreement with the insurer.

Remuneration: Explicitly not paid jobs as mentioned in BOG minutes for Visiting/Adjunct/Distinguished/ Honorary Professor and Professor of Practice. Subject to availability of the funding, the remuneration may be given by the respective Department/Centre during their stay at IIT Guwahati.

Travel: Subject to availability of the funding, the travel expenses within India to reach Guwahati may be provided by the respective Department/Centre.

Recommendation of the IFAC is enclosed herewith as **Annexure – 5(pg.67-70)**.

The Board was requested to consider and approved the recommendations of the IFAC.

Resolution No: R_105BOG/06/2020

The Board unanimously **APPROVED** the recommendations of the IFAC for appointment of

Honorary/Adjunct/Visiting/Distinguished Professor and Professor of Practice.

Item No.7

Consider the List of Experts and Board Nominees for Selection Committee(s) for selection of Faculty Positions in various Academic Department(s) of the Institute

As per the provisions of the Statutes 12(3), the Selection Committees for filling up the posts of Faculty and Technical Officers, in the Institute, there shall be two nominees of the Board. As per the convention in force, Departments concerned prepare a list of experts which is forwarded to the Board for consideration as a panel of experts. On approval by the Board, the Director nominates experts for particular Selection Committees from the relevant panel based on specialisation and availability of experts. Panel of experts duly approved by the Board, exists for all the Departments.

Accordingly, the list of experts forwarded by the following Departments for consideration as Board's nominees and Senate Nominees in the Selection Committees for faculty positions, which can also be used for selection of Technical Officers in the Departments are placed as Annexure as detailed below:

Sl. No.	Department	Annexure 6
1	Biosciences and Bioengineering	Annexure 6A NOT FOR PUBLIC DOMAIN
2	Chemical Engineering	Annexure 6B NOT FOR PUBLIC DOMAIN
3	Chemistry	Annexure 6C NOT FOR PUBLIC DOMAIN
4	Civil Engineering	Annexure 6D NOT FOR PUBLIC DOMAIN
5	Computer Science and Engineering	Annexure 6E NOT FOR PUBLIC DOMAIN
6	Design	Annexure 6F NOT FOR PUBLIC DOMAIN
7	Electronics and Electrical Engineering	Annexure 6G NOT FOR PUBLIC DOMAIN
8	Humanities and Social Sciences	Annexure 6H NOT FOR PUBLIC DOMAIN
9	Mathematics	Annexure 6I NOT FOR PUBLIC DOMAIN
10	Mechanical Engineering	Annexure 6J NOT FOR PUBLIC DOMAIN
11	Physics	Annexure 6K NOT FOR PUBLIC DOMAIN

The Board was requested to consider the list of experts and approve. The Board is also requested to authorize the Director to nominate experts from the approved list based on their specialization and availability.

Resolution No: R_105BOG/07/2020

The Board **APPROVED** the list of experts as proposed by the various Academic Department(s) of the Institute for Selection Committees for faculty positions which can also be used for selection of Technical Officers in various Departments. The Board also authorized the Director to nominate experts from the **APPROVED** list(s) based on their specialization and availability.

Item No.8

Consider the List of Experts and Board Nominees for Selection Committee(s) for selection of Group 'A' Officers and Medical Officers (excluding Technical Officers)

As per the provisions clause 12(3)(c), (d) & (e) of the Statutes, the Selection Committees constituted for filling up the various posts mainly Group 'A' posts other than teaching post under the Institute, there shall be one or two nominees of the Board, according to title of the posts. Accordingly, in the 82nd and 83rd meetings of Board of Governors of the Institute held on 29.09.2015 and 26.12.2015 respectively, a list of such experts for nomination of Board's Nominees in the Selection Committee for selection of such Group 'A' Officers and Doctors (excluding Technical Officers) was approved by the Board. Over the years, the Board Nominees who were holding mostly tenure posts have relinquished their positions. In view of above, it becomes necessary to have a fresh list of nominees duly approved by the Board for recruitment of various Group 'A' positions of the Institute. The fresh list of nominees is placed at **Annexure 7 (NOT FOR PUBLIC DOMAIN)**

It may be mentioned that the Board in its 88th BOG meeting vide resolution No.R_88BOG/08/2017 resolved that proposal of the Board nominee as technical expert in the Selection Committee for Technical Officer (Group A posts) be drawn from the list of Board nominees already approved for Faculty positions in various departments. Further that the Director of the Institute be authorised to nominate experts from the approved list based on their specialization and availability.

The Board was requested to consider and approve the list of nominees as placed at **Annexure – 7 (NOT FOR PUBLIC DOMAIN)**.

Resolution No: R_105BOG/08/2020

The Board **APPROVED** the list of nominees as placed at **Annexure - 7**

Item No.9

Discontinuation of Interview at Junior level post(s) upto Level – 7 (GP ₹ 4600) in the Institute

In terms of MHRD's letter No. 44-2/2014-TS.1 dated 18.02.2016, the BOG in its 84th meeting held on 24.03.2016 took a decision to discontinuation of interview for recruitment of junior level posts. Accordingly, all the direct recruitment of Group 'B' and 'C' positions were conducted through written test/ skill test/ laboratory test/ physical test etc.

Eventually, the DoPT vide letter No.39020/02/2016-Estt (B) dated 13.04.2017 clarified that the decision of discontinuation of interview in junior level posts in the Government is applicable to recruitment to all posts upto Group 'B' (Non-Gazetted) irrespective of mode of appointment i.e. promotion, deputation, direct recruitment etc.

Accordingly, Competent Authority of the Institute vide circular No.R&P/174/Modality/IR/2020/898 dated 21.10.2020 constituted a Committee consisting of Deputy Director, Registrar, JR(Administration) & AR(Legal) for finalization of modalities for internal recruitment procedure. The committee noted the instruction received from the Ministry (vide letter no.44-2/2014-TS.1 dated 18.02.2016 forwarded Office Memorandum no.39020/01/2013 –Estb(B) dated 29.12.2015 pertaining to decision of discontinuation of interview at Junior level posts up to Group 'B' (non-gazetted) irrespective of mode of appointment i.e. deputation, promotion and direct recruitment etc. But, the Committee could not find the definition of Non-Gazetted posts for Group B as a Post carrying same Pay Level may be Gazetted in one department/ Ministry which may be Non-Gazetted in another Department/ Ministry. It depends upon the policy of the

Government. The Committee also noted that Indian Institute of Technology Guwahati is an autonomous organisation under Ministry of Education and there is no Gazetted posts in the Institute.

In view of the above, in terms of the Ministry's letter no.44-2/2014-TS.1 dated 18.02.2016, the Committee recommended discontinuation of interview upto Pay Level – 7 (GP ₹ 4600/-) for both Technical & Non-technical posts in the Institute.

The Board was requested to implement the same at the Institute.

The Board discussed the matter and resolve as below :

Resolution No: R_105BOG/09/2020

The Board **APPROVED** to implement the recommendations of the Committee for discontinuation of interview upto Pay Level – 7 (GP ₹ 4600/-) for both Technical & Non-technical posts in the Institute in terms of the Ministry's letter no.44-2/2014-TS.1 dated 18.02.2016.

Item No.10

Consider the Annual Performance Appraisal Report (APAR) marks for promotion of the Internal candidates as per actual

An Agenda was placed before the BoG in its 94th meeting held on 14th November 2018 to consider the actual marks of the APAR for the purpose of calculating the weightage from APAR scores in case of promotion of the Non-teaching employees. The BoG after deliberation Resolved that the implication of the Government circular under reference number 21011/1/2005-Estt. (A) (Pt-II) dated 14.05.2009 be examined through a committee for possible implementation at the Institute. It was resolved further that, till then the earlier process considering actual APAR marks be continued for the purpose of calculating weightage from APAR scores in case of promotion. The extracts of the Minutes is placed at **Annexure 8(pg.83-84)**.

Accordingly, a Committee consisting of Deputy Director, Registrar, JR (Administration) and AR (Legal) has examined the status of implementation of the DoPT circular No. 21011/1/2005-Estt (A) (Pt-II) dated 14th May 2009 in the Institute as per the Resolution No. R_94BOG/04/2018 of 94th BoG held on 14th November 2018. The Committee noted that all the decisions mentioned in the said Circular are implemented in the Institute for a long time and hence recommended to place the same before the BoG. The status report is at **Annexure-9(pg.85-86)**.

In view of above, the Board was requested to consider and approve the proposal to consider the actual marks of their APAR for the purpose of calculating their weightage from APAR scores in case of promotion.

The Board resolved to approve as below:

Resolution No: R_105BOG/10/2020

The Board **APPROVED** the proposal to consider the actual marks of APAR of Internal candidates for the purpose of calculating their weightage from APAR scores in case of promotion.

Item No.11

Consider the revised procedure of the Scheme for Compassionate Appointment

The Board was informed that as per Resolution No: R-101BOG/20/2019 it was resolved that a committee to be constituted to review the proposal and prepare the guidelines/policy of the Scheme for Compassionate Appointment in the Institute. Accordingly a committee was constituted. The committee members met on 09.10.2020 and 13.10.2020 to discuss on the modalities to develop a point bases merit system to consider cases of appointment/selection under compassionate ground. The minutes of the meeting is placed as **Annexure – 10(pg.87)**. The new guidelines/policy for compassionate appointment scheme is also placed as **Annexure – 11(pg.88-97)**.

The Board was requested to consider and approve the new guidelines/policy for compassionate appointment scheme as placed.

Resolution No: R_105BOG/11/2020

The Board **APPROVED** the new guidelines/policy for Compassionate Appointment Scheme in the Institute.

Item No.12**Consider and approve the recommendations of the 45th Meeting of the Finance Committee to be held on 30.11.2020**

The Forty Fifth Meeting of the Finance Committee of the Institute is scheduled to be held preceding this Board meeting on 30.11.2020. The copy of the agenda items for discussion in the said Finance Committee will be placed before the Board for reference on the day of the meeting. In terms of the Section 5 (7) of the Statute, the recommendations of the Committee will be conveyed during the meeting. The following agenda items are proposed in the 45th Meeting of the Finance Committee of the Institute :

1. To review the expenditure under Capital and Revenue Head for the Financial Year 2020-21 (upto 30.10.2020)
2. To consider budget estimates of 2021-22 under both Capital and Revenue Head:
3. To accord financial sanction for the works recommended by 87th Building & Works Committee (B&WC):
4. To report on Project Implementation Progress Report (PIPR) under HEFA:
5. Status of loan proposal for construction of 500-seater hostel under E.W.S. scheme from Higher Education Funding Agency (HEFA):
6. To consider the clarification regarding Cumulative Professional Development Allowance (CPDA):
7. To consider the proposal of setting up of Centre for Disaster Management and Research(CDMR):
8. To consider the appointment of International Visiting /Honorary/Distinguished Faculty/Fellow/Professor at IIT Guwahati:
9. To consider the recommendations of the committee appointed for constituting different categories of awards acknowledging the achievements made by the faculty members of IIT Guwahati:
10. To consider the proposal for enhancement of financial assistance to file National patents:

The Board is requested to consider the recommendations of the Finance Committee and approve.

Resolution No: R_105BOG/12/2020

The Board **APPROVED** the recommendations of the Finance Committee. The Board also **APPROVED** the following clarification of the Finance Committee i.r.o. Point No. 6 :

- The Institute will clearly follow the guidelines of the Ministry for disbursement/reimbursement of CPDA.

Item No.13

Consider and accord Administrative Approval of the estimate for “Construction of a new 11/0.433 KV Electrical Substation including Installation, testing and commissioning of transformers for power supply to the Nano Centre building, Research park and proposed BSBE building at IITG campus

The Board was informed that a new 11/0.433 KV electrical substation is required for the power supply to the newly constructed as well as proposed for construction to be taken up in the FY 2020-21. The existing substations are already saturated and no scope for feeding of power to the upcoming buildings. The B&WC in its 87th meeting held on 12th November 2020 has approved the estimate for “Construction of a new 11/0.433 KV Electrical Substation including Installation, testing and commissioning of transformers for power supply to the Nano centre building, Research park and proposed BSBE building at IITG campus” for ₹ 318.03 Lakhs through invitation of open tender including method of tendering proposed. The committee also recommended for administrative approval and financial sanction of ₹ 318.03 Lakhs. The matter was also placed and approved in the 45th Meeting of the Finance Committee held on 30.11.2020.

The Board was requested to accord administrative approval for ₹ 318.03 Lakhs.

Resolution No: R_105BOG/13/2020

The Board **APPROVED** to accord administrative approval for ₹ 318.03 Lakhs of the estimate for “Construction of a new 11/0.433 KV Electrical Substation including Installation, testing and commissioning of transformers for power supply to the Nano Centre building, Research park and proposed BSBE building at IITG campus.

Item No.14

NOT FOR PUBLIC DOMAIN

Item No.15

Consider the proposal for enhancement of financial assistance to file National Patents

The Board was informed that as per the recommendation of the Finance Committee of the Institute, Board of Governors in its 88th meeting held on 23.03.2017 vide resolution no.R.88BOG/10/2017 approved the proposal of providing financial assistance by the Institute upto 50% of the cost of filling of national patent application to the faculty members of the Institute. Based on this approval and as per the notification of the Research & Development section of the Institute, presently Faculty members are provided with financial assistance of 50% of the cost of filling one national patent or ₹30,000/- (Rupees thirty thousand only) whichever is less every financial year. Based on availability of fund, if someone files more than one application, 50% cost of filing is provided as per the decision of the Authority. During the financial year 2020-21 an amount of ₹50,00,000/_ (Rupees fifty Lakh only) Is earmarked for this purpose.

The Intellectual Property Right and Management Committee of the Institute in its meeting held on 15.10.2020 has proposed for the increase this financial assistance to ₹2,00,000/- per applicant for multiple number of applications which will be reviewed in December 2020. They also emphasised on the importance of encouraging the students and post-doctoral fellows to file patents. The copy of the minutes of the meeting is enclosed at **Annexure -12(pg.98)**.

In view of the above, Board is requested to approve increase of financial support for national patent filing to ₹2,00,000/- per applicant for multiple number of patent applications and based on the availability of fund a review may be done whenever felt necessary.

The Board deliberated on the matter and resolved as follows:

Resolution No: R_105BOG/15/2020

The Board **APPROVED** the increase of financial assistance for national patent filing upto Rs.200000/-. The Board also **APPROVED** the enhancement upto 2 Crores earmarked for this purpose instead of the proposed amount of Rs.50 Lakhs for the FY 2020-21. If the amount exceeds 2 Crores than the proposal may be submitted to the Finance Committee of the Institute for approval.

Item No.16

Consider the Annual Report of IIT Guwahati for the year 2019-20

As per the provisions of the Statutes, Annual Report 2019-20 of the Institute is prepared and placed before the Board.

The Board is requested to consider the Annual Report for the year 2019-20. The Board is also requested to authorise the Chairman, BOG to finally approve both the English and Hindi versions of the Annual Report when they are ready from all aspects to be sent to the Ministry of Education, Govt. of India for tabling before the Parliament.

The Board was requested to consider the proposal and approve the same.

Resolution No: R_105BOG/16/2020

The Board **APPROVED** the Annual Report of IIT Guwahati for the year 2019-20

Item No.17

Consider amendment in the composition of Institute Central Disposal Committee of the Disposal Manual of IIT Guwahati, 2011

The Board was informed that the Disposal Manual of IIT Guwahati was approved in the 66th Board Meeting of the Institute. During the preparation of the manual the Stores and Purchase Section of the Institute was under the Administrative control of the Dean of Administration. Also, as per Clause 3.1 of the manual Dean of Administration has been assigned the responsibility as Chairman of the Institute Central Disposal Committee (**Enclosed as Annexure-13)(pg.99)**). But at present Stores and Purchase Section is under the administrative control of the Deputy Director. Therefore, to carry on with the disposal work(s) of the Institute

smoothly without inviting any adverse observation from any quarter, the composition of the Institute Central Disposal Committee with the Deputy Director as the Chairman in place of Dean of Administration may be incorporated in the disposal manual.

The Board is requested to consider the proposal and approve the same.

Resolution No: R_105BOG/17/2020

The Board **APPROVED** the proposal to incorporate the Deputy Director of the Institute as the Chairman of the Institute Disposal Committee in place of the Dean Administration.

Item No.18

Consider and approve the extension of term of Prof. Gautam Barua as member of the Finance Committee of the Institute

The Board was informed that the term of Prof. Gautam Barua, Director, IIT Guwahati as a member of the Finance Committee of the Institute had expired. Therefore, it is proposed to extend the term of Prof. Barua for another 2(Two) years.

The Board is requested to consider and approved the same.

Resolution No: R_105BOG/17/2020

The Board **APPROVED** to extend the term of Prof. Gautam Barua as a member of the Finance Committee of the Institute for a period of another 2(Two) years w.e.f. 29.08.2019.

Item No.19

Consider replacement of the vehicle used by the Security of the Institute through Buy-Back Scheme

The Security Section of the Institute is using a Mahindra Bolero for patrolling and security purposes within the campus. The present vehicle was brought on 27.03.2009 and has run over 145348 kilometres. The condition of the vehicle is such that it requires constant repairing and maintenance to keep it running. Considering that the vehicle is more than 10 years old and has covered more than 1.4 lakh kms it is proposed to replace the vehicle with another of similar nature through buy-Back Scheme.

The matter will also be placed in the 45th Meeting of the Finance Committee to be held on 30.11.2020.

The Board is requested to consider and approve the same.

Resolution No: R_105BOG/19/2020

The Board **RESOLVED** to **APPROVE** the proposal of replacement of the vehicle, following the procedure laid in GFR – 2017.

SECTION-C : Items for Ratification and Reporting

Item No.20

Items approved by the Chairman, BOG

a. New Appointments for Honorary Faculty (Foreign National & Indian National):

Sl.No	Official	Position	Term of Appointment	Dept/Centre
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1	Prof. Anabel Ford	Honorary Faculty	For 2(Two) years from joining	HSS
2	Prof. Ashok Misra	Honorary Faculty	For 2(Two) years from joining	Chemical Engg.
3	Prof. Brian C Lovell	Honorary Faculty	For 2(Two) years from joining	EEE
4	Dr Bruce Balentine	Honorary Faculty	For 2(Two) years from joining	CLST
5	Dr Jayanta B Sarma	Honorary Faculty	For 1(One) year from joining	Environment
6	Dr Karl F Mac Dorman	Honorary Faculty	For 2(Two) years from joining	EEE
7	Prof. Ken Ono	Honorary Faculty	For 2(Two) years from joining	Mathematics
8	Dr Raksh Vir Jasra	Honorary Faculty	For 2(Two) years from joining	Nanotechnology
9	Dr Rajiv V Joshi	Honorary Faculty	For 2(Two) years from joining	EEE
10	Dr W.S. Winston Ho	Honorary Faculty	For 2(Two) years from joining	Chemical Engg.
11	Prof. Yuji Iwahori	Honorary Faculty	For 2(Two) years from joining	EEE
12	Prof. S. C. Sharma	Honorary Faculty	For 2(Two) years from joining	Energy

The Board was requested to ratify the same.

Resolution No: R_105BOG/20(a)/2020

RESOLVED to RATIFY the decision taken by the Chairman, BOG as above.

