File No.NMEICT (MS)/PAB/17
Government of India
Ministry of HRD
Department of Higher Education

****

To

25th November, 2010

All Members of Empowered Committee of Experts
(Project Approval Board) of National Mission on
Education through Information and Communication
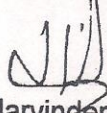Technology (As per list enclosed)

Sub: **Agenda Papers** - 17th Meeting of the Empowered Committee of Experts (Project Approval
Board) of National Mission on Education through Information and Communication
Technology (NMEICT) to be held on 26th November, 2010 at 4.00 p.m.

Sir/Madam,

Enclosed please find Agenda and papers to be considered at the 17th Meeting of the
Empowered Committee of Experts (Project Approval Board) of National Mission on Education
through Information and Communication Technology (NMEICT) scheduled to be held **on 26th
November, 2010 at 4.00 p.m.** under the Chairpersonship of Secretary, Department of Higher
Education, Ministry of Human Resource Development at **Conference Room (First Floor),
Central Secretariat Library (CSL) Building, Shastri Bhawan, New Delhi**

2.   Kindly make it convenient to attend the meeting.

Yours faithfully,

(Dr. Harvinder Singh)
Director (PAE) &
Nodal Officer (NMEICT)
Tel: 011-23382604

Copy to: PSO to Secretary (HE), PS to AS&FA and Additional Secretary (TEL) — for
information.

AGENDA FOR 17th MEETING OF PROJECT APPROVAL BOARD OF NATIONAL MISSION ON EDUCATION THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY TO BE HELD ON 26th NOVEMBER, 2010 AT 4.00 P.M. AT CONFERENCE ROOM (FIRST FLOOR), CENTRAL SECRETARIAT LIBRARY (CSL) BUILDING, SHASTRI BHAWAN, NEW DELHI.

Agenda Item No.1

The Minutes of the 16th Meeting of the Project Approval Board held on 1st September, 2010 are placed below (**Appendix-1 – Page No._____**) for kind perusal and confirmation please.

It is also brought to the notice of PAB that Dr.B.K.Gairola, DG, NIC has vide his letter dated 19th October, 2010 (**Appendix-1A Page No._____**) has requested for modifications in the minutes of the joint meeting of 2nd National Apex Committee and 16th PAB held on 1st September, 2010.

Agenda Item No.2

The Action Taken Report on the Minutes of the 16th Meeting of the Project Approval Board held on 1st September, 2010 is given at **Appendix-2 – Page No. ___ .**

Agenda Item No.3

Review of Decision-National Programme on Radio Enabled Learning by Commonwealth Educational Media Centre for Asia (CEMCA), New Delhi.

1.   Project Approval Board (PAB) of NMEICT in its 9th meeting held on 3rd & 11th September, 2009 approved a pilot project, namely, **"National Programme on Radio Enabled Learning by Commonwealth Educational Media Centre for Asia (CEMCA), New Delhi"** and decided that Rs. 75.00 lakhs may be released to IGNOU which will coordinate the programme. The proposal was accordingly processed in the Department during 2009-10, but no funds could be released to IGNOU, as the then Divisional Head had opined that the project is to be implemented by/or Commonwealth Educational Media Centre for Asia (CEMCA), which is a body of Commonwealth of Learning (COL), an international organization. Government of India also contribute Rs. 4.00 crores per year from Non-Plan funds of COL under an international agreement. In view of this, it may be considered whether the funds may be provided to an international agency out of National Mission of Education through Information and Communication Technology (NMEICT), which apparently, does not have such a provision.   The file was then referred to IFD/AS&FA. IFD requested Distance Learning Division of the Department of Higher Education, MHRD to re-examine the proposal with reference to Mission Document as well as the international agreement signed with COL etc.   IFD also requested to re-examine the other aspects of the pilot project and ensure that there is neither duplication nor overlapping in the accumulation of funds for the pilot project to be undertaken.

2.   A letter was sent to CEMCA, requesting Director, CEMCA to let the Department of Higher Education, MHRD know as to how this project activity is different from the activities for which CEMCA is mandated. In response, Director, CEMCA, vide his letter dated 17.08.2010 has informed that "i*n consonance with the mission of Commonwealth of Learning, Commonwealth Educational Media Centre for Asia promotes the meaningful, relevant, and appropriate use of information and communication technologies to serve the educational and training needs of Commonwealth member states in Asia".*

Director, CEMCA has further informed that:

- The three year plan of COL has been approved by the Education Ministers of Commonwealth Countries. While CEMCA's mandate is to develop systems and models using technology both conventional and new media and to build capacity among the Higher Education Institutions in the region, it cannot undertake specific content building measures and create open education resources for a specific country.

- CEMCA neither has staff, infrastructure nor financial resources to embark on a large scale project like Radio Enabled Learning. CEMCA would like to create two full courses in Humanities and Social Sciences as the basic model for Radio Enabled Learning. CEMCA has already organized two National Base Camps and invited more than Fifty Higher Education Institutions to participate in the awareness programs on Radio Enabled Learning and National Mission on Education through Information and Communication Technology.

- CEMCA has already motivated 27 institutions to produce sample programs on Radio Enabled Learning. After seeing these models, CEMCA's intention of producing two full courses as basic models has gained more relevance and importance.

- In conclusion, it has been stated that while CEMCA has a mandate to develop new systems and models using technology using its own resources, it does not have the wherewithal of creating contents and Open Education Resources.

3.   A copy of letter dated 17.08.2010 received from Director, CEMCA is enclosed (**Appendix-3 – Page No._____)** for perusal.

4.   In view of the above position, PAB of NMEICT is requested to review its decision mentioned in paragraph 1 above and give appropriate directions in this regard.

Agenda Item No.4.

Approval of Projects recommended by Standing Committee

The following Projects recommended by Standing Committee in their various meetings are put up for kind consideration:

Standing Committee Meeting - 09 October 2010.

1. ME24091011361

Developing ICT based pedagogical practices for management accounting.
Dr.Manoj Shah

– for commerce students
– management accounting
– 30 theory, 20 practical lectures
– usefulness discussed – useful bba, mba, commerce student.
– Pointed out that content development, not pedagogy practice development.
– How it is different than other content? What are the other learning resources? - AKT (BHU)
– Recommend one course on content development. The revision to be submitted
   for records.
– Six month duration.
– 100% release in the beginning.
– Maximum 7 lakhs.

Detailed Appraisal of the project is at **Appendix**-**4 Page No._____.**

2. JNE-23091011355

Network of interoperable distributed institutional repositories in universities and institutions of higher education research and india.
Dr.Jagdish Arora, Inflibnet, Gujarat

– hardware at 20 sites asked.
– Only few servers at inflibnet for maintaining repository for everyone.
– Server will be merged into mission cloud as and when it comes up.
– dspace installations
– 20 universities can upload the papers and thesis on it for public access –
   proposed
– any university can upload into repository (not restricted to 20 only).
– Max 37.5 lakhs
– three months for project duration.
– 30% beginning, remaining release linked with delivery – 30% after setup of
   facility, 5% release for every 15 universities added to project.

Detailed Appraisal of the project is at **Appendix -5 - Page No._____.**

3. DE-21091011349

Development of e-contents on foundation course on analytical biochemistry and separation techniques.

Dr.Charmy Kothari, Christ college, Rajkot.

– Undergraduate (Bsc) course.
– 20 theory, 20 practical hours together
– budget 7 lakhs.
– Six months duration
– 100% fund release at the beginning.

