File No.NMEICT (MS)/PAB/1

Government of India
Ministry of Human Resource Development

National Mission on Education through Information & Communication
Technology (NMEICT) New Delhi

(Mission Secretariat)
****

26th October, 2009

To

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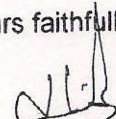Technology (As per list enclosed)

Sub: Agenda and papers for **10th** Meeting of the Empowered Committee of Experts
(Project Approval Board) of National Mission on Education through
Information and Communication Technology (ICT) to be held on 29th October,
2009 at 3.30 p.m. in Conference Room No.112-C Wing, Shastri Bhavan, New
Delhi

Sir/Madam,

The 10th Meeting of the Empowered Committee of Experts (Project Approval
Board) of National Mission on Education through Information and Communication
Technology (ICT) is scheduled to be held on 29th October, 2009 at 3.30 p.m. under
the Chairpersonship of Secretary, Department of Higher Education, Ministry of
Human Resource Development in Conference Room No.112-C Wing, Shastri
Bhavan, New Delhi

2.   The Agenda papers are enclosed.

Yours faithfully,

(Harvinder Singh)
Deputy Secretary (PAE) &
Nodal Officer (NMEICT)
Tel: 011-23382604

Agenda Item No.1

The Minutes of the 9th meeting of the Project Approval Board held on 3rd & 11th September, 2009, are enclosed (**Will be sent separately)** for kind perusal and confirmation please.

Agenda Item No.2

Approval for Broadbasing of Implementation-cum-Monitoring Committee.

Project Approval Board (PAB) of National Mission on Education through Information and Communication Technology (NMEICT), in its 7th meeting held on 2nd July, 2009, decided to broadbase the Implementation-cum-Monitoring Committee by forming Sub-Committee(s) for various regions as well. A copy of the Order No.F.16-70/2009-DL dated 29th June, 2009, constituting the Implementation-cum-Monitoring Committee on connectivity matters under NMEICT is enclosed (**Appendix-1**).

Project Approval Board of NMEICT is requested to consider broadbasing the Implementation-cum-Monitoring Committee.

It is suggested for consideration of PAB that some members may first be included in the Implementation-cum-Monitoring Committee and then Sub-Committee(s) for various regions be constituted by the PAB of NMEICT. For this purpose, the following officials are suggested for inclusion in the Implementation-cum-Monitoring Committee:

1. Principal Secretaries/Secretaries of Higher Education and Technical Education of all States/UTs;
2. General Managers (BB) of all State Circles of BSNL;
3. Directors/or their representatives/of Indian Institutes of Technology (IITs) and National Institutes of Technology (NITs), who may take care/represent their respective catchment area;
4. 2 or 3 Vice-Chancellors or their representatives of Universities (on rotational basis) in each of the Sub-Committees; and
5. 2 or 3 Principals or their representatives of Colleges (on rotational basis) in each of the Sub-Committees.

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Appendix-1

(Will be placed in the Meeting)

Appendix-1 --- Continue

Consideration of 6 projects appraised by Standing Committee in its meeting held on 05.09.09.

Presentations were made in respect of 10 projects in the Standing Committee meeting held on 5th September, 2009.   The Committee after deliberation recommended the following 6 projects:-

1.   **Learning-by-Doing (LBD)-based Course Content Development by Dr. Kannan Srinathan, International Institute of Information Technology, Hyderabad.**

The proposal was presented by Dr. Kannan Srinathan. The proposal follows the principles of the oldest Indian tradition of learning in four stages namely, learning by sensing, learning by doing, learning by relating and learning by living in an area where there is currently the highest level of demand in quality improvement among students, namely, Computer Science and Engineering. A total of 20 courses are proposed to be done by IIIT Hyderabad and in the first phase the authors proposed 10 courses to be completed. Project also proposed to include Subject Matter Experts outside the institute. Most of the development is hands-on which would supplement existing lecture courses. The authors also proposed to build a problem centric approach which will test various skills of the learner against fulfilling specific task. Resources will include, where necessary, creation of video lectures and just-in-time lectures.

Total cost of the project – Rs.240 lakhs for 10 courses

Observations of the Standing Committee

The above proposal was put up by the PI before the Standing Committee on 22nd August 2009. The following observations were given by SC in its meeting held on 22nd August, 2009:

"The standing committee pointed out that all the topics proposed by IIITH are now integral parts of NPTEL project and therefore the Learning by Doing that IIITH would like to develop must consider in its design all those materials that are freely available. In addition the mission has identified a tentatively common budget of Rs. 7 lakhs per course with materials for one semester of course work. The PI's proposal of Rs.24 lakhs is way too much and cannot be supported as it was felt that the project grossly over estimated the cost of making material in India. Therefore the SC members suggested that the authors discuss this with their institute Director and revise the budget as well as explain how they would integrate a large body of available and well-tested class room materials."

The proposal has been re-submitted by the PI in the Standing Committee's meeting held on 5th September 2009.

Recommendation:

The proposal has been reworked by the PI with a budget of Rs. 10 lakhs for each of the ten courses in the area of Computer Science. Since LBD is a very time consuming process for both development and teacher training, setting up a lab, and maintaining it for a budget of Rs. 10 lakh per course for a pilot phase of five months for three courses is recommended by the Standing Committee.

Recommended Amount: Rs. 41 lakhs for pilot phase (Development of Content for 3 courses-Rs.30 lakhs, Equipment-Rs.5 lakhs, Travel and Contingency-Rs.1 lakh each and Teachers' Training-Rs.5 lakhs).

2. Development of modular robotic systems for education by Dr. Ashish Dutta, IIT Kanpur.

Objectives:

Development of modular robotic systems with four types of robots (mobile robots, walking robots, serial manipulators and robots for advanced applications) is proposed by the PI. Potential for joint collaboration with IIIT Allahabad, IIIT Hyderabad, IIIT Jabalpur, College of Engineering, Pune, Tezpur University, Netaji Subash Institute, Institute of Technology Korba, etc exists.

Deliverables:

Basic kit containing mobile, biped and serial arm robots, 2 kits for each institute. One workshop in every three months, one international conference for a total budget of Rs. 91.8 lakhs for three years.

Recommendation for Sanction:

The project is to be carried out in three phases each for approximately one year. Considering the nature of technology and development of tool kit involved, the first phase be sanctioned for 1 year with the release of Rs. 16.4 lakhs for six months and subject to satisfactory performance and detailed review from other external experts, the full project can be sanctioned at the end of pilot.

3. Development of e-content on ancient Indian metallurgy and modern process metallurgy, by Prof. K.K. Singh and Prof. Vikas Jindal, Banaras Hindu University, Varanasi.

Objectives and Deliverables:

Creation of e-content on modern extraction processes of various metals, e-contents related to ancient Indian Metallurgy, history of science and technology of India.

Recommendation:

This project be included as content creation exercise in the field of metallurgy and material science under the NPTEL project and pilot funds be released to ITBHU based on recommendation by the faculty expert group in the subject. However to enable ITBHU to start a preliminary phase and provide adequate manpower a pilot sanction for manpower, consumable, travel, training and workshop, contingency be given for six months, and Rs. 12 lakhs may be sanctioned. The committee suggests that non-recurring expenditure of Rs.80 lakhs towards cost of equipment (Rs.70 lakhs) and infrastructure (Rs.10 lakhs) may be discussed in the PAB meeting.

4. Development of quality portfolios encompassing standards, policies & quality assurance framework for e-learning paradigms by Prof P.N. Basu, Jadavpur University.

Objective:

To evolve and validate a set best practices on quality assurance for e-learning materials, quality audit of content, standards for content creation, delivery and management, R&D in content creation and establish a multi institutional Indian Consortium.

Deliverables:

Portal for Sakshat, will include standardized documentation and portfolios for various e-learning paradigms, policies, quality assurance process, quality infrastructure, quality audit process, large scale manpower training for different categories of e-content developers, domain experts, quality assessors of service providers. Large numbers of seminars, workshops and conferences will be conducted, a network will be established and a national consortium on quality assurance framework for e-contents will be set up. The total budget for 2-1/2 years including Pilot Project for six months is **Rs.70 crore**.

Recommendation:

The mission document proposes quality assurance of e-framework as one of its main objectives and Jadavpur University team is a primary contributor to the document. The project also sets up a National framework with a consortium setup for this purpose. Standing Committee recommends a pilot sanction of Rs. 1 crore for a period of six months. The SC suggests that CDAC Hyderabad to be a part of the detailed programme to be evolved as an independent pilot sanction has already been made to CDAC.

5. ICT Mission for University of Kashmir by Kashmir University Network Administrator and e-centre Coordinator.

Objectives:

E-connectivity with the help of a high speed link between two campuses, establish e-learning infrastructure within the University and set up connectivity to colleges.

Deliverables:

Apart from setting up hardware infrastructure the proposal does not have any details on e-content nor details on e-exams.

Recommendation:

It is outside the scope of Standing Committee to recommend funding for infrastructure to specific institutions without the additional development of e-contents. The proposal details are forwarded to PAB for its recommendation on sanction of funds in principle in view of the remoteness and sensitivity of this region. The standing committee however requests Kashmir University to submit proposals for e-content in higher education areas that reflect the uniqueness, the culture and diversity of learning / eco systems of Kashmir valley.

6. Project Proposal for Infrastructure to become Recipient Remote Centre of IIT Bombay (CDEEP) on Virtual Laboratories for VLSI & embedded systems by Dr. R. K. Singla, Punjab University, Chandigarh.

Objectives:

Development and deployment of a virtual image VLSI and embedded systems laboratory infrastructure and the delivery of educational contents from CDEEP, IIT Bombay.

Deliverables:

Course and teacher training through courses beamed by IIT Bombay on various topics in VLSI and embedded systems from time to time. The total cost of the project for five years is Rs.385 lakhs.

Recommendation:

The Standing Committee recommends that the same criteria for funding by the PAB proposed for 3 institutions earlier (VJTI, Mizoram, Nagaland) be applied here too since the purpose and modus operandi of e-learning are identical to the other three. Recommended Rs.50 lakhs for Pilot.