Item No.21

Items approved by the Director

a. Confirmation of Faculty Members

On successful completion of the period of probation and other formalities, the services of the following faculty members were confirmed in their respective posts with the approval of the Director as mentioned below :

Sl.No.	Name	Post
1	Dr. Vinayak Narayan Kulkarni	Professor, Dept. of Mechanical Engineering
2	Dr. R. Ganesh Narayanan	Professor, Dept. of Mechanical Engineering
3	Dr. Sukhamay Pal	Professor, Dept. of Mechanical Engineering
4	Dr. Pankaj Biswas	Professor, Dept. of Mechanical Engineering
5	Dr. Amaresh Dalal	Professor, Dept. of Mechanical Engineering
6	Dr. Karuna Kalita	Professor, Dept. of Mechanical Engineering
7	Dr. Shakuntala Mahanta	Professor, Dept. of HSS
8	Dr. Prabhu Venkataraman	Professor, Dept. of HSS
9	Dr. Anamika Barua	Professor, Dept. of HSS
10	Dr. Sukanya Sharma	Professor, Dept. of HSS
11	Dr. Ngamjahao Kipgen	Associate Professor, Dept. of HSS
12	Dr. Sanjib Ganguly	Associate Professor, Dept. of EEE
13	Dr. Ashok Kumar Dasmahapatra	Professor, Dept. of Chemical Engineering
14	Dr. Resmi Suresh M.P.	Asst. Professor Gr-I, Dept. of Chemical Engineering
15	Dr. Rajan Choudhary	Professor, Dept. of Civil Engineering
16	Dr. Bhubaneswar Mandal	Professor, Dept. of Chemistry
17	Dr. Chivukula Vasudeva Sastri	Professor, Dept. of Chemistry
18	Dr. Debasis Manna	Professor, Dept. of Chemistry
19	Dr. Debapratim Das	Professor, Dept. of Chemistry
20	Dr. Chandan Kumar Jana	Professor, Dept. of Chemistry

21	Dr. Chandan Mukherjee	Professor, Dept. of Chemistry
22	Dr. Subhas Chandra Pan	Professor, Dept. of Chemistry
23	Dr. Achalkumar Ammathnadu Sudhakar	Professor, Dept. of Chemistry
24	Dr. Kalyan Raidongia	Associate Professor, Dept. of Chemistry
25	Dr. Dipankar Srimani	Associate Professor, Dept. of Chemistry
26	Dr. Uttam Manna	Associate Professor, Dept. of Chemistry
27	Dr. Ajaikumar Bahulayan Kunnumakkara	Professor, Dept. of BSBE
28	Dr. Vibin Ramakrishna	Professor, Dept. of BSBE
29	Dr. Biman Behari Mandal	Professor, Dept. of BSBE
30	Dr. Soumen Kumar Maiti	Associate Professor, Dept. of BSBE

b. Lien in respect of Dr. Charu Monga, Department of Design

Dr. Charu Monga, Assistant Professor, Department of Design, had received an offer of appointment to the post of Assistant Professor at Indian Institute of Technology Delhi. Dr. Monga had requested for grant of lien for a period of three years or as per rule to join Indian Institute of Technology Delhi.

The Competent Authority of the Institute has approved lien for a period of 13(Thirteen) months w.e.f. 30.09.2020 (A.N.) to enable her to join IIT Delhi as Assistant Professor.

c. Appointment of Prof. Archana Barua as Visiting Professor in the Department of Humanities and Social Sciences

Prof. Archana Barua retired on superannuation from IIT Guwahati in the post of Professor on September 30, 2020. The DFAC members of the Department of HSS has stated that the service of Prof. Barua should be extended till the end of the semester as she has offered a course HS 112. Subsequently, Prof. Archana Barua has been invited as a Visiting Professor in the Department of HSS for a period of 3(Three) months w.e.f. 1st October, 2020 to 31st December, 2020 under the following terms and conditions:

1. She will be provided a fixed remuneration of **NOT FOR PUBLIC DOMAIN** per month with statutory deduction as applicable including her license fee for her allotted quarter.
2. She can avail the library facilities at IIT Guwahati
3. Outdoor medical facilities for herself and her dependents staying at IITG Campus (basic only).
4. Departmental support for academic activities.
5. Leave will be on a proportional basis assuming 8 days casual leave, 30 days earned leave and 20 days half-pay leave in a year.

d. Extension of relaxation of CCS (LTC) Rules to travel by air to North East Region Jammu & Kashmir(J&K) and Andaman & Nicobar Islands (A&N) for another period of two years, w.e.f. 26th September 2020 till 25th September, 2022

The Ministry of Finance, GoI, vide OM No.F.No.12(2)/2020-EII(A) Dated 12th October 2020 has extended the relaxation of CCS (LTC) Rules to travel by air to North East Region Jammu & Kashmir(J&K) and Andaman & Nicobar Islands (A&N) for another period of two years, w.e.f. 26th September 2020 till 25th September, 2022. The same has been implemented in the Institute.

e. Ph.D. Fee structure for TWAS-DBT Fellowship

TWAS-DBT Postgraduate Fellowships are tenable at key biotechnology research institutions in

India for a period of upto 5(Five) years. IIT Guwahati has also received a few applications from foreign applicants to pursue Full Time PhD to its various programmes with funding from TWAS-DBT. Presently, IIT Guwahati has the following fee structure for SAARC and Non-SAARC countries :

Total Fees(in Rupees) Payable at the Time of Admission (For Foreign Nationals)			
Countries	Studentship Category	Residential Status	Amount (in Rupees)
SAARC Countries	Regular	Hosteller	\$2000 (Tuition Fee)+Rs.51030 (Other Fees including Hostel)
Non-SAARC Countries	Regular	Hosteller	\$4000 (Tuition Fee)+Rs.51030 (Other Fees including Hostel)

As per communication received from the DBT stating that as DBT-TWAS PhD Fellowship is funded by the Government of India, tuition fee or any other fee charged to foreign nationals must be at par with the fee structure applicable to the Indian students. The following fee structure was proposed which has been earlier recommended and ratified in the 143rd Senate for ASEAN fellowship:

Total Fees(in Rupees) Payable at the Time of Admission	Rs.53530/-
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f. Revised Fee Structure for B.Tech/B.Des Programmes

The Fee revision of the 1st Semester students of MA, MTech, MDes, MSc, MS(R), PhD, MTech+PhD, MS(Engg)+PhD students admitted in the July 2020 session was already been approved by the BOG in its 103rd Meeting held on 15.07.2020. Since, the 1st Semester BTech/BDes students have joined the Institute w.e.f. 13th November, 2020, the proposed revised fee structure is given as below :

Particulars	BTech/BDes
A One Time Fee	
A.1 Admission Fee	1500
A.2 Certificates Fee	750
A.3 Medical Examination Fee	100
A.4 Student Welfare Fund	200
A.5 Identity Card Fee	100
A.8 Alumni Fund	1500
A.9 Modernization and Upgradation Fee	1000
B One Time Deposits (Refundable)	
B.1 Institute Caution Money	1000
B.2 Library Caution Money	1000
C Components from Payable at Every Semester	
C.1 Tuition Fee (for all Non-PWD Students belonging to General or OBC-NCL category and whose Parents' Annual Income is above five lakhs)#	100000
C.2 Examination Fee	500
C.3 Registration/Enrollment fee	1000
C.4 Academic Facilities fee	2500
D. Payable at the time of admission & every July-November Semester Registration	
D.1 Medical Facilities Fee	1800
Total Seat Booking FEE to be paid	112950

For SC/ST/PwD Students, there is NO Tuition Fee. For Most Economically Backward Students whose Parents' Annual Income is below 1 lakh, the Tuition Fee is fully waived. For Other Economically Backward Students whose Parents' Annual Income is between 1 lakh and 5 lakhs, the two-third of Tuition Fee is waived.

Resolution No: R_105BOG/21/2020

The Board **NOTED** the matter(s) as **REPORTED**.

Item No. 22

Items for reporting to the Board

a. Proposal for Online Joint Industry Honor Degree by TCSiON

TCSiON has proposed for starting an online Joint Industry Honour Degree programme in Data Science with IIT Guwahati.

The main features of the proposed programme are :

- Flexi Degree program – Multiple entry – exit model
- Ability to carry forward Credits
- Gain industry relevant knowledge
- Exposure to industry experts in every semester of the degree programme
- Gain hands-on experience and build industry-skills to improve employability
- Get opportunity to showcase skills to potential recruiters

The Senate in its 145th Meeting noted that to study the proposal, a committee had been constituted with DoAA as the Chairperson. The committee will discuss with the TCSiON team and submit its recommendations to the Senate. In the meantime, Coursera has also come forward with a proposal to launch an online Master's degree programme jointly with IIT Guwahati. It was opined that the same committee will also look into the proposal by Coursera. The Senate was of the view that the proposal was a good initiative to be implemented in the direction of NEP 2020.

Resolution No: R_105BOG/22/2020

The Board **NOTED** the matter as **REPORTED**.

SECTION – D : Minutes of the meetings of Statutory bodies for reporting to the Board

Item No. 23

Minutes of the One Hundred and Fiftieth (150th) meeting of the Senate of the Institute held on 05.11.2020

The Minutes of the One Hundred and Fiftieth (150th) meeting of the Senate of the Institute held on 05.11.2020 is placed separately before the Board. The following were the agenda items and Resolutions of the 150th Meeting of the Senate of the Institute :

Sl.No.	Agenda Item	Resolution
1	To consider academic plan for next semesters	The Senate RESOLVED that the proposal of academic plan for AY 2020-2021 as placed before the Senate be APPROVED .
2	To consider the Academic Calendars for next semesters	The Senate RESOLVED that the Academic Calendar for the First Year Undergraduate Programmes of AY 2020-2021 and for regular Winter Semester and Summer Term of AY 2020-2021 be APPROVED . Further, the Senate

		authorized the Chairman, Senate to do the needful if the proposed Academic Calendars needed to be changed due to exigencies.
3	To consider proposals to start two (02) new centres, viz. Centre for Intelligent Cyber-Physical Systems and Centre for Disaster Management and Research	The Senate RESOLVED that proposals to start two (02) new centres, viz. Centre for Intelligent Cyber-Physical Systems and Centre for Disaster Management and Research be APPROVED and RECOMMENDED to be placed in the BOG.
4	To consider the Proposal for Starting Online Master's Degree Programme	The Senate RESOLVED that the proposal for starting Online Master's Degree Programme as per discussion in the Senate Meeting be APPROVED .
5	To consider the TCS iON Proposal for online Joint Industry Honor Degree	The Senate RESOLVED that the proposal for Online Joint Industry Honor Degree as per discussion in the Meeting be APPROVED .
6	To consider the proposal from the Office of The Dean (Outreach Education Programme) for Joint Doctoral Degree Programme Between IIT Guwahati and IIT (BHU)	The Senate RESOLVED that the proposal for Joint Doctoral Degree Programme between IIT Guwahati and IIT (BHU) be APPROVED .
7	To consider the request to increase PhD seats in special admissions under UGC/CSIR/INSPIRE JRF scheme in the Department of Chemistry	The Senate RESOLVED that the request to increase Ph.D seats in special admissions under UGC/CSIR/INSPIRE JRF scheme in the Department of Chemistry be APPROVED . The Senate further RESOLVED that the proposal for Ph.D seats in the special pool as 0.5 times the faculty strength be APPROVED .
8	To consider the proposal for IIT Guwahati Alumni Awards 2020	The Senate RESOLVED that the proposal for IIT Guwahati Alumni Awards 2020 as mentioned in the meeting be APPROVED and RECOMMENDED to be placed in the BOG.
9	To consider the lists of Experts as the Senate nominees for the Departments of Computer Science and Engineering, Civil Engineering, Electronics and Electrical Engineering and Mechanical Engineering.	The Senate RESOLVED that the lists of Experts as the Senate nominees for the Departments of Computer Science and Engineering, Civil Engineering, Mechanical Engineering and Electronics and Electrical Engineering be APPROVED .
10	To consider implementation plan for New Education Policy (NEP) 2020	The Senate RESOLVED that the committee formed to formulate guidelines for implementation of NEP 2020 be APPROVED .

Resolution No: R_105BOG/23/2020

The Board **APPROVED** the Minutes the One Hundred and Fiftieth (150th) meeting of the Senate of the Institute held on 05.11.2020 as **REPORTED**.

Item No.24

Minutes of the Eighty Seventh (87th) meeting of the Building & Works Committee of the Institute held on 08.09.2020

The Minutes of the Eighty Seventh (87th) meeting of the Building & Works Committee of the Institute held on 12.11.2020 is placed before the Board separately.

Resolution No: R_105BOG/24/2020

The Board **APPROVED** the Minutes the Eighty Seventh (87th) meeting of the Building & Works Committee of the Institute held on 12.11.2020 is as placed.

Item No.25

Consider the proposed list of Subject Experts pertaining to upgradation of Professors to Pay Level 15 (HAG)

The revised norms related to upgradation of the Professors to Pay Level 15 (HAG as per 6th CPC) has been revised and approved by the BoG of the Institute in its 103rd Meeting held on 15.07.2020. As per Board resolution, shortlisted applications in respect of eligible Professors will be sent to Subject Experts approved by the BoG for specific comments and recommendations.

A proposed list of panel of Subject Experts in respect of all eleven departments of the Institute has been prepared and placed below as **Annexure – 14 (NOT FOR PUBLIC DOMAIN)**

The Board was requested to consider and approve the proposed list place as Annexure-14

Resolution No: R_105BOG/26/2020

The Board **RESOLVED** to **APPROVE** the proposed list placed as Annexure-14.

The meeting ended with a vote of thanks to the Chair.

Prof. Suresh S.M.
Registrar &
Secretary, Board of Governors
IIT Guwahati

Annexure - 1

ALREADY UPLOADED

Sub.: Action taken report of the decision of the 104th Meeting of the Board of Governors, IIT Guwahati

Item No.	Items	Resolutions	Remarks
1.	Confirmation of the Minutes of the 103 rd Meeting of the Board of Governors of the Institute held on 15.07.2020	R 104BOG/01/2020: RESOLVED that the corrected version of the minutes of the 103 rd Meeting of the Board of Governors of the Institute held on 15.07.2020 be CONFIRMED as placed in Annexure -1	Resolution is noted for record
2.	Consider the action taken report of the decisions of the 103 rd Meeting of the Board of Governors of the Institute held on 15.07.2020	R 104BOG/02/2020: RESOLVED that the actions taken on the decisions of the 103 rd Meeting of the Board of Governors of the Institute held on 15.07.2020 be NOTED as reported.	Resolution is noted for record
3.	Consider and approve recommendation of Senate for award of degrees and medals to the students in the Twenty Second Convocation	R 104BOG/03/2020 : RESOLVED that the award of degrees and medals to the students in the 22 nd Convocation be approved as per the list enclosed as Annexure – A	Resolution is noted for record
4	Update the existing reservation roster for Non-Faculty positions in connection with implementation of Economically Weaker Sections (EWS) Scheme and creation of cadres for non-faculty posts	R 104BOG/04/2020 : The Board RESOLVED to APPROVE the roster as on 01.05.2019 and implementation of redrawn roster as on 01.01.2020 considering the scheme for reservation of EWS and also cadre structure of non-faculty positions as presented and advised that while implementing these roster(s), Government regulations regarding reservation should be strictly adhered to.	Implemented
5.	Consider the clarification regarding CPDA (Cumulative Professional Development Allowance)	R 104BOG/05/2020 : RESOLVED to ADVISE that : a) The proposal related to the use of CPDA funds be routed through the Finance Committee of the Institute. b) The reimbursement claims from CPDA for contingency expenses by the Institute till 01.07.2020 is to be made as per the existing norms of the Institute. Claims received after 02.07.2020 for contingency expenses from CPDA may be kept in hold till the proposal as at 'a' is finalised.	To be placed in the 45 th FC Meeting to be held on 30.11.2020 Intimated respective section for further needful.

6	Consider the proposal regarding queries and appeals requesting for Agenda Papers of the meetings of the Board of Governors	R 104BOG/06/2020 : RESOLVED to APPROVE that the Agenda Papers of the meetings of Board of Governors may be given for public observation as per the RTI Act.	Noted for compliance
7.	Consider the recommendations of the Committee appointed for constituting different categories of awards acknowledging the achievements made by the Faculty members of IIT Guwahati	R 104BOG/07/2020 : The Board in principle APPROVED to accept the guidelines for faculty awards and advised that the awards ceremony date to be finalised at the Institute level. However, the funding aspect of these awards is to be routed through the Finance Committee of the Institute.	To be placed in the 45 th FC Meeting to be held on 30.11.2020
8	Consider and accord administrative approval for the estimate of Vertical Extension of Annex building of Mechanical Engineering Department	R 104BOG/08/2020 : The Board RESOLVED to ACCORD Administrative Approval of a sum of Rs.1100.00 lacs for the Vertical Extension of Annex Building of Mechanical Engineering Department at IITG Campus.	Intimated the IPM Section for further needful.
9	Consider revised proposal under Higher Education Funding Agency (HEFA):	R 104BOG/10/2020 : The Board APPROVED the revised proposal for projects under HEFA within the same budget.	DPR is under process
10	Consider the revised fee structure for the continued students for July-Nov semester, 2020	R 104BOG/11/2020 : The Board APPROVED the revised fee structure for the continued students for July-November semester, 2020.	Implemented
11.	Reconsideration of Room Rent Hike in case of students staying in Married Scholars Hostel (MSH)	R 104BOG/12/2020 : The Board RESOLVED as below : <ul style="list-style-type: none"> The Fee hike with effect from January 01, 2020 be kept in abeyance upto December 31st, 2020 and the matter will be discussed after normal activity starts considering the prevailing situation due to Covid pandemic. 	Circular Issued
12	Creation of Sub-Head and delegation for Covid-19 expenses	R 104BOG/13/2020 : The Board APPROVED the creation of the new A/c Code(s) as proposed.	Implemented
13	Delegation of Power to the Dean, II&SI	R 104BOG/14/2020 : The Board APPROVED in principle for delegation of power to the Dean, Industrial Interactions & Special Initiatives (II&SI) in similar lines with Dean (R&D).	Implemented
14	Audit Para on irregular payment of non-productivity linked (Ad-hoc) Bonus	R 104BOG/14/2020 : The Board deliberated on the matter and proposed that the disbursed bonus amount may be recovered from the	Decision of recovery of Rs.1000/- pm

		employees in suitable amounts and empowered the Director of the Institute to take a decision on the installment amount and recovery period.	has been accorded.
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Center for Intelligent Cyber Physical Systems

Submitted to

Indian Institute of Technology Guwahati

*DST has sanctioned an amount of Rs. 135 Crs. to establish a Technology Innovation Hub (TIH) for implementation and realizing the part of objectives of National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) on “Technologies for Underwater Exploration” in IIT Guwahati. Initially they have released a token amount of Rs. 7.25 Crs. to start the activities. The TIH is now a Section 8 Company, **IIT Guwahati Technology Innovation and Development Foundation**, has been registered on 4th September 2020 under Companies Act 2013 with CIN U73100AS2020NPL020425. There will be several interdisciplinary research activities through M. Tech and Ph.D. students for which the project has clear provisions. Therefore, the members of “Technology Innovation Hub under NM-ICPS” of IIT Guwahati met online on 21st September 2020 and collectively proposed to start a new center in IIT Guwahati.*

Further, a meeting was held on 23rd September 2020 with Director, Dean II&SI and a few members of TIH. It was concluded (MoM is included in Annexure-I) in the meeting that the proposal should be presented to the concerned HoDs (CSE, CE, EEE, ME, DoD), Dean Academics Affairs, and Deputy Director.