Detailed Appraisal of the project is at **Appendix -6 – Page No._____.**

Standing Committee & Peer Review Committee meeting - November 20-21, 2010:

4. Project Title	**-**	**E-Kalpa Creating Digital Environment for Design in India**
Principal Investigator	**-**	Prof. Ravi Poovaiah, IIT, Bombay
Co- Principal Investigator	**-** 1.	Dr. B. Baral, National Institute of Design, Bengaluru
	2.	Dr. Ravi Mokash Punekar, IIT, Guwahati

Objectives

1. Digital online content for learning Design with distance e-Learning programs on Design.
2. Social networking for Higher Learning with collaborative Learning Space for Design for Synchronous andAsynchronous Interaction.
3. Digital Design Resource Database including the craft sector.
4. Design inputs for products of National Mission on Education through ICT.

Deliverables

1. Create online content for design learning
   - Documentation of lectures, design exercises, design explorations, problem solving activities, design process, and design projects.

2. Create systems for online learning through distance education.
   - The distance learning and dissemination of knowledge could be through the internet with access to many media formats – video, documents, etc.
   - The dissemination could also be through synchronous live transmission of lectures, case studies and briefings through satellite tv transmission mode.

3. Create a social networking platform for design learning

- this environment should have the potentials to get students interested in creating and building an environment for exchange of information with respect to design learning (may be on the lines of facebook – to give as an example)
4. Create a collaborative space for both synchronous and as well as synchronous design learning
    - The same platform could be used to create problem solving topics with both the teacher to students, students to students and teachers to other teachers being able to interact collaboratively.

Total Budget **-** Rs. 13.50 crores

Deliberations & Recommendation

The Standing Committee requested the Project Principal Investigator to present samples of course content created. The Committee also requested him to show the online collaborative network he has already established. The Committee noted that external reviews by members outside of the Standing Committee have also been received.

The Committee supports this project unanimously and recommends to the Project Approval Board (PAB) for full funding.

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. _____ to _____.**

5. Project Title **-** **Robot Enhanced Teaching of Subjects in Engineering Colleges**

Principal Investigator - Prof. Kavi Arya,
IIT, Bombay

Objectives

- Design and deploy robots for enhanced teaching in engineering colleges
- Evolution of Robot Firebird with newer versions
- Conduct workshops for faculty of engineering colleges
- Conduct workshops for students of engineering colleges
- Create/harvest Open source content in the Robotics domain and publish on a portal for wider usage by faculty and students

Deliverables

- 12 workshops every year (total of 24 in the next two years)
- Evolution & Robot development
- Website content: Assignments, Manuals, Experiments, Research resources

Every workshop in a month	Ten institutes will participate
Every year	120 institutes are covered
Every institute	2 robots to be deployed
Total robots needed	240
Cost of each Robot: Firebird	Rs. 15,000
No. of faculty trained	> 480 in two years

Total Budget - Rs. 5.97 crores

Deliberations & Recommendation

   The Standing Committee has taken note of the progress by the Principal Investigator and has also extended its appreciation for the speed with which the software is being created as well as the project design under this programme are being published on the web.

   The Standing Committee recommends full sanction to the Principal Investigator.

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. _____ to _____.**

6.   **Project Title**   **- Assimilation of Open Source Software in Science and Engineering Education**

Principal Investigator   -   Prof. Prabhu Ramachandran,
Department of Aerospace Engineering,
IIT, Bombay

Co- Principal Investigator   -   1.   Prof. Mani Bhushan,
Department of Chemical Engineering,
IIT, Bombay

             2.   Prof. Madhu Belur,
Department of Electrical Engineering,
IIT, Bombay

             3.   Prof. Kannan M. Moudgalya,
Department of Chemical Engineering,
IIT, Bombay

             4.   Prof. P.S.V. Nataraj,
Systems and Control,
IIT, Bombay

             5.   Prof.G. Sivakumar,
Department of Computer Science,
IIT, Bombay

Objectives

Facilitate the absorption of existing free open source software (FOSS) alternatives to commercial packages such as Matlab, Mathematics, Maple and Magma in science and engineering education across the country. This will be done by generation of course-related and general-purpose learning material for engineers and scientists at both a beginner and advanced level.

Currently the focus is on

- Python
- Scilab

Deliverables

Item	2009-2010	2010-2011	2011-2012	Total
Workshops – Large	5	8	12	25
Workshops – Small	15	20	20	55
Conferences	1	3	3	7
Video courses	0	2	10	12
E-learning courses	1	5	20	26
Course/Book conversion	4	50	100	154

Total Budget   -   Rs. 9.12 crores

Deliberations & Recommendation

The Standing Committee had earlier recommended this project strongly for external reviews. Since then, four review reports have been obtained by contacting expert reviewers in this field and are also included with this.

The SC recommends that the PIs make an effort to identify also other open source software systems that will replace expensive commercial software. Towards this end, the PIs are suggested to network with various open source software experts and user groups in all parts of the country while executing this project.

All four reviewers recommend this project strongly. SC also recommends this project unanimously.

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. ____ to _____.**

7.   Project Title   -Development of Analysis and Indexing tools for harnessing educational videos

Name of Institute   -   IIT, Rajasthan

Principal Investigator   -   Dr. Gaurav Harit,
IIT, Rajasthan

Objectives

1. To improve existing technologies for contextual information extraction of videos for the following components:
   i)   Extraction of text, formulas and figures from videos.
   ii)   Improving Speech to text to have better accuracy for Indian English used in videos.
   iii)   The extracted contextual/semantic information from video will be used for indexing and searching the video content.
2. To re-purpose the educational video content.
3. To integrate technologies developed as part of (A) and (B) into an end to end video platform that can be deployed on a large scale.

Deliverables

The project will have the following final deliverables at the end of 3 year term:

(a) A video platform for integrating video content produced by educational institutes in order to help students all over the country to have free access to educational video content of all universities. In addition to access, the content would be easily searched, re-purposed, and viewed.
(b) Algorithms developed for components of contextual extraction of information from videos, and tools for re-purposing videos will be available in open source for further research in the areas.

Deliverables have been given year-wise in the detailed Project Report.

Total Budget   -   Rs. 1.05 crores

Deliberations & Recommendation

        This project is an extension of the NMEICT sanctioned project on text transmission. However, it will make use of the data developed under the other project building video platform and for creating Algorithms for extraction of information and repurposing video. The Committee feels that it is an important extension. A pilot for a duration of four months i.e. sanction for Rs.8.70 lakhs is recommended.

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. ____ to _____.**

8.   Project Title   -Development of Low Cost Mobile Robots

Principal Investigator   -   Dr. Swagat Kumar,
                                                IIT, Rajasthan

Objectives

1. Various engineering concepts can be explained through mobile robotic platforms. These incudes, working of electro-mechanical devices, sensors, communication devices, programming of embedded systems. Apart from understanding the working principles of various components, mobile robots are used for carrying out cooperative and collective tasks. By applying swarm optimization techniques, a group of mobile robots will be made to solve complex coordination tasks.
2. Second objective is to develop high-end mobile robotic platforms based on single board computers which can provide a complete programming environment for developing and testing complicated algorithms.

Deliverables

   Robots that can be used for education as stated above.