> **PS: In case of VJTI and Mizoram, an amount of Rs.1 crore has been sanctioned by PAB in its meeting held on 3rd and 11thSept, 2009 to IIT, Delhi. The projects were approved to be implemented through IIT, Delhi. No funding has been approved for Nagaland University as yet.**

For Minutes of the Standing Committee, please see **Appendix -2**.

Minutes of the Standing Committee Meeting on National Mission on Education Through ICT held on Sept 05, 2009 in IGNOU, Maidan Garhi, New Delhi

The Standing Committee for the National Mission on Education through Information and Communication Technology met on September 5, 2009 at 10. 30 A.M in Conference Hall 5, Convention Centre, IGNOU, New Delhi under the chairmanship of Mr. N.K. Sinha, Director of National Mission on Education through ICT. The following members were present:

1	Prof. Kalyankumar Datta
2	Prof. Kannan Moudgalya
3	Prof. Uma Kanjilal
4	Prof. Nandani Kumar
5	Mr. Pradeep Varma
6	Prof. Mangala Sunder
7	Prof. Pradeep Kaul
8	Prof. C.G. Mahajan
9	Dr. Yatindra Nath Singh
10	Prof. Karmeshu
11	Prof. Prem K. Kalra
12	Prof. Kushal Sen

The list of participants is given at Annexure-1

The following presentations were made by Principal Investigator / their nominees of projects invited for presentation to the Standing Committee. The title, objectives, the deliverables and the recommendations of the Standing Committee are given below:

1. Proposal for E-learning solutions for C.S.J.M University and its affiliated colleges on MPLS Network, presented by A.K. Bajpai and his team, BSNL, Kanpur.

Objectives:

Turnkey project solution for online connectivity of CSJM University, Kanpur and its affiliated Institutes, Medical, Technical, Degree and Engineering Colleges for Online Data Access, Unified Voice Communication, e-learning, Voice on Demand, Web Casting.

Deliverables:

State-of-the-art intranet and e-learning set up for CSJM University, Kanpur and its affiliated colleges by establishing the following solutions.

> 1. Studio set up for recording lectures and live streaming.
> 2. Video on demand for university lessons.

3. Interactive multicast solution for live lecture delivery through a virtual podium.
4. Multipoint video conferencing solution.
5. Voice over IP solution.
6. Internet and e-learning.

Total budget required: (5 year project)

Approximately Rs. 120 crores for implementing the solution to CSJM University with its affiliate colleges of 489.

Recommendation:

The committee suggested that CSJM proposal of this magnitude must be presented by its faculty /implementation with the team headed by the Vice Chancellor of the University. National Mission on Education through ICT does not have the mandate to setup hardware infrastructure of the level proposed by BSNL most of whose solutions are also commercial platforms leased out to the University. The budget proposed has a high bandwidth charge which has been addressed independently through the Mission connectivity project to DOT. Committee members invited BSNL to submit a proposal for content creation for University PG level education in the area of fiber optic communication and internet technologies for reaching out all science/engineering/arts/humanities students in the country using the four quadrant approach. **No sanction of any amount recommended for the present proposal.**

2. Help desk for University students jointly by Goa University, CDAC Mumbai, GS Lab, Pune, presented by Dr. V.V. Kamat, Goa University.

Objectives and Deliverables:

1. Help desk system, online of call centre proposed.
2. Students to dial single number for all queries.
3. IVR system to classify queries into different types.
4. System to develop and maintain database of teachers.
5. Enable query management through multiple interfaces.

The total cost of the project is Rs.228.61 lakhs and the cost of pilot phase (6-8 months) is Rs.53.01 lakhs.

Outcome:

o Frequent queries to be converted into FAQ's.
o Replicate the model in other universities.
o To assess the competence of students and teacher and provide remedial action.

Recommendation:

Standing Committee members recommended that the PI redraft the proposal for creating enrichment layers for a few NPTEL Phase I courses and set up web portals for threaded discussions, blogs and WIKI on each course. The call centre idea for courses is not welcome, however the university may identify

dedicated teachers who would provide online enrichment for a few pilot courses in collaboration with subject matter experts. A revised proposal is invited containing a pilot. **Current proposal is not recommended**.

3. Learning-by-Doing (LBD)-based Course Content Development by Dr. Kannan Srinathan, International Institute of Information Technology, Hyderabad.

Objectives and deliverables are the same as that reported in the previous Standing Committee meeting.

Recommendation:

The proposal has been reworked with a budget of Rs. 10 lakhs for each of the ten courses in the area of Computer Science. Since LBD is a very time consuming process for both development and teacher training, setting up a lab, and maintaining it for a budget of Rs. 10 lakh per course for a pilot phase of five months for three courses is recommended by the Standing Committee.

Recommended Amount: Rs. 41 lakhs for pilot phase (Development of Content for 3 courses-Rs.30 lakhs, Equipment-Rs.5 lakhs, Travel and Contingency-Rs.1 lakh each and Teachers' Training-Rs.5 lakhs).

Total cost of the project – Rs.240 lakhs

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Objectives:

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Deliverables:

Basic kit containing mobile, biped and serial arm robots, 2 kits for each institute. One workshop in every three months, one international conference for a total budget of Rs. 91.8 lakhs for three years.

Recommendation for Sanction:

The project is to be carried out in three phases each for approximately one year. Considering the nature of technology and development of tool kit involved, the first phase be sanctioned for 1 year with the release of Rs. 16.4 lakhs for six months and subject to satisfactory performance and detailed review from other external experts, the full project can be sanctioned at the end of pilot.

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Recommendation:

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6. Virtual National Town and Country Planning University by D. S. MESHRAM and other collaborators, Institute of Town Planners, India, New Delhi.

Objectives:

Setting up of Virtual National Town and Country Planning University with virtual classrooms, drafting studios, online library and online examination procedures.

Deliverables:

On-demand admission, examination, e-classrooms and e-contents and a virtual set up to connect major cities, ITPI chapters and seven regional chapters for a total budget of Rs. 21.87 crores.

Recommendation:

The committee recommends that a detailed course list of various courses for this program be prepared and studio facilities / infrastructure facilities be reassessed based on the existing infrastructure in seven IIT's and IISc Bangalore funded by MHRD already. **The committee invites ITPI to submit a core curriculum development program for a few model topics** within the budget specified in the National Mission document. **No sanction recommended on the current proposal.**

7. Development of quality portfolios encompassing standards, policies & quality assurance framework for e-learning paradigms by Prof P.N. Basu, Jadavpur University.

Objective:

To evolve and validate a set best practices on quality assurance for e-learning materials, quality audit of content, standards for content creation, delivery and management, R&D in content creation and establish a multi institutional Indian Consortium.

Deliverables:

Portal for Sakshat, will include standardized documentation and portfolios for various e-learning paradigms, policies, quality assurance process, quality infrastructure, quality audit process, large scale manpower training for different categories of e-content developers, domain experts, quality assessors of service providers. Large numbers of seminars, workshops and conferences will be conducted, a network will be established and a national consortium on quality assurance framework for e-contents will be set up. The total budget for 2-1/2 years including Pilot Project for six months is **Rs.70 crore**.

Recommendation:

The mission document proposes quality assurance of e-framework as one of its main objectives and Jadavpur University team is a primary contributor to the document. The project also sets up a National framework with a consortium setup for this purpose. Standing Committee recommends a pilot sanction of Rs. 1 crore for a period of six months. The SC suggests that CDAC Hyderabad to be a part of the detailed programme to be evolved as an independent pilot sanction has been made to CDAC already.

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Development and deployment of a virtual image VLSI and embedded systems laboratory infrastructure and the delivery of educational contents from CDEEP, IIT Bombay.

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10. Computer Aided Automation and Management System (CAAMS) by Dr. Ajay Koul, and Dr. Sonika Gupta, Shri Mata Vaishno Devi University, Katra, J&K

Objective:

Design and develop a complete integrated solution for providing computer aided support for decision making functions in education sector and free solutions.

Deliverables:

An ERP system similar to the one jointly being developed by IIT Kanpur with partners from other Institutions under the National Mission is the expected deliverable. The total cost of the project for three years is Rs.205 lakhs.

Recommendation:

Prof. Y.N. Singh, IIT Kanpur and Project leader for ERP for the National Mission is requested to include this proposal in his mission and integrate the ERP solution accordingly. Funding will be suggested after submission of joint report by Prof. Y.N. Singh and J & K team.

The committee ended with a vote of thanks to the chair.

The Standing Committee Meeting is held on 5th September 2009 at 11:00 A.M. under National Mission on Education through Information Communication Technology at Convention Hall No. 3, Indira Gandhi National Open University, Maidan Garhi (IGNOU), New Delhi

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28	Mr. Prem K. Kalra IIT, Rajasthan	09415042487
29	Mr. N. K. Sinha JS (DL), MHRD	23387781

Agenda Item No.4

Consideration of 1 project appraised by Standing Committee in its meeting held on 19.09.09.

Presentations were made in respect of 6 projects in the Standing Committee meeting held on 19th September 2009. The Committee after deliberation recommended the following 1 project:-

1. **Up-gradation of ICT-enabled High Voltage Laboratory at NIT, Durgapur**
   PI: Prof. Nirmal Kumar Roy

   Prof. Roy in his presentation informed that MHRD had sanctioned Rs. 2.1 crores for the development of a High Voltage Laboratory at NIT, Durgapur under Plan Grant in the year 2005-2007. The project has been completed and the laboratory is in operation since May 2008. Facilities available in HV Laboratory at NIT, Durgapur are: HV Impulse testing; HV Dry / Wet Power frequency testing; Capacitance and Tan delta measurement; Partial discharge measurement; Insulation Resistance; and HV Calibration In his presentation he highlighted the importance of High Voltage Engineering and the status of HV Engineering education in India. Though HV Engineering education is imparted through 275 institutions, only 19 labs are available throughout the country. The project proposes to develop virtual/ ICT enabled remotely operated High Voltage laboratory which will facilitate optimum utilization of the lab facility of more number of tests/experiments carried out by anyone from anywhere with high online report generation and data analysis capabilities.