Therefore a meeting was held on 07th October 2020 and the proposal was presented to concerned HoDs (CSE, CE, EEE, ME, DoD), Dean Academics Affairs, and Deputy Director. The minutes of the meeting were circulated, a copy of the same has been attached in Annexure –II. In the meeting, it was recommended to rethink the name of the center.

*After this meeting four names were suggested by the different members of TIH. These names were sent to director (PI of TIH and chairman of “IIT Guwahati Technology Innovation and Development Foundation”). From these names, he has given his kind consent to name the center as: “**Center for Intelligent Cyber Physical Systems**”.*

The proposed center will have six major components viz., (i) Technology Development, (ii) Center of Excellence, (iii) Human Resource Development, (iv) Technology Business Incubation, (v) M. Tech Program, and (vi) Ph.D. program. The details on each of these components have been provided in this proposal. The center will be founded by TIH for the first five years, and it will be self-sustainable after that. The logistics of the self-sustainability has also been explained in this proposal.

Center for Intelligent Cyber Physical Systems

Proposal Summary

Name of the Center	Center for Intelligent Cyber Physical Systems
Members of the Center	41 Faculty Members (18 ME, 8 EEE, 6 CSE, 5 DoD, 3 CE, 1 Chemistry), Details are given in Annexure-III
Features	<ul style="list-style-type: none"> • Technology Development • Human Resource Development • Technology Business Incubation • Center of Excellence • M. Tech Program in Robotics and Artificial Intelligence which can be started from July - 2021. • Ph. D. Program which will start from December-2020 in the respective departments under the project category. After the establishment of the center, the selected students can be transferred to the center • Faculty Fellowships
Funding for the first five years	Through "Technology Innovation Hub under NM-ICPS"
Budget required after five years	965 lakhs/year
Funding agency after five years	Self-sustainable
Targets	<ul style="list-style-type: none"> • > 25 technologies in five years • >30 Products in five years • > 150 research fellows & technical officer • > 30 start-ups in five years • >500 skill developments • >10,000 Job creation in five years • International collaborations • National collaborations

Center for Intelligent Cyber Physical Systems

1. Scope of the Center for Intelligent Cyber Physical Systems

The proposed center will have six major components viz., (i) Technology Development, (ii) Center of Excellence, (iii) Human Resource Development, (iv) Technology Business Incubation, (v) M. Tech Program, and (vi) Ph.D. program, as shown in Figure 1.

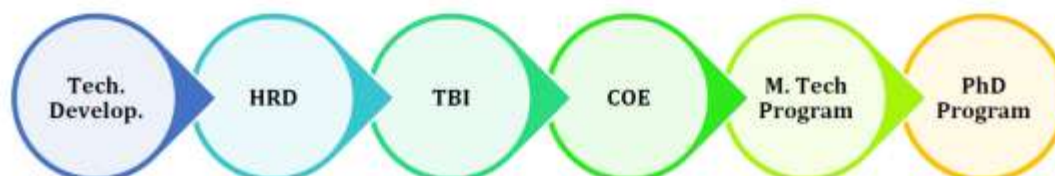


Figure 1: Scope of the Center for Intelligent Cyber Physical Systems

The scope of each component of the center has been discussed in the following sections.

1.1 Technology Development

At least five technologies are intended to be developed per year in the proposed center. These technological developments will be targeted indigenously, where more than 20 physical products will be developed per year. Some technological development will lead to the establishment of training schools related to manufacturing and robotics. It will also help to generate several employments that may lead to a large no of indirect job creations in due course of time.

1.2 Human Resource Development

In HRD & Skill Development program will have the following activities:

- It will provide fellowships for Doctoral, Post-Doctoral, and Faculties.
- It will provide a platform for organizing the preliminary and advanced skill development workshops.
- It will provide a platform for conducting seminars, short-term courses, and conferences periodically.

1.3 Technology Business Incubation

Start-ups and other corporate ventures, initiated by students of IIT Guwahati and other reputed institutes, shall be provided temporary support at the initial stages. This program will also help to provide logistics to transfer the developed technologies/product to the market.

1.4 Center of Excellence

The CoE will focus on the research and the development activities of the center. Here the academia, industries, government, and user agencies will be working together side by side. The primary focus of the CoE will be on providing the manufacturing facility of different products. The crucial products such as motors, electronics devices, mechanical devices, controllers, actuators, sensors, etc. will be in-house designed and manufactured. The CoE will have a workshop equipped with the cutting edge

Center for Intelligent Cyber Physical Systems

equipment such as 5-axis CNC machines, Polymeric & Metal 3D Printers, Lasers, Welding units, Robotic arms, and CAD/CAM/CAE software.

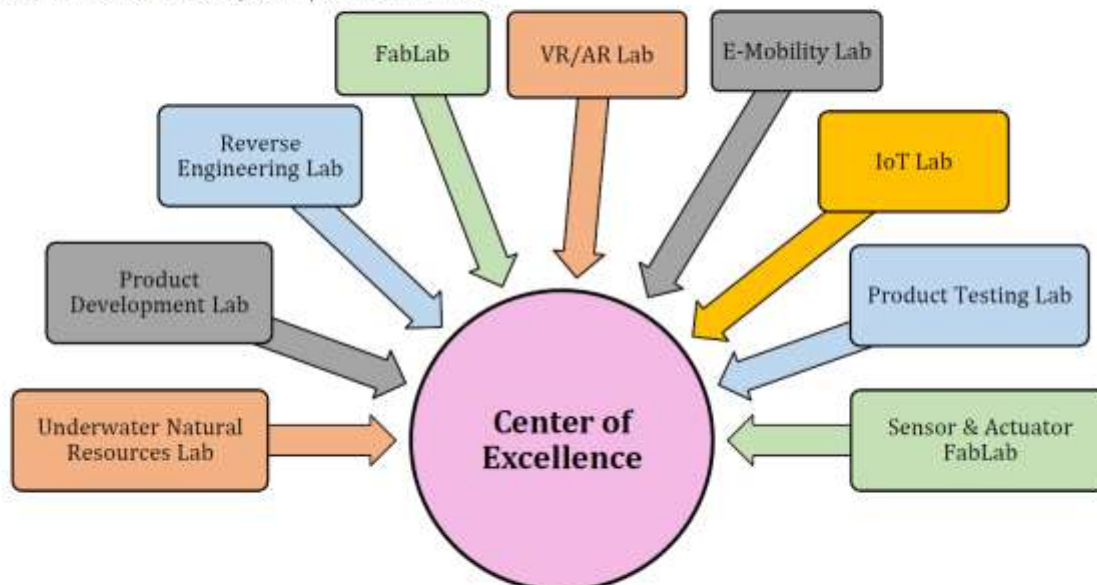


Figure 1: Center of Excellence

The architecture of the Center of Excellence (COE) has been shown in Figure 1. The COE will consist of nine different laboratories viz., (1) Underwater Natural Resources lab (2) Product Development Laboratory, (3) Reverse Engineering Laboratory (4) Fabrication Laboratory, (5) Virtual & Augmented Reality Laboratory, (6) E-Mobility Laboratory (7) Internet of Things Laboratory, (8) Product Testing Laboratory, and (9) Sensor & Actuator Fabrication Laboratory. These laboratories of the COE will directly/in-directly assist the center.

1.5M. Tech Program

An M. Tech program in *Robotics and Artificial Intelligence* will be started. The structure of the program is summarized in Tables 1 & 2. The course structure of the proposed M. Tech program is similar to the other on-going M. tech program in IIT Guwahati. The syllabus of the course are inspired and equivalent by the top -10 technical universities. The detailed structure, syllabus, and eligibility criterion of the M. Tech program is provided in the Annexure IV.

Table 1: Courses for M. Tech Program in Robotics and Artificial Intelligence

Semester -1	Semester -2
RA501 – Core -1 (3-0-0-6)	RA504 - Core -4 (3-0-0-6)
RA502 - Core -2 (3-0-0-6)	RA505 - Core -5 (3-0-0-6)
RA503 - Core -3 (0-0-6-6)	RA506 - Core -6 (0-0-6-6)
RAxxx - Elective 1	RAxxx - Elective 3
RAxxx - Elective 2	RAxxx - Elective 4
Semester- 3	Semester- 4
RA507 - Technical Writing (1-0-2-4)	RA509 - Project Phase - II (0-0-24-24)
RA508 - Project Phase I - (0-0-20-20)	

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Table 3: Students in M. Tech Program

Stream	Number of Students		
	Regular	Industry Sponsored	Total
Computer Science and Engineering (CSE)	8	5	13
Electrical and Electronics Engineering (EEE)	8	5	13
Mechanical Engineering (ME) and Equivalent	10	5	15
Civil Engineering (CE)+Design+Others	4	5	9
Total	30	20	50

1.6 Ph.D. Program

In the proposed center, approximately 30 Ph.D. students will work on the cutting edge technologies under the supervision of IITG's faculty members.

2. Self-Sustainability Model

For all the activities, the center will have the fund for the first five years through the "Technology Innovation Hub under NM-ICPS." However, after five years, the center has to be self-sustainable. Therefore, in the next sections, the expenditure of the center has been discussed, followed by the revenue generation method.

2.1 Expenditure

The center's expenditure will fall into five major heads (i) Salary, (ii) Scholarship of M. Tech students, (iii) Maintenance charges, and (iv) Rent and Capex (v) Technology Development. The expenditure for each head has been summarized in the following table:

Head	Amount (in lakhs) per Year
Salary	600
Scholarship	40
Maintenance	100
Rent and Capex	125
Technology Development	100
Total	965

An amount of **Rs. 965.00 lakhs/year** will be required for the self-sustainability of the center after five years. The justification of the budget for each head has been summarized in the following sub-sections.

2.1.1 Salary

A significant number of candidates will be appointed for participating in the five major activities viz., (i) Technology Development (ii) Center of Excellence (iii) Human Resource Development (iv) Technology Business Incubation, and (v) International Collaboration. The position, salary, and number of candidates are summaries in Table 3.

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Table 3: Salary of different members of the center

	In lakhs	PhD	Post-Doc	APE (BTech)	APE (MTech)	JRF	Research Associate	Project Technician	Sr. Project Technician	CEO
Head	Minimum Duration (Y)	4	3	1	1	1	1	1	1	1
	Salary /month-Min	0.35	0.47	0.29	0.35	0.15	0.49	0.15	0.15	1.50
	Incerement	0.00	0.02	0.01	0.01	0.00	0.00	0.01	0.01	0.06
	Salary /month-Max	0.35	0.66	0.42	0.49	0.15	0.49	0.19	0.25	2.00
	HRA	0.00	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
	Medical	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Salary/unit/Year - 1st Year	4.20	6.69	4.12	5.02	2.24	6.97	2.24	2.24	21.03
	Salary/unit/Year - 2nd Year	4.20	6.95	4.31	5.22	2.24	6.97	2.34	2.38	21.87
	Salary/unit/Year - 3rd Year	4.20	7.21	4.49	5.41	2.24	6.97	2.45	2.52	22.70
	Salary/unit/Year - 4th Year	4.20	0.00	4.68	5.61	2.24	6.97	2.55	2.66	23.54
	Salary/unit/Year - 5th Year	0.00	0.00	4.87	5.80	2.24	6.97	2.66	2.79	24.37
	Total Salary/Unit	16.80	20.85	22.47	27.06	11.19	34.85	12.23	12.58	113.5
Technology Development	980.00	0	0	20	0	40	2	0	1	0
COE (9-Labs)	500.00	0	0	9	0	14	0	9	3	0
HRD	857.00	31	15	0	0	0	0	0	2	0
TBI	200.00	0	0	0	0	6	0	1	0	1
International collaboration	30.00	0	0	0	1	0	0	0	0	0
Total staff	5 Year each	31	15	29	1	60	2	10	6	1
	1 year each	124	45	145	5	300	10	50	30	5
155 candidates in Center for 5 Years										
Salary = 25.6454 Crs/5 year or (5.13 cr/year) (512.908 lakhs/year)										

In addition to the salary of the staff discussed in Table 2, the salary of a faculty fellow has to be added. In line with INSPIRE Faculty fellowships, faculty/ young researchers with Ph.D. will be awarded a fellowship for a duration of 3 years and could be attached to CoEs or research/ academic institutes. The fellowship will be Rs. 80,000 per month, with all-inclusive. The total estimated cost per unit is Rs. 30 lakh under Recurring cost.

Therefore, an amount of **Rs. 600.00 lakhs/year** will be required for providing the salary to the staff/research scholars/technical officers/faculty fellows of the center.

40 faculty members from six different departments of IIT Guwahati are directly involved in the activities of the center. Therefore, institute is requested to provide at-least 10 PhD students/year to contribute towards the research activities of the center. It can be noted that the TIH will support 31 PhD students for the first five years and afterwards a provision for supporting 6 PhD students/year is covered under the proposed self-sustainability model.

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2.1.2 M. Tech Program

M. Tech. students will receive the fellowship of Rs. 12,400/- per month for two years. The center will sponsor ten students, and hence the total estimated cost per unit will be approximately Rs 30 lakhs/batch. A grant of Rs. 2,00,000 can be given to the top five students to complete the industry-oriented projects to realize some products. Hence an amount of Rs. 10.00 lakhs/batch. One-time Grant of Rs. 100 lakhs for infrastructure support for PG labs will be required. For the first five years, this budget has already been approved in the TIH. However, for self-sustainability, an amount of **Rs. 40.00 lakhs/batch** will be required to continue this PG program after five years.

2.1.3 AMC

Several types of equipment will be procured in the center for CoE. After five years, for self-sustainability, an amount of **Rs. 100.00 lakhs/year** will be required for the maintenance and up-gradation of these types of equipment.

2.1.4 Rent and Capex

The center will be in the new research building of IIT Guwahati, which will occupy an area of nearly 30,000 square feet. The rent for this facility will be Rs 35/sqf/month; therefore, approximately the total rent will be **Rs. 125.0 lakhs/year**. With the support of institute the center may build a separate building after five years. Hence this rent may not be required. However, it has been added currently for the self-sustainability of the center after 5 years.

2.2 Revenue Generation

In order to make the center self-sustainable after five years, an amount of Rs 965.00 lakhs has to be generated per year. Several schemes are explored and summarized in Table 4. The details of each scheme are provided in the following sections.

2.2.1 Revenue through Training centers

In the five years of the centers, it is assumed that at least four training centers will be established. These unique training centers will provide certification courses along with experts from industries/other academic collaborator. One such example is the training center for underwater manufacturing. In this training center, the candidates will get hands on training on underwater manufacturing processes such as welding, grinding, cutting, and cleaning. In this training center, the professional divers from outside and manufacturing experts from IIT Guwahati will be the collaborators. Such a training center will be one of its kind in India and hence will generate at-least 100 lakhs/year. Each candidate will be charged 1.5 lakhs, and at least 100 candidates will get training in a year. Already the faculty members of IITG are in contact with the professional divers who are giving such types of training, and they have provided the details of revenue.

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Table 3: Revenue Generation Schemes

Program	Item	Training Programs	Research Projects	Consultancy	Government Projects	Amount/Year (Lakhs)
Training Centers	Underwater Manufacturing	✓	✓			100
	Drone Technology			✓	✓	100
	Healthcare	✓				100
	Condition monitoring	✓	✓	✓	✓	100
COE	Natural Resource Lab	✓			✓	20
	Product Development Lab	✓				50
	Reverse Engineering Lab	✓		✓		50
	Fab Lab	✓	✓	✓	✓	100
	E- Mobillity Lab	✓				20
	IoT Lab	✓	✓	✓	✓	100
	Product Testing Lab			✓		20
	Sensor/Actuator Lab	✓				20
	VR/AR Lab	✓	✓			20
Start up's IP	SU-1			✓		10
	SU-2			✓		10
	SU-3			✓		10
	SU-4			✓		10
	SU-5			✓		10
	SU-6			✓		10
	SU-7			✓		10
	SU-8			✓		10
	SU-9			✓		10
	SU-10			✓		10
Collaborating Institutes	Base -1	✓				5
	Base -2	✓				5
	Base -3	✓				5
	Base -4	✓				5
	Base -5	✓				5
	Base -6	✓				5
	Base -7	✓				5
	Base -8	✓				5
M. Tech Sponsor Candidates						30
Product IP	100 products with Rs 50,000/- per year revenue = 50 lakh/year					50
Total						1020

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2.2.2 Revenue through CoE

Several professional skill development workshops will be conducted in different laboratories of the CoE. Each workshop will have 50-100 participants and will get the certificate in the CET format. Also, the equipment can be utilized to get consultancy, research, and government projects. For example, the fabrication lab will be utilized to fabricate the products for the researchers of IIT Guwahati and other institutes on a cost-basis model. Also, some of the equipment will be available to get utilized by the researchers/industries/hospitals on a cost-basis model.

2.2.3 Revenue through Start-ups

In the first five years, at least 50 start-ups will be developed through the TIH. It has been assumed that at least 10 out of 50 start-ups will be successful and share revenue of at-least 10 lakhs/year after five years of their establishment.

2.2.4 Revenue through collaborating institutes

A collaboration mechanism will be developed to work with local engineering colleges and polytechnics to reach out to the remote locations and address local problems on the cost-basis. There is a provision to expend the base (at-least 10 bases) in the first five years which in turn will help in generating the revenue (at-least 5 lakhs/year) for the center. For example, the base institute will assist the center in monitoring the the local water bodies in remote areas on charge basis. It will help to accelerate the government initiatives such as Make-In-India, Atmanirbhar Bharat, and boost the local products management and produces.

2.2.5 Revenue through Sponsored M. Tech candidates

It is planned to take 20 industry sponsor candidates in the M. Tech program (Robotics and Artificial Intellegence). The course will be taught by the members of the center and adjunct faculty members from reputed foreign Technical Universities and experts from industries. A minimum of 2 lakhs/semester fee/student is proposed for these sponsored candidates. A part of this fee (75000/semester /candidate) will be transferred to the center for its self-sustainability.

2.2.6 Revenue through Product's IP

At-least 30 technologies and 100 products will be developed in the first five years. It has been assumed that these 100 products will generate a minimum revenue of Rs. 50,000/year/product through collaboration with industries.

As discussed above, the revenue generated by the center will be 1020 lakhs/year that will be sufficient to keep it self-sustainable without any capital loss.