Total Budget   -   Rs. 5.33 crores

Deliberations & Recommendation

        The Standing Committee requested the Principal Investigator to discuss the development of Robots with Prof. Kavi Arya, IIT, Bombay and identify areas of Robot development that must not be duplicated. As the development of Robots and their applications in education and engineering and technology are very important, it would be appropriate for project activities in this area to come together under a consortium.

        The Standing Committee recommends a sum of Rs. 50.00 lakh (10%) and requested the Principal Investigator to coordinate his activities along with other Principal Investigator of a similar project.

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. _____ to _____.**

Agenda Item No.5

Remote Triggered Virtual Lab

IIT Delhi was given simulation part of Virtual Lab. The pilot project in respect of Remote Triggered Virtual Lab was also continued. IIT, Delhi is also required to put up Revised DPR for carrying out this part of the Virtual Lab assignment along with plan for roll out. IIT Delhi will make presentation with regard to progress made so far.

Agenda Item No.6

National Centre for e-learning

The project was reviewed by Standing Committee and Peer Review Committee in their meeting held on November 20-21. The details are given below:

Project Name: Setting up a National Centre for e-learning under NMEICT by Delhi University.

PI: Prof.A.K.Bakhshi

Deliverables

Till March 2012	April 2012- March 2013	April 2013- March 2014
40 %	30%	30%

Budget: Rs.522 crores

The PIs proposed a National Centre to coordinate the e-content development taking place through the projects funded by NMEICT. This will help to ensure:

- Development of high quality e-content and its multilingual conversion.
- Empowerment of Teachers and students in ICT skills.

- Promotion   of   Research   and   Innovation   in   e- Learning.

- Certification and assessment in Online courses

Observations and Recommendations:

The SC listened to the presentation of the PI for setting up a National Institute and requested the PI to provide the details of how a consortium would be set up, and what would be the operating processes for creating a National versus " University of Delhi-centric" institute. The SC also requested to provide the complete list of all 1600 course programmes on the website along with the faculty who would offer the expertise as coordinators. The SC requested the PI to consider all these aspects and also take into account the consortium model already attempted by CEC and NPTEL, ERP and Virtual Labs and other programmes which are sanctioned under the NMEICT.

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. ____ to _____.**

Agenda Item No.7

CEC Main project

The project was reviewed by Standing Committee and Peer Review Committee in their meeting held on November 20-21. The details are given below:

Project Title	**- Production of Courseware e-content Development, Video Programmes & LORs**
Name of the Institute (s) - Campus,	Consortium for Educational Communication, IUAC
	Aruna Asaf Ali Marg, New Delhi 110067
Principal Investigator	- Dr. Tilak R. Kem, Director
Co- Principal Investigator -	Mr. Pradeep Kaul, Jt. Director (Hw) & Directors of seventeen Media Centres

Objectives

The objectives of the proposed programme are to:

- Promote generation of e-Content in all subjects;
- Develop teachers' and experts' resources in e-Content creation;
- Make available the e-Content to teachers and students through various delivery modes for formal and non-formal education, for supplementing and complementing the process of teaching and learning in higher education;
- Develop partnerships between educational institutions and the IT industry for the continuous development of new content and methodology taking into account contemporary technology.

Deliverables

In Phase I, production of e-content courseware for 19 subjects shall be produced and under Phase II, production of e-content courseware for additional 50 subjects shall be undertaken.

1. Production of e-Content Modules suitable for use in PC and internet.
2. To hold Academic, Production, Technical and Research workshops for successful development, upgradation and evaluation of the objectives of the project.

Total Budget - Rs. 38.38 crores

Deliberations & Recommendation

The Standing Committee has listened to several presentations by Dr. Pradeep Kaul, highlighting the development of a standard template for content development under the four quadrant project. The samples produced by this project so far are not very many, however, the quality of content as well as the interface are very good. The Standing Committee recommends that the Principal Investigator lists all the subjects in

detail along with the number of modules in each one of them and make them published through the Sakshat website. The relation between the number of modules prepared under this project and the number of modules required for a course should be clearly indicated in the proposal.

Subject to these changes in final portion of the project report, Standing Committee recommends to the PAB for approval for the entire project with sanction of about 30 percent for all the activities i.e. Rs. 5.4 crores approximately (30 percent of Rs. 12 crores and 30 percent of Rs. 6.50 crore).

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. ____ to _____.**

Agenda Item No.8

Indian Library and Information Infrastructure for Scholarly Content (N-LIST)

The project was reviewed by Standing Committee and Peer Review Committee in their meeting held on November 20-21. The details are given below:

Project Title: Indian Library and Information Infrastructure for Scholarly Content (N-LIST)

Principal Investigator: Dr. Jagdish Arora, Director, INFLIBNET Centre,Ahmedabad Total Budget (Recurring + Non-Recurring) : 4000.02 lakhs

What INFLIBNET Does?

- ○ Set-up Authentication Proxy Servers at BSNL Hosting Site
- ○ Create Log-in IDs and Passwords for faculty and students (automated process)
- ○ Open access to e-resources through proxy servers (to be moved to Shibboleth)
- ○ Generate awareness and evolve tutorials and guides
- ○ Training programmes

Deliberations & Recommendation

The PI presented a summary of the subscriptions and the institutions that have been added along with a statement of the account. This project is that of subscribing to the Journals by UGC and other accredited institutions complementing what INDEST offers.

The committee reviewed the list which is enclosed. Being purely a service oriented activity, and having a mandate to reach as many academic institutions within the plan period, the Sc recommends to the PAB for a full sanction of the second instalment.

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. ____ to _____.**

Agenda Item No.9

Extension of pilot of vocational modules and haptic devices

The project was reviewed by Standing Committee and Peer Review Committee in their meeting held on November 20-21. The details are given below:

Project Name: Project on Vocational training and Haptic Devices by Amrita Vishwa Vidyapeetham.

Collaborators

- **IIT Bombay**: Haptics (Dr. Subhashish Chowdhary)
- **VIIT Pune** : Vocational Programs
- **Sona College, Salem**: Vocational Programs
- **SRATI, Coimbatore**: Vocational Programs
- **Jaipur Engineering College (JECRC)** :Vocational Programs

Deliverables:

- Mass production of haptics devices for 10,000 centers
- Workshops/ Orientation
- Installation of haptic devices/ computerized vocational programs at 10,000 centers
- Support & Maintenance

Total Budget: Rs.8457.58 lakhs

Observations and Recommendations:

The SC felt that the projected budget is very expensive and is not commensurate to the current software /hardware cost. Also the PI was requested to provide all the micro details and an analysis of cost/benefit in the use of haptic devices. The PI was requested to rewrite the project proposal and submit it to detailed reviews by a number of external reviewers before the SC would provide a collective recommendation. Also the possibility of working together between institutes carrying out similar activities should be seriously explored.

The Appraisal and Evaluation done by Standing Committee and Peer Review Committee are enclosed from **Page No. ____ to _____.**

Agenda Item No.10

Approval for release of next installment to NPTEL

The PAB in its 1st meeting held on 3rd March, 2009 approved NPTEL project for a total amount of Rs.96 crores against which Rs.10 crores were released in 2008-09 and Rs.40.35 crores in 2009-10 to IIT Madras, Chennai.

The Director IIT Madras and PI has requested for release of next installment of Rs.25 crore vide letter dated 25th November, 2010, a copy of which is enclosed at **Page No.____.** The Status Report will be placed in the meeting.

PAB may please consider the request and take decision.