   Total duration of the project – 3 years
   Total cost of the project – Rs.136.18 lakhs including cost of equipment for Rs.104.32 lakhs

   Recommendations: The members felt that the project needs to be taken up as a national level effort involving other institutions having HV labs with Prof. Roy taking up the lead. It was suggested that the project be clubbed with the Virtual Lab group of IIT Delhi. The Committee recommended that the pilot be sanctioned for one set of experiments out of the 7 suggested in the project proposal.

   For Minutes of the Standing Committee, please see **Appendix -3.**

Minutes of the Standing Committee Meeting of the National Mission on Education through Information Communication Technology (NMEICT) held on September 19, 2009 at 11:00 A.M. in the Conference Hall, Institute of Town Planners, India, New Delhi

The meeting was chaired by Mr. N. K. Sinha, Joint Secretary (DL), MHRD and Mission Drector, NMEICT.

The following members were present:

1. Prof. Anil Kumar Tripathi, Institute of Technology, BHU, Varanasi
2. Prof. A. P. Tiwari, BARC, Mumbai
3. Mr. Pradeep Varma, TERI University, New Delhi
4. Mr. Rajanish Dass, IIM, Ahmedabad
5. Mr. Pradeep Kaul, CEC, New Delhi
6. Dr. S. Kazim Naqvi (Deputed by Prof. Z.H. Khan), Jamia Millia Islamia, New Delhi
7. Prof. Uma Kanjilal, IGNOU, New Delhi

The list of participants is enclosed as Annexure 1.

The presentations made by Project Investigators and recommendations of the Standing Committee are as follows:

1. **Up-gradation of ICT-enabled High Voltage Laboratory at NIT, Durgapur**
   PI: Prof. Nirmal Kumar Roy

   Prof. Roy in his presentation informed that MHRD had sanctioned Rs. 2.1 crores for the development of a High Voltage Laboratory at NIT, Durgapur under Plan Grant in the year 2005-2007. The project has been completed and the laboratory is in operation since May 2008. Facilities available in HV Laboratory at NIT, Durgapur are: HV Impulse testing; HV Dry / Wet Power frequency testing; Capacitance and Tan delta measurement; Partial discharge measurement; Insulation Resistance; and HV Calibration In his presentation he highlighted the importance of High Voltage Engineering and the status of HV Engineering education in India. Though HV Engineering education is imparted through 275 institutions, only 19 labs are available throughout the country. The project proposes to develop virtual/ ICT enabled remotely operated High Voltage laboratory which will facilitate optimum utilization of the lab facility of more number of tests/experiments carried out by anyone from anywhere with high online report generation and data analysis capabilities.

   Total duration of the project – 3 years
   Total cost of the project – Rs.136.18 lakhs including cost of equipment for Rs.104.32 lakhs

Recommendations: The members felt that the project needs to be taken up as a national level effort involving other institutions having HV labs with Prof. Roy taking up the lead. It was suggested that the project be clubbed with the Virtual Lab group of IIT Delhi. The Committee recommended that the pilot be sanctioned for one set of experiments out of the 7 suggested in the project proposal.

2. **Three proposals from IIT Kharagpur: E-learning content for i) VLSI Engineering ii) Technology CAD and iii) Heterostructure Silicon PI- Prof. C. K. Maiti**

   Mr. Tapas Kumar Maiti, Research Associate, IIT Kharagpur gave a brief presentation on behalf of Prof. C. K. Maiti, P.I.

   Recommendation : Since the PI was not available for clarification on the proposals, it was decided that the project presentations be postponed for a later date.

   As the proposal was not uploaded on the Sakshat Portal, final decision by the Standing Committee will be taken only when the PI uploads the proposal so that all the members of the Standing Committee can peruse the details.

3. **Virtual Lab for VLSI Embedded Systems PI: Mr. Bibhudendra Acharya, NIT Raipur**

   Mr. Acharya informed that NIT has no VLSI & Embedded Systems Lab as well as skilled faculties in this area. Therefore, the project proposes to set up infrastructure to become recipient remote centre of IIT Bombay's Centre for Distance Engineering Education Program (CDEEP) on Virtual Laboratories for VLSI & Embedded Systems.

   Total cost of the project – Rs.385 lakhs
   Duration of the project – 5 years

   Recommendation : The members felt that setting up lab involves huge expenditure in terms of replication of hardware and software at multiple locations and goes against the philosophy of virtual lab concept, wherein physical facility is made available at one central location and can be accessed remotely from different locations. Since similar proposals from four other institutions in collaboration with CDEEP have been presented in earlier meetings of the Standing Committee, it was felt necessary to invite Prof. Reapan Tikoo, concerned faculty from IIT Bombay to understand CDEEP philosophy on these proposals.

4. **Helpdesk for University Students (Revised Proposal), Goa University (GU), Goa and Center for Dev. of Advance Computing (CDAC), Mumbai PI: Prof. V. V. Kamat, Goa University**

   Prof. Kamat in his presentation gave an overview of the proposed Helpdesk System that is expected to guide the students beyond the classroom hours. The helpdesk is to be developed in the lines of a Call Centre with a single number where students can dial for different types of queries. The IVR system will be used to classify queries into different

categories. The system will have a database of teachers & support staff along with their time of availability. Query can be asked through multiple interfaces like landline, mobile, SMS, web interface etc. The application will facilitate teachers to answer students' queries from anywhere. All queries are to be recorded and select queries to be made available as FAQs for future searches.

Time duration of the project – 30 months
Total cost of the project - Rs. 228.61 lakhs
Pilot phase - Rs. 53.01 lakhs for 6-8 months

Pilot deliverables: Pilot will establish basic dialing facility to ask questions on a fixed number with call recording and call escalation facility. It will establish local network of subject matter experts in two subjects in Computer Science. It will also evolve a methodology to replicate the efforts in other subjects as well as other Universities.

Recommendations: After discussions the following suggestions were made:
- Replace the proprietary software with open source application
- Inclusion of an AI module to help students retrieve answers from the archive of answers from earlier queries.
- Payment to be based on quality of answers and parameters to be identified to judge the quality.
- NPTEL content to be integrated with the system so that teachers/ resource persons go through the content and queries and answers are built around them.

Prof. Kamat was requested to resubmit the proposal in light of the suggestions/ comments made by the Standing Committee. The revised proposal should take into consideration total investment and the running cost at a national level.

5. **Primary Education through Digital Slate and Telecom (PEDISTEL)**
   PI: Dr. Abhay S. Gandhi, VNIT, Nagpur

   Objectives

   - **Development of low cost electronic slate with distance education capability**
   - **Development of complete distance education system using the electronic slate**
   - **To launch the education solution on a large scale.**

Dr. Gandhi in his presentation informed that project proposal is to develop a low cost electronic slate and provide distance learning environment through these digital slates. He presented the features of the electronic slate and the cost involved in developing the product.

Total budget of the project – Rs.70 lakhs
Total duration of the project – 3 years

Recommendation :- Since the low cost access device being one of the priority areas of the Mission, Dr. Gandhi was advised by the Standing Committee to resubmit the proposal upgrading the digital slate into a low cost computer.

6. **E-Content Generation for Undergraduate Programme in Floriculture & Landscaping**
   PI: Dr. Sunil Kumar, Department Of Floriculture & Landscaping, College of Horticulture & Forestry, Central Agricultural University, Pasighat, Arunachal Pradesh

   Objectives

   o Digitization of course at the college level to promote the common objective of the mission and university.
   o Provide high quality personalized and interactive knowledge modules over the internet/intranet.
   o Make the university centre of excellence in teaching through information and communication technology in the field of floriculture.
   o Capacity building for producing quality horticultural produce to compete in the global market.
   o Train the farmers and extension functionaries for the effective dissemination of advanced floricultural technologies in North-East India.

   In the presentation Dr. Sunil Kumar informed that there is a need to train the farmers and extension functionaries for the effective dissemination of advanced floricultural technologies in North-East of India. The project proposes to develop high quality personalized and interactive knowledge modules on: Landscape Gardening, Commercial Floriculture, Ornamental Horticulture, Medicinal and Aromatic crops and Breeding and Seed Production of Ornamental Plants.

   Total cost of the project – Rs.35.10 lakhs
   Total duration of the project – 5 years

   Recommendation : - The Standing Committee suggested Dr. Sunil Kumar to resubmit the proposal identifying experts in the area who can collaborate in content development as well as provide ICT support. The e-content is to be developed in the four quadrant approach and hence proposal needs to be modified accordingly. It was further suggested that the proposal may also be sent to Prof. Janki Raman, IHRI for suggestions for value addition.

   • As the proposal was not uploaded on the Sakshat Portal, final decision by the Standing Committee will be taken only when the PI uploads the proposal so that all the members of the Standing Committee can peruse the details.

   The meeting ended with a Vote of Thanks to the Chair.

The Standing Committee Meeting is held on 19ᵗʰ September 2009 at 11:00 A.M. under National Mission on Education through Information Communication Technology at Conference Hall, 1ˢᵗ Floor, Institute of Town Planners India, 4-A, Ring Road, I.P. Estate, New Delhi

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Agenda Item No. 5

Consideration of 3 projects appraised by Standing Committee in its meeting held on 03.10.09.

Presentations were made in respect of 4 projects in the Standing Committee meeting held on 3rd October, 2009. The Committee after deliberation recommended the following 3 projects:-

1. Expansion of Technology Enhanced Learning Initiatives of Visvesvaraya Technological University by Prof T.N.Nagabhushan, **Visvesvaraya Technological University, Mysore.**

Objectives:

Seeking financial support to meet various TEL initiatives of VTU through

1. Creation of e-content and video content of lectures by VTU staff and experts.
2. Deployment of e-content on Moodle framework and hosting it on VTU intranet servers.
3. Implementation of NPTEL video streaming solutions using peer-to-peer communications and data transfer using bit torrent technology.
4. Setting up of virtual labs to encourage industrial certifications.
5. Interconnecting affiliated institutes of VTU Belgaum with OFC provided by Rail Tel Corporation.
6. Establishing data servers to host servers.
7. Supporting CLOUD computing.