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Annexure-I: Minutes of Meeting held on 23rd September 2020

Updates on the logistics and hub governing body of TIH		
Date	23-09-2020	
Duration	17:15 - 18:30	
Organizer	Prof. S. K. Dwivedy	
Attendees	Director / PI	Prof. T. G. Sitharam (Director)
	Dean II&SI	
	Project Coordinator	Prof. S. K. Dwivedy
	Members	Prof. S. Dutta (CE) Prof. S. Nandi (CSE) Dr. S. Kapil (ME) Dr. B. Sandeep (ME) Dr. B. Panda (ME)

Professor S. K. Dwivedy presented the TIH governing body and proposed to convert the TIH to a center where an M. tech program in *Robotics and Artificial Intelligence* and Ph.D. program for TIH related research will start. The members have given the following suggestions:

1. The space required for laboratories can be provided as soon as possible.
2. A detailed sustainability model of the TIH has to be prepared.
 - a. It should clearly identify the long term expenses & revenue generation.
3. There should be no commitment to accommodate the staff members inside the IITG campus.
 - a. Space should be appropriately explored outside the IIT.
4. The certificates for skill development programs should be in the formate of CET
 - a. A mechanism for the distribution of revenue (generated through skill development programs) between IITG & TIH has to be prepared
5. A committee with the following members may be formed to evaluate the proposed center.
 - i. Deputy Director
 - ii. Dean II&SI
 - iii. HoD ME
 - iv. Dean Academic

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Annexure-II: Minutes of Meeting held on 07th October 2020

Proposal for the Center for Robotics and Artificial Intelligence		
Date	07-10-2020	
Duration	16:00 – 17:30	
Organizer	Prof. S. K. Dwivedy	
Attendees	Project Coordinator	Prof. S. K. Dwivedy
	Deputy Director	Prof. S. K. Kakoty
	Dean II&SI	Prof. G. Krishnamoorthy
	Associate Dean Academic Affairs (PG)	Prof. K. V. Krishna
	HoD Mechanical	Prof. S. Senthilvelan
	HoD CSE	Prof. J. K. Deka
	HoD EEE	Prof. Rohit Sinha
	HoD Design	Prof. Udaya K. Dharmalingam
	Members	Prof. S. Dutta (CE) Prof. S. Nandi (CSE) Prof. U. S. Dixit (ME) Prof. S. Dandapat (EEE) Prof. H. B. Nemade (EEE) Prof. S. Kanagaraj (ME) Prof. S. N. Joshi (ME) Prof. P. Guha (CSE) Dr. S. Kapil (ME) Dr. B. Sandeep (ME) Dr. B. Panda (ME)

Professor S. K. Dwivedy presented the proposal to convert the TIH to a center where an M. tech program in *Robotics and Artificial Intelligence* and Ph.D. program for TIH related research will start. The members have given the following suggestions:

1. In principle, all the members agreed to start the Center for Robotics and Artificial Intelligence.
2. It is recommended to rethink the name of the center.
3. It has been advised to start the Ph.D. program from December-2020 in the respective departments under the project category. After the establishment of the center, the selected students can be transferred to the center.
4. The M. Tech program can be started from July -2021.
5. The strength of the M. Tech student can be reconsidered.
6. Due to the interdisciplinary nature of the proposed M. Tech program, it should be started as a new program through the center instead of increasing the number of seats in the on-going M. Tech programs of different departments.

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Annexure-III: Members of Center

S.No.	Name of Team Member with Dept.	Area of Expertise
1	Santosh Kumar Dwivedy (Professor), Department of Mechanical Engineering, IIT Guwahati	Design and Robotics
2	P.S. Robi, Professor (Mechanical Engineering), IIT Guwahati	Coating, Fracture Mechanics, Materials Processing, Metal Matrix composite, Metal Casting, P/M Processing
3	S. Kanagaraj (Professor), Department of Mechanical Engineering, IIT Guwahati	Biomaterials, Biomedical devices and implants, Materials characterization, Prosthetic and orthotic devices & Carbon nanotubes-based nanocomposites
4	Harshal B Nemade (Professor), Department of Electronics & Electrical Engineering, IIT Guwahati	Electronic instrumentation, Systems design, Electronic product design, MEMS
5	Subashisa Dutta (Professor), Department of Civil Engineering, IIT Guwahati	Satellite Remote Sensing and GIS for Water resources Management, Irrigation And Hydraulics Engineering
6	Samarendra Dandapat (Professor), Department of Electronics & Electrical Engineering, IIT Guwahati	Signal Processing, Machine Learning, Speech Processing
7	Sukumar Nandi (Professor), Department of Computer Science & Engineering, IIT Guwahati	Networks (Specially: QoS, Wireless Networks), Computer and Network Security, VLSI, Computational Intelligence
8	Pradip Kr. Das (Professor), Department of Computer Science & Engineering, IIT Guwahati	Man-Machine Intelligence Systems, Mobile Robotics
9	Sukhomay Pal (Professor), Department of Mechanical Engineering, IIT Guwahati	Non-Conventional Machining Process Application of Artificial Neural Network, Genetic Algorithms and Fuzzy logic in manufacturing
10	Shivashankar B. Nair (Professor), Department of Computer Science & Engineering, IIT Guwahati	Artificial Intelligence, Intelligent and Nature-Inspired & Emotional Robots, Mobile Agent based systems, Artificial Immune Systems, Intelligent Internet of Things, Cyber-Physical Systems, Natural Language Processing, Genetic Algorithms, Fuzzy Systems & Neural Networks
11	U.S. Dixit (Professor), Department of Mechanical Engineering, IIT Guwahati	Neural Network and Fuzzy Set Application; Mechatronics, FEM
12	N Sahoo (Professor), Department of Mechanical Engineering, IIT Guwahati	Shock Wave based Analysis
13	Karuna Kalita (Professor), Department of Mechanical Engineering, IIT Guwahati	Coupled Dynamics of Electro-Mechanical Systems, Vibration
14	Srikrishna N. Joshi (Associate Professor), Department of Mechanical Engineering, IIT Guwahati	Mechatronics, Web based manufacturing, Process modelling and optimization of advanced manufacturing processes, Application of soft computing techniques in manufacturing
15	Satyajit Panda (Associate Professor), Department of Mechanical Engineering, IIT Guwahati	Nonlinear vibrations, Smart materials and structures, FEM, Functionally Graded materials and structures, Micromechanics, Composite materials
16	B. Hazra (Associate Professor), Department of Civil Engineering, IIT Guwahati	Control Theory, Stochastic Systems
17	Arijit Sur (Associate Professor), Department of Computer Science & Engineering, IIT Guwahati	Deep Learning approaches to solve different Computer Vision problems like image, video restoration, underwater vision, super-resolution, satellite image processing, image translation, image steganalysis, zero-shot learning, adversarial perturbation, and ML-based

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		approaches for adaptive video streaming in 5G environment, etc.
18	Sonali Chouhan (Associate Professor), Department of Electronics & Electrical Engineering, IIT Guwahati	Wireless Sensor Networks, Coding Theory, Wireless Communications.
19	Manoj Majhi (Associate Professor), Department of Design, IIT Guwahati	Animation, Special Effects, Cartooning, Animation Movie history, Creation of Traditional Animation
20	Sougata Karmakar (Associate Professor), Department of Design, IIT Guwahati	Virtual Simulation (CAD and Digital Human Modeling), Ergonomics
21	B. Sandeep Reddy (Assistant Professor), Department of Mechanical Engineering, IIT Guwahati	Robotics and Control, Nonlinear Dynamics
22	Sajan Kapil (Assistant Professor), Department of Mechanical Engineering, IIT Guwahati	Rapid Manufacturing (3D Printing), Welding/Cladding Processes, CNC, Manufacturing Automation
23	Prithwijiit Guha (Assistant Professor), Department of Electronics & Electrical Engineering, IIT Guwahati	Computer Vision, Pattern Recognition, Signal Processing, Robotics
24	Rishikesh Bharti (Assistant Professor), Department of Civil Engineering, IIT Guwahati	Application of remote sensing and Geographic Information System (GIS), Airborne remote sensing (Unmanned Aerial Vehicles), Advance remote sensing (hyperspectral, thermal and microwave) and GIS
25	Abhishek Shrivastava (Assistant Professor), Department of Design, IIT Guwahati	Research in Interaction Models of Cyber Physical Systems
26	Charu Monga (Assistant Professor), Department of Design, IIT Guwahati	Visual communication, Design research, Visual Ethnography, Indigenous communities, Craft clusters, Film-making, Animation, Illustration, Game design, Edutainment
27	Rashmi Dutta Baruah (Assistant Professor), Department of Computer Science & Engineering, IIT Guwahati	Evolving Intelligent Systems, Computational Intelligence, Online Machine Learning, Learning from Data streams
28	Amit Awekar (Assistant Professor), Department of Computer Science & Engineering, IIT Guwahati	Data Mining, Machine Learning
29	Biranchi Panda, Assistant Professor, Department of Mechanical Engineering, IIT Guwahati	Additive Manufacturing and Robotics
30	Atul K. Soti, Assistant Professor, Department of Mechanical Engineering, IIT Guwahati	Computational Fluid Dynamics and Heat Transfer, Fluid-Structure Interaction, Renewable energy, High Performance Computing, Immersed-Boundary Method, Spectral-element Method
31	Pankaj Biswas, Professor, Department of Mechanical Engineering, IIT Guwahati	Manufacturing and Design: Computational weld mechanics, Solid state welding, Soft computing modeling of welding processes, FEM, Line heating
32	R. Ganesh Narayanan, Professor, Department of Mechanical Engineering, IIT Guwahati	Material Forming and Joining
33	Nelson Muthu, Assistant Professor, Department of Mechanical Engineering, IIT Guwahati	Meshfree Methods, FEM, Fracture Mechanics, Composites, Structural Health Monitoring, Medical Device Innovation
34	Nagarjuna Nallam, Assistant Professor, Department of Electronics & Electrical Engineering, IIT Guwahati	Circuits for SDR and cognitive Radios, Wirelessly powered RF and analog circuits, Silicon Millimeter-wave circuits, High-speed serial links

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35	Shubhadeep Mandal, Assistant Professor, Department of Mechanical Engineering, IIT Guwahati	Microswimmers, Complex Fluids, Droplet Microfluidics, Electrohydrodynamics
36	Shakuntala Acharya, Assistant Professor, Department of Design, IIT Guwahati	Bio-3D Printing
37	Mahima Arrawatia, Assistant Professor, Department of Electronics & Electrical Engineering, IIT Guwahati	Energy Harvesting, RF Circuit Design, Microstrip Antennas
38	Dr. Praveen Kumar, Professor, Department of Electronics & Electrical Engineering, IIT Guwahati	E-mobility
39	Prof. Parameswar K. Iyer, Professor, Department of Chemistry, IIT Guwahati	Designing and fabricating functional material with controlled composition and architecture
40	Deepak Sharma, Associate Professor, Department of Mechanical Engineering, IIT Guwahati	Optimization and Soft Computing Techniques for Design and Manufacturing
41	Rishikesh Dilip Kulkarni, Assistant Professor, Department of Electronics & Electrical Engineering, IIT Guwahati	Optical Metrology, Digital Optical Signal Processing, Digital Holography, Speckle Interferometry, Fringe Projection Profilometry

Collaborators from Other Institutes

41	Abinash K. Swain, Assistant Professor, Department of Mechanical and Industrial Engineering, IIT Roorkee	Product Design and AI
42	P.M. Pathak, Professor, Department of Mechanical and Industrial Engineering, IIT Roorkee	Robotics, Dynamics, Control and Design
43	Pavan Kumar Kankar, Associate Professor, Discipline of Mechanical Engineering, IIT Indore	Fault Diagnosis of Mechanical Components, Condition Based Maintenance, Machine Learning, Signal Processing
44	LA. Palani, Associate Professor, Discipline of Mechanical Engineering, IIT Indore	Optical Instrumentation, Mechatronics System Design, Laser assisted synthesis and characterization of Nano-structures for functional devices
45	P.K. Mohanty, Assistant Professor, Department of Mechanical Engineering, NIT Arunachal Pradesh	Design and Development of Robots, Motion Planning of Autonomous Agents, Soft-computing Approaches, Structural Health Monitoring
46	Sahadev Roy, Assistant Professor, Department of Electronics and Communication Engineering, NIT Arunachal Pradesh	Mechatronics, Electronics and communication
47	Sangamesh Deepak R, Assistant Professor, Department of Mechanical Engineering, IIT Dharwad	Robotics and Optimization
48	Dayal R. Parhi, Professor, Department of Mechanical Engineering, NIT Rourkela	Robotics, Mechatronics, Machine Design and Vibration
49	Ravi Kant, Assistant Professor, Department of Mechanical Engineering, IIT Ropar	Laser based Manufacturing
50	Santhakumar Mohan, Associate professor, Department of Mechanical Engineering, IIT Palakkad	Robotics and Control
51	Ekta Singla, Associate Professor, Department of Mechanical Engineering, IIT Ropar	Modular Manipulators, Assistive devices

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52	Barun Pratihar, Assistant Professor, Department of Mechanical Engineering, IIT Jodhpur	Nonlinear Dynamics
53	Chaitali Koley, Assistant Professor, Electronics and Communication Engineering, NIT Mizoram	Microwave Devices, Communication Systems
54	Basil Kuriachen, Assistant Professor, Mechanical Engineering, NIT Mizoram	Micro-Manufacturing, CAD/CAM, Additive Manufacturing, Modeling and Simulation
55	Arnab Bandyopadhyay, Associate Professor, Department of Agricultural Engineering, North Eastern Regional Institute of Science and Technology.	Hydrological Modelling
56	Rupak Sarkar, Associate Professor, Regional Research Station (TERAI Zone), UTTAR BANGA KRISHI VISWAVIDYALAYA	Agricultural Engineering and Water Management
57	Lokesh K. Sinha, Director, DTRL, DRDO	Underwater Robotics, Hyper-spectral Remote Sensing
58	Binoy Krishna Roy Professor, Electrical Engineering, NIT Silchar	Control Systems, Fault Detection and Diagnosis, Industrial Automation, Process Control
59	Dr. P. R. Sahu Associate Professor, School of Electrical Sciences, IIT Bhubaneswar	Interests: Digital Communications, Mobile Communications, Receiver performance in fading channels
60	Dr. Barathram. Ramkumar , Assistant Professor, School of Electrical Sciences, IIT Bhubaneswar	Wireless Communications, Statistical Signal Processing, and Cognitive Radios
61	Dr. M. SabarimalaiManikandan Assistant Professor, School of Electrical Sciences, IIT Bhubaneswar	Signal Processing, Embedded System, Wireless Sensor Networks
62	Lerrel Pinto, Assistant Professor, Computer Science, New York University, USA.	Robotics
63	Liang Gao, Professor, Vice-Director and Vice Dean of Advanced Manufacturing Equipment, Mechanical Science and Engineering, Huazhong University of Science and Technology (HUST), Wuhan, China	Product Design, Optimization
64	Akhil Garg, Associate Professor, Mechanical Science and Engineering, Huazhong University of Science and Technology (HUST),Wuhan, China	Additive Manufacturing, Robotics, CAD-CAM
65	Jian Zhang, Associate Professor, Mechanical Engineering, Shantou University	Adaptable Design, Robust Design, Interface Design, Design of Electric Vehicle.

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Annexure-IV: Details of M. tech Program

Program name	M. Tech in Robotics and Artificial Intelligence
Departments	EEE, ME, CSE, Civil, Design
Eligibility	Regular (BTech/BE in EE/EEE/CSE/Mech/PE/Civil/IT/Design and GATE EE/ECE/ME/CSE/CE/PE) or CEED, Industry-sponsored (direct interview)
Intake	50 (30 Regular and 20 industry-sponsored)

Goals and career prospects

The world is undergoing a Cyber-Physical Systems revolution with Robotics being an integral part of it. The Government of India has already committed Rupees 3660 crores to setup Technology Innovation Hubs and Sectoral Application Hubs as part of the National Mission for Interdisciplinary Cyber-Physical Systems (NM-ICPS). The development of Robotic Systems is an important step to keep pace with the development in the theme of Cyber-Physical Systems. Robotics is a blend of engineering and science that includes mechanical engineering, electrical engineering and computer science and programming. The robotics sector is constantly expanding and can lead to potential career opportunities in agriculture, transportation, environment, defence, industry, manufacturing, medicine, space and underwater exploration and service. The new study program is designed to address these future topics and help to meet the growing need for engineers. Graduates will be able to use scientific methods and analyses for solving complex problems in both practice and research. The program offers several optional modules in the field of Robotics. In addition to compulsory modules based on mathematical and technical principles as well as interdisciplinary qualifications, application-specific expertise is conveyed in elective modules on different topics.

Semester wise breakup

Semester 1	Semester 2
RI501: Fundamentals of Robotics (3-0-0-6)	RI504: Robot Sensing and Vision (3-0-0-6)
RI502: Artificial Intelligence (3-0-0-6)	RI505: Machine Learning (3-0-0-6)
RI503: Robot Design Laboratory (0-0-8-8)	RIxxx: Elective 3
RIxxx: Elective 1*	RIxxx: Elective 4
RIxxx: Elective 2	RIxxx: Elective 5
Semester 3	Semester 4
RI506: Technical Writing (1-0-2-4)	RI599: Project Phase-II** (0-0-24-24)
RI598: Project Phase-I** (0-0-20-20)	
<p>*Elective 1 must be taken only from the following list – ME501 (Advanced Engineering Mathematics), ME609 (Optimization Methods in Engineering), EE590 (Linear Algebra and Optimization), EE591 (Probability and Stochastic Processes), MA589 (Statistical Foundations for Data Science), CS514 (Mathematics for Computer Science), CE601 (Numerical Methods), CE602 (Optimization Methods)</p> <p>**All the projects will be industry oriented. These projects may be jointly supervised by the faculty members of different departments and industry experts.</p>	

Center for Intelligent Cyber Physical Systems

The other electives can be taken from the following list:

<p>ME501 Advanced Engineering Mathematics ME531 Mechanical Vibration ME542 Numerical Analysis ME640 Robotics and Robot Application ME620 Fundamentals of Artificial Intelligence ME628 Additive manufacturing technologies ME532 Finite Element Methods in Engineering ME629 Design of Mechatronic Products ME609 Optimization Methods in Engineering ME674 Soft Computing in Engineering ME608 CAD CAM ME615 Rotor Dynamics ME543 Computational Fluid Dynamics ME645 Mechatronics ME644 Modern Control</p>	<p>CS512 Design and Analysis of Algorithms CS574 Computer Vision using Machine Learning CS551 Wireless Networks CS590 Deep Learning CS666 Mobile Robotics</p>
<p>Proposed new electives:</p> <ul style="list-style-type: none"> • Application of RAI in Medical Technology • Materials for underwater technology • AI for natural resources management • Bayesian Machine Learning • IoT and its applications • Multi Agent Systems • Animation in Artificial Intelligence • Electronic Instrumentation • Vehicle Dynamics • Human Factors and Usability in HRI • Advanced Mechanism Design • Swarm Robotics 	<p>EE590 Linear Algebra and Optimization EE523 Introduction to Machine Learning EE535 Advanced Topics in Machine Learning EE646 Optical Measurement Techniques and Applications EE550 Linear Systems Theory EE551 Estimation and Identification EE659 Fuzzy Logic and Neural Networks EE626 Pattern Recognition and Machine Learning EE660 Modeling and Control of Power Electronic Converters EE656 Robust Control EE657 Intelligent Sensors and Actuator EE553 Optimal Control EE554 Nonlinear Systems and Control EE621 Computer Vision</p>

A Proposal for Introducing

MS (R) and PhD programme in Disaster Management and Risk Reduction & Establishing a new centre

CENTRE FOR DISASTER MANAGEMENT & RESEARCH (CDMR)

(Apart from academic programs will carry out consultancy, awareness, training, outreach, advocacy, policy)

Introduction and Background:

The 2019 Global Assessment Report on Disaster Risk Reduction (GAR) is informed by the latest data – including Sendai Framework target reporting by countries using the Sendai Framework Monitor – and infers early lessons on the state of the global disaster risk landscape. Disaster has its many manifestations and so no single prong strategy will be apt for managing disaster. Multi-prong strategy and so multi-disciplinary approach is the only way to tackle of disaster of any magnitude. In terms of losses, severe inequalities between low- and high- income countries persist, with the lowest-income countries bearing the greatest relative costs of disasters. Human losses and asset losses relative to gross domestic product tend to be higher in the countries with the least capacity to prepare, finance and respond to disasters and climate change, such as Small Island Developing States. A big country like India with 1.3 billion population and rapid pace of development, disaster management is of paramount importance for the country's overall growth and prosperity. Recent COVID-19 pandemic has taught us a lesson that how we could be caught totally unprepared and how country's growth can be affected so badly. Undoubtedly, India's large population poses an administrative challenge in dealing with any disasters, especially a pandemic such as COVID-19. However, overall management can be strengthened through proper strategy and skilled manpower development.

