Indian Institute of Technology Jodhpur

Board of Governors

Minutes of 18th Meeting

24 August 2018 (Friday)
16:00 hours – 21:30 hours
Board Room, IIT Jodhpur

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Indian Institute of Technology Jodhpur

Board of Governors

Minutes of 18th Meeting

24 August 2018 (Friday), 16:00 hours – 21:30 hours
Board Room, IIT Jodhpur

The following Members were present:

1.	R. Chidambaram, Former PSA to GoI, New Delhi	Chairman
2.	N. S. Shekhawat, Former Professor, JNVU, Jodhpur	Member
3.	Akhil R. Garg, Professor, JNVU, Jodhpur	Member
4.	Sampat Raj Vadera, Professor, Department of Physics, IIT Jodhpur	Member
5.	C. V. R. Murty, Director, IIT Jodhpur	Ex-Officio Member

The following members were unable to attend the meeting:

1.	Anil Bhavarlal Jain, MD & CEO, Jain Irrigation, Jalgaon	Member
2.	S. S. Sandhu, Additional Secretary (TE), MHRD, Government of India, New Delhi	Member
3.	Chief Secretary, Government of Rajasthan, Jaipur *Represented by Additional Chief Secretary*	Member

The following are the decisions of the *Board* on the items of the Agenda:

Part A:

S.No.	Item	Decisions
18.1	**WELCOME BY THE CHAIRMAN**	
	In his welcome, the Chairman expressed his pleasure to be a Member of this Board of Governors. He mentioned that he is fond of Rajasthan, and particularly Jodhpur, because he used to pass frequently, for decades, through Jodhpur, on way to the *Pokhran Testing Range*. Also, he observed that two earlier Pressurised Heavy Water Reactors, built with Canadian collaboration, were established in Rawatbhata, near Kota, in Rajasthan. Now, there is a cluster of reactors coming up there, including our own indigenously designed 700 MWe PHWRs. The IIT system has, as we all know, very high global brand equity; among the IITs, of course, IIT Jodhpur is a relatively young Institute. And, there are high hopes in it. He expressed that the Director, IIT Jodhpur, with the help of the Board of Governors, will take IIT Jodhpur forward to become one of the highest-ranked engineering and technology Institutes in the country. Further, he mentioned that he had visited some of the Departments last month, though the visit was short, and was impressed with the very good research work being done there. He found the water treatment and recycling system set up on IIT Jodhpur campus to be special. He complimented that the architecture of the campus, which is coming up, is beautiful, and fits in with the history of Rajasthan. India is a big country, and India's technology needs range from nuclear, space, computer science and electronics, and cyber security, and so on to MSMEs and rural. And also, there are region-specific technology needs. We have members in the Board, who bring wide and variegated experience, and we shall take full advantage of that. He closed his opening remarks saying that the Director of the Institute, Professor C.V.R. Murty, has done an excellent job over the last five years, but his term is coming to an end by middle of next month. He placed on record his personal appreciation of the work of Director, and sought other Members of the Board of Governors to join him in saying this.	
18.1.1	**Confirmation of the Minutes of 17th Meeting of the Board of Governors held on 16 May 2018 at Board Room, IIT Delhi**	
	The Board confirmed the Minutes, as proposed.	

RC 25.9.18 Murty 24 Sept. 2018

18.1.2	**Report on Action Taken**
	The Board noted the *Action Taken Report* on the various decisions taken in the *16th Meeting* of the *Board of Governors* held on 28 November 2017. It suggested that in future, more details be presented on each item in the form of references of the Office Orders issued.

18.2	**INSTITUTE REPORT BY THE DIRECTOR**
	The Director presented salient aspects of the activities since the previous meeting of the Board of Governors on 17 May 2018:: (1) *State of the Institute* at the start of Academic Year 2018-19 – (a) The Institute is offering 4 B.Tech. Programs, 3 M.Sc. Programs, 4 M.Tech. Programs, and 9 Ph.D. Programs; (b) The intake of students went up from 268 to 347, which raises the total number of students enrolled in the Institute to 962 (638 in B.Tech., 99 in M.Sc., 72 in M.Tech. and 153 in Ph.D. Programs); (c) Against 90 posts, the number of Faculty Members is 62 (27 in the Engineering Departments (CSE, EE, ME and MT), 35 in the Science Departments (BB, CY, MA and PH), and 5 in Department of HSS. The current Student-Teacher Ratio is 15:1. (c) Against 99 posts, the number of Staff Members is 62 (23 in the Technical (Laboratory), 4 in the Engineering, 4 in the Library, and 31 in the Administrative posts). (2) *Technology Focus Areas* – (a) *Arid Zone Technologies (Water, Solar Energy, and Habitat):* Reasonable start has been made on characterization and improving quality in the domain of Water. Relatively very little progress has been in the domain of *Solar Energy*, even though the Institute had large funding from MNRE, GoI. No work has begun in the domain of *Habitat*, because the Department of Civil Engineering has not yet started. (b) *Critical Technologies (Stealth, Unmanned Vehicles – ground and airborne):* Reasonable start has been made in the domain of *Stealth* materials. Work has just begun in the domain of *Unmanned Vehicles*. (c) *Healthcare Technologies (Devices for Diagnostics and Treatment):* The relations with AIIMS, Jodhpur, are just being formed. Work has just begun in the domain of *Medical Device Development*. (d) *Automotive Technologies (Unmanned Vehicles, and Electrical Vehicles):* Work has begun in the domain of *Unmanned Vehicles*. The work in the area of robotics has picked up momentum especially that on self-balancing two-wheeler is in the advanced stage. But, the work has not yet started in the domain of *Electric Vehicles* (3) *Industry Immersion Program* launched by the Institute in 2014 has mixed gains. 74 B.Tech. Students of Departments of ME and EE participated in it since 2014, and only select Faculty Members have taken to it with purpose. Clearly, the primary stakeholders of the Institute need to capitalize on the golden opportunity of the available MoUs with 5 top engineering Industries of the nation; *Industry Engagement* is one of the axes of expected development of Faculty Members, duly approved by the Board of Governors. (4) The Institute was ranked by NIRF as 25, 65 and 54 during 2016, 2017 and 2018, respectively. The aspects along which the Institute needs to improve are: (a) student strength (including doctoral students), (b) Publications (especially Quality), IPRs and Patents (filed, published, granted and licensed), Footprint of Projects and Professional Practice, and Executive Development Programs, (c) Number of PhD Students graduated, and (d) Perception of Employers and Research Investors. Already, the shifting of the Institute to the Permanent Campus last year (August 2017) has helped in achieving smooth functioning of academic, research and administrative activities of the Institute. This has resulted in perceptible change in the visibility of the Institute. (5) *Research* at the Institute has just begun. In the last five years, the number of sponsored projects rose from 28 to 70 (0.5 to 1.1 per FM), Ph.D. students from 71 to 163 (1.3 to 2.7 per FM), MoUs from 4 to 13, and Journal papers per year

RC 25.9.18

24 Sep 2018

from 55 to 107 (1.0 to 1.7 per FM). Efforts are underway to further improve the quality of research and enhancement of research funding.

(6) The Development of Permanent Campus is at a critical juncture. In Phase 1 Development, *90,000 m^2* of carpet area was developed by August 2018, and in Phase 2 Development, additional *131,000 m^2* of carpet areas is under development, which is likely to be completed by July 2019; this will make a total development of *221,000 m^2*, as per DPR approved by the Union Cabinet. For Phase 2 Development, MHRD asked the Institute to seek a loan of Rs. 220 Crores from HEFA (with Rs.55 Crores of the said amount to be paid by Institute from its internal resources). The completion of Phase 2 development will have significant bearing on the overall performance of the Institute.

(7) On the financial front, the Institute is in the last year of the Project Mode, which will complete by March 2019. The current balance of funds available as per the allocation made in the DPR and approved by the Union Cabinet are:

Salary + Recurring	Rs. 98 Crores
Construction	Rs. 25 Crores
Equipment	Rs. 26 Crores
TOTAL	Rs. 149 Crores

The acute shortage of money under Equipment Head may affect the research output of the Institute.

The Board discussed at length the fine aspects of each of these items, and made a number of recommendations for future, which are presented alongside recommendations made at *Agenda Item 18.3.2 Improving the Performance of IIT Jodhpur*.

18.3 DISCUSSION ITEMS

18.3.1 Recommendations of *14th Meeting* of the *Senate* held on 21 July 2018 at IIT Jodhpur

The Board approved the recommendations of the *14th Meeting* of the *Senate* held on 21 July 2018.

18.3.2 Improving the Performance of IIT Jodhpur

After detailed discussion on the subject, the Board of Governors made the following recommendations towards the development of the Institute:

(1) Human Resources

The Institute should scout for more senior Faculty Members in each Department, to be appointed as Professors. Towards this end, for being able to attract competent senior persons, the Institute should:

(a) Host national and international conferences on campus in the four chosen Technology Focus Areas of the Institute, especially to begin with in the areas in which the current Faculty Members have strength, and bring the most accomplished persons in the subject to the campus towards initiating collaborations;

(b) Invite Industry specialists to the campus for lectures and discussions; and

(c) Advertise its significant and major contributions.

Also, the Institute should organize for its existing:

(a) Faculty Members, *Faculty Development Programs* and *Faculty Sensitisation Programs*, with the help of *Mentors* or resource persons from across the country or even from abroad; and

(b) Staff Members, Trainings Programs need to be organized either in-house or outstation on the different subjects of their working.

(2) *Teaching*

To overcome the shortage of competent Faculty Resources in the Institute, the NKN facility should be used to the maximum to beam ongoing courses LIVE from established IITs, *e.g.*, colleagues of IIT Bombay for courses in CSE, and colleagues of IIT Delhi for courses in ME.

RC 25.9.18

Muthyala 24 Sept 2018

(3) *Research*

The Institute should step up its R&D effort. Three aspects of R&D that together give good R&D outcomes, are *talent of researcher*, *importance of research question*, and *availability of facilities*. Towards this end, for improving the Research profile of the Institute, the Institute should:

(a) Look for persons with talent for research in the new recruitment of Faculty Members, and good academic pedigree in the admission of Ph.D. Students;

(b) Get each Faculty Member to identify a Mentor from among those who are leaders in their subjects in the country, and engage in discussions with her/him towards making her/his research question precise; and

(c) Ultilise existing facilities in the Institute to the best capacity, and alternately, work with those advanced facilities that are available in other Institutes and not available in the Institute (*e.g.,* IISc, Bangalore), and finally acquire new facilities, if funds are available, only when it is mandatory to procure them.

(4) *Industry Engagement*

Industry exposure of the Faculty Members should be improved. More faculty Members should work with colleagues in the Industries, and also visit the Industries to learn the current state-of-the-practice and their challenges. Eventually, more Faculty Members should do projects supported by Industries.

(5) *Special Initiatives*

(a) Accreditation of Programs

The Board agreed, in principle, that the various degree programs of the Institute should be accredited by the *National Board of Accreditation*. It suggested to the Director to initiate work towards that, and sought a detailed program to be presented to the Board on the details of the same.

(b) Water Technologies

The Board suggested that the Institute should make special effort to spearhead technology development in the area of Water. It suggested that:

(a) The Director visit the Member of the Board of Governors, Sri A. B. Jain, at his Industry, along with two faculty Members of the Institute from the Department of Chemistry, namely Rakesh K. Sharma and Samanwita Pal, and discuss how the Institute can work deeper in the subject of *water*.

(b) The Faculty Members of the Institute from the Department of Chemistry undertake a project to monitor the quality of water along the 900km length of the Rajasthan Canal.

(c) The Faculty Members of the Institute to work towards minimising the use of water in agriculture, especially through the development of sensors that estimate moisture.