Deliverables:

1. Streaming of video courses of all 600 plus UG curriculum of VTU by converting them to MPEG4 format.
2. Establishing OFC backbone network to all colleges.
3. Providing assistance to local colleges on the management of video content in their local campus network.
4. Releasing new video lectures every six months and updating local servers using bit torrent.

Total Budget: Rs. 20 Crores (3 years)

Recommendation of the Committee:

The committee recommended that VTU provide a pilot for 10 video courses through a four quadrant approach. Depending on the outcome of these pilot courses VTU could offer to convert all of its 600 video courses for which funding will be recommended to PAB. The budget estimated as per the Mission document for all the 600 video courses of VTU to be made available in standardized format using four quadrants will be sufficient for VTU to set up its servers and provide streaming services. The Standing Committee noted that sufficient bandwidth would be provided under the NMEICT to the University and all the affiliated colleges through its connectivity program. Hence no funding is recommended for that purpose. The SC

recommends the sanction of a sum of Rs. 70 lakhs to VTU for piloting 10 video courses within 6 months.

2. **Establishing e-Training Environment for Training Technical Teachers & Students by Dr. P. Sivakumar and Dr. G. Kulanthaivel, NATIONAL INSTITUTE OF TECHNICIAL TEACHERS TRAINING AND RESEARCH, Chennai**

Objectives:

To establish e-training environment to provide the following

1. To design and develop e-learning content / resources in engineering courses to students studying in engineering colleges and polytechnics.
2. To provide online learning facilities with the help of internet and multimedia to technical teachers.
3. To facilitate technical institutions encourage teachers towards utilizing e-learning environment.
4. To train large number of technical teachers in pedagogical competencies, classroom management and guidance and counseling.
5. To support the training of students with skill development of rural youths.

Deliverables:

1. Course work in the following pedagogical areas in e-format
   - Teaching learning process.
   - Adolescent characteristics.
   - Instructional objectives.
   - Instructional planning.
   - Instructional resources.
   - Instructional methods.
   - Teaching skills through microteaching and student evolution.
2. Simulated experiments for online laboratories.
3. Curriculum based content modules in technical subjects (DC machines, biomedical instrumentation, data structures, automobile engineering, geographical information system and data communication and networking).
4. Courseware in at least two disciplines with complete course content, lesson plan and teacher support materials and evaluation strategies.

Budget required: 2.25 Crores (3 years)

Recommendation of the Committee:

The Standing Committee members observed that NITTTR had training materials for teacher training modules through their regular programs, however NITTTR proposed to move forward towards training more and more engineering college teachers and involve themselves in content creation for Post Graduate engineering programs. One of the main objectives of NITTTR is the hand holding of teachers of Government Polytechnics through training for extended periods. The SC therefore suggested that between 2 and 4 courses be developed at a level suitable for enriching polytechnic teachers. SC also recommended that the teachers themselves be involved in the designing and development of these courses. An additional objective of this pilot program should be to involve all the four NITTTR (Chennai, Kolkata, Chandigarh, Bhopal) in a consortium led by Chennai for creating large amount of supplementary learning materials for polytechnic teachers through

their direct involvement (such as star teachers from a number of Polytechnics being trained in the e-learning technologies and contents which are available from programs such as NPTEL). A pilot for the creation of 4 courses for a sum of Rs. 28 lakhs is recommended.

3. **To prepare e-contents & videos in the area of manufacturing technology courses for UG & PG students & Industry users by DR. SANTOSH KUMAR, Banaras Hindu University, VARANASI**

Objectives:
To design, develop and deliver e-contents and videos for Manufacturing Technology courses for UG / PG students and Industry people.

Deliverables:
Contents for the following courses will be developed in four quadrant format.
1. Mechanics of Metal Forming.
2. Technology of Metal Forming.
3. Computer Integrated Manufacturing.
4. Technology for Competitive Manufacturing.
5. Unconventional Manufacturing process.
6. Computer Aided Manufacturing.
7. Product Design and Development Techniques.

Recommendation of the Committee:

The SC noted that NPTEL project has some faculty members offer courses in the area of manufacturing Technology and Engineering and therefore requested the PI to interact with those faculty members and ensure that content duplication is minimized. The Mission document approved by the Cabinet approves courses offered by multiple institutions on the same title but they must ensure through proper interactions among them that the students and teachers who are users of such material are enriched by the experiences of different subject matter experts. ITBHU has several other proposals under NMEICT and it is also important that resources created under this Mission in the same institution are used by all PIs from ITBHU. A pilot sanction for two courses in the area of Manufacturing is recommended for a sum of Rs. 14 lakhs.

For Minutes of the Standing Committee, please see **Appendix -4.**

Minutes of the Standing Committee Meeting held on 3rd October, 2009 at 11.00 A.M. under National Mission on Education through Information Communication Technology at Conference Hall, 1st Floor, Institute of Town Planners, India, 4-A, Ring Road, I.P. Estate, New Delhi

The Standing Committee Meeting on the National Mission on Education through ICT was held in the First Floor Conference Room, Institute of Town Planners India, 4-A, Ring Road, I. P. Estate, New Delhi 110002 on 3rd October 2009. The following members of the SC and other invitees who gave presentations were present. The meeting was Chaired by Prof. K. Mangala Sunder.

Members present:

S. No.	Name of SC Members
1	Mr. P.P.Chakrabarti
2	Mr. G.S.Visweswaran
3	Mr. C.G.Mahajan
4	Mr. Pradeep Kaul
5	Mr. S.Qureshi
6	Mr. Kannan Moudgalya
7	Dr. Yatindra Nath Singh
8	Mr. Pradeep Varma
9	Dr. Karmeshu
10	Mr. V. P. Jain
11	Ms. Nandini Kumar
12	Mr. Anil Kumar Tripathi
13	Ms. Jayashree Shinde
14	Prof. K.RSrinathan
15	Prof . Uma Kanjilal
16	Mr. Raghu Raman
17	Prof. Prem K.Kalra

The list of invitees who were requested to make a presentation of their project is enclosed as Annexure 1.

The following project presentations were made by various investigators to the National Mission on Education through ICT. They are summarized and the recommendations of the SC included.

1. **Expansion of Technology Enhanced Learning Initiatives of Visvesvaraya Technological University by Prof T.N.Nagabhushan**, **Visvesvaraya Technological University, Mysore.**

Objectives:

Seeking financial support to meet various TEL initiatives of VTU through

1- Creation of e-content and video content of lectures by VTU staff and experts.
2- Deployment of e-content on Moodle framework and hosting it on VTU intranet servers.

3- Implementation of NPTEL video streaming solutions using peer-to-peer communications and data transfer using bit torrent technology.
4- Setting up of virtual labs to encourage industrial certifications.
5- Interconnecting affiliated institutes of VTU Belgaum with OFC provided by Rail Tel Corporation.
6- Establishing data servers to host servers.
7- Supporting CLOUD computing.

Deliverables:

1. Streaming of video courses of all 600 plus UG curriculum of VTU by converting them to MPEG4 format.
2. Establishing OFC backbone network to all colleges.
3. Providing assistance to local colleges on the management of video content in their local campus network.
4. Releasing new video lectures every six months and updating local servers using bit torrent.

Total Budget: Rs. 20 Crores (3 years)

Recommendation of the Committee:

The committee recommended that VTU provide a pilot for 10 video courses through a four quadrant approach. Depending on the outcome of these pilot courses VTU could offer to convert all of its 600 video courses for which funding will be recommended to PAB. The budget estimated as per the Mission document for all the 600 video courses of VTU to be made available in standardized format using four quadrants will be sufficient for VTU to set up its servers and provide streaming services. The Standing Committee noted that sufficient bandwidth would be provided under the NMEICT to the University and all the affiliated colleges through its connectivity program. Hence no funding is recommended for that purpose. The SC recommends the sanction of a sum of Rs. 70 lakhs to VTU for piloting 10 video courses within 6 months.

2. **Establishing e-Training Environment for Training Technical Teachers & Students by Dr. P. Sivakumar and Dr. G. Kulanthaivel, NATIONAL INSTITUTE OF TECHNICIAL TEACHERS TRAINING AND RESEARCH, Chennai**

Objectives:

To establish e-training environment to provide the following

1. To design and develop e-learning content / resources in engineering courses to students studying in engineering colleges and polytechnics.
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Deliverables:

1- Course work in the following pedagogical areas in e-format
   - Teaching learning process.
   - Adolescent characteristics.
   - Instructional objectives.
   - Instructional planning.
   - Instructional resources.
   - Instructional methods.
   - Teaching skills through microteaching and student evolution.
2- Simulated experiments for online laboratories.
3- Curriculum based content modules in technical subjects (DC machines, biomedical instrumentation, data structures, automobile engineering, geographical information system and data communication and networking).
4- Courseware in at least two disciplines with complete course content, lesson plan and teacher support materials and evaluation strategies.

Budget required: 2.25 Crores (3 years)

Recommendation of the Committee:

The Standing Committee members observed that NITTTR had training materials for teacher training modules through their regular programs, however NITTTR proposed to move forward towards training more and more engineering college teachers and involve themselves in content creation for Post Graduate engineering programs. One of the main objectives of NITTTR is the hand holding of teachers of Government Polytechnics through training for extended periods. The SC therefore suggested that between 2 and 4 courses be developed at a level suitable for enriching polytechnic teachers. SC also recommended that the teachers themselves be involved in the designing and development of these courses. An additional objective of this pilot program should be to involve all the four NITTTR (Chennai, Kolkata, Chandigarh, Bhopal) in a consortium led by Chennai for creating large amount of supplementary learning materials for polytechnic teachers through their direct involvement (such as star teachers from a number of Polytechnics being trained in the e-learning technologies and contents which are available from programs such as NPTEL). A pilot for the creation of 4 courses for a sum of Rs. 28 lakhs is recommended.