Greater effort is required to move beyond analysis of direct loss and damage, to understand impact more holistically. Previous GARs have argued for more emphasis on revealing the proportion of income or assets lost within loss analysis. To do so requires stakeholders to look at the indicators of the post- 2015 agreements afresh, across goals and targets, and establish metrics for those dimensions of disaster impacts that accrue to the most vulnerable. Notably, this should be done by going deeper into distributional analysis, moving away from regional, national and subnational data to the household level. Immediate effort is required to understand in finer detail how shocks affect people's lives in a systemic way. Support can then be provided to countries to design solutions and influence human behaviour, to prevent the creation and propagation of risk, as well as to rebound from disasters.

Disaster Management is emerging globally as a full-fledged academic discipline. In the backdrop of its evolution from the practitioner's domain, its boundaries have been permeable. People from diverse backgrounds- including relief workers, engineers, social scientists, or medical professionals -have worked in disaster management. This in turn has also facilitated the growth of disaster management as a substantive field. However, as a field of practice, it demands specialisation to meet with the dynamic challenges posed by not only conventionally categorised disasters but new ones not viewed traditionally as disasters. Simultaneously it also requires theorization to make sense of diverse practices, procedures and management approaches.

North East India is prone to various disasters namely earthquake, landslide, flood, riverbank erosion etc. These disasters slow down the rate of growth of North East India. Poor infrastructure and challenging geography make it more difficult to manage these disasters. There is need for out of box solutions to handle such disasters. North East India warrants an advanced centre for disaster management which will not only deal with the disasters but also will generate skilled manpower and future leaders in the field of disaster management. With this in mind IIT Guwahati proposes to create a new independent **Centre for Disaster Management and Research (CDMR)**.

The centre will have faculty with domain expertise in Earthquake engineering and seismology, Geotechnical engineering, Climate change, Agriculture, Water, Landslide, Transportation engineering, Cyclones, Floods, Tsunami, Cyber Crime, Cloud burst, Fire, Industrial disaster, CBRN (chemical, biological, radiological and nuclear) and Geomatic Technology etc. Various research and consultancy projects will be carried out through sponsored funding from Govt. of India and other National and International funding agencies.

To develop as a state of art research, innovation, knowledge dissemination hub for Disaster Risk Reduction.

Advancement of knowledge and capacity building in disaster management, research, and innovation, for ensuring sustainability and societal resilience to disasters.

Objectives and Philosophy:

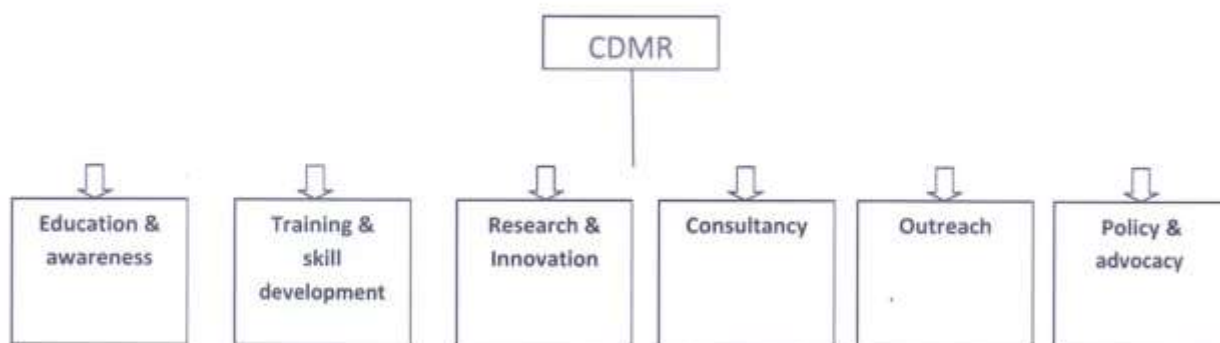
- The primary objective of the multi-disciplinary centre is to reduce the impact of multi hazard on society by developing skilled resources, improving community resilience, and creating a knowledge hub through collective research and synergy between various stakeholders.
- Human resource development through postgraduate academic programs.
- Creating awareness through various outreach activities, training camps, and skill development workshops
- Creating a pool of inter-disciplinary resource persons that can work together with highest synergy and address the problems faced by people during various disasters by research and innovation
- The centre will embark on research and innovation for various disasters.
- Provide technical and social assistance in different projects in the form of consultancy
- Help the government and agencies working towards disaster risk management by advising on technical and policy matters.

With this background, IIT Guwahati, hereby, proposes to establish a new independent academic and research Centre for Disaster Management and Research (CDMR) and to offer MS (R) and PhD in Disaster Management & Risk Reduction. While, PhD program will take care of long-term research or innovation agenda, MS (R) will be apt for short term goal.

These academic programs will be strongly supported by faculty from various disciplines / departments/ centres of IIT Guwahati with relevant teaching and research expertise. These academic programmes would be distinct from the currently offered MTech/PhD programmes in the institute in terms of the credit structure of the theory course because the M.S.(R) programme will have less credit on the theory course and more on the project works (minimum two). The major objective for this newly designed course M.S. (R) in CDMR is to produce skilled manpower, smart disaster management professionals and to develop technologies suitable for handling various types of disasters.

This programme will be suitable for fresh graduates as well as for professionals from Government and private sectors. The course modules and projects have been planned in a manner that will suit both fresh graduates and also the fresh and/or mid-level professionals from various sectors.

Fig. 1: Working principle of CDMR, which is multi-disciplinary in nature and would function through multi-pronged strategy which is the prime need for effective disaster management.



Proposed academic program:

M.S. (R) in Disaster Management and Risk Reduction

Objective of the M.S. (R) programme

The centre is a multidisciplinary research and academic centre. The main aim of the educational program is to impart advanced knowledge on technical and managerial skills to the professionals to make them equipped with innovative technologies for effective mitigation and management of disasters for the overall benefit of the society. The centre aims to achieve excellence in key areas of education and research at par with international standards. Regional issues especially related to Earthquakes, Climate change, Floods, Cyclones, Fire, Avalanche, Land Slides, Cloud Burst and their early warnings are other focus areas. The programme will help the candidates to build up the understanding on the disaster preparedness, response and recovery, vulnerability assessment, and post disaster management. It will also help in developing innovation and R&D skills in the field of disaster risk reduction. This programme will be ideal for individuals who are from industrial, commercial or government institutions in the areas of disaster risk reduction and management and who wish to undertake R&D and innovation to solve problems in the field and its interlinked areas. Thus, this M.S.(R) programme in the proposed centre may also facilitate the interaction of IITG with industry/Government, corporates and R&D institutes to promote technology or product-oriented research for societal needs. The

programme of research may involve a literature study, an experimental or/and numerical/modeling phase, an evolution phase perhaps followed by further theory and experimental studies to finally conclude the study. While, at the same time the investigating faculty members could explore new ideas through the project works of the students and develop solid long-term work to be carried forward by the PhD students working in their group and, thus could intensify the research on their topics and promoting advance research in the Centres. The large number of seminar courses being offered in the M.S. (R) programme will rigorously imbibe the students for fast learning in their research field through self-learning process and simultaneously help them to hone the skill on literature survey and technical communications.

Name of degree: MS (R) in DMRR

- 2 years duration
- 4 semesters
- 10 students intake
- **Potential Clientele:** fresh graduates from Science, Engineering and Humanities backgrounds, professionals from Industry, NGOs, Govt., corporates (e.g. ITC, TATA, Reliance, etc.), public enterprises (Indian Oil, Oil India Ltd.) etc.

Total credits: 108

Proposes to kick start in July 2021

1. The Centre will admit M.S. (R) students under the following categories following the institute's ordinance:

1.1 Regular

A student in this category works full-time for his/her M.S. (R) degree. He/she receives assistantship from the Institute or any other recognized funding agency.

1.2 Sponsored

A student in this category is sponsored by a recognized R&D organization, academic institution, government organization or industry for doing M.S. (R) in the Institute on a full-time basis. The Institute does not provide any assistantship to such a student.

1.3 IITG Project-Staff

This category refers to a student who is working on a sponsored project in the Institute and is admitted them to M.S. (R) Programme to work on a full-time or

part-time basis. The remaining duration of the project at the time of admission should be at least one year. If the project gets completed before the student completes his/her M.S. (R) Programme, his/her category will be converted to PART-TIME Category.

1.4 Part-Time

A student in this category is a professionally employed person (employees of public sector undertakings or government departments or R&D organizations or private industries or staff of IIT Guwahati), who pursues the M.S. (R) Programme while continuing the duties of his/her service. The Institute does not provide any assistantship to such a student.

2. CHANGE OF CATEGORY

2. Change of category from 'Regular to Part-Time' is permissible on the following conditions:

2.1. the concerned M.S. (R) student must clear all requirements of the 1st Semester of his/her programme;

2.2 once converted from 'Regular' to 'Part-Time' category, he/she will not be entitled for receiving any Institute Assistantship; and

2.3 such a student must complete remaining part of the M.S. (R) programme maximum within 4(Four) years from the date of his/her registration in to first semester of the programme, failure to which his/her studentship shall get automatically terminated.

3. ADMISSION

3.1. Eligibility Criteria

The details of the eligibility criteria for admission to M.S. (R) programme are given below. These criteria are revised by the Senate from time to time.

ELIGIBILITY CRITERIA FOR ADMISSION INTO MS(R) PROGRAMME

The details of the eligibility criteria (i.e. minimum qualifications and experience) for admission to M.S. (R) programme are given in this appendix. The Senate reviews the same for admission to the M.S. (R) programme from time to time. Relaxation in academic qualification for reserved categories of students is as per Government of India guidelines.

MINIMUM QUALIFICATIONS

A.1 Minimum qualifications for M.S. (R) programme

A.1.1 A Minimum CPI of 6.5 in a 10-point scale or 60% of marks or First Class in B.E/B.Tech/M.Sc or equivalent in any discipline along with a valid GATE score or NET/INSPIRE qualified.

Or

A.1.2 B Tech degrees in any discipline from an IIT with a minimum CPI of 8.0 or above in which case GATE score is not mandatory.

A.1.3 For Sponsored/Part-Time/IITG Project-staff category, GATE score or NET/INSPIRE etc. are not required.

A.2 MINIMUM EXPERIENCE FOR SPONSORED AND PART-TIME CATEGORIES

A.2.1 Candidate in Sponsored and Part-time categories must be a regular employee of the sponsoring organization/industry with at least one year of professional experience (research/teaching/industrial) in the respective field.

2.2. Admission Procedure

2.2.1. Admission to the M.S. (R) programme of the Institute normally takes place in July every year. Advertisement is issued in February/March.

2.2.2. Admission to all categories of students is granted on the basis of GATE Score/NET(JRF)/INSPIRE Certificate/interview/admission test to be held usually during the month of May - July every year.

2.2.3. The following documents are to be furnished along with the application by candidates falling under Sponsored and Part-time categories:

Form I: Sponsorship letter for Sponsored category.

Form II: No objection certificate from Dean (R&D), IIT Guwahati, for IITG Project Staff category:

Form III: No objection certificate from the employer for Part-time category.

3. COURSE STRUCTURE

3.1. Teaching of the courses shall be reckoned in credits; Credits are assigned to the courses based on the following general pattern:

- Two credits for each lecture period,
- Two credits for each tutorial period,
- Two credits for each studio period,
- One credit per hour for each Laboratory or Practical or Project/Thesis session.

3.2. In order to qualify for a M.S. (R) degree of the institute, a student is required to complete the credit requirement as prescribed in the curriculum for a particular programme. **The credit requirements for a programme will be minimum 96 credits. Out of 96 credits, at least 36 credits shall be through course work and 60 credits through research.**

3.3. A semester load for a full time M.S. (R) student per semester is at least 24 credits. A part-time student should have semester load 12 credits per semester.

3.4. Every M.S. (R) Programme will have a curriculum and syllabi for the courses approved by the Senate. DPPC/CPPC will discuss and recommend the syllabi of all the post graduate courses offered by the department/centre from time to time before sending the same to the Institute Postgraduate Programme Committee (IPPC). The IPPC will consider the proposals from the departments/centres and make recommendations to the Senate for consideration and approval. For all approved courses, the copyright will be with IIT Guwahati.

The duration of the M.S. (R) programme is as follows:

The minimum duration of the M.S. (R) programme (excluding dropped semester(s)) is four semesters for full time students and six semesters for part time students from the date of admission. The maximum duration of the M.S.

(R) programme is six semesters for full time students and eight semesters for part time students from the date of admission.

PhD Programme

Name of curriculum: PhD in Disaster Management and Risk Reduction Proposes to kick start in July 2021

Name of degree: PhD (Disaster Management)

Duration: 4-5 years

Intake: 05 students per batch (in future intake may be increased).

Potential Clientele:

Students from IITs, NITs, Universities, CSIR institutes etc. Professionals from Industry, NGOs, Govt., Corporates (e.g. ITC, TATA, Reliance, etc.) working in the field of disaster management and related fields.

The Centre proposes to admit PhD students under the following categories:

i) Regular

A student in this category works full-time for his/her PhD degree. He/she receives assistantship from the Institute or fellowship from CSIR/UGC or any other recognized funding agency.

ii) Sponsored (FULL-TIME)

A student in this category is sponsored by a recognized R&D organization, academic institution, government organization or industry for doing research in the Institute on a full-time basis. He/She must be a regular employee of the sponsoring organization with at least one year of professional experience in the respective field. The Institute does not provide any assistantship/fellowship to such a student.

iii) Self financed (FULL-TIME)

A student in this category works full-time towards the PhD Programme. The Institute does not provide any assistantship/fellowship to such a student.

iv) Project staff

This category refers to a student who is working on a sponsored project in the Institute and is admitted to the PhD Programme to work on a full-time or part-time basis. The remaining duration of the project at the time of admission should be at least one year. If the project gets completed before the student completes his/her PhD Programme, his/her category will be converted to that of SELF-FINANCED unless he/she is granted an assistantship/fellowship from the Institute or any other agency.

v) Part-time

A student in this category is a professionally employed person (including the staff of IIT Guwahati), who pursues the PhD Programme while continuing the duties of his/her service. He/She must be a regular employee of the sponsoring organization with at least one year of professional experience in the respective field. The Institute does not provide any assistantship/fellowship to such a student.

vi) External

This category refers to a student employed in an R&D organization/academic institution/industry having adequate research facilities. The research work leading to the PhD degree may be carried out largely in the parent organization of the candidate under a Local Supervisor from the organization but with the overall guidance provided by a faculty member (Institute Supervisor) of the Centre. He/She must be a regular employee of the sponsoring organization with

at least one year of professional experience in the respective field. The Institute does not provide any assistantship/fellowship to such a student.

ADMISSION

Eligibility Criteria:

The details of the eligibility criteria (i.e. minimum qualifications and experience) for admission to Ph D degree programme are given below. The Senate reviews the same from time to time. Relaxation in academic qualification for reserved categories of students is as per Government of India guidelines.

Minimum Qualifications:

For admission to the PhD Programme in Engineering departments, a candidate must satisfy one of the following criteria:

- i) Master's degree in Engineering/ Technology/ Environmental Science/Agriculture and other relevant fields with a minimum Cumulative Performance Index (CPI) of 6.5 or 60% of marks.
- ii) Master of Science with a minimum CPI of 6.5 or 60% of marks.
- iii) Four-year Bachelor's degree in Engineering/Technology/Agriculture or equivalent in a relevant area with a minimum CPI of 7.5 or 70% of marks.
- iv) Four-year Bachelor's degree in Engineering/Technology/Agriculture or equivalent in a relevant area with a minimum CPI of 7.0, from any of the Centrally Funded Technical Institutions.

Admission Process:

Admission to the Ph D degree programme takes place in July / December every year. Candidates are selected through a written test or interview or both.

Course Work: As per the Ph.D. ordinance

Duration of the Programme: As per the Ph.D. ordinance **Award of PhD**

Degree: As per the Ph.D. ordinance **Proposed Intake:**

Starting with **05 seats** for PhD admission in **July 2021**.

Placement

The graduates will be experts in multi-hazard assessment and mitigation. They will be trained professionals who can assist the government agencies (NDMA,

ASDMA etc.) as well as NGOs (Geohazards International, etc) in disaster risk management. The PhD graduates can also get placement in other disaster management centres in India and other countries. Disaster preparedness is must for any organisation and this is an opportunity for the graduates of this centre to get employments. They can build their own organisations. They could also become entrepreneurs for disaster management technologies or trainings.