Agenda Item No.11

Setting up of a Committee on Communication & Bulk Storage Servers at 100 premier Institutions

One of the components of Connectivity under the the Centrally Sponsored Plan Scheme, namely, National Mission on Education through Information and Communication Technology (NMEICT) is "Communication & bulk storage servers at 100 premier institutions".

In this regard, it is proposed to constitute a Committee comprising of the following members:

1. Prof. Gautam Barua, Director, IIT, Guwahati
2. Prof. S.V. Raghavan, Scientific Secretary to PSA to GOI
3. Dr. Y.N. Singh, IIT, Kanpur
4. Prof. B.N. Jain, IIT, Delhi
5. Prof. Huzoor Sharan, IIT, Delhi
6. Prof. H.M. Gupta, IIT, Delhi
7. Ms. Shakeela T. Shamshu, Joint Adviser, Planning Commission
8. Dr. B.K. Murthy, Director (Scientist "F") and Head, National Knowledge Network, Department of Information Technology, New Delhi
9. Shri R.S. Mani, Sr. Technical Director, National Informatics Centre, CGO Complex, New Delhi
10. Mr. Luv Gupta, Principal Adviser, TRAI
11. AS & FA, MHRD
12. Representative of Department of Telecommunications, Govt. of India
13. Dr. P.K. Kalra, Director, IIT, Rajasthan - Convener

Terms of Reference of the proposed Committee could be as follows:

a)   To identify 100 institutions where communication and bulk storage servers could be installed;
b)   To suggest specifications of such servers;
c)   To suggest manpower needed for maintenance of such servers, along with space where such servers would need to be installed;
d)   To suggest methodology for procurement by the Institutions; and
e)   To suggest group of institutions with Principal Investigator which will anchor the project.

The Committee may co-opt more experts, if needed, for the benefit of Mission.

NMEICT may pay TA/DA, as applicable.

The Committee may submit its report to Project Approval Board of NMEICT within a period of six weeks from the date of its constitution.

Project Approval Board of NMEICT is requested to consider this proposal and take a decision.

Agenda Item No.12

Low cost access-cum-computing device - Status Report

A presentation will be made by IIT, Rajasthan.

Agenda Item No.13

Providing connectivity to universities & Colleges - Status Report

A presentation will be made by Mr.Anil Jain, Senior General Manager, BSNL.

Agenda Item No.14

Virtual Lab - Status Report

A presentation will be made by Prof.Ranjan Bose of IIT, Delhi

Appendices and other enclosures will be placed in the meeting

MINUTES OF THE SECOND MEETING OF THE NATIONAL APEX COMMITTEE AND 16TH MEETING OF PROJECT APPROVAL BOARD OF NATIONAL MISSION ON EDUCATION THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY HELD ON 1ST SEPTEMBER, 2010 AT 10.30 AM IN COMMITTEE ROOM-B, VIGYAN BHAWAN ANNEXE, NEW DELHI

The second meeting of the National Apex Committee and 16th meeting of Project Approval Board of National Mission on Education through Information and Communication Technology was held on 1st September, 2010 at 10.30 AM in Committee Room-B, Vigyan Bhawan Annexe, New Delhi under the chairmanship of Hon'ble Minister of Human Resource Development.

2.   List of participants is at **Annexure.**

3.   Joint Secretary (Distance Learning), MHRD welcomed Hon'ble Minister of Human Resource Development and Hon'ble Minister of State (HRD).   Chairman then requested Joint Secretary (Distance Learning), Department of Higher Education to explain the Agenda items one by one.   Accordingly, Joint Secretary (Distance Learning) explained the same and Agenda items were taken up and decisions, as given below, were taken:

i.   Item No.1   Confirmation of the Minutes of the 1st Meeting of the Apex Committee held on 11th September, 2009.

The Minutes of the first Meeting of Apex Committee held on 11th September, 2009 were confirmed.

ii.   Item No.2 Action Taken Report on the Minutes of the 1st Meeting of the Apex Committee held on 11th September, 2009.

The Action Taken Report on the Minutes of the first Meeting of Apex Committee held on 11th September, 2009 was noted.

iii.   Item No.3   Confirmation of the Minutes of the 15th Meeting of the Project Approval Board held on 24th May, 2010.

The Minutes of the 15th Meeting of Project Approval Board held on 24th May, 2010 were confirmed.

iv.   Item No.4   Action Taken Report on the Minutes of the 15th Meeting of the Project Approval Board held on 24th May, 2010.

The Action Taken Report on the Minutes of the 15th Meeting of the Project Approval Board held on 24th May, 2010 was noted.

v.   Item No.5 Connectivity to colleges and universities.

Shri N.K. Sinha, Joint Secretary (Distance Learning) summarized this Agenda item and said that when NMEICT was sanctioned, it had three major components, namely, Connectivity, Content Generation and Access Device. For NMEICT network BSNL-MTNL combine was entrusted the job of connecting Universities and Colleges (on copper wire).   For National Knowledge Network (NKN), 3 public sector undertakings, namely, BSNL, RailTel and Power Grid are the agencies to execute the work. NMEICT was

approved in January, 2009 whereas NKN was approved in March, 2010. NKN has a timeframe of 2 years. MHRD had gone ahead and so far Rs. 472.00 crores has been released to BSNL for providing connectivity to both Universities and Colleges. The Universities are to be connected to NKN PoPs. BSNL has covered much ground in this regard and the work is going on. NKN was approved for providing connectivity to 400+ universities. In the meantime, a new dimension has come into being and the number of universities, which is around 504 as of now, is growing further and it is expected after two years, this number could be around 800. For connecting 800 universities, neither NMEICT nor NKN has the money. As of now, money for connecting 419 Universities is available with both the networks. Secretary, DOT also expressed the view that 419 Universities be connected as early as possible, preferably, by 30.9.2010 or after taking one more month. Thereafter, Joint Secretary (Distance Learning), MHRD added that since NKN has a timeframe of two years, MHRD will need this lead time to prepare Professors and students to start using the network/resources that are created and MHRD cannot wait for two years. Chairman, then, sought the views of representatives of Department of Information Technology. Chairman categorically said that there should not be any duplication of work.

In response, Joint Secretary, Department of Information Technology (DIT) said that National Knowledge Network is approved by Cabinet Committee on Infrastructure (CCI) for connecting 419 Universities and further connectivity thereof. DIT is required to furnish utilization certificate for the same. He also said that the proposal that is being made under this Agenda item is that as soon as reimbursement is made by NKN, connectivity will be provided to the colleges. He further said that the term 'reimbursement' appears to be out of place. He requested that DIT should be given list of 419 Universities by MHRD. At this point, Joint Secretary (DL), MHRD and Chairman said MHRD will keep giving the list of Universities beyond 419 Universities for which work is already entrusted to BSNL. Regarding technical aspects, Dr. B.K. Gairola, DG, NIC, DIT said that conceptually the two networks i.e. NMEICT and NKN are totally different. Design of NMEICT was broadband based system and the idea was to provide broadband connectivity to every individual PC. Later on, there has been change over to gigabit connectivity. Briefly mentioning about NKN network, he said that it is a low latency, high bandwidth network and is connected to a set of global networks. It is also connecting all knowledge institutions. NIC is using only fibre from telephone companies. It is important to have end-to-end service quality assurance which cannot be achieved as DIT has been saying. Cabinet Committee on Infrastructure (CCI) has approved NKN to support universities and money so saved could be used for redesigning the college network.

He also referred to the meeting taken by Secretary, Expenditure on overlap/duplication of work between NMEICT and NKN and only after that CCI approved establishment of NKN.