3. **Human factors in Education through Information and Communication Technology in India by Jaison A Manjaly, Indian Institute of Technology Gandhinagar**

Objectives:
1. To advance the state of the art and develop standards for human factor variables in synchronous online teaching through video.
2. To develop principled and robust user Interfaces.
3. To develop a generalized framework and methodology for human factor evaluation in online teaching at a remote location.
4. To develop new pedagogical framework which is sensitive to human factors.
5. To devise strategies to address the psychological, social, cultural, behavioral and cognitive facts of end users.

Deliverables:

1. Developing a prototype of a virtual classroom and learning environment for mentor – mentored Institutions such as the existing IIT's and the new IIT's.
2. Developing structure for e-content suitable for virtual knowledge transfer.
3. Developing model for virtual pedagogy and interaction.
4. Developing prototype of various user interface designs.

Budget Required: Rs. 10747200

Recommendation of the Committee:

The SC noted that this is a collaborative project with partners from IIITH, University of Calgary in Canada and University of Warwick , England. However the SC felt that the proposal lacked very specific deliverables. SC requested the PI to redraft the proposal by including assessment methods for studying the effectiveness of the conclusions that the PI will provide as document on virtual classroom. Assessment methods must include a number of questionnaires regarding human factors in synchronous online learning between IIT's and must distinguish between the experience of the teachers and those of the students. Also the SC requested the PI to provide specific design strategy for setting up the classrooms in the shortest period of time given that there is an urgency due to the classrooms being conducted at present-- eight country wide IIT mentor – mentored pairs are already operating under the NKN project which is funding the development of classroom infrastructure. The project proposed by the PI is very essential and an initial sum of Rs. 20 lakhs can be provided if the PI submits the revised proposal with the pilot DPR soon. The funds will have to be utilized for creating effective assessment programs and for conducting workshops by bringing all teachers who are involved in synchronous classroom teaching in IIT's. The committee also suggested that CDEEP, IIT Bombay has recruited a full time faculty member Professor Sahana Murthy for studying the effectiveness of online education and the PI may interact with her and with Professor A. K. Ray of IIT Kharagpur in addition to the other collaborators proposed by him.

4. **To prepare e-contents & videos in the area of manufacturing technology courses for UG & PG students & Industry users by DR. SANTOSH KUMAR, Banaras Hindu University, VARANASI**

Objectives:
To design, develop and deliver e-contents and videos for Manufacturing Technology courses for UG / PG students and Industry people.

Deliverables:
Contents for the following courses will be developed in four quadrant format.
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5. Unconventional Manufacturing process.

6. Computer Aided Manufacturing.
7. Product Design and Development Techniques.

Recommendation of the Committee:

The SC noted that NPTEL project has some faculty members offer courses in the area of manufacturing Technology and Engineering and therefore requested the PI to interact with those faculty members and ensure that content duplication is minimized. The Mission document approved by the Cabinet approves courses offered by multiple institutions on the same title but they must ensure through proper interactions among them that the students and teachers who are users of such material are enriched by the experiences of different subject matter experts. ITBHU has several other proposals under NMEICT and it is also important that resources created under this Mission in the same institution are used by all PIs from ITBHU. A pilot sanction for two courses in the area of Manufacturing is recommended for a sum of Rs. 14 lakhs.

The presentations were followed by two invited presentations / demos. Prof. Raghuraman, Amrita University gave a demo on the ERP module related to project funds management. Prof. Srivathsan, Pro Vice Chancellor, IGNOU gave a presentation on his paper on Open Distributed Technology Enhanced Learning. It is also a part of Mission which is under active consideration by the SC and PAB.

Prof. Mangala Sunder summarized the presentations for the Pilots and requested all the PIs who attended the meeting to provide the DPRs as quickly as possible in the Sakshat website. The meeting ended with a Vote of Thanks to the Chair.

The Standing Committee Meeting is held on 3rd October, 2009 at 11.00 A.M. under National Mission on Education through Information Communication Technology at Conference Hall, 1st Floor, Institute of Town Planners India, 4-A, Ring Road, I.P. Estate, New Delhi

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Consideration of 1 project appraised by Standing Committee in its meeting held on 10.10.09.

Presentations were made in respect of 10 projects in the Standing Committee meeting held on 10th October, 2009. The Committee after deliberation recommended the following single project:-

1.   **e-learning in Mathematics at Undergraduate and Postgraduate Level,Bhaskaracharya Pratishthana, (Institute of Mathematics), Pune**

   Principal Investigators: Prof. N. S. Gopala Krishnan, Director, Bhaskaracharya Pratishthana, Prof. S. A. Katre, Professor, Dept. of Math., Univ. of Pune & Dep. Director, Bhaskaracharya Pratishthana

Objectives

- To create video courses in Mathematics both at Undergraduate and postgraduate level at colleges.

- Live streaming of these courses will be done at four centers in Pune, with   interactive sessions.

- Extend this to 20 colleges in and around Pune, Nasik, Ahmed Nagar and Baramati districts of Maharashtra and later through the NKN network to institutions all over the Country.

Deliverables

Video courses and support material in the following subjects at Undergraduate level :

- Real Analysis
- Complex Analysis
- Metric Spaces
- Differential Equations
- Operations Research
- Algebra
- Theory of Numbers
- Numerical Analysis
- Linear Algebra
- Analytical Geometry
- Calculus of Several Variables
- Computational Geometry
- Linear Programming
- Differential Geometry

Video courses and support material in the following subjects at post-graduate level:

1. Real Analysis
2. Advanced Calculus
3. Analysis on Manifolds
4. Complex Analysis
5. Topology
6. Number Theory
7. Differential Geometry
8. Differential Equations
9. Field Theory
10. Algebraic Number Theory
11. Graph theory
12. Combinatorics
13. Linear Algebra
14. Group Theory
15. Rings and Modules
16. Fourier Analysis
17. Wavelet Analysis
18. Coding Theory
19. Functional Analysis
20. Operations Research
21. Analysis of Algorithms
22. Measure and Integration
23. Algebraic Topology
24. Commutative Algebra

Observations & Comments of the Standing Committee

- The Standing Committee welcomed the idea of large number of video based lectures in UG and PG Mathematics by experts in many institutions coordinated with the help of Bhaskaracharya Pratishthana through its renowned and experienced Director Prof. Gopala Krishnan.

- The SC was pleased to know that this would be coordinated as a consortium type activity for content creation in Mathematics under NMEICT.

- Two projects of similar nature have already been sanctioned under NMEICT. One of them is for PG level Mathematics under the NPTEL project and the other is a program by MAT Science, Chennai and coordinated by Prof. Sundar.

  Therefore SC requested Prof. Gopala Krishanan to get the details of both programmes and minimize duplication efforts.

Total duration of the project – 3 years

Total cost of the project: Rs. 267.00 lakhs

Recommendation of the Committee

- Requested for DPR with detailed syllabi and program schedule for four Mathematics courses for video recording.

- Since BP does not have the studio recording facility which is an essential part of the program content creation, the SC recommends a sum of Rs. 48 lakhs, *(which includes Rs. 20 lakhs for the studio and Rs. 28 lakh for four courses)* to be provided to BP for buying the much needed video recording equipment.

- This will also be used for rest of the courses when the full programme is submitted later.

The following project proposal was also discussed in the Standing Committee meeting and is submitted for information of the PAB:-

1. **Transforming Distance Education Programme And Examination Branch Of Kannur University Into An 'E- Enabled' System, Department of Information Technology   Kannur University, Kannur University Campus PO, Kerala**

   Presented by: Dr. G. Raju, Reader, Kannur University

   Objectives
   - Effective Learning for All, Anywhere and Anytime.
   - To promote distance education in rural and remote areas.
   - To develop an interactive online e learning system for students of SDE.
   - To extend the e- enabled system to students as well as teaching community.
   - To conduct online test and evaluation.
   - To enable the students to perform self e-assessment.
   - To provide the day to day information of SDE to the students, teachers and general public.
   - To make provision for video conferencing.
   - To establish e-classrooms(e-PCP centres).

   Observations & Comments of the Standing Committee

   - Sanctioning of funds for infrastructure development of state funded university for ICT enablement is in the purview of PAB and therefore the proposal would be forwarded to PAB for consideration.

   - A workshop was held in Thiruvanthapuram on September 23, 2009 by two SC members (Prof K. Mangala Sunder and Prof Kannan Moudalya) informing the academics in Kerala about the objectives of NMEICT. Kannur University had earlier proposed to be part of state-supported ICT initiative in which NMEICT will also take part.

     Hence the PI was redirected to include Kannur University as a member in that initiative.

- PI has proposed in the project for creation of an interactive online portal for natural language processing, speech recognition and Image processing.

  Total duration of the project : 3 years

  Total cost of the project   : Rs.383.99 Lakhs

Recommendation of the Committee

- To resubmit a proposal for content creation / online portal development in the areas of natural language processing, speech recognition and Image processing

- Detailed programme for promoting distance learning in remote rural areas within the jurisdiction of Kannur University.

- The proposal is not recommended in its current form but the PAB is informed the request of ICT infrastructure by Kannur University.

For Minutes of the Standing Committee, please see **Appendix -5**

Minutes of the Standing Committee Meeting on *'National Mission on Education Through ICT'* was held on 10th October, 2009 at 11.00 hours at Institute of Town Planners, India (Convention Centre), 4-A, I.P.Estate, New Delhi.

The Standing Committee Meeting of the National Mission on Education through ICT was held on 10th October 2009.

The meeting was chaired & conducted by Prof. K. Mangala Sunder at the request of Shri. N. K. Sinha Joint Secretary (Distance Learning), Higher Education and the Director of the National Mission & Professor Prem Kalra, Convener of the Standing Committee

Members present:

1. Professor C. G. Mahajan

2. Dr. Pradeep Kaul

3. Prof. Anil Kumar Tripathi

4. Dr. Uma Kanjilal

The list of invitees who were requested to make presentation of their project is enclosed as Annexure 1.