Course works:

SEMESTER-I

Course No.	Course Name	L	T	P	C
DM 501	Core Course -1 (Fundamentals of disaster management)	3	0	0	6
DM 502	Core Course -2 (Socio-economic and policy aspects of disaster risk reduction)	3	0	0	6
DM 510	Elective-1 (from the common basket)	3	0	0	6
DM 511	Elective - 2 (from the common basket)	3	0	0	6
Total credits					24

SEMESTER-II

Course No.	Course Name	L	T	P	C
DM 503	Hazards monitoring and prediction	3	0	0	6
DM 504	Research methodology and field visit	2	0	2	6
DM 514	Elective - 3 (from the common basket)	3	0	0	6
DM 515	Elective - 4 (from the common basket)	3	0	0	6
Total credits					24

SEMESTER-III

Course No.	Course Name	L	T	P	C
DM-XXX	Project (Phase 1)		26		26
DM-XXX	Outreach and Seminar (Training program)		4		4
Total credits					30

SEMESTER-IV

Course No.	Course Name	L	T	P	C
DM-XXX	Project (Phase 2)		26		26
DM-XXX	Outreach and Seminar		4		4
Total credits					30

Grand total credits = 108

Table 1: Research Areas and Associated Faculty (following multi- disciplinary approach):

SI No	Research areas	Associated Faculty (proposed)
1	Earthquake resistant design /construction, seismic evaluation of structures & retrofiting	TG Sitharam, SK Deb, Anjan Dutta, Hrisikesh Sharma, Arunasis Chakraborty, Amit Shelke, Kaustabh Dasgupta, and.....
2	Early warning system; Seismic hazard analysis, Geotechnical Earthquake Engineering, Ground Response Analysis and Seismic Liquefaction	Arindam Dey, T G Sitharam and Abhishek Kumar, Moumita Patra, John Jose, Manas Khatua, S B Nair and
3	Geophysical Investigations and Instrumentations	Arindam Dey, Abhishek Kumar, T V Bharat, Sreedeeep S and T G Sitharam

4	Landslide hazards and mitigation of slope instabilities	TG Sitharam, Arindam Dey, TV Bharat, Abhishek Kumar, Sreedeeep S, and Chandan Mahanta
5	River bank erosion, dams/embankments and protection strategies	TG Sitharam, Arindam Dey, Arup K Sarma, Rajib Bhattacharyya, Bimlesh Kumar, and Suresh Kartha
6	Landfills and Waste Contaminant Systems	Sreedeeep S, Anil K Mishra, K Ravi, T V Bharat, Ajay Kalamdhad and Arindam Dey
7	Safe housing/building/ Disaster resilient housing	Hemant B Kaushik, Kaustubh Dasgupta, SK Deb, Bulu Pradhan, Indu Shiva Ranjani, Laishram Boeing Singh, Ganesh Narayan, Birnchi Panda, Pankaj Biswas, Sukhomoy Pal and
8	Climate change adaptation & mitigation	Chandan Mahanta, Anamika Barua, Sudip Mitra and
9	Agrarian Resilience	Mrinal Kanti Datta, SK Kakoty, Sudip Mitra, Sougata Karmakar, Siddhartha Singha, Debarshi Das, Rajshree Bedamatta, Lingaraja Sahu and.....
10	Drought management	Arup K Sarma, Sreeja P, Subhashisha Dutta, Chandan Mahanta and
11	Flood management	Subhashisha Dutta, Chandan Mahanta, Arup K Sarma, Sreeja P and
12	Cloud burst and avalanche	Rajib Bhattacharya, Ajay Dashora, K Ravi and
13	Nuclear disaster and nuclear waste management	Udit Raha, Sovan Chakraborty, K Ravi, Sreedeeep S and T V Bharat and.....
14	Biological disasters/Vector borne diseases	Manish Kumar, Sachin Kumar and....
15	Cyber disaster, ICT for disaster management	Moumita Patra, John Jose, Manas Khatua, S B Nair, Kalpana Dhaka, Sonali Chouhan and....
16	Resilient Transportation Systems and Networks	Akhilesh Maurya, Anjan Kumar S, Rajan Choudhury, and C Mallikarjuna, Anamika Barua
17	GIS, remote sensing, Habitat planning (Geospatial technology for natural/manmade disaster studies)	Rishikesh Bharti, Archana Nair, Suhashisha Dutta and

18	Fire and industrial disaster	CBRI
19	Socio-economic and gender aspects of disaster management	Anamika Barua, Rajshree Bedmatta, Mrinal K Dutta, Diksha Parmar, Vasundhara Jairath, and.....
20	Psycho-social Care	Dilwar Hussain, Naveen Kashyap. Anamika Barua, and...
21	Livelihood Recovery	SK Kakoty, Arup K Sarma, Chandan Mahanta, Siddhartha Singha, Sougata Karmakar, Debarshi Das, Anamika Barua, Sudip Mitra, and.....
22	Disaster Response and Recovery	TG Sitharam, SK Kakoty, Chandan Mahanta, Subhashisha Dutta, Arup K Sarma, Sudip Mitra, Anamika Barua, Sarmistha Banerji, Hemant B Kaushik, Rajib Bhattacharya, Manas Khatua, S B Nair, Kalpana Dhaka, Moumita Patra and
23	Risk Mitigation Strategies, Monitoring and Governance	TG Sitharam, SK Kakoty, Chandan Mahanta, Subhashisha Dutta, Arup K Sarma, Sudip Mitra, Anamika Barua, Sarmistha Banerji, Hemant B Kaushik, Rajib Bhattacharya and.....

Theory Core Courses

DM 501 Fundamentals of disaster management (3-0-0-6) Disaster and risk and their relationship; Approaches to understand disaster phenomena, disaster risk and its associated parameters; Classification, characteristics, causes, and damage potentials of different natural hazards; Dimensions of vulnerability and examples of hazard specific vulnerability factors (structural and non-structural). Disaster trends (Global, national and regional).; Methods of hazard, vulnerability and capacity assessment (HVCA); Scopes and criteria for disaster risk mitigation measures (prevention, mitigation and preparedness); Capacity building for disaster risk mitigation (structural and non-structural measures); Alternative adjustment processes for damage mitigation; Community based disaster risk reduction mechanism.

Text Books:

1. Abbott, P.L., 2013. Natural Disasters, 9th Edition, McGraw Hill Education, 512p.
2. Porter, M., Jakob, M., Savigny, K.W., 2015. Geohazard Risk Management for Linear Facilities, 310p, Springer
3. Nicholas, C., 1994. Geohazards: Natural and Human, Prentice Hall.

DM 502 Socio-economic and policy aspects of disaster risk reduction (3-0-0-6)

Impact of disaster on socio-economic aspects of a place; disaster and development; role of governance in disaster management; five year plans and disaster management; direct and indirect costs, output and welfare losses, benefits of disaster risk reduction, challenges of making economic assessments, Gender and disaster; Community-hazard profiles in India; Different phases of Disaster Management; Relief mechanism.; Roles of NDMA, SDMA; Objectives, provisions and recommendations of DM Act 2005 and NPDM 2009.

Reference Books:

1. Asia-Pacific Disaster Report 2015: Disasters without borders - Regional resilience for sustainable development, Economic and Social Commission for Asia and the Pacific (ESCAP) - ESCAP, 2015.
2. Sendai Framework for Disaster Risk Reduction 2015-2030, United Nations Office for Disaster Risk Reduction (UNISDR) - UN/ISDR, 2015.
3. Environmental Change and Sustainability, Etd. Steven Silvern and Stephen Young, IntechOpen, ISBN: 978-953-51-1094-1. 2013.

Reference Books

DM 503 Hazards monitoring and prediction (3—0-0-6)

Monitoring of various hazards, early warning systems; Flood monitoring, rain distribution, hydrological forecasting, flood mapping, basin studies, case studies of floods; Seismic hazard assessment, seismotectonic modelling, probabilistic distributions, few case earthquake case studies,

micro and macro zonation; monitoring of landslides, application of GIS, Remote sensing in landslide monitoring and evaluation, landslide hazard zonation.

Text Book

1. Keller, Environmental geology, Prentice Hall, 2000.
2. D. Hyndman and D. Hyndman, Natural hazards and disasters, Brooks/Cole, 2006.
3. L. Reiter, Earthquake hazard analysis: Issues and insights, Columbia University Press, 2000.

DM 504 Research Methodology and Field Visit

(2-0-2-6)

Philosophy of doing research and scientific ethics; Sources of information; Review of literature; Approaches for high quality research; Importance of reasoning in research; Planning research and fine tuning the research problem; Development of experimental and theoretical research frameworks; Formulation of research problem, hypothesis, various methods of conducting on field Research: data gathering, sampling techniques, Customization of research to infrastructural and intellectual capabilities; Generation, analysis, interpretation and presentation of results. Planning and preparation for writing; Scientific writing structures for conference and journal articles, M. Tech and Ph.D. theses; Art of effective writing through sectioned approach – introduction, literature review, novelty, objectives, materials and methods, results and discussion, conclusions, future work, bibliography, appendix, nomenclature, abstract, and synopsis; Refinement approaches for the enhancement of article quality – order of words, structure of sentences and paragraphs, concise writing, removal of redundancy, ambiguity and vagueness, hedging and criticism, functional English, complexity of hypothesis, and level of reasoning; Methods to avoid plagiarism; Intellectual property rights and permissions.

Texts:

1. C. G. Thomas, Research Methodology and Scientific Writing, Ane Books, Delhi, 2015.
2. A. Wallwork, English for Writing Research Papers, Springer, New York, 2011.
3. J. D. Lester and J. D. Lester (Jr.), Writing Research Papers: A Complete Guide, Longman, London, 2014.

References:

1. R. A. Day and B. Gastel, How to Write & Publish a Scientific Paper, Greenwood Press, Connecticut, 2011.

Text Books:

1. Abbott, P.L., 2013. Natural Disasters, 9th Edition, McGraw Hill Education, 512p.
2. Porter, M., Jakob, M., Savigny, K.W., 2015. Geohazard Risk Management for Linear Facilities, 310p, Springer
3. Nicholas, C., 1994. Geohazards: Natural and Human, Prentice Hall.

DM 502 Socio-economic and policy aspects of disaster risk reduction (3-0-0-6)

Impact of disaster on socio-economic aspects of a place; disaster and development; role of governance in disaster management; five year plans and disaster management; direct and indirect costs, output and welfare losses, benefits of disaster risk reduction, challenges of making economic assessments, Gender and disaster; Community-hazard profiles in India; Different phases of Disaster Management; Relief mechanism.; Roles of NDMA, SDMA; Objectives, provisions and recommendations of DM Act 2005 and NPDM 2009.

Reference Books:

1. Asia-Pacific Disaster Report 2015: Disasters without borders - Regional resilience for sustainable development, Economic and Social Commission for Asia and the Pacific (ESCAP) - ESCAP, 2015.
2. Sendai Framework for Disaster Risk Reduction 2015-2030, United Nations Office for Disaster Risk Reduction (UNISDR) - UN/ISDR, 2015.
3. Environmental Change and Sustainability, Etd. Steven Silvern and Stephen Young, IntechOpen, ISBN: 978-953-51-1094-1. 2013.

Reference Books

DM 503 Hazards monitoring and prediction (3—0-0-6)

Monitoring of various hazards, early warning systems; Flood monitoring, rain distribution, hydrological forecasting, flood mapping, basin studies, case studies of floods; Seismic hazard assessment, seismotectonic modelling, probabilistic distributions, few case earthquake case studies,

2. H. Glasman-Deal, Science Research Writing for Non-Native Speakers of English, Imperial College Press, London, 2009.

Elective Courses from other Departments/ Centres

CE 647:	Environmental Geotechnology	(3-0-0-6)
CE 541:	Infrastructure Planning	(3-0-0-6)
CE 559:	Watershed Management and Remote Sensing Applications	(3-0-0-6)
CE 606:	Earthquake Engineering	(3 0 0 6)
CE 611:	Dynamics of Bridges	(3 0 0 6)
CE 594:	Geohazard Science and Engineering	(3 0 0 6)
CE 660:	Landslide Engineering	(3 0 0 6)
CE 648:	Applied Soil Mechanics	(3 0 0 6)
CE 641:	Reinforced Soil Structures	(3 0 0 6)
CE 646:	Rock Mechanics	(3 0 0 6)
CE 593:	Advanced Remote Sensing	(3 0 2 8)
CE 657:	Engineering Seismology	(3 0 0 6)
CE 659:	Climate Change: Causes, Effects and Mitigation	(3 0 0 6)
CE 652:	Precision Remote Sensing	(3 0 0 6)
CE 570:	River Engineering	(3 0 0 6)
CE 567:	Sediment Dynamics in Fluvial Systems	(3 0 0 6)
CE 555:	Principles of Water Quality and EIA	(3 0 0 6)
CE 583:	Pavement Analysis and Design	(3 0 0 6)
CE 584:	Traffic Engineering	(3 0 2 8)
CE 581:	Urban Transportations Systems Planning	(3 0 0 6)
CE 623:	Pavement Evaluation, Rehabilitation and Maintenance	(3 0 0 6)
CE 625:	Transportation Systems Management	(3 0 0 6)
CE 629:	Public Transportation Systems Planning	(3 0 0 6)
CE 525:	Solids and Hazardous Waste Management	(3 0 0 6)
CE 643	Earthquake Geotechnical Engineering	(3 0 0 6)
DD 509	Interaction Design	(2-1-0-6)
DD 521	System Design for Sustainability	(2-0-2-6)
RT 515:	Natural Resources Management	(3-0-0-6)
RT 523:	Rural Technology and Development	(3 0 0-6)
CS 578:	Internet of Things	(3 0 0 6)
CS 666:	Mobile Robotics	(2 0 2 6)
CS 549:	Computer and Network Security	(3 0 0 6)

Staff requirement:

Position	Number	Remuneration	Required qualifications
Scientific Officer Gr II	01	As per rule	As per existing norms
Junior Technical Superintendent	01	As per rule	As per existing norms
Junior Assistant	01	As per rule	As per existing norms
Office Attendant	01	As per rule	As per existing norms
Clerk	01	As per rule	As per existing norms

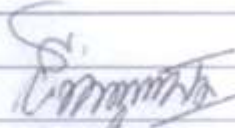
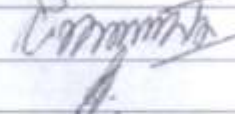

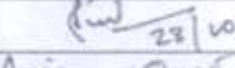
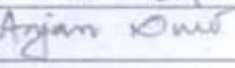
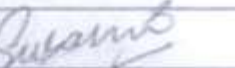
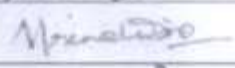
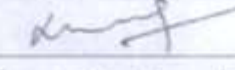
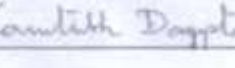

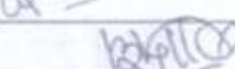
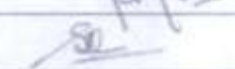
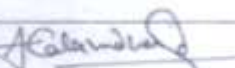
Budget for establishing the Centre (for the 1st year only):

Till a regular space for this proposed Centre is allotted, temporarily the minimum office space (in cabin format) required to start this centre is 5000 Sq m or more with AC and other necessary logistics (e.g. furniture and electric points, water connection, toilet etc.).




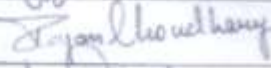

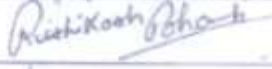

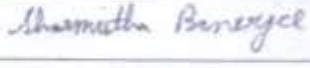
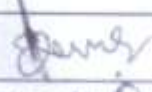
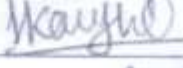
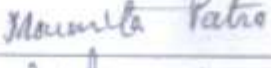
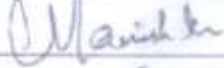

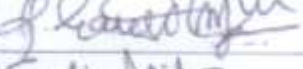
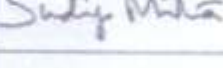
Sl No	Items	Details	Rs (in lakhs)
1.	Computer (10), UPS (10), LCD projector (2 one for running and one fixed in the meeting room), two laptops (one for field works and one for LCD projector), one scanner, one Xerox machine, one laser printer	Latest as per institute's ongoing purchase rule	15
2.	Furniture for offices	Office furniture for faculty and staffs	10
3.	Books, Journals etc.	Apart from requesting Institute library to procure relevant journals, books and other reading materials, a library for the Centre is also needed.	05
4.	Miscellaneous (e.g. fire extinguishers, water filter etc.)		05
5.	Contingency		05
	Total		40

Faculty who have expressed willingness to get associated with CDMR (names are given following no specific order):

Faculty who have expressed willingness to get associated with CDMR
(names are given following no specific order):

Sl No.	Name of Faculty	Signature	Date
1	T. G. Sitharam		
2	S. K. Kakoty		29/10/2020
3	Chandan Mahanta		28/10/20
4	Arup K Sarma		28/10/20
5	S. K. Deb		28/10/2020
6	Anjan Dutta		28/10/20
7	Arunasis Chakraborty		
8	Subashisa Dutta		29/10/20
9	Mrinal Kanti Dutta		29/10/20
10	Laishram Boeing Singh		29/10/2020
11	Kaustubh Dasgupta		29/10/2020
12	Sachin Kumar		
13	Abhishek Kumar		
14	T. V. Bharat		
15	Sreedeeep Sekharan		29/10/2020
16	Rajib Kumar Bhattachariya		28/10/2020
17	Suresh A. Kartha		28/10/2020
18	Bimlesh Kumar		
19	Ajay Kalamdhad		28/10/20

20	Bulu Pradhan	<i>Bulu Pradhan</i>	28/10/2020
21	Indu Siva Ranjani Gandhi	<i>Indu Siva Ranjani</i>	28/10/2020
22	Amit Balasaheb Shelke	<i>Amit</i>	28/10/2020
23	Biranchi Panda	<i>BPA</i>	29/10/20
24	Pankaj Biswas	<i>Pankaj</i>	29/10/2020
25	Sukhomay Pal		
26	Sougata Karmakar	<i>Sougata Karmakar</i>	28/10/20
27	Siddhartha Singha	<i>Siddhartha Singha</i>	28.10.2020
28	Debarshi Das	<i>Debarshi Das</i>	28-10-20
29	Rajshree Bedamatta		
30	Lingaraj Sahoo	<i>Lingaraj</i>	28-10-20
31	Sreeja Pekkatt	<i>Sreeja</i>	28-10-2020
32	Ajay Dashora	<i>Ajay Dashora</i>	28-10-2020
33	Ravi K	<i>Ravi</i>	28-10-2020
34	Udit Raha		
35	Sovan Chakraborty		
36	John Jose		
37	Manas Khatua	<i>Manas</i>	28/10/2020
38	Shivashankar B. Nair		
39	Kalpana Dhaka		
40	Sonali Chouhan	<i>Sonali</i>	28/10/2020

41	Hrishikesh Sharma		28/10/20
42	Akhilesh Kumar Maurya		28/10/2020
43	C. Mallikarjuna		28/10/20
44	Rajan Choudhary		28/10/2020
45	Anjan Kumar Siddagangaiiah		28/10/2020
46	Rishikesh Bharti		28/10/2020
47	Archana M Nair		28/10/2020
48	Dilwar Hussain		
49	Sharmistha Banerjee		29/10/20
50	Naveen Kashyap		
51	Anamika Barua		29/10/20
52	Hemant B. Kaushik		28/10/2020
53	Moumita Patra		27/10/20
54	Manish Kumar		29/10/20
55	Arindam Dey		28/10/2020
56	R. Ganesh Narayanan		Oct 28, 2020
57	Sudip Mitra		28/10/2020

**MINUTES OF THE IFAC MEETING HELD ON 30.10.2020 FOR
HONORARY/ADJUNCT/VISITING/DISTINGUISHED PROFESSOR AND PROFESSOR OF PRACTICE**

Institute invited applications from distinguished academicians and researchers from abroad to pave way to interact and exchange ideas with regular faculty and students that can lead to joint collaborative research and fresh perspective in education, research and technology development. These faculties may have short term visits and are different from the pool of the regular faculty members. Twenty-six applications were received from six countries along with two applications from India. These applications have been evaluated by the Department Faculty Advisory Committee (DFAC) and recommended to Faculty Affairs for the Consideration. The Faculty Affairs has further evaluated the applications recommended by DFAC with a Screening committee having senior faculties of different branches (five branches) and the report was placed to Institute Faculty Advisory Committee (IFAC) for consideration (Based on BOG Resolution Nos.: R_102BOG/10/2020 and R_92BOG/07/2018).