Chairman then asked DIT/NKN whether they can take control of providing connectivity to Universities and Colleges, both on optical fibre, using the money already given by MHRD to BSNL. DG, NIC responded to say that college connectivity is not mandated to NKN network. It was then decided that DIT may move Cabinet to include college connectivity on optical fibre in NKN network, including providing LAN to Universities and Colleges. The connectivity to Universities should be completed by December, 2010.

Shri Anil Jain, Sr. GM, BSNL sought direction as to whether they could continue providing copper wire connectivity to colleges. It was clarified that BSNL will continue to do so. However, BSNL will seek guidance from NKN with regard to technical aspects. For technical issues/specifications, the Technical Advisory Committee of NKN which is headed by Dr. S.V. Raghavan, Scientific Secretary to Principal Scientific Adviser to Govt. of India, will be broad based to include BSNL and other stakeholders concerned.

Shri Anil Jain, Sr. GM, BSNL also apprised the National Apex Committee of NMEICT of the progress achieved so far under the NMEICT network in respect of Universities and Colleges. Chairman categorically stated that whatever investment under NMEICT has been made in this regard will be protected and whatever has been done cannot be undone. Dr. B.K. Gairola, DG, NIC also endorsed this. DIT will also take care of Service Level Agreement (SLA) in respect of connectivity to universities.

Chairman, National Apex Committee of NMEICT and Joint Secretary (Distance Learning), MHRD also said that if more money is needed from MHRD, that will be released in this regard.

Chairman, National Apex Committee also suggested to explore the possibility of empowering the young school going children with innovative use of ICT also. Joint Secretary (DL) mentioned that Department of School Education & Literacy has a separate ICT scheme for the school sector.

vi.   Item No.6   Connectivity to Government Polytechnics.

After detailed discussions, National Apex Committee of NMEICT decided that all Polytechnics be provided copper wire connectivity at par with colleges. In so far as Optical Fibre Cable connectivity to colleges is concerned, DIT will take over after getting approval of the Cabinet.

vii.   Item No.7 Approval for Setting up a Committee on DTH

Suggestions were sought from Department of Space and other members present so that a comprehensive Committee could be formed. Representative of Department of Space shared the views of MHRD and said that he would send in some names for inclusion in the Committee on DTH. After detailed discussions, National Apex Committee of NMEICT decided that Prof. S.V. Raghavan, Scientific Secretary to Principal Scientific Advisor, Govt. of India will coordinate this matter, suggest methodology of work and Terms of Reference of the proposed Committee, keeping in view the objectives of NMEICT scheme. It was also decided that private players in this field may also be co-opted to assist the system. This Committee will take care of infrastructure and content aspects both. Apart from this, it was also decided that a Specialist in Indian Languages may also be included in the said Committee. Prof. Raghavan will submit his response to MHRD at the earliest.

viii.   Item No.8 Awareness Building and Publicity Strategy Formulation

The Proposal was approved.

ix.   Item No.9   Approval of extension of pilot projects upto 31st March, 2011

The Proposal was approved.

x.   Item No.10 Approval of 15 projects recommended by Standing Committee.

The following proposals were approved:

1.   e- CONTENT DEVELOPMENT

Control No.: 23011010521

Name of the Institute(s): CSK HP Krishi Vishvavidyalaya, Palampur, HP

Name of PI(s): Dr. SP SHARMA

Amount approved: Rs. 7 lakh for one course as pilot.

2.   E-Books on Introduction to High Energy Physics, Introduction to Astroparticle Physics and Instrumentation methods in Astroparticle Physics.

Control No. se-16120910469

Name of the Institute(s): Dayalbagh Educational Institute, Agra

Name of PI(s): Dr. Sonali Bhatnagar

Amount approved: Rs. 14 lakhs for two courses as pilot.

3.   Library Automation and Resource Sharing Network

Control No.Ue-05031010571

Name of the Institute(s): Indira Gandhi National Open University, New Delhi

Name of PI(s):

1.   Prof. Uma Kanjilal, School of Social Sciences, IGNOU, New Delhi
2.   Prof. K. S. Raghavan, Professor, DRTC, Indian Statistical Institute, 8th Mile, Mysore Road, Bangalore 560 059
3.   Dr. Parthasarathi Mukhopadhyay, Assistant Professor, Department of Library and Information Science, University of Burdwan, West Bengal.

Amount approved: Rs.1,82,00,000/- for the project.

4.   Development of e-content for professional skill development in teacher-training

Control No.: Je-05031010572

Name of the Institute(s): Department of Educational Technology, SNDT Women's University, Mumbai

Name of PI(s): Dr. Jayashree Shinde

Amount approved: Rs.93 lakhs for 360 hours e-content for 3 subjects. A proportionate amount of Rs. 10.33 lakhs is recommended to be released for completion of 40 hours and remaining should be released to the PI after evaluation by the constituted committee.

5. **Development of E-Content in the Areas of**

1. Insurance & Risk Management
2. MBA (Agri-Business)

Control No.: <u>Se – 13021010543</u>

Name of the Institute: Faculty of Management Studies, Banaras Hindu University

Name of PI: Prof. S.K. Singh

Amount Approved: Rs. 14 lakhs for two courses as pilot in Phase-I. For Phase II, Rs.70 lakhs for each slot of 10 courses after successful completion of Phase-I. The fund for Phase-II should be released after evaluation of content developed in Phase I.

6. **Development of e-Content in Physical Education for Undergraduate & Postgraduate Courses**

   (i)   Anatomy and physiology
   (ii)   Kinesiology of body movements.

Control No. <u>Se-12011010504</u>

Principal Investigator: Syed Tariq Murtaza (Ph.D.), Department of Physical Health and Sports Education, Faculty of Social Sciences, Aligarh Muslim University, Aligarh-202002.

Amount approved: Rs.7 lakhs x 2 courses = Rs.14 lakhs as pilot.

7. **Development of E-content for Slope Engineering**

Control No.: <u>Re-10031010581</u>

Name of the Institute(s): <u>Institute of Technology, Banaras Hindu University</u>

Name of PI(s): Dr .Rajesh Rai and Dr. GSPSingh

Amount approved: Rs.7 lakhs for one course as pilot project.

8. **Sakshat One Stop Education Portal**

Control No.: Ue-22031010754

Name of the Institute(s): **Indira Gandhi National Open University (IGNOU), New Delhi**

Name of PI(s):   **Prof. Uma Kanjilal**

Amount approved: Rs.93,93,000/- till 31st March, 2012. However, Sakshat being official website of NMEICT, the above may be implemented by the Mission Secretariat.

9. Introduction to Programming and its Mathematical Foundations

Control No.: Je-16031010655
Name of the Institute(s):

Keshav Memorial Institute of Technology, Hyderabad (KMIT), and

Department of Computer Science, University of Mumbai (UDCS)

Name of PI(s):

     1. Dr Jayant Kirtane (KMIT)

     2. Dr Ambuja Salgaonkar (UDCS)

Amount approved: Rs.7 lakhs for pilot project.

10. **Creation of content for ISTQB (International Software Testing Qualifications Board) foundation certification (as proposed by PI) and Content creation for foundation course for Software Testing Qualification (as recommended by Standing Committee).**

Name of the Institute(s):
Keshav Memorial Institute of Technology, Hyderabad, A.P

Chief Investigator: Mr. Neil Gogte, Director,

Amount approved: Rs.7 lakhs for one course as pilot project.

11. **Software Defined Radio (SDR)- Architecture, Systems for 3G**

Control No.: SE-10051010858

Name of the Institute: Keshav Memorial Institute of Technology, Hyderabad

Name of PI(s): Prof. S.P. Venu Madhava Rao

Amount approved: Rs.7 lakhs for one course as pilot.

12. **e-Content Generation and e-skill test in Specialized Areas of Information Technology**

Control No. : <u>Ve-25110910429</u>

Name of the Institute(s) : Centre For Development of Advanced Computing , CDAC, Noida

Name of PI(s) : V.K.Sharma, Sr.Project Manager, CDAC, Noida

Amount approved: Rs.7 lakhs per course for 26 courses i.e. Rs.182.00 lakhs for the project.

13. GNUKhata

Control No. <u>KE-29041010840</u>

Name of the Institute(s): Master Dinanath Mangeshkar College of Arts and commers.

Name of PI(s): Manik Shingare,Krishnakant Mane

Amount approved: Rs.23.00 lakhs for the project.

14. DEVELOPING E-CONTENT FOR LAW SUBJECTS

Name of the Institute(s):

NALSAR UNIVERSITY OF LAW, Hyderabad, NATIONAL ACADEMY OF LEGAL STUDIES AND RESEARCH UNIVERSITY, Justice City, Shameerpet, R.R.District, Hyderabad-500078, A.P., (India)

Name of PI(s): Prof. M. Sridhar Acharyulu, Faculty, NALSAR, Hyderabad
Prof (Dr) B.V. Somasekhar
Prof. G.S.Srivatsa

Amount approved: Rs.7 Lakhs for one course as pilot.

15. E-course Development in Economics

Control Number: <u>Te-08061010897</u>

Name of the Institute(s) : ANNAMALAI UNIVERSITY, TAMILNADU
Name of Principal Investigator : Dr. T. SUDHA
Co- Investigators: Dr. N. MALATHI and Dr. T. S. KALYANI
Amount apporved: Rs.7 lakhs for one course as pilot.

xi. <u>Item No.11 (Table Agenda No.1) Proposal for testing of Low Cost Access-cum-computing devices.</u>

In pursuance of unveiling of $ 35 device by Hon'ble HRM on 22nd July, 2010, Dr. Prem Kumar Kalra, Director, Indian Institute of Technology, Rajasthan made a presentation on proposals for: (i) Testing of Low Cost Access-cum-

Computing Devices and (ii) Hardware and Software Optimization of Low Cost Access Devices. Dr. Prem Kumar Kalra explained various aspects of these proposals and said that the revised financial proposal is to the tune of Rs. 41.50 crores. After detailed deliberations, National Apex Committee and Project Approval Board of NMEICT approved procurement of one lakh pieces of Low Cost Access-cum-Computing Device and their field trials and extensive testing. For this purpose, Rs. 41.50 crores was approved by National Apex Committee and Project Approval Board for the project to Indian Institute of Technology, Rajasthan.

xii.   Item No.12 Presentations

- Shri Pradeep Kaul, Joint Director, CEC, UGC made a brief presentation on the e-contents developed on History subject under the pilot project sanctioned to CEC, UGC under NMEICT scheme.

- Prof. A.K. Bakhshi from University of Delhi made a brief presentation on the e-contents developed under a pilot project sanctioned to University of Delhi under NMEICT scheme.

- Representative of Amrita Vishwavidyalaya made a brief presentation on `Haptic Device' project sanctioned under NMEICT.

- Representative of Dayalbagh Educational Institute, Agra made a brief presentation on `Motor Mechanic Course'.

- Shri Anil Jain, Sr. GM, BSNL made a brief presentation (as also included under Item No.5) on Connectivity matters under NMEICT.

xiii.   Item No.13 Table Agenda 2

Table Agenda was duly circulated and no objections were made.

xiv.   Prof.Sridhar Iyer from IIT Bombay had presented the progress of the Open Source Software Initiatives at IIT Bombay before the Standing Committee in its meeting held on 20th Feb, 2010 where he was asked to submit the DPR. Prof. Iyer made the presentation and explained various aspects of the project – OSCAR++ - Open Source Courseware Animations Repository. Thereafter, National Apex Committee and Project Approval Board approved Rs. 3.00 crores for this project to IIT, Bombay.

xv.   During the discussion on Action Taken Note on the 15th meeting of PAB held on 24th May, 2010, Secretary, DOT offered necessary assistance for the project on Village Community Network. Thereafter, Dr. Soami Daya from Dayalbagh Educational Institute, Agra made a brief presentation on the proposal pertaining to The Village Community Network: Technology Development and Pilot Roll Out Plan for Low Cost Opportunistic Communication Networks for Rural Areas of India which submitted to NMEICT. Thereafter, National Apex Committee and Project Approval Board approved Rs.6.00 crores for this project to Dayalbagh Educational Institute, Agra.

xvi. Representative of Amrita Vishwa Vidyapeetham made a brief presentation on the project pertaining to "*u-share : Multi-user Real time Shared Access platform for Remote Experimentation*" submitted to the NMEICT. Director, IIT Delhi was also present. Thereafter, National Apex Committee and Project Approval Board approved Rs.25.00 lakhs for this project Amrita Vishwa Vidyapeetham.

4. Other observations/suggestions

- Joint Secretary (Distance Learning), MHRD requested Vice Chancellors of the Central Universities present to pool together all Experts of the country to make NMEICT a big success. Inputs from VCs of Central Universities are crucial for improving the quality of education. They were, therefore, requested to actively participate in the Mission.
- Shri R.P. Agarwal expressed his apprehension that e-contents developed under NPTEL project were not reaching out to a large population of learners. Prof. Mangala Sunder Krishnan from IIT, Madras explained the response received by NPTEL courses on You-Tube website and said that the contents under NPTEL are being used by a large number of learners.

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

*****

LIST OF PARTICIPANTS

S. No.	Name and Designation	Contact details, viz., Tel. No./ Mobile No. / E-mail ID
1.	Sh. Kapil Sibal Hon'ble Minister of Human Resource Development Shastri Bhawan, New Delhi-110001	
2.	Ms. D. Purandeswari Hon'ble Minster of State (Human Resource Development) Shastri Bhawan, New Delhi-110001	
3.	Shri Ashok Thakur Additional Secretary Ministry of HRD Shastri Bhavan New Delhi	
4.	Dr. S.V. Raghavan Scientific Secretary to Principal Scientific Adviser to Govt. of India Vigyan Bhawan New Delhi	
5.	Shri. N.K.Sinha Joint Secretary(DL) Department of Higher Education, MHRD, Shastri Bhawan, New Delhi	23387781 nksinha.edu@nic.in
6.	Mr. S.K. Ray Additional Secretary & Financial Adviser, Department of Higher Education, Ministry of Human Resource Development, Shastri Bhawan, New Delhi	
7.	Dr. B. K. Gairola Director General National Informatics Centre, Department of Information Technology Ministry of Communications and Information Technology A-Block, CGO Complex, Lodhi Road New Delhi	
8.	Prof. Prem K. Kalra Director IIT Rajasthan Jodhpur	Ph.:05122596244/6245 Fax: 0512 2596244 Email: kalra@iitk.ac.in
9.	Dr. Harvinder Singh Deputy Secretary MHRD, Shastri Bhawan New Delhi	011-23382604 harvinder.edu@nic.in
10.	Prof. K. Mangal Sunder Professor Dept. of Chemistry IIT Madras, Chennai-600036	044-2575905 09444008706 mangal@iitm.ac.in

11.	Prof. Kannan Moudgalya Dept. of Chemical Engg Powai IIT, Bombay	9869326979 kannan@iitb.ac.in
12.	Prof. Pradeep Varma Teri University Institutional Area Vasant Kunj, New Delhi	9818182834 varma.pradeep@gmail.com
13.	Prof. Pradeep Kaul Jt. Director (H) IUAC Campus.Aruna Asaf Ali Marg, New Delhi-110067	Ph – 011-26896638 / 9868274690 kaulp@rediffmail.com
14.	Prof. Anil Kumar Tripathi Professor in Computer Engineering IT, BHU Varanasi-221005	9415518418 (0542) 6702689 (off) 2575648 (Res.) aktripathi.cse@itbhu.ac.in anilkt@bhu.ac.in
15.	Dr. Vimal Rarh Academic Secretary, ICT Institute of Lifelong Learning ARC Building, Opp. SGTB Khalsa College University of Delhi Delhi- 110007	9810094703 vimalrarh@yahoo.com
16.	Dr. Vishal Sahni Coordinator Dayalbagh Educational Institute Dayalbagh Agra- 282110	9319211231 deivishalsahani@rediffmail.com
17.	Dr. Soami P. Satsangee Associate Professor Dayalbagh Educational Institute Dayalbagh Agra- 282110	9760230620 deivsic@gmail.com
18.	Dr. C.M. Markan Associate Professor Dayalbagh Educational Institute Dayalbagh Agra- 282110	9759844966 cm.markan@gmail.com
19.	Shri. N. Ravishankar Joint Secretary Dept of Information Technology Electronics Niketan 6, C.G.O Complex Lodhi Road, New Delhi	24363124 nravishanker@nic.in
20.	Prof. Udaya Narayana Singh Pro- Vice- Chancellor Rabindra Bhawana, Visva- Bharati, Santiniketan West Bengal- 731235	Telefax- 03463-261012 Cell (O) 9434050218 unsciil@yahoo.com uns@visva-bharati.ac.in

21.	Ms. Aparajita Ojha Director PDPM Indian Institute of Information Technology D& M Jabalpur Dumna Airport Road PO Khamaria Jabalpur- 482005	0761-2632615 09425800334 aojha@iiitdmj.ac.in
22.	Prof. U. B. Desai, Director, IIT, Hyderabad Indian Institute of Technology Ordnance Factory Estate Yeddumailaram 502205 Hyderabad Andhra Pradesh	040-2301-6002 +91-94910-40801 director@iith.ac.in
23.	Shri. R.P.Agrawal Chairman BOG, IIT Delhi C 1/17, Bapa Nagar New Delhi-110003	9910823311 rpa1949@gmail.com
24.	Prof. Gautam Barua Director, Indian Institute of Technology Guwahati Guwahati 781039 Assam	9954025475 gb@iitg.ernet.in
25.	Prof. S.C.Saxena Director, Indian Institute of Technology Roorkee Roorkee, Uttarakhand – 247667	01332-272742, 285500 09412074950 director@iitr.ac.in saxenasuresh@yahoo.co.in
26.	Dr. H. Maheshappa Vice-Chancellor, Visvesvarya Technological University, Mache Belgaum- 590018	91+831-2405456 9880288083 vc@vtu.ac.in
27.	Ms. Shakila T. Shamshu Joint Advisor Planning Commission 504, Yojana Bhawan Sansad Marg New Delhi- 110001	011-23096766 9910370499 shakilat.shamsu@nic.in
28.	Prof. C.D. Singh Vice Chancellor Indira Gandhi National Tribal University, Amarkantak, Kapil Dhara Road , Mekal Sadan Amarkantak, Dist-Anuppur(M.P.) Pin- 484886,	09425331399 07629-269615 vcigntu@gmail.com

29.	Dr. B. K. Murthy Head NKN Division Dept of IT Ministry of Communications & IT Electronics Niketan 6, C.G.O Complex Lodhi Road New Delhi	24360234 bkm@mit.gov.in
30.	Prof. Surendra Prasad Director, Indian Institute of Technology, Hauz Khas, New Delhi - 110016	011-26591701 011-26582020 9810350512 sprasad@ee.iitd.ac.in director@admin.iitd.ac.in
31.	Prof. Raghabendra Chattopadhyay Professor of Public Policy & Management Indian Institute of Management Calcutta Joka, D.H. Road Kolkata- 700124	24678300 9433055230 re@iim@al.ac.in
32.	Prof. Arunoday Saha Vice Chancellor, Tripura University, PO: Suryamaninagar, Agartala Tripura-7990031	0381-2374801 09436122179 arunodaysaha@rediffmail.com
33.	Prof. A.K.Bakhshi Director Institute of Lifelong Learning (ILLL) Academic Research Centre University of Delhi, Delhi-110007	9818352820 akbakhshi2000@yahoo.com
34.	Prof. Mohammad Miyan Vice Chancellor, Maulana Azad National Urdu University 8-2-523/67-68, Brindavan Colony Tulichowki, Hyderabad-500032, Andhra Pradesh	O- 040-23006601 R- 040-23008300 vc@manuu.ac.in mmiyan@hotmail.com
35	Mr. Najeeb Jung Vice-Chancellor, Jamia Millia Islamia (A Central University) Maulana Mohammad Ali Johar Marg Jamia Nagar, New Delhi - 1100 25	
36.	Prof. D.V. Khakhar Director IIT Bombay Powai Mumbai- 400076	25767001 9820605351 director@iitb.ac.in
37.	Prof. Mohd. Akhtar Siddiqi Chairperson National Council for Teacher Education Hans Bhawan 1, Bhadur Shah Zafar Marg New Delhi- 110002	23370114 mohdakhtarsiddiqi@yahoo.co.in

38.	Prof. Pradip Narayan Ghosh Vice Chancellor, Jadavpur University 188 Raja S. C. Mullick Road, Jadavpur, Kol-700032	033- 24146000 09831240859 pradipnghosh@yahoo.co.in vc@admin.jdvu.ac.in
39.	Prof. R.K. Shevgaonkar Vice Chancellor University of Pune Ganeshkhind, Pune	20- 25693868 9820901702 rks@ee.iitb.ac.in puvc@unipune.in
40.	Prof. Sukhadeo Thorat Chairman University Grants Commission 9, Bahadur Shah Zafar Marg, Delhi 110002	thoratsukhadeo@yahoo.co.in
41.	Prof. Vasudha Kamat Joint Director CIET, NCERT Central Institute of Educational Technology National Council of Educational Research & Tranning Sri Auribindo Marg New Delhi- 110016	011- 26962580 Jdciet.ncert@nic.in
42.	Shri Raj Kumar Under Secretary Department of Higher Education Room No. 225 "C" Wing MHRD, Shastri Bhawan New Delhi	23384187 raj64in@indiatimes.com
43.	Prof. S. G Deshmukh, (Director) ABV-Indian Institute of Information Technology and Management Gwalior Morena Link Road, Gwalior Madhya Pradesh- 474010	0751-2449807 0943786444 director@iiitm.ac.in
44.	Prof. K. Sethuraman Associate Director Satcom Application & Insat Operation ISRO, Dept of Space Antariksh Bhawan New BEL Road, Bangalore- 560231	91-80- 23412117/22172320 9900547466 sethu@isro.gov.in
45.	Prof. Ganapati Panda Dean, Academic Affairs Indian Institute of Technology, Bhubaneshwar Samantapuri Near: Swaste Plaza Hotel Bhubaneshwar, Orissa	9437048906 panda@iitbbs.ac.in
46.	Shri Ajai Chowdhary Chairman HCL A-110, A-11 Noida	26848440 aked@hcl.in

47	Ms. Mamta Varma Director (Media & Communication) PIB, I&B Ministry Room 131, A Wing Shastri Bhawan New Delhi	23388095 9910011565 hrdpib.131@gmail.com
48	Prof. Ashoke Kumar Dutta Director Rajiv Gandhi Indian Institute of Management Mayurbhanj Complex, Nongthymai, Shillong – 793 014	0364-2534516 director@iimshillong.in
49	Caralyn Khongwar Deshmukh Director School Education & Literacy Ministry of Human Resources Development 419, C Wing, Shastri Bhawan New Delhi	23387948 9560318105 carakhongwar.edu@nic.in
50.	Prof. K. P. Singh Director, IT-BHU Training & Placement Cell Institute of Technology Banaras Hindu University Varanasi – 221005	0542-2368427 09838772196 director@itbhu.ac.in
51.	Sahana Murthy Assistant Professor IIT, Bombay Powai Mumbai- 400076	9819978591 sahanamurthy@iitb.ac.in
52.	Shri Sridhar Iyer Associate Professor Dept of Computer Science IIT Bombay Powai, Mumbai- 400076	098204-09387 sri@iitb.ac.in
53.	Dr. Vrijendra Singh Assistant Professor Indian Institute of Information Technology Allahabad 2103, CC-I Deoghat Jhalwa Allahabad- 211012 UP	0532-2922092 (O & Fax) 09839321091 vrijendra.singh@gmail.com vrij@iiita.ac.in
54.	Anurika Vaish Associate Professor Indian Institute of Information Technology Allahabad 2103, CC-I Deoghat Jhalwa Allahabad- 211012 UP	9415235172 anurika@iiita.ac.in anurika.vaish@gmail.com

55.	Saravanan S. Research Associate CEN, Amrita Viswa Vidyapeetham Ettimadai Coimbatore- 641105 Tamil Nadu	9790931984 sarwanster@gmail.com
56.	Shri Shivapratap Gopakumar Asst Professor CEN, Amrita Viswa Vidyapeetham Ettimadai Coimbatore- 641105 Tamil Nadu	0422-2656422 Extn. 5591 948967772 shivapratap@gmail.com
57.	Dr. Prabhu Ramachandran Assistant Professor Dept of Aerospace Engg IIT, Bombay Powai Mumbai- 400076	022-25767121 09833687121 prabhu@aero.iitb.ac.in
58.	Dr. Madhu N. Belur Assistant Professor Department of Electrical Engg IIT, Bombay Powai Mumbai- 400076	022-25767404 09987466279 belur@ee.iitb.ac.in
59.	Shri Vaidyanathan V. Chief Executive Officer Classle Knowledge Pvt. Ltd 14, 4th Seaward Raod Valmiki Nagar Chennai- 600041	91-9840720650 vaidya.nathan@classle.co.in
60.	Shri Ashok Kalbag Sec. General Pan IIT Alumni India 2nd Floor, CSE Bldg IIT Bombay,Powai Mumbai- 400049	9322227067 askalbag@gmail.com
61.	Shri Giri Prathivadi Tech. Consultant IIT, Rajasthan Jodhpur	9845931505 pp_giri@yahoo.com
62.	Dr. Chattar Singh Senior Technical Officer (SG) Textile Technology IIT Delhi Hauz Khas New Delhi- 110016	9818513729 chatars@textile.iitd.ac.in
63.	Shri Kuldeep Sharma Project Associate Textile Dept. IIT Delhi Hauz Khas, New Delhi- 110016	9811207476 kuldeep2812@gmail.com

64.	Dr. M. Radha Krishna Incharge, Centre of Applied Rural Technology Dayalbagh Educational Institute Dayalbagh Agra- 10	0562-6533987 dep.deidb@gmail.com
65	Dr. Sandhya Senior Director NASSCOM	9849312168 sandhya@nasscom.in
66	Shri Akshay Nagarajan Technical Lead, Sakshat Amrita Vocational Education (SAVE) Amrita University Kollam Kerela	0476-2804409 akshayn@am.amrita.edu
67	Bhavani Bijlani Director, Sakshat Amrita Vocational Education (SAVE) Amrita University Kollam, Kerela	0476-2804409 bhavani@amrita.edu
68.	Kanan Kanol Visiting Faculty Amrita University Amrita Puri Kerala	9810750604 kanav@asu.edu
69.	Shri H.P. Khincha Professor Indian Institute of Science Bangalore	080-22932509 hpk@ee.iisc.ernetin
70.	Shri Sandeep Kumar Yadav Assistant Professor Indian Institute of Technology Rajasthan Camp Office: MBM engineering College Department of Computer Science and Engineering Jodhpur	09414094601 sandeepy@iitk.ac.in sanee.yadav@gmail.com
71.	Shri Rajesh Raizada Vice President HCL- Infosystems Ltd E-4, 5 Sector, XI Noida	0120-2527751 9810605898 rajeshr@hcl.in
72.	Ms. Tulika Giri Student Dayalbagh Educational Institute Dayalbagh Agra- 10	09634471408 tulika.giri@gmail.com
73.	Shri Rajveer Sharma Student Senior Boys Hostel Dayalbagh Educational Institute Dayalbagh Agra- 10	08899697514 rajveersharma1988@gmail.com

74.	Dr. K. Soami Daya Lecturer Microwave Physics Lab Department of Physics & Computer Science Dayalbagh Educational Institute Dayalbagh Agra- 10	09411403166 sdayak@gmail.com
75.	Dr. K. Santi Swarup Associate Professor Dayalbagh Educational Institute Dayalbagh Agra- 10	9897347581 kssdei2001@yahoo.com
76.	Manas Project Associate Dayalbagh Educational Institute 4B, Akankasha Apptts Sec. 62 Noida	9871278992 manas.iilm@gmail.com
77.	Shanmugam Lecturer Mechanical Engg Dept. Amrita University Kollam, Kerela	0476-2804409 2802504 shanmugam@amritapuri.amrit a.edu
78.	Soman K.P. Professor Amrita Viswa Vidyapeetham Coimbatore	9994329496 kp_soman@amrita.edu
79.	Shri Rakesh Peter Assistant Professor Amrita University Ettimadai Campus Coimbatore-641105	9495965456 p_rakesh@ab.amrita.edu
80.	Jaison A Manjaly Assistant Professor IIT, Gandhinagar VGEC Campus Chandkheda Ahmedabad	9227508985 jmanaly@iitgn.ac.in
81.	Dr. C. Krishna Mohan Associate Head/ Assistant Professor IIT, Hyderabad Department of Computer Science & Engg. Ordnance Factory Estate, Hyderabad	040-23016021 9491712312 ckm@iith.ac.in
82.	Shri Promod Kumar Tiwari Director, MHRD Room No. 308 Shastri Bhawan C Wing New Delhi	23070859 pramodkrtiwari@yahoo.co.in
83.	Shri Anil Kumar Jain Sr. General Manager (Network Planning-BB) BSNL, Room No.212, Bharat Sanchar Bhawan New Delhi	