Professor Mangala Sunder welcomed all the members and prospective Principle Investigators to the Meeting and impressed upon them their role in NMEICT and the collaborative aspect under which projects had to carry out.

It was reemphasized to all the applicants that the NMEICT's main goal is on the following :

- Quality content creation,
- Tools for effective & efficient access of contents by everyone.

He also explained the parameters on the basis of which the projects would be evaluated by experts and requested all those invited to have their detailed project report for both pilot and the full project. It was also requested that the project proposals be uploaded in the 'Sakshat' web site, if not done already, immediately.

The following project presentations were made by various investigators to the National Mission on Education through ICT. They are summarized and the observations & comments and recommendations of the SC are hereunder:

1.   **Proposal for On- ramp Material creation for engineering subjects**

       Presented by :   Mr. V. Vaidyanathan, Founder and CEO, Classle Knowledge Pvt. Ltd., Chennai-600041

The main objectives of this proposal are as below:

- To create a whole range of On-ramp content corresponding to all NPTEL material, in collaboration with students and high-quality non-urban educators

- To use the generated content to setup self-tutoring and peer-level tutoring for students to understand NPTEL videos (*1 lakh pages of text material, 50,000 multi-media material and at least 30 thousand concept vocabulary*)

- To create a social network to enable this activity to go in a sustainable fashion

Deliverables

5. At least 100 thousand pages of text material covering about 250 courses, majority of which will be annotations to the NPTEL material.

6. About 50, 000 multimedia material many of which will be user generated animations

7. A concept vocabulary containing a minimum of 30000 words/index entries. Extensive transaction and poll data on usage and effectiveness

Observations & Comments of the Standing Committee

- The Committee Members observed that Classle is a Pvt Limited Company and wanted to know how Classle as a company–for profit would support on-ramp content creation activities.

  The PI informed the SC that the service model of Google Inc and several other e-learning enterprises would be followed. Classle would be providing facilities to its registrants for annotating NPTEL web and video content freely and would also be organizing workshops and TEL meeting in various colleges in the regions on a trial basis. Classle will also organize faculty orientation workshops periodically known as (campaigns)

  The bulk of funding requested by the PI is for recurring cost associated with the conduct of all these meeting and for human resource support engaged by the company.

- A commercial model will be clearly and unambiguously de-linked from the on-ramp content development suggested by the company since Classle as a company has projects, many other educational and finishing school industry-based training programmes for its sustenance.

- SC members also wanted the PI to assure that all annotations, on-ramp content and student teacher discussion would be made public in the Sakshat website.

  The PI assured that it would be done so and would give a written commitment along with the revised DPR.

> **Proposed project cost   :**   Rs. 200,00,000.00 (Rs 200 lakhs) plus
>
> Rs. 33.00 lakhs as Classle overheads
>
> Duration of the Project   :   **24 Months**

Recommendation of the Committee

- The PI was requested to resubmit the proposal by taking the above Observations & Comments into account.

- The PI would be permitted a fee similar to honoraria but the overhead for the project cannot be sanctioned as per Ministry stipulation.

- The Co-PI (PAN IIT) and the role of IIT Madras must be explicitly mentioned in the proposal with a formal note on agreement to jointly execute the project must be obtained. Upon satisfactory review of revised proposal funds can be sanctioned to IIT Madras for overall management of the program and monitoring of funds as per IIT rules and regulations.

- As the proposal was not uploaded on the Sakshat Portal upto the time of holding of the Standing Committee Meeting, final decision by the Standing Committee will be taken only when the PI uploads the proposal so that all the members of the Standing Committee can peruse the details. The case shall be put up to PAB only after that.

2.   Enterprise Education through ICT

Presented by: Dr. Pradeep Wagh, Secretary General, Development Education (International) Society, Pune

The organization has a plan to undertake the following project:

1. To develop e-content for enterprise education at both UG and PG level.
2. Conversion of content into regional language at school level
3. To contribute to the vocational education and haptic devices.
4. To contribute to the virtual science lab.

Deliverables:

1. Creation of enterprise education content on Sakshat for primary level, upper primary level, secondary level and college level containing interactive content and evaluation modes in three languages (English, Hindi and Marathi).
2. Ten courses on vocational modules and creation of 20 stages (platform) for virtual science lab and also contribute to haptic device research.

Observations & Comments of the Standing Committee

- The Standing Committee noted that a considerable portion of project activity and the virtual science lab is geared towards school education.

- The Standing Committee does not have the mandate to recommend funding for school education and requests PAB to decide on the issue.

- The virtual science labs and enterprise educational courses proposal does not have details of topics on the four quadrant approach advanced by the mission.

- Also DEIS is an NGO / Private body and does not appear to have aligned itself with academic institutions offering enterprise education programme.
  <u>Total Funding Required</u> : **Rs. 84 lakhs**
  <u>Duration of the Project</u>   : **24 Months**

Recommendation of the Committee:

- As the proposal was not uploaded on the Sakshat Portal upto the time of holding of the Standing Committee Meeting, final decision by the Standing Committee will be taken only when the PI uploads the proposal so that all the members of the Standing Committee can peruse the details. The case shall be put up to PAB only after that.

3. Pondicherry University, Pondicherry submitted 3 proposals as follows

3.1 **E-content development project for SAKSHAT PORTAL by Prof. A. Balasubramanian, Dr.Arul Selvan and Mr.Md. Haneef, Centre for Electronic Media, Pondicherry University**

Presented by : Prof. A. Balasubramanian

Objectives

1. To develop, create and contribute E-content materials to the National portal S*akshat.*

2. To increase access to 'learning opportunities' in order to enhance the quality   of teaching/learning.

3. To develop the 'digital literacy skills and competencies*' needed in the 21st century.

4. To initiate the movement for digitalizing all the learning materials produced by the Pondicherry University.

5. To enable the college students to go for a self-paced learning.

Deliverables

➢ Under the program entitled SAILOS@Sakshat Pondicherry University content creation on 160 papers listed under four programs :

- Earth and Atmospheric Sciences.
- Management Sciences.

- • Health and Medical Sciences.
- • Media and Communication.

i.   Each paper will have enough content for 20 hours of learning.

ii. The contents will have all the four quadrants of NMEICT covered and will also meet technological requirements from the platform side such as hosting by an LMS and interoperability, accessibility, scalability and sharing of contents.

iii. The university proposes explicitly SCORM compliant content development and the use of Open Source LMS such as Moodle and commercial software for the preparation of high quality animated and video based content.

iv. The proposal covers 50 subjects for e-content generation basically for B.Sc and M.Sc level and the said proposal also includes the audio for the visually challenged.

Total duration of the project : 3 years
Total cost of the project: NME_ICT Computation model 160 x 7 lakhs = 1120 lakhs

3.2. PROPOSAL FOR TRAINING THE UNIVERSITY/COLLEGE TEACHERS ON DIGITAL LITERACY SKILLS, Centre for Electronic Media, Pondicherry University, Puducherry

Presented by: S Arulselvan, Reader, Centre for Electronic Media, Pondicherry, University, Puducherry

Objectives

- • The project aims to impart skills that comprises the competencies to recognize information needs and to locate, evaluate, apply and create information within cultural and social contexts.

- • To develop the digital literacy skills and competencies of the University / College Teachers, needed in the Information Age.

- • To enhance ICT Digital Literacy opportunities in teaching/ learning innovations.

- • To train the University/ College teachers on Rapid E-content Development skills.

Deliverables

Teachers' curriculum development for training program will be given on the following topics explicitly:

a. Instructional design containing description of Bloom's taxonomy, learning theories, assessment and story boarding.

b. Rapid e-content development with introduction to software, SCORM compliance assessment.

c. Learning Management Systems and deployment of content.

d. Web 2.0 collaborative learning tools and Wiki, blog and podcasting.

Pilot project for training 100 college teachers in a month at a cost of Rs.18.50 lakhs including Rs.10 lakhs for New Media Lab (One time investment)

Total duration of the project : 10 months
Total cost of the project : Rs. 90.50 lakhs

3.3 Online Examination System, Dept. of Mass Communication, Centre for Electronic Media, Pondicherry University-Pondicherry

Presented by: M. Shuaib Mohamed Haneef, Lecturer, Dept. of Mass Communication, Centre for Electronic Media, Pondicherry University-Pondicherry

Objectives

The online examination system to be developed as part of this project is a universal design that can be used to administer exams to students of both under graduate and post graduate programmes.

- To develop an online examination system (OES) applicable to all subjects.
- To develop OES initially for Mass Communication subjects
- To provide training to faculty through workshops on how to use the OES to conduct online exams

Special feature

- Templates created will be SCORM compliant.
- Deployment in Modules.
- Content generated in English will be translated to other required languages.

Deliverables

- ➢ A large number of multiple choice, true or false, fill in the blank questions.
- ➢ scenario based questions, simulation based activity and sequencing in 3 levels of difficulty.

- Bloom's taxonomy for assessment such as easy, medium and hard questions (recall, information based, comprehension) etc.

- A database will be created specifically on three topics, namely :

    1. Journalism

    2. Communication and

    3. New Media Studies.
- GUI for online examination system will be developed as part of the project

    Total duration of the project :   1 year

    Total cost of the project   **:** Rs 35,25,000/-

Observations & Comments of the Standing Committee

Standing Committee members suggested the following

- The university to consider participation by experts both from within the University and outside the University in ensuring quality content generation and its adaptability to institutions all over the country.

- Number of other groups are already involved in the development of Online Examination System (OES), also digital literacy skills through the detailed course plan given by one of the PIs above (Arul Selvam) have been considered in the form of a grant to Tamil Nadu Open University under the National Mission for creating courses on diploma program in e-learning.

    It is important therefore that PI and other coordinators of the proposed project use them in their training rather than regenerate content in a different University.

- Also all the three proposals are from the same University and the University is already a recipient of grants from UGC for its EMMRC centre under the consortium for Educational Communication.

Therefore the SC suggested that facilities should be collated and duplication of infrastructure should be minimized.