(d) Experts in the area of water purification (like Dr. P. K. Tewari, formerly with BARC) may be invited to the Institute to evolve a strategy for R&D in the area.

(c) Solar Energy

The Board suggested that the Institute should make special effort in undertaking studies in both Solar Thermal Energy and Solar Photovoltaic Energy. In particular, it suggested that the Faculty Members of the Institute to work with colleagues in the Center for Energy Studies at IIT Bombay towards collaborating in these studies.

(d) Academic Review of Departments

The Board approved the comprehensive *Academic Review* of the performance of each of the 8 Departments that existed for over 5 years (including the *Department of Bioscience & Bioengineering*, earlier called *Department of Biology*). It suggested to the Director to propose *Review Committees* for the said purpose, with persons having national standing in the subject. The Heads of the Departments will organize these Review Committees by the end of the year.

RC 25.9.18

Muthyam 24 Sep 2018

(e) Automation of Attendance

The Board sought that the attendance of the students (especially of the B.Tech. students) should be automated, and the absence of a student from a class should be transmitted immediately to all concerned. The *Associate Dean (Academics)* should implement the same at the earliest.

(f) Review of Student Fee

The Board of Governors had approved a gradual increase in Semester Fee (different from Tuition Fee); this fee is to cover the actual costs for the various activities and services provided to Students at the Institute. *Associate Dean (Students)* has sought to reconsider the same. The Board suggested to the *Associate Dean (Students)* to present a proposal on the revision being sought.

(g) Champion Faculty Members to Start CHE and CE

The Director presented the need to have a senior Faculty Member as a Champion to plan, build and initiate the development of two new Departments, namely *Chemical Engineering* and *Civil Engineering*. Also, he presented the curriculum vitae of *Professor Raj Sharma* (currently residing in Jaipur), former Professor at IIT Kanpur and University of Columbia amongst others. The Board approved taking the help of Professor Sharma to steer the development of the Department of Chemical Engineering, and sought the Director to follow due process for engaging him formally as *Visiting Professor* at the Institute.

The Board suggested to the Director to identify another person to build the Department of Civil Engineering.

18.3.3 Letter from MHRD on the need for establishing the Center for Rural Development and Technology at IIT Jodhpur

The Board examined the letter from MHRD and observed the following:

(1) It was noted that the PSA's office started the Rural Technologies Action Group (RuTAG) in 7 IITs. The intent of RUTAG is similar to the *Center for Rural Development and Technology* proposed by MHRD at each IIT.

(2) To begin with, IIT Jodhpur can be attached to the RuTAG of IIT Delhi, as a Chapter, and build activities.

(3) The Focus of the activities of the IIT Jodhpur Chapter (of the RuTAG of IIT Delhi) should be technology challenges of the local area in the four technology tracks chosen by the Institute.

The Director informed that already the Institute is a Chapter of the RuTAG of IIT Delhi. The Board suggested the name of Rakesh K. Sharma, to be the Nodal Officer for the IIT Jodhpur Chapter of the RuTAG of IIT Delhi. A proposal may be placed before the Board of Governors should any financial approval be needed.

18.3.4 Renaming *Associate Dean (Academics)* as *Associate Dean (Academics – UG)* and appointment of an *Associate Dean (Academics – PG)*

The Board approved the proposal, and approved appointing *Somnath Ghosh, Assistant Professor, Department of Physics,* as the *Associate Dean (Academics – PG)*.

18.4 PROCEDURAL ITEMS

18.4.1 Confirmation of the Degrees to be awarded in 4th Convocation of the Institute

The Board approved the proposal for the award of the degrees during the 4th Convocation.

18.5 REPORTING, ADOPTING AND NOTING ITEMS

18.5.2 Adoption of Circulars of MHRD, Government of India

The Board adopted the circular of the Government of India.

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24-Sep-2018

RC
25.9.18

The Meeting ended with thanks to all Members of the Board of Governors.

Director, IIT Jodhpur

24 Sep. 2018

RC
25.9.18

Approved

Chairman, Board of Governors, IIT Jodhpur