Online Meeting of the IFAC was held on 30.10.2020 at 4:00 p.m. The following members attended the meeting:

1. Prof. T G Sitharam, Director, Chairman
2. Prof. T Punniyamurthy, DOFA, Convener
3. Prof. Chitralekha Mahanta, DOAA, Member
4. Prof. Vimal Katiyar, DOR&D, Member
5. Prof. Rakhi Chaturvedi, DOAER, Member
6. HOD/HOC (Civil, EEE, Design, Chemical, CSE, Physics, Chemistry, CLST and Nano.), Invitee

Details of the Participated Departments/Centers and No. of Applications:

Sl. No.	Department/Centre	No. of applications
1.	Civil Engineering	1
2.	Chemical Engineering	5
3.	Design	7
4.	Physics	1
5.	Chemistry	3
6.	EEE	4
7.	CSE	3
8.	Centre for Linguistics Science and Technology	2
9.	Centre for Nanotechnology	2

(Chitralekha Mahanta)

(Vimal Katiyar)

(Rakhi Chaturvedi)

(T Punniyamruthy)

(Director)

RECOMMENDATION

The IFAC with detailed deliberations of the screening committee and DFAC reports, have made recommendation based on the following criteria:

- Applicant having Science and Engineering background should have PhD in the respective subject.
- Applicant having medicine background should have Master of Surgery/Medicine.
- Applicant having excellent credentials, expertise and achievements in their own domain and respective areas of research and teaching.

Honorary Professor:

Sl. No.	Name & Address	Department/Centre
1.	Dr. Buddhima Indraratna University of Technology, Sydney	Civil Engineering
2.	Dr. Mojgan Jahanara Asian Design Research Group, Iranian Academy of Art, Tehran	Design
3.	Dr. Peter Comba University of Heidelberg, Germany	Chemistry

Adjunct Professor:

Sl. No.	Name & Address	Department/Centre
1.	Dr. Shinichi Sakurai Kyoto Institute of Technology, Japan	Chemical Engineering
2.	Dr. Andreas Weber Lecturer, Book Writer, Feature Writer, University of Arts, Berlin	Design
3.	Dr. Paolo Gambino University of Torino, Italy	Physics
4.	Dr. Seunghun J. Lee International Christian University, Tokyo, Japan	CLST
5.	Dr. S. Ramesh General Motors Global R&D, Warren, MI, USA	CSE

Visiting Professor:

Sl. No.	Name & Address	Department/Centre
1.	Prof. Geoffrey Michael Evans University of Newcastle, Australia	Chemical Engineering

(Chitralekha Mahanta)

(Vimal Katiyar)

(Rakhi Chaturvedi)

(T Punniyamruthy)

(Director)

2.	Dr. Akio Ebihara Gifu University, Japan	Chemical Engineering
3.	Dr. Ajay Kumar Dalai University of Saskatchewan, Canada	Chemical Engineering
4.	Dr. Yukari Nagai Japan Advanced Institute of Science and Technology,	Design
5.	Dr. George van Driem University of Bern, Bern, Switzerland	CLST
6.	Dr. Ing. Sam P. de Visser University of Manchester, UK	Chemistry
7.	Dr Kallol Ray Humboldt Universitat Zu Berlin, Germany	Chemistry#
8.	Dr. Masaaki Nagahara Professor, The University of Kitakyushu, Fukuoka, Japan	EEE
9.	Dr. Prabhat Mishra University of Florida, Gainesville, USA	CSE

Professor of Practice:

Sl. No.	Name & Address	Departments /Centre
1.	Dr. Ing. Seshu Bhagavathula New Technologies and Business Initiatives, Ashok Leyland Group (India/UK/Germany)	EEE
2.	Dr. ir. P. J. Van Duijsen (Peter Jochen) Simulation Research, Aplan aan den Rijn, The Netherlands	EEE
3.	Dr. Satya Gupta CEO and President, Seedeyas Innovations	CSE
4.	Dr Taslimarif Saiyed Centre for Cellular and Molecular Platforms, Bangalore	Nanotechnology#
5.	Dr. Satadal Saha, Visiting Professor School of Medical Sciences and Technology, IIT Kharagpur	Nanotechnology

*The CV of Dr Saiyed was reviewed as the original application submitted to Faculty Affairs was incomplete. The IFAC found the applicant has strong credential in terms of R&D projects and industrial experience.

*The IFAC also found that Dr. Kallol Ray has strong credentials in teaching and research with excellent experience.

- **Additional Item:** Professor S C Sharma, Director, NAAC, has been recently offered "Honorary Faculty" position by Alumni and External Relations to associate in the Center for Energy. Since Professor Sharma has also been two-time Vice-Chancellor and Director of IIIT Dharwad with distinguished academic, research

(Chitralekha Mahanta)

(Vimal Katiyar)

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(T Punniyamruthy)

(Director)

and administrative career, CFAC, Center for Energy has requested the designation of “**Distinguished Professor**” in place of “**Honorary Faculty**”. After detailed deliberations, the committee has agreed to offer the same through Faculty Affairs considering the outstanding accomplishments of Professor S C Sharma.

- The selected Honorary/Adjunct/Visiting/Distinguished Professor and Professor of Practice may avail the following facilities:

Accommodation: The faculty members may stay in the IIT Guwahati Guest House on payment basis at official rates. The charges incurred will be borne by the concerned Department/Centre.

Tenure: The applicant may be given two-year appointment, which may be extended as per the recommendation of the Department/Centre based on the performance.

Medical Benefits: The faculty members will be considered to be provided medical OPD facilities for the self ONLY in the IIT Guwahati hospital. Inclusion of the faculty in the Group Medical Insurance Scheme (GMIS) would not be feasible as per the prevailing agreement with the insurer.

Remuneration: Explicitly not paid jobs as mentioned in BOG minutes for Visiting/Adjunct/Distinguished/Honorary Professor and Professor of Practice. Subject to availability of the funding, the remuneration may be given by the respective Department/Centre during their stay at IIT Guwahati.

Travel: Subject to availability of the funding, the travel expenses within India to reach Guwahati may be provided by the respective Department/Centre.

REJECTED APPLICATIONS WITH REMARKS

The following applications are not recommended due to less experience or not having PhD in their domain.

Sl. No.	Name & Address	Department	Remarks
1.	Dr. W. S. Winston Ho Ohio State University	Chemical Engineering	Already appointed by DOAER
2.	Dr Gavin Steingo Princeton University, Princeton	Design	Less experience
3.	Dr. Dr. Leon Tan Unitec NZ Institute of Skills and Technology, Auckland	Design	Less experience
5	Mr. Ravi Mahamuni TCS, Pune	Design	No Ph.D. (Thesis submitted)
6	Mr. Arpit Agarwal Founder and Director NEST	Design	No Ph.D.
7	Mr. Klaus Heiner Schmech CTC GmbH Cartech Company, Stuttgart, Germany	EEE	No. Ph.D.

The meeting ended with a vote of thanks to the members.

(Chitralekha Mahanta)

(Vimal Katiyar)

(Rakhi Chaturvedi)

(T Punniyamruthy)

(Director)

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Extract of the 94th Minutes of the BOG held on 14.11.2018**Item No.8****To consider the Committee Report for considering Annual Performance Appraisal Report (APAR) marks for internal promotions as per actuals**

The Board was informed that, as per approved rule in force at the Institute, internal promotions are granted to eligible employees based on availability of vacancy through a process comprising of an Interview and average of the Annual Performance Appraisal Report (APAR) marks of the previous 5 years. For computation for the final merit list for internal promotion 40% weightage comes from interview performance and 60% weightage comes from APAR marks.

The Board was also informed that this item is especially in respect of the weightage calculated for average APAR marks of the previous 5 years. Theoretically it may range for 1 to 10 in a scale of 10. However it was observed that the average marks obtained by the employee ranges from 4 to 9+.

As per prevailing norms, the APAR marks between 8 and 10 is given a score of 9 for the purpose of calculating average grading for promotions. Similarly, APAR scores between 6 and short of 8 will be given a score of 7 and that between 4 and short of 6 be given 5. APAR scores below 4 will be given a score of zero (0).

The matter was administratively analysed following a suggestion from some of the members of the Selection Committee and it was observed that in a number of cases, even though the actual APAR marks vary slightly, the final difference, as per above rule is either very large or very small as shown in the table below:

Employee	Actual APAR out of 10	Score out of 10	Score out of 100	60% of Score	Remarks	60% of Actuals Score	Remarks
Emp - 1	8	9	90	54	very large difference that is 12 even though the actual difference is 0.1	48	The difference is 0.6 which is comparable to the actual score.
Emp-2	7.9	7	70	42		47.4	
Emp-3	7.9	7	70	42	No difference even though the actual difference is 1.9	47.4	The difference 11.4 comparable to the actual score (which is high)
Emp-4	6	7	70	42		36.0	

In view of the above, it was proposed to consider the actual marks of their APAR for the purpose of calculating their weightage from APAR scores in case of promotion.

The Board was informed that Ministry has commented that this may be considered.

The Board was requested to consider and approve the proposal to consider the actual marks of their APAR for the purpose of calculating their weightage from APAR scores in case of promotion.

The Board discussed ,deliberated and decided as below:

Resolution No:R_94BOG/04/2018:

RESOLVED that the implication of the Government circular under reference number 21011/1/2005-Estt. (A) (Pt-II) dated 14.05.2009 as placed as **Annexure-2**(pg.83-84) be examined through a committee for possible implementation at the Institute.

RESOLVED further that, till then the earlier process considering actual APAR marks be continued for the purpose of calculating weightage from APAR scores in case of promotion.

Status on APAR decisions underlined in DOPT Office Memorandum No. 21011/1/2005-Estt (A) (Pt-II) dated 14th May 2009 which are currently being followed in IIT Guwahati

SL. No	Decisions of DOPT Office Memorandum No. 21011/1/2005-Estt (A) (Pt-II) dated 14 th May 2009	Whether the decision is implemented at IITG or not
(i)	The existing nomenclature of the Annual Confidential Report will be modified as Annual Performance Assessment Report (APAR).	IIT Guwahati has been following this decision since the year 2011-12.
(ii)	The full APAR including the overall grade and assessment of integrity shall be communicated to the concerned officer after the Report is complete with the remarks of the Reviewing Officer and the Accepting Authority wherever such system is in vogue. Where Government servant has only one supervisory level above him as in the case of personal staff attached to officers, such communication shall be made after the reporting officer has completed the performance assessment.	<p>In IIT Guwahati the completed & accepted APARs are disclosed to concerned employees.</p> <p>This procedure was started by uploading the same in APAR portal in June 2018 and the APARs for the year '15-'16 & '16-'17 were uploaded together in the portal.</p> <p>After that the completed APARs for the year '17-'18 were uploaded in February 2019.</p> <p>The link for online APAR for the year '18-'19 was activated in September 2020.</p> <p>However, copies of APARs of previous years (not before the year of 2011-12) are provided to an employee on his/her written request for the same.</p>
(iii)	The Section entrusted with the maintenance of APARs after its receipt shall disclose the same to the officer reported upon.	Implemented in IIT Guwahati.
(iv)	The concerned officer shall be given the opportunity to make any representation against the entries and the final grading given in the Report within a period of fifteen days from the date of receipt of the entries in the APAR. The representation shall be restricted to the specific factual observations contained in the report leading to assessment of the officer in terms of attributes, work output etc. While communicating the entries, it shall be made clear that in case no representation is received within the fifteen days, it shall be deemed that he/she has no representation to make. If the concerned APAR Section does not receive any information from the concerned officer on or before fifteen days from the date of disclosure, the APAR will be treated as final.	<p>While uploading the completed APARs, an email is sent to all staff but the provision of reassessment/representation within time limit is not mentioned in the email.</p> <p>However, request for re-assessment or any complaint made by an employee is forwarded to concerned HOS/Reporting Officer and after approval of Competent Authority re-assessment process is done accordingly.</p>
(v)	The new system of communicating the entries in the APAR shall be made applicable prospectively only with effect from the reporting period 2008-09 which is to be initiated after 1st April 2009.	The new system of APAR was implemented at IIT Guwahati with effect from the year 2011-12.

(vi)	The competent authority for considering adverse remarks under the existing instructions may consider the representation, if necessary, in consultation with the reporting and/or reviewing officer and shall decide the matter objectively based on the material placed before him within a period of thirty days from the date of receipt of the representation.	The concerned employee is communicated and asked to give his/her presentation on the adverse remarks given by his/her Reporting or Reviewing officer.
(vii)	The competent authority after due consideration may reject the representation or may accept and modify the APAR accordingly. The decision of the competent authority and the final grading shall be communicated to the officer reported upon within fifteen days of receipt of the decision of the competent authority by the concerned APAR Section.	Same is being followed in IIT Guwahati.

Further, it may be noted that, the online APAR system has also been introduced in IIT Guwahati and APARs the year 2018-19 were processed through online portal.

Minutes of the meeting held on 09.10.2020 to review the selection procedure of compassionate appointment and prepare new guidelines / policy for compassionate appointment scheme

The Competent authority of this Institute has constituted a committee vide circular under reference No.AD/32/98/Vol.23/812 dated 01.10.2020 with the following members to review the selection procedure of compassionate appointment and prepare a fresh guideline /policy for compassionate appointment.

- | | |
|--|----------|
| 1. Prof. S. K. Kakoty, Deputy Director | Chairman |
| 2. Prof. T. Punniyamurthy, Department of Chemistry | Member |
| 3. Mr. Labanu K. Konwar, HOS, II&SI | Member |
| 4. Mr. Kushal Chandra Das, AR (Admn) | Member |

The committee members met on 09.10.2020 and 13.10.2020 in the Conference Room, Office of the Deputy Director to discuss on the modalities to develop a point based merit system to consider cases of appointment/selection under compassionate ground. While discussing, the committee went through the DoPT instructions as well as other relevant orders/ instructions issued by other Ministries/ IITs etc.

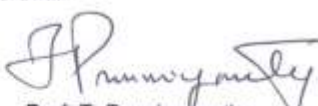
After deliberate examination of the aforementioned orders / instructions, the committee decided to adopt the following guidelines in addition to the existing policy for appointment on compassionate ground followed by the Institute.

1. Compassionate appointments shall be made only upto 5% of direct recruitment vacancies which may be calculated on the basis of total direct recruitment vacancies for Group 'C' posts (including technical posts) that have arisen in the year. No compassionate appointment shall be made if there is no vacancy (as per DOPT guidelines).
2. Compassionate appointment on regular posts shall be given to the highest score earner by following the guidelines given in the Ministry of Defence ID No.19(3)/2009/D (lab) dated 22nd January,2010 14th May 2010 and Order dated 9th January, 2018 and adopted by IIT Bombay, IIT Roorkee and other Ministries.

The meeting ended with a vote of thanks to the Chair


Prof. S. K. Kakoty 16/10/2020


Mr. Labanu K. Konwar 16/10/2020


Prof. T. Punniyamurthy 16/10/2020


Mr. Kushal Chandra Das 16/10/2020

**SCHEME FOR COMPASSIONATE APPOINTMENT OF DEPENDENTS
OF EMPLOYEES OF IIT GUWAHATI**

1. OBJECT

The object of the Scheme is to grant appointment on compassionate grounds to a dependent family member of IIT Guwahati employee dying in harness or who is retired on medical grounds, thereby leaving his/her family in penury and without any means of livelihood, to relieve the family of the IIT Guwahati employee concerned from financial destitution and to help it get over the emergency.

2. TO WHOM APPLICABLE

To a dependent family member of an IIT Guwahati employee who –

- (a) dies while in service (including death by suicide); or
- (b) is retired on medical grounds before attaining the age of 55 years

Note I "*Dependent Family Member*" means:

- (a) spouse; or
 - (b) son (including adopted son); or
 - (c) daughter (including adopted daughter); or
 - (d) brother or sister in the case of an unmarried IIT Guwahati employee
- who was wholly dependent on the IIT Guwahati employee at the time of his/her death in harness or retirement on medical grounds, as the case may be.

Note II "*IIT Guwahati employee*" for the purpose of these instructions means an IIT Guwahati employee appointed on a regular basis and who is not on probation, and not one working on daily wage or casual or apprentice or ad-hoc or contract or re-employment basis.

Note III "*Service*" includes extension in service (but not re-employment) after attaining the normal age of retirement in a civil post.

Note IV "*Re-employment*" does not include employment of ex-serviceman before the normal age of retirement in a civil post.

3. AUTHORITY COMPETENT TO MAKE COMPASSIONATE APPOINTMENT

The Board of Governors of the IIT Guwahati. The matter will be placed before the Board, if the appointment request is more than two years old. In all other cases, the Chairman, Board of Governors will approve appointments on behalf of the Board.

4. POSTS TO WHICH SUCH APPOINTMENTS CAN BE MADE

Group 'C' (Entry Level) posts against the direct recruitment quota.

5. ELIGIBILITY

- (a) The family is indigent and deserves immediate assistance for relief from financial destitution; and
- (b) Applicant for compassionate appointment should be eligible and suitable for the post in all respects under the provisions of the relevant Recruitment Rules.

6. A. EXEMPTIONS

Compassionate appointments are exempted from observance of the following requirements: -

- (a) Recruitment procedure of the Institute including facing a Selection Committee.

(b) The ban orders on filling up of posts, if any, issued by the Ministry of Human Resource Development.

B. RELAXATIONS

(a) Upper age limit can be relaxed wherever found to be necessary. The lower age limit should, however, in no case be relaxed below 18 years of age.

Note | Age eligibility shall be determined with reference to the date of application and not the date of appointment;

(b) The Board may relax temporarily educational qualifications as prescribed in the relevant recruitment rules in the case of appointment at the lowest level that is Group 'C' Attendant post (or equivalent).

(c) In the matter of exemption from the requirement of having working knowledge on Computer Word Processing those appointed on compassionate grounds to the post of Lower Division Clerk or equivalent will be required to qualify a test on Word Processing within 1 year failing which, they are liable to be terminated.

(d) Where a widow is appointed on compassionate ground to a Group 'C' post, she will be exempted from the requirement of possessing the educational qualifications prescribed in the relevant rules provided the duties of the post can be satisfactorily performed by her without possessing such educational qualifications.

7. DETERMINATION/AVAILABILITY OF VACANCIES

(a) Compassionate appointments can be made up to a maximum of 5% of vacancies falling under direct recruitment quota in Group 'C' (including technical posts) that have arisen in the year. A person selected for appointment on compassionate grounds should be adjusted in the recruitment roster against the appropriate category viz. SC/ST/ OBC/General depending upon the category to which he/she belongs.

(b) The ceiling of 5% of direct recruitment vacancies for making compassionate appointment should not be exceeded by utilizing any other vacancy e.g. sports quota vacancy.

8. BELATED REQUESTS FOR COMPASSIONATE APPOINTMENT

(a) Institute can consider requests for compassionate appointment even where the death or retirement on medical grounds of an IIT Guwahati employee took place long back, say two years or so. While considering such belated requests it should, however, be kept in view that the concept of compassionate appointment is largely related to the need for immediate assistance to the family of the IIT Guwahati employee in order to relieve it from economic distress. The very fact that the family has been able to manage somehow all these years should normally be taken as adequate proof that the family had some dependable means of subsistence. Therefore, examination of such cases would call for a great deal of circumspection.

(b) Whether a request for compassionate appointment is belated or not may be decided with reference to the date of death or retirement on medical ground of a IIT Guwahati employee and not the age of the applicant at the time of consideration.

9. WIDOW APPOINTED ON COMPASSIONATE GROUNDS GETTING REMARRIED

A widow appointed on compassionate grounds will be allowed to continue in service even after re-marriage.

10. MISSING IIT GUWAHATI EMPLOYEE

Cases of missing IIT Guwahati employees are also covered under the scheme for compassionate appointment subject to the following conditions: -

- (a) A request to grant the benefit of compassionate appointment can be considered only after a lapse of at least 2 years from the date from which the IIT Guwahati employee has been missing, provided that:
 - (i) an FIR to this effect has been lodged with the Police,
 - (ii) the missing person is not traceable, and
 - (iii) the competent authority feels that the case is genuine;
- (b) This benefit will not be applicable to the case of an IIT Guwahati employee: -
 - (i) who had less than two years to retire on the date from which he/she has been missing; or
 - (ii) who is suspected to have committed fraud, or suspected to have joined any terrorist organization or suspected to have gone abroad.
- (c) Compassionate appointment in the case of a missing IIT Guwahati employee also would not be a matter of right as in the case of others and it will be subject to fulfillment of all the conditions, including the availability of vacancy, laid down for such appointment under the scheme;
- (d) While considering such a request, the results of Police investigations should also be taken into account.

11. PROCEDURE

- (a) The proforma as in Annexure is to be filled up by any applicant for a compassionate appointment.
- (b) The Director will appoint a committee who will examine the case. This may include interviewing the applicant, verifying the contents of the applicant. The committee will submit a report which will include its recommendations.
- (c) The recommendation of the committee will be placed before the Board in its next meeting and the Board will take a decision.

12. UNDERTAKING

A person appointed on compassionate grounds under the scheme should give an undertaking in writing (as in Annexure) that he/she will maintain properly the other family members who were dependent on the IIT Guwahati employee in question and in case it is proved subsequently (at any time) that the family members are being neglected or are not being maintained properly by him/her, his/her appointment may be terminated forthwith.

13. REQUEST FOR CHANGE IN POST/PERSON

When a person has been appointed on compassionate grounds to a particular post, the set of circumstances, which led to such appointment, should be deemed to have ceased to exist. Therefore, -

- (a) he/she should strive in his/her career like his/her colleagues for future advancement and any request for appointment to any higher post on considerations of compassion should invariably be rejected.
- (b) an appointment made on compassionate grounds cannot be transferred to any other person and any request for the same on considerations of compassion should invariably be rejected.

14. Compassionate appointment on regular post shall be given to the highest score earner by following the guidelines given in the Ministry of Defence ID No.: 19(3)/2009/D(Lab) dated 22nd January, 2010, 14th May, 2010 and Order dated 9th January, 2018.

Following parameters/attributes to decide the 100-points weightage system:

- | | | |
|--|---|-------------|
| a) Quantum of Family Pension | : | (20 Points) |
| b) Terminal benefits | : | (10 Points) |
| c) Monthly income of family from other sources | : | (05 Points) |
| d) Movable/immovable property held by the family | : | (10 Points) |
| e) No. of dependents | : | (15 Points) |
| f) No. of unmarried daughters | : | (15 Points) |
| g) No. of minor children | : | (15 Points) |
| h) Left over service | : | (10 Points) |

a). Basic Family Pension/Monthly Amount received under National Pension Scheme

(20 Points)

As per 6 th CPC	As per 7 th CPC	Points
Upto □ 3500	Upto □ 9,000	20
Rs. 3501 – 4500	Rs. 9,001-Rs. 11,500	18
Rs. 4501 – 5500	Rs. 11,501 – Rs. 14,000	16
Rs. 5501 – 6500	Rs. 14,101 – Rs. 16,500	14
Rs. 6501 – 7500	Rs. 16,501 – Rs. 19,000	12
Rs. 7501 – 8500	Rs. 19,101 – Rs. 21,500	10
Rs. 8501 – 9500	Rs. 21,501 – Rs. 24,000	08
□ 9501 and above	Rs. 24,001 – Rs. 26,500	06
-----	Rs. 26,501 – Rs. 29,000	04
-----	Rs. 26,501 – Rs. 31,500	02
-----	Rs. 31,501 and above	00

b). Lump sum amount received by the family on death of Institute employee (i.e. DCR Gratuity, GPF/PPF A/c balance, Leave Encashment, CGEGIS/GTIS, LIC/PLI etc.)/Lump sum amount received under NPS etc.

(10 points)

As per 6 th CPC	As per 7 th CPC	Points
Upto Rs. 4,00,000	Upto □ 10,00,000	10
Rs. 4,00,001 – 4,75,000	Rs 10,00,001 – Rs. 11,87,500	09
Rs. 4,75,001 – 5,50,000	Rs. 11,87,501 – Rs. 13,75,000	08
Rs. 5,50,001 – 6,25,000	Rs. 13,75,001 – Rs. 15,62,500	07
Rs. 6,25,001 – 7,00,000	Rs. 15,62,501 – Rs. 17,50,000	06
Rs. 7,00,001 – 7,75,000	Rs. 17,50,001 – Rs. 19,37,500	05
Rs. 7,75,001 – 8,50,000	Rs. 19,37,501 – Rs. 21,25,000	04
Rs. 8,50,001 – 9,25,000	Rs. 21,25,001 – Rs. 23,12,500	03
Rs. 9,25,001 – 10,00,000	Rs. 23,12,501 – Rs. 25,00,000	02
Rs. 10,00,001 and above	Rs. 25,00,001 – Rs. 26,87,500	01
-----	Rs. 26,87,501 and above	00

c). Annual income from movable/immovable property as well as annual income earned by other member(s) of the family

(05 points)

As per 6 th CPC	As per 7 th CPC	Points
No income	Nil	05
Rs. 3,500 or less	Rs. 1 – Rs. 1,05,000	04
Rs. 3,501 – 4,500	Rs. 1,05,001 – Rs. 1,35,000	03
Rs. 4,501 – 5,500	Rs. 1,35,001 – Rs. 1,65,000	02
Rs. 5,001 – 6,500	Rs. 1,65,001 – Rs. 1,95,000	01
Rs. 6,501 and above	Rs. 1,95,001 and above	00

d). Movable/immovable property of the family (Latest Market values) including Fixed Deposit/Bank balance etc. but excluding the lump sum amount received as mentioned in (b) above.

(10 points)

As per 6 th CPC	Points	As per 7 th CPC	Points
Nil	10	Nil	10
Upto Rs. 2,00,000	08	Upto Rs. 5,00,000	08
Rs. 2,00,001 – 4,00,000	06	Rs. 5,00,001 – Rs. 10,00,000	06
Rs. 4,00,001 – 7,00,000	03	Rs. 10,00,001 – Rs. 15,00,000	04
Rs. 7,00,001 & above	01	Rs. 15,00,001 – Rs. 20,00,000	02
-----	-----	Rs. 20,00,001 and above	00

e). No. of dependents

(15 points)

1	5
2	10
3 and above	15

(f). No. of unmarried daughters

(15 points)

None	0
1	5
2	10
3 and above	15

(g). No. of minor children

(15 points)

None	0
1	5
2	10
3 and above	15

(h). Left over service

(10 points)

Upto 5 years	02
Over 5 years & upto 10 years	04
Over 10 years & 15 years	06
Over 15 years & upto 20 years	08
Over 20 years	10

(Total 100 points)

15. Guidelines on Implementation of Compassionate Appointments Scheme

1. GENERAL

- (a) Appointments made on grounds of compassion should be done in such a way that persons appointed to the post do have the essential educational and technical qualifications and experience required for the post consistent with the requirement of maintenance of efficiency of administration.
- (b) It is not the intention to restrict employment of a family member of the deceased or medically retired Group 'C' IIT Guwahati employee to a Group 'C' post only. As such, a family member of such Group 'C' IIT Guwahati employee can be appointed to a Group 'C' post (Entry Level) for which he/she is educationally qualified, provided a vacancy in Group 'C' post (Entry Level) exists for this purpose.
- (c) An application for compassionate appointment should, not be rejected merely on the ground that the family of the IIT Guwahati employee has received the benefits under the various welfare schemes. While considering a request for appointment on compassionate ground a balanced and objective assessment of the financial condition of the family has to be made taking into account its assets and liabilities (including the benefits received under the various welfare schemes mentioned above) and all other relevant factors such as the presence of an earning member, size of the family, ages of the children and the essential needs of the family, etc.
- (d) Requests for compassionate appointment consequent on death or retirement on medical grounds of Group 'C' staff may be considered with greater sympathy by applying relaxed standards depending on the facts and circumstances of the case.
- (f) Compassionate appointment will have precedence over absorption of surplus employees and regularization of daily wage/casual workers with/without temporary status.

2. COURT JUDGEMENTS AS GUIDES

The ruling contained in the following judgements may also be kept in view while considering cases of compassionate appointment: -

- (a) The Supreme Court in its judgement dated April 8, 1993 in the case of Auditor General of India and others vs. G. Ananta Rajeswara Rao [(1994) 1 SCC 192] has held that appointment on grounds of descent clearly violates Article 16(2) of the Constitution; but if the appointment is confined to the son or daughter or widow of the Government servant who died in harness and who needs immediate appointment on grounds of immediate need of assistance in the event of there being no other earning member in the

family to supplement the loss of income from the bread winner to relieve the economic distress of the members of the family, it is unexceptionable.

(b) The Supreme Court's judgement dated May 4, 1994 in the case of Umesh Kumar Nagpal vs. State of Haryana and others [JT 1994(3) S.C. 525] has laid down the following important principles in this regard:

(i) Only dependents of an employee dying in harness leaving his family in penury and without any means of livelihood can be appointed on compassionate ground.

(ii) The posts in Group 'C' and 'D' (formerly Class III and IV) are the lowest posts in non-manual and manual categories and hence they alone can be offered on compassionate grounds and no other post i.e. in the Group 'A' or Group 'B' category is expected or required to be given for this purpose as it is legally impermissible.

(iii) The whole object of granting compassionate appointment is to enable the family to tide over the sudden crisis and to relieve the family of the deceased from financial destitution and to help it get over the emergency.

(iv) Offering compassionate appointment as a matter of course irrespective of the financial condition of the family of the deceased or medically retired Government servant is legally impermissible.

(v) Neither the qualifications of the applicant (dependent family member) nor the post held by the deceased or medically retired Government servant is relevant. If the applicant finds it below his dignity to accept the post offered, he is free not to do so. The post is not offered to cater to his status but to see the family through the economic calamity.

(vi) Compassionate appointment cannot be granted after lapse of a reasonable period and it is not a vested right which can be exercised at any time in future.

(vii) Compassionate appointment cannot be offered by an individual functionary on an ad-hoc basis.

(c) The Supreme Court has held in its judgement dated February 28, 1995 in the case of the Life Insurance Corporation of India vs. Mrs Asha Ramchandra Ambekar and others [JT 1994(2) S.C. 183] that the High Courts and Administrative Tribunals can not give direction for appointment of a person on compassionate grounds but can merely direct consideration of the claim for such an appointment.

(d) The Supreme Court has ruled in the cases of Himachal Road Transport Corporation vs. Dinesh Kumar [JT 1996 (5) S.C. 319] on May 7, 1996 and Hindustan Aeronautics Limited vs. Smt A. Radhika Thirumalai [JT 1996 (9) S.C. 197] on October 9, 1996 that appointment on compassionate grounds can be made only if a vacancy is available for that purpose.

(e) The Supreme Court has held in its judgement in the case of State of Haryana and others vs. Rani Devi and others [JT 1996(6) S.C. 646] on July 15, 1996 that if the scheme regarding appointment on compassionate ground is extended to all sorts of casual, ad-hoc employees including those who are working as Apprentices, then such scheme cannot be justified on Constitutional grounds.

UNDERTAKING

(to be obtained at the time of compassionate appointment)

I S/O,
D/O, W/O (Name, Designation and Office) who have
applied for appointment as a **Group 'C' employee in relaxation of Recruitment Rules** hereby undertake to
**maintain my parents and dependents in the even of my being appointed in the Institute and further affirm
that I am aware that my services would be terminated by the appointing authority under the rules without
any notice to me, in the event of my failure to maintain them.**

I am aware of the above statement.

Name and Address of independent witnesses

Signature:

(1)

.....

.....

Name:

.....

(2)

Date:

.....

.....

.....

**PRO FORMA REGARDING EMPLOYMENT OF DEPENDENTS OF GOVERNMENT SERVANTS
DYING WHILE IN SERVICE/RETIRED ON MEDICAL GROUNDS**

PART I

I	Details of the deceased/retired employee	
	(a) Name of the deceased / retired employee	
	(b) Designation of the employee	
	(c) Date of birth of the employee	
	(d) date of death/retirement	
	(e) Whether permanent/temporary	
	(f) Whether a member of ST/SC/OBC	
II	Details of the dependent requesting for compassionate ground appointment	
	(a) Name of the candidate for appointment	
	(b) His/her relationship with the employee	
	(c) date of birth	
	(d) Educational Qualification	
	(e) Whether any other dependent has been appointed on compassionate grounds	
	(f) If the Institute Employee died/retired more than 5 years back, why the case was not sponsored earlier (if it was not)	
	(g) Post for which employment is proposed	
	(h) Address for correspondence	
	(i) Contact number	
III	Particulars of total assets left including amount of	
	(a) Basic Family Pension/monthly amount received under NPS	
	(b) Lump sum amount received by the family on death of Govt. servant	
	(i) Retirement / Death Gratuity	
	(ii) GPF/CPF/NPS/PPF Balances	
	(iii) Leave Encashment	
	(iv) CGEIS/GTIS	
	(v) LIC/PLI	
	(vi) Lump sum amount from movable/immovable	
	(c) Movable and immovable properties and annual income earned therefrom by the family (including latest market value of Movable and immovable properties)	
	(d) Any other assets (including Fixed deposit/ Bank balance etc.)	
IV	Brief particulars of liabilities, if any	
V	Particulars of all dependents of the employee	

Sl. No.	Name	Date of birth	Relationship with the Institute Employee	Gender	Married/unmarried	Employed or not, particulars of employment and emoluments	Residing with or not
VI	<p>Declaration: I do hereby declare that the facts given by me above are, to the best of my knowledge, correct. If any of the facts herein mentioned are found to be incorrect or false at a future date, my services may be terminated.</p> <p>Date: Signature of the candidate</p> <p>Shri/ Smt / Kumari is known to me and the facts mentioned by him/her are correct to the best of my knowledge.</p> <p>Date: Signature of Institute Employee</p>						

PART II (FOR OFFICE USE)

Parameters of weightage system		Points
I	Basic Family Pension / Monthly amount received under National Pension System	
II	Lump sum amount received by the family on death of Govt. servant	
	(a) Death cum Retirement Gratuity	
	(b) GPF/CPF/PPF account balance	
	(c) Leave Encashment	
	(d) GSLI/ GTIS amount	
	(e) LIC/ PLI amount	
III	Annual Income from movable/ immovable property and income earned by other family members	
IV	Movable/ immovable properties of the family (latest market value) including fixed deposit/ Bank balances	
V	No. of dependents	
VI	No. of unmarried daughters	
VII	No. of minor children	
VIII	Left over service	
Total		

Signature of JR / DR / AR (Admn. / Faculty Affairs)

The Intellectual Property Right and Management Committee has met on 15.10.2020 via online. The following members have attended the meeting:

Prof. G. Krishnamoorthy (Chairman)
 Prof. Praveen Kumar (Convenor)
 Prof. S. Kanagaraj (Member)
 Prof. Biman B. Mandal (Member)
 Prof. Vimal Katiyar (Member)
 Prof. Bhubaneswar Mandal (Member)

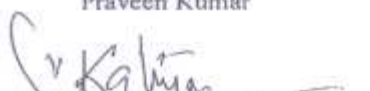
The minutes of the meeting are given below:


- (i) The IPR committee discussed about increasing the support for patent filing expenditure (ie Patent fee and patent attorney fee that of hearing may be reimbursed) based on the fund Rs.50 lacs allotted by the institute for patent related activities for the financial year 2020-21. Considering the available fund, a cap of Rs. 2,00,000/- per applicant is recommended. The applicant can claim upto Rs.2,00,000 for multiple number of patent applications. Depending on the available fund, the policy may be reviewed in December, 2020.
- (ii) The students and post-doctoral fellows are encouraged to file patents with faculty member as the mentor. However, if students or post- doctoral fellows want to file patent independently as inventor without any faculty as the inventor, they can also approach to the chairman IPR committee. IPR committee will evaluate such request and recommend it for institutional patent. Technology licensing policy of the institute will be applicable for such inventions.
- (iii) The chairman IPR committee apprises the members about floating a IPR related course by office of Industrial Interactions and Special Initiatives. Initially the course can be floated for the PhD Students. II&SI office can hire a guest lecturer for the course. The honorarium/remuneration for the guest lecturer may be paid from the allotted fund.
- (iv) The allotted fund can be utilised for purchasing a few licence for patent search tool and also the fund may be utilised for organising workshop/training program/seminars etc on IPR.


Praveen Kumar


S. Kanagaraj 20/10/20


Biman B. Mandal 20/10/2020


Vimal Katiyar 20/10/2020


Bhubaneswar Mandal 20/10/20


G. Krishnamoorthy

Disposal Manual of IIT Guwahati 2011

With the passage of time, many of the goods purchased by the Institute (IITG) has become unserviceable, scrap or obsolete. In order to avoid unnecessary inventory carrying cost, decrease in resale price values etc. a procedure for disposal of such items has been formulated, as laid down below.

1.0 Title: 'Disposal Manual of IITG'

This procedure for disposal of items declared Surplus, Obsolete, Unserviceable and Scrap in IIT Guwahati shall be known as 'Disposal Manual of IITG'.

2.0. Competent Authority to Dispose

The competent authority to declare the Stores as obsolete/ surplus/ unserviceable and order its disposal as per the recommendations of the Committee, shall be:

- (i) up to ` 5 lakhs (purchase value) - Dean Administration,
- (ii) above ` 5 lakhs - Director.

3.0. Disposal Committee (DC)

There shall be two disposal committees: (i) a Central Disposal Committee for the Institute as a whole, and (ii) a departmental disposal committee for each department/centre/ section. If desired by the competent authority, administrative sections may be combined under one committee.

3.1. Institute Central Disposal Committee (ICDC):

There shall be an Institute Central Disposal Committee, which shall be a Standing Disposal Committee

The Committee shall consist of the following:

Dean Administration	Chairman
Representative	from Indenting department/centre/section/hostel
Establishment	AR/DR, Member
Finance &Accounts	AR/DR, Member
S&P	AR/DR, Convener

The chairman may co-opt or invite other members as he may deem fit.

3.2. Functions of the Institute Disposal Committee:

The Institute Disposal Committee shall carry out the following functions as per due approval of the competent authority.

- (i) Obtain approval of the competent authority to dispose items recommended by the Departmental Disposal Committee/s.
- (ii) Decide mode of disposal.
- (iii) Fix the Reserve Price for items proposed to be disposed.
- (iv) Float tenders, open and evaluate bids received.
- (v) Select highest responsive bidder and if required negotiate with highest responsive bidder.
- (vi) Issue sale release order to the selected bidder
- (vii) Collect sale value from the selected bidder
- (viii) Release the sold goods to the selected bidder and ensure that the items are lifted by the bidder as per the disposal list and time schedule
- (ix) Return bid security to the unsuccessful bidders

NOT FOR PUBLIC DOMAIN