Recommendation of the Committee

The SC recommends that :

3.1 & 3.3. A pilot of about 10 courses be sanctioned with all details of syllabi and the methodology for 4 quadrants of e-content development proposed by the Mission. A sum of Rs. 70 lakhs may be sanctioned in the pilot phase after the revised proposal containing all three components as above are integrated and submitted with details on pilot.

3.2   As the proposal was not uploaded on the Sakshat Portal upto the time of holding of the Standing Committee Meeting, final decision by the Standing Committee will be taken only when the PI uploads the proposal

so that all the members of the Standing Committee can peruse the details. The case shall be put up to PAB only after that.

4. **e-learning in Mathematics at Undergraduate and Postgraduate Level,Bhaskaracharya Pratishthana, (Institute of Mathematics), Pune**

Principal Investigators: Prof. N. S. Gopala Krishnan, Director, Bhaskaracharya Pratishthana, Prof. S. A. Katre, Professor, Dept. of Math., Univ. of Pune & Dep. Director, Bhaskaracharya Pratishthana

Objectives

- To create video courses in Mathematics both at Undergraduate and postgraduate level at colleges.

- Live streaming of these courses will be done at four centers in Pune, with interactive sessions.

- Extend this to 20 colleges in and around Pune, Nasik, Ahmed Nagar and Baramati districts of Maharashtra and later through the NKN network to institutions all over the Country.

Deliverables

Video courses and support material in the following subjects at Undergraduate level :

- Real Analysis
- Complex Analysis
- Metric Spaces
- Differential Equations
- Operations Research
- Algebra
- Theory of Numbers
- Numerical Analysis
- Linear Algebra
- Analytical Geometry
- Calculus of Several Variables
- Computational Geometry
- Linear Programming
- Differential Geometry

Video courses and support material in the following subjects at post-graduate level:

1. Real Analysis
2. Advanced Calculus
3. Analysis on Manifolds
4. Complex Analysis
5. Topology
6. Number Theory
7. Differential Geometry
8. Differential Equations

9. Field Theory
10. Algebraic Number Theory
11. Graph theory
12. Combinatorics
13. Linear Algebra
14. Group Theory
15. Rings and Modules
16. Fourier Analysis
17. Wavelet Analysis
18. Coding Theory
19. Functional Analysis
20. Operations Research
21. Analysis of Algorithms
22. Measure and Integration
23. Algebraic Topology
24. Commutative Algebra

Observations & Comments of the Standing Committee

- The Standing Committee welcomed the idea of large number of video based lectures in UG and PG Mathematics by experts in many institutions coordinated with the help of Bhaskaracharya Pratishthana through its renowned and experienced Director Prof. Gopala Krishnan.

- The SC was pleased to know that this would be coordinated as a consortium type activity for content creation in Mathematics under NMEICT.

- Two projects of similar nature have already been sanctioned under NMEICT. One of them is for PG level Mathematics under the NPTEL project and the other is a program by MAT Science, Chennai and coordinated by Prof. Sundar.

  Therefore SC requested Prof. Gopala Krishanan to get the details of both programmes and minimize duplication efforts.

Total duration of the project – 3 years

Total cost of the project: Rs. 267.00 lakhs

Recommendation of the Committee

- Requested for DPR with detailed syllabi and program schedule for four Mathematics courses for video recording.

- Since BP does not have the studio recording facility which is an essential part of the program content creation, the SC recommends a sum of Rs. 48 lakhs, *(which includes Rs. 20 lakhs for the studio and Rs. 28 lakh for four courses)* to be provided to BP for buying the much needed video recording equipment.

- This will also be used for rest of the courses when the full programme is submitted later.

5. **Planning, Designing and Deployment of Higher Education Portal-cum Database of J&K, Shri Mata Vaishno Devi University, Jammu & Kashmir**

Presented by: Dr. Sunil Kumar Wanchoo, Shri Mata Vaishno Devi University, Jammu & Kashmir

Objectives

- To identify the need, availability & demand for access to ICT enabled learning in higher education (Degree colleges) sector in the state of Jammu & Kashmir.

- To design and set up a state level data centre for higher education which shall act as a virtual platform for sharing of resources like, lectures, free e-books and software tools (open source etc), other educational content, circulars etc.

- To setup LAN, VPN & internet connectivity in collaboration with BSNL for creation of a gateway to internet and intranet services among colleges and universities for ftp, web, video conferencing & mail services, important circulars, e-material to all the degree colleges of state of J&K.

- Deployment of scalable, sustainable, reliable, consistently available, interactive Knowledge-Network (JKHED Net).

- Design & deployment of an online data base of higher education sector of J&K state.

- To provide online/ offline training to faculty & staff of the connected colleges by organizing seminars and workshops.

- To bridge the gap in terms of availability and access to ICT infrastructure and associated services at regional, urban and rural levels

Deliverables

1- Consistent and reliable IT infrastructure setup.
2- Setting up of LAN in each identified affiliated college with WIFI hot spot facility.
3- Establishment of 20 PC computer labs in identified nodal colleges.
4- Content development for the portal.
5- Creation of online database of resource personnel in higher education sector in J&K.
6- Online repository of need based free e-books and other such material.
7- ICT trained faculty and staff.
8- Interactive educational platform.

Observations & Comments of the Standing Committee

1. The PI appealed on behalf of J&K to consider sanctioning IT infrastructure and stressed the remoteness as well as the geographical nature (high mountains and valleys) of the terrain and also the circumstances prevailing in J&K which demanded network and WIFI connectivity to all affiliated college of J&K.

2. The SC members expressed their inability to consider the proposal due to the nature of mandate given to them by PAB and requested the PI to propose or to actively join programs already involved by the NMEICT in content development, tools and technologies for effective delivery of content.

   The PI argued that J&K IT Secretary and Education Secretary would be involved in supervising funds allocated under the Mission and work with the faculty members and the PI for effective implementation.

3. The development of portal for Government of Jammu & Kashmir, does not fall under the purview of NMEICT Mission.

   Total duration of the project : 3 years

   Total cost of the project: Rs. 4.93 crore with a pilot phase requirement of Rs. 69.5 lakhs.

Recommendation of the Committee

- The Committee recommends the proposal to place before the Project Approval Board, as a special case, for their kind consideration and support in the field of IT infrastructure and computer labs in colleges affiliated to SMVDU in view of the circumstances prevailing in J&K.

- The SC also observed that network connectivity and setting up VPN within the state is already a sanctioned project to the DoT and that the PI, State Education and IT Secretaries and DoT service providers work together and also immediately ensure high speed connectivity and availability of all e-content generated under the Mission.

- The PI may be invited to submit a specific proposal for ICT training to all faculties in the affiliated college of SMVDU.

- It also invited to submit a proposal on content creation in the subjects, topics which form the core strength of the region.

   Funding allocation for these activities will be considered as soon as the revised proposal is submitted.

6. **Transforming Distance Education Programme And Examination Branch Of Kannur University Into An 'E- Enabled' System, Department of Information Technology   Kannur University, Kannur University Campus PO, Kerala**

   Presented by: Dr. G. Raju, Reader, Kannur University

Objectives

- Effective Learning for All, Anywhere and Anytime.
- To promote distance education in rural and remote areas.
- To develop an interactive online e learning system for students of SDE.
- To extend the e- enabled system to students as well as teaching community.
- To conduct online test and evaluation.
- To enable the students to perform self e-assessment.
- To provide the day to day information of SDE to the students, teachers and general public.
- To make provision for video conferencing.
- To establish e-classrooms(e-PCP centres).

Observations & Comments of the Standing Committee

- Sanctioning of funds for infrastructure development of state funded university for ICT enablement is in the purview of PAB and therefore the proposal would be forwarded to PAB for consideration.

- A workshop was held in Thiruvanthapuram on September 23, 2009 by two SC members (Prof K. Mangala Sunder and Prof Kannan Moudalya) informing the academics in Kerala about the objectives of NMEICT. Kannur University had earlier proposed to be part of state-supported ICT initiative in which NMEICT will also take part.

  Hence the PI was redirected to include Kannur University as a member in that initiative.

- PI has proposed in the project for creation of an interactive online portal for natural language processing, speech recognition and Image processing.

    Total duration of the project : 3 years

    Total cost of the project : Rs.383.99 Lakhs

Recommendation of the Committee

- To resubmit a proposal for content creation / online portal development in the areas of natural language processing, speech recognition and Image processing

- Detailed programme for promoting distance learning in remote rural areas within the jurisdiction of Kannur University.

- The proposal is not recommended in its current form but the PAB will be informed of the request of ICT infrastructure by Kannur University.

7. **Proposal For Arduino - Open Source Hardware Development Center Department Of Computer Science And Engineering, KAMBAN ENGINEERING COLLEGE**

Project proposed by: Dr.T.G.Palanivelu, Principal; M.Jothish Kumar; Lecturer; Mr.V.Pugazh, Lecturer and Mr.U.Kumaran, Lecturer

The proposal was presented before the Standing Committee by the Students of Computer Science and Engineering, KAMBAN ENGINEERING COLLEGE.

Objectives

- To train the students in developing the Arduino boards and guiding them in doing projects with open source software.

- To increase students interest and enhance their skills to do hands-on hardware projects.

- To train students in programming and making project based learning a compelling component on education

Deliverables

1. Number of ARDUINO boards for various open source applications and with serial USB communication with a computer. This will be a model low cost device for high speed access and will also perform small to medium complexity tasks.

2. Development platforms and open source simulation tools will be integrated.

3. A number of workshops for training students and teachers in colleges (Projected – 25 Engineering colleges, 20 Polytechnics, 22 Science colleges with a total of approximately 50, 000 plus students, 1200 plus faculty within a zone of 100 Km radius from the coordinating institute)

Observations & Comments of the Standing Committee

- The Committee observed that Arduino boards hardware is an open source hardware. The two experiments shown to the Committee were based on the Arduino boards hardware.

- The Committee felt that the proposal may be re-drawn for the pilot project by developing a laboratory courses learning material based on the Arduino boards for a specific experiments covering at least 5-10 experiments.

    Total duration of the project : 2 years

    Total cost of the project : Rs. 21 Lakhs

Recommendation of the Committee

As the proposal was not uploaded on the Sakshat Portal upto the time of holding of the Standing Committee Meeting, final decision by the Standing Committee will be taken only when the PI uploads the proposal so that all the members of the Standing Committee can peruse the details. The case shall be put up to PAB only after that.

8. **Collaborative Remote Mentoring with an Intelligent Global Project Directory, Dept. of Computer Engineering, National Institute of Technology Karnataka (NITK), Surathkal**

    Presented by: Dr. P. Santhi Thilagam, Head of the Department and Mr.Annappa, Sr.Lecturer, National Institute of Technology Karnataka(NITK), Surathkal

    Objectives

    - Development of collaborative environment for remote mentoring.
    - Development of a portal for management of collaborative environment.
    - Development of global project directory (Content Mgmt) for intelligent information extraction using knowledge taxonomy.
    - Providing project management services to Universities and Institutions.

    Deliverables

    1. Requirements document and design document of the project.

    2. Testing and deployment of the project in which many students are expected to participate

        Total duration of the project :   3 years

        Total cost of the project   :   Rs.93,00,000

    Observations & Comments of the Standing Committee

    - The Standing Committee appreciated the idea of remote mentoring of students in their projects through project directory and supporting research ideas.

    - It was brought to the notice of all the members that initiative of this kind had already proposed and piloted by Indian Institute of Science Bangalore (IISC) under the Chairmanship of Prof P. Balram, Director, IISc on the creation of research portal with support of National Knowledge Commission.

    - The activities proposed by the PI blend quite well with the activities proposed by the IISC under the NKC initiative.

The PI proposed project management at the Graduate and Undergraduate level whereas the portal by IISc will include research program and mentoring as well and therefore it is important for both teams to work together.

- SC felt that the proposal by the PI does not have quantitative deliverables in its present form. The SC suggested that a pilot mentoring of all (20 NIT's) UG projects be undertaken before extending this as a National service.

Recommendation of the Committee

- The PI may re-submit a detailed proposal on bringing all the NITs together and is requested to discuss this with Prof. Sancheti, Director of NIT Karnataka, Surathkal who has initiated another activity under the Virtual Labs programme under the NMEICT, for sharing any computer infrastructure.

- The SC will recommend for a pilot for 6 months as soon as the revised proposal is received.

- The PI need not have to attend another SC meeting for discussing the revised proposal.

Miscellaneous presentation

A demo was given by Prof. Soman, Amrita University, Ettimadai, Coimbatore on the development in language translation tool kits so far. Prof. Soman demonstrated how the tool developed by Amrita can easily translate (verbatim) simple sentences from English to Tamil.

He indicated that development for Malayalam, Telugu and Kannada will be discussed as and when the tool kit is ready. It was very much appreciated by the Standing Committee.

Prof. Mangala Sunder summarized the programme and requested all the PIs who attended the meeting to provide the DPRs as quickly as possible in the Sakshat website.

The meeting ended with a Vote of Thanks to the Chair.

The Standing Committee Meeting is held on 10th October 2009 at 11:00 A.M. under National Mission on Education through Information & Communication Technology at Conference Hall, 1st Floor, Institute of Town Planners, India, 4-A, Ring Road, I.P. Estate, New Delhi

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10.	Dr. Suman K P Professor, CEN Amrita University Coimbatore	9994329496 kp_soman@amrita.edu

11.	Prof. Anil Kumar Tripathi Computer Engg. Institute of Technology BHU, Varanasi – 221005	9415518418 (0542) 2575648 6702689 Fax :- (0542) 2368428 aktripathi.cse@itbhu.ac.in
12.	Dr. Sunil Kumar Assistant Professor (Floriculture) College of Host. & Foresty CAV, Palghat, Arunahcal Pradesh	9436306260 0368-2225066 (Fax) sunu159@yahoo.co.in
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25.	Prof. Uma Kanjilal IGNOU, New Delhi	9810488895 Fax : 011 29533845 ukanjilal@ignou.ac.in
26.	Mr. Shivapratap G. Sr. Research Associate Amrita University Coimbatore	9894104456 g_shivpatap
27.	Md. Kausim EMPC, IGNOU New Delhi	9868941030
28.	Mr. Saravanan S. Research Associate CEN, Amrita University	979036984 sarwamstar@gmail.com

File No.NMEICT (MS)/PAB/1

Government of India
Ministry of Human Resource Development

National Mission on Education through Information & Communication
Technology (NMEICT) New Delhi

(Mission Secretariat)
****

26th October, 2009

To

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 for **10th** Meeting of the Empowered Committee of Experts
(Project Approval Board) of National Mission on Education through
Information and Communication Technology (ICT) to be held on 29th October,
2009 at 3.30 p.m. in Conference Room No.112-C Wing, Shastri Bhavan, New
Delhi

Sir/Madam,

The 10th Meeting of the Empowered Committee of Experts (Project Approval
Board) of National Mission on Education through Information and Communication
Technology (ICT) is scheduled to be held on 29th October, 2009 at 3.30 p.m. under
the Chairpersonship of Secretary, Department of Higher Education, Ministry of
Human Resource Development in Conference Room No.112-C Wing, Shastri
Bhavan, New Delhi

2.   The Agenda papers are enclosed.

Yours faithfully,

(Harvinder Singh)
Deputy Secretary (PAE) &
Nodal Officer (NMEICT)
Tel: 011-23382604

AGENDA

Agenda and papers for 10th 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 29th October, 2009 at 3.30 p.m. in Conference Room No.112-C Wing, Shastri Bhavan, New Delhi

Item No.	Subject
Item No.1	To confirm the Minutes of the Ninth Meeting of the Empowered Committee of Experts (Project Approval Board) of the National Mission on Education through Information & Communication Technology (ICT) held on 3rd September, 2009 & 11th September, 2009.
Item No.2	Approval for Broad-basing of Implementation-cum-Monitoring Committee.
Item No.3	Consideration of 6 projects appraised by Standing Committee in its meeting held on 05.09.09.
Item No.4	Consideration of 1 project appraised by Standing Committee in its meeting held on 19.09.09.
Item No.5	Consideration of 3 projects appraised by Standing Committee in its meeting held on 03.10.09.
Item No.6	Consideration of 1 project appraised by Standing Committee in its meeting held on 10.10.09.
Item No.7	Any other item with the permission of the Chair

<u>Agenda Item No.1</u>

The Minutes of the 9th meeting of the Project Approval Board held on 3rd & 11th September, 2009, are enclosed for kind perusal and confirmation please.

National Mission on Education through Information & Communication Technology (NMEICT) New Delhi

(Mission Secretariat)
****

28th   October, 2009

To
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: Item No.1: Confirmation of the Minutes of the 9th PAB Meeting of NMEICT.

Sir/Madam,

        This in continuation to our letter of even number dated 26th Oct, 2009 forwarding Agenda papers for 10th Meeting of the Empowered Committee of Experts (Project Approval Board) of National Mission on Education through Information and Communication Technology (ICT) scheduled to be held on 29th October, 2009.

2.   Enclosed please find Minutes of the 9th Meeting of the Project Approval Board held on 3rd and 11th Sept, 2009 for confirmation please.

Yours faithfully,

Sd/-

(Harvinder Singh)
Deputy Secretary (PAE) &
Nodal Officer (NMEICT)
Tel: 011-23382604

Table Agenda

Providing bandwidth to Operationalise the System-Ratification thereof

Shri Anil Jain, General Manager (Broadband), BSNL has informed that many colleges are finding it difficult to use the VPN over Broadband facility because international bandwidth has not yet been pumped into the VPN System for them.

Vide letter DO No.2386/JS(DL)/2009 dated 26th October, 2009 (copy enclosed), GM(Broadband), BSNL was requested to ensure that at least 2 Gbps international bandwidth is pumped into the VPN over broadband being provided to colleges so that they could effectively use internet facilities. BSNL has also been requested to inform the Mission when utilization reaches 80% of the capacity provided, so that position is reviewed thereafter.

In order to enable BSNL servers to serve NPTEL content all over the country, a hard disk of 1 terabyte containing NPTEL video and web courses was also sent to BSNL which will be got uploaded into BSNL servers and IPTV services and also on the Network. This would begin dissemination of e-content developed so far to all the colleges in the country.

The above is put up to Project Approval Board for ratification please.

N.K. Sinha, IAS
Joint Secretary (DL)
Tel : 23387781
Fax : 23388492
e-mail : nksinha.edu@nic.in

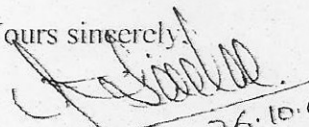D.O No. 2386/JS(DL)/2009   26th October, 2009

Dear Shri Jain,

Kindly refer to our discussion regarding connectivity being provided to various colleges under National Mission on Education through Information & Communication Technology (NMEICT). You have given me to understand that many of the colleges are finding it inconvenient to use the VPN over Broadband facility because international bandwidth has not yet been pumped into the VPN system for them.

As discussed, I shall be grateful if you kindly ensure that to begin with at least 2Gbps international bandwidth is pumped into the VPN over broadband being provided to colleges so that they could effectively use internet facilities and see a marked improvement in performance when compared to what they used to get under normal broadband connection. Kindly also ensure that the utilization of the internet bandwidth is monitored properly and the moment this utilization reaches 80% of the capacity provided, MHRD is informed to enhance the internet bandwidth as per needs in a dynamic manner.

In order to enable BSNL servers to serve NPTEL content all over the country, I am also enclosing a hard disk of 1 terabyte containing NPTEL video and web courses which should be got uploaded into BSNL servers and IPTV services and also on the servers of the universities which would be getting connected to National Knowledge Network. This would begin dissemination of e-content developed so far, to all the colleges in the country.

With regards,

Yours sincerely,

(N.K. Sinha)   26.10.09

Shri Anil jain
GM (Broadband)
BSNL, Harishchander Mathur Lane
Janpath, New Delhi - 1

Encl : 1 terabyte hard disk containing NPTEL content

सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें