

GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE AND TECHNOLOGY  
DEPARTMENT OF SCIENCE AND TECHNOLOGY  
LOK SABHA  
UNSTARRED QUESTION NO.446  
TO BE ANSWERED ON 12/12/2018

NATIONAL SUPERCOMPUTING MISSION

446. SHRIMATI POONAM MAHAJAN:

Will the Minister of SCIENCE AND TECHNOLOGY विज्ञान और प्रौद्योगिकी मंत्री be pleased to state:

- (a) the salient features of the National Supercomputing Mission including its roadmap, nodal bodies responsible for implementation, application groups of the Mission and the amount of funds sanctioned since the inception, year-wise;
- (b) the composition and terms of reference of various committees that have been constituted for implementing the Mission; and
- (c) whether supercomputers have been installed under the aegis of the Mission since its inception, year-wise and if so, the details thereof, year-wise and if not, the reasons therefor?

ANSWER

MINISTER OF SCIENCE AND TECHNOLOGY, MINISTER OF EARTH SCIENCES AND MINISTER  
OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

(DR. HARSH VARDHAN)

विज्ञान और प्रौद्योगिकी मंत्री, पृथ्वी विज्ञान मंत्री और पर्यावरण, वन एवं जलवायु परिवर्तन मंत्री

(डा. हर्ष वर्धन)

(a) The National Supercomputing Mission (NSM) is approved for implementation with total estimated cost of Rs.4,500 crore over a period of seven years. The Mission is to be jointly implemented by Ministry of Electronics and Information Technology (MeitY) and Department of Science and Technology (DST) along with Centre for Development of Advanced Computing (C-DAC) and Indian Institute of Science (IISc), Bengaluru as the implementing agencies. The contribution of MeitY would be Rs.1,760 crore and contribution of DST would be Rs.2740 crore.

Key Deliverables of the Mission include setting up of NSM facilities and infrastructure at 60 to 70 locations across the country; one Million core cloud with 25-30 Petabytes of storage; and a National Super Computing Grid by interconnecting various HPC systems over National Knowledge Network (NKN); R&D leading to next generation Exascale computing readiness; and HPC based applications in atleast 5 major areas; Human Resource Development (~20,000 trained professionals to handle and spearhead HPC activities).

The project was initiated in 2015-16 and total funds of Rs. 334.27 crore have been released for the Mission to Indian Institute of Science (IISc), Bengaluru and Centre for Development of Advanced Computing (C-DAC), Pune, the two implementing agencies, by DST and MeitY.

(b) The composition alongwith its Terms of Reference of various committees namely the NSM-Executive Board, NSM-Technical Advisory Committee. NSM-Expert Groups in infrastructure, R&D, HRD and Applications are attached at Annexure.

(c) There are two approaches that were planned; "Build" & "Buy". Under "Build" approach in phase-1 purchase order for the following three systems has been issued:-

IIT, Kharagpur:	1.3 PF
IIT, Varanasi:	650 TF
IISER, Pune:	650 TF.

Currently technical evaluation is underway for the "Buy" systems.



**ANNEXURE REFERRED IN THE REPLY TO PART (b) UNSTARRED QUESTION NO.446  
FOR 12/12/2018 REGARDING NATIONAL SUPERCOMPUTING MISSION**

No. DeitY/ R&D/ HPC/ 2(1)/ 2014

Government of India

Ministry of Communications & Information Technology

Department of Electronics & Information Technology

High Performance Computing Division

(R&D in IT Group)

Dated: 4th June, 2015

**OFFICE MEMORANDUM**

**Subject:** Constitution of the **National Supercomputing Mission Executive Board (NSM-EB)** in respect of the project entitled "National Supercomputing Mission (NSM): Building Capacity & Capability" being implemented jointly by the Department of Science and Technology (DST) and Department of Electronics and Information Technology (DeitY).

The undersigned is directed to refer to the Administrative Approval of even number dated 09.04.2015 for the implementation of the above said project at the total estimated cost of Rs. 4500.00 Crore (Rupees Four Thousand Five Hundred Crore only) over a period of seven years jointly by the Department of Science and Technology (DST) and the Department of Electronics and Information Technology (DeitY); contribution of Department of Electronics & Information Technology would be Rs.1760.00 Crore (Rupees One Thousand Seven Hundred Sixty Crore only) and contribution of Department of Science and Technology would be Rs.2740.00 Crore (Rupees Two Thousand Seven Hundred Forty Crore only).

2. The undersigned is now directed to convey the approval of the Competent Authority for the constitution of the **National Supercomputing Mission Executive Board (NSM-EB)** as per the following composition and terms of reference :

**A. Composition of the NSM- Executive Board**

- |   |            |
|---|------------|
| 1) Secretary, Department of Science and Technology (DST)                  | : Co-Chair |
| 2) Secretary, Department of Electronics and Information Technology, DeitY | : Co-Chair |
| 3) JS&FA, Department of Science and Technology (DST)                      | : Member   |
| 4) JS&FA, Department of Electronics and Information Technology (DeitY)    | : Member   |
| 5) Prof. Dewang V Khakhar, Director, IIT Mumbai                           | : Member*  |
| 6) Shri Kiran Karnik, Ex-President, NASSCOM                               | : Member*  |
| 7) Prof. U.B. Desai, Director, IIT Hyderabad                              | : Member*  |
| 8) Representative, SERC, IISc, Bangalore                                  | : Member   |
| 9) Director General, C-DAC, Pune  | : Member   |
| 10) Nominee of Secretary, Department of Expenditure (DoE)                 | : Member   |
| 11) Nominee of Secretary, DSIR/ DG (CSIR)                                 | : Member   |
| 12) Nominee of Secretary, Department of Biotechnology (DBT)               | : Member   |
| 13) Nominee of Secretary, DARE/ DG (ICAR)                                 | : Member   |
| 14) Nominee of Secretary, Department of Health Research                   | : Member   |
| 15) Nominee of Secretary, Department of Higher Education (MHRD)           | : Member   |
| 16) Nominee of Secretary, Ministry of Earth Sciences (MoES)               | : Member   |
| 17) Nominee of Secretary, Department of Space (DoS)                       | : Member   |
| 18) Nominee of Secretary, Department of Atomic Energy (DAE)               | : Member   |
| 19) Nominee of Secretary, DRDO  | : Member   |
| 20) Nominee of CEO, NITI Aayog  | : Member   |
| 21) DG, Indian Computer Emergency Response Team (ICERT)                   | : Member   |
| 22) Director General, National Informatics Centre (NIC)                   | : Member   |
| 23) Head, National Supercomputing Mission Directorate                     | : Convener |

\*Scientists of Eminence nominated by the Co-Chairs.

*Rjuneja*



**B. Terms of Reference of the NSM- Executive Board :** The NSM Executive Board shall be the apex executive body for NSM implementation. Its broad Terms of Reference (ToR) would be as follows:

- (i) Assign responsibilities to implementing agencies.
- (ii) Decide upon various projects in the mission based on inputs from Think Tank.
- (iii) Monitor and review, periodically, the administrative and financial activities of the mission and suggest suitable measures, as deemed fit, to meet the aims and objectives of the mission.
- (iv) Authorize re-appropriation to augment provision under the various budget heads.
- (v) Considering the latest trends and relevance, propose from time-to-time alterations and modifications to the deliverables to meet the aims and objectives of the mission for approval of the Governing Board.
- (vi) Consider and submit for the approval of the Governing Board the proposals for alterations, addition, and modifications to the deliverables of the mission.
- (vii) Appoint sub-committees from time-to-time and assign and/or delegate them the tasks that fall within the scope of such Committees set-up for efficient implementation of NSM.
- (viii) Take-up and execute any other matter that the Governing Board may specifically assign.
- (ix) The NSM-EB would meet as often as required and at least thrice in a year.

*R. K. Juneja*  
(R. K. JUNEJA)  
Deputy Director

To

1. Principal Secretary to the Prime Minister, Prime Minister Office, New Delhi
2. Director, Cabinet Secretariat, New Delhi
3. Secretary, M/o Finance, North Block, New Delhi
4. Secretary, Department of Electronics and Information Technology.
5. Secretary, DST, Technology Bhavan, New Mehrauli Road, New Delhi.
6. JS&FA, Department of Electronics and Information Technology.
7. JS&FA, DST, Technology Bhavan, New Mehrauli Road, New Delhi.
8. Secretary, Department of Expenditure (DoE), New Delhi. }
9. Secretary, DSIR/ DG (CSIR), New Delhi. }
10. Secretary, Department of Biotechnology (DBT), New Delhi. } **With a request to kindly**
11. Secretary, DARE/ DG (ICAR), New Delhi. } **nominate an official on the**
12. Secretary, Department of Health Research. } **Executive Board.**
13. Secretary, Department of Higher Education (MHRD). }
14. Secretary, Ministry of Earth Sciences (MoES), N.Delhi. }
15. Secretary, Department Space (DoS), New Delhi. }
16. Secretary, D/o Atomic Energy (DAE), New Delhi. }
17. Secretary, DRDO, New Delhi. }
18. CEO, NITI Aayog, New Delhi. }
19. Director General, Centre for Development of Advanced Computing (C-DAC), Pune.
20. Director, Indian Institute of Science (IISc) Bangalore.
21. Director General, Indian Computer Emergency Response Team (ICERT), DeitY.
22. Director General, National Informatics Centre (NIC), DeitY.
- ✓ 23. GC (R&D in IT), DeitY.
24. HOD (HPC Division), DeitY.
25. Shri Milind Kulkarni, Scientist F, Department of Science & Technology.
26. Professor Dewang V Khakhar, IIT Mumbai.
27. Shri Kiran Karnik, Ex-President, NASSCOM.
28. Prof. U.B. Desai, Director, IIT Hyderabad.
29. NSM Directorate
30. D&D Section (2 Copies), DeitY.
31. Sanction File.



भारत सरकार  
Government of India  
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी मंत्रालय  
Ministry of Electronics & Information Technology  
इलेक्ट्रॉनिक्स निकेतन, 6, सी जी ओ कॉम्प्लेक्स, नई दिल्ली-110003  
Electronics Niketan, 6, C G O Complex, New Delhi-110003  
Website: www.meity.gov.in

संख्या

No.....

DeitY/R&D/HPC/2(1)/2014

दिनांक

Date.....

28<sup>th</sup> November, 2016

**OFFICE MEMORANDUM**

**Subject:** Extension of the term of the Technical Advisory Committee (TAC) constituted in respect of the project entitled "National Supercomputing Mission (NSM) : Building Capacity & Capability" being implemented jointly by the Ministry of Electronics and Information Technology (MeitY) and the Department of Science and Technology (DST).

The undersigned is directed to refer to the Administrative Approval of even number dated 9<sup>th</sup> April, 2015 for the implementation of the above said project at the total estimated cost of Rs. 4500.00 Crore (Rupees Four Thousand Five Hundred Crore only) over a period of seven years jointly by the Ministry of Electronics and Information Technology (MeitY) and the Department of Science and Technology (DST): contribution of the Ministry of Electronics and Information Technology would be Rs. 1760.00 Crore (Rupees One Thousand Seven Hundred Sixty Crore only) and contribution of the Department of Science and Technology would be Rs. 2740.00 Crore (Rupees Two Thousand Seven Hundred Forty Crore only) and this Ministry's Office Memorandum dated 26<sup>th</sup> November, 2015 regarding Constitution of the Technical Advisory Committee (TAC) in respect of the project entitled "National Supercomputing Mission (NSM) : Building Capacity & Capability".

2. The undersigned is now directed to convey the approval of the Competent Authority for the extension of the term of the Technical Advisory committee for a period of two years i.e. upto 26<sup>th</sup> November, 2018.

3. There is no change in the Composition of the Technical Advisory Committee as communicated vide this Ministry's Office Memorandum of even number dated 26<sup>th</sup> November, 2015.

4. The Terms of Reference of the Technical Advisory Committee have been modified to the extent above.

5. The Composition of the Technical Advisory Committee and the Terms of Reference of the TAC as communicated earlier vide O.M. dated 26<sup>th</sup> November, 2015 are placed at Annexure-I.

*R. K. Juneja*

(R. K. JUNEJA)  
Joint Director  
Tele: 24366022

Contd..





To

1. Principal Secretary to the Prime Minister, Prime Minister Office, New Delhi.
2. Director, Cabinet Secretariat, New Delhi.
3. Secretary, Ministry of Finance, North Block, New Delhi.
4. Secretary, Ministry of Electronics and Information Technology, New Delhi.
5. Secretary, DST, Technology Bhavan, New Mehrauli Raod, New Delhi.
6. AS&FA, Ministry of Electronics and Information Technology, New Delhi.
7. JS&FA, DST, Technology Bhavan, New Mehrauli Raod, New Delhi.
8. Secretary, Department of Expenditure (DoE), New Delhi
9. Dr. V.K. Saraswat, Member, NITI Aayog, New Delhi.
10. Dr. Vijay P. Bhatkar, Chairman, Governing Council, Indian Institute of Technology, Delhi.
11. Prof. N. Balakrishnan, Honorary Professor, Indian Institute of Science, Bangalore.
12. Dr. K. D. Nayak, Chief Controller (Research & Development), Defence Research and Development Organization, Delhi.
13. Prof Rajat Moona, Director General, Centre for Development of Advanced Computing, Pune.
14. Prof. R. Govindarajan, Chairman, Supercomputer and Research Centre, Bagalore.
15. Shri. B. S. Jagadeesh, Outstanding Scientist, Bhaba Atomic Research Centre, Mumbai.
16. Prof. Alok Bhattacharya, Jawaharlal Nehru University, New Delhi.
17. Shri. N. Mohan Ram, Advisor (High Performance Computing), Tata Consultancy Services, Bangalore.
18. Group Coordinator (R&D in IT), Ministry of Electronics and Information Technology, Delhi.
19. Head, High Performance Computing Group, Department of Science and Technology, Delhi.
20. Head, High Performance Computing Division, Ministry of Electronics and Information Technology, Delhi.
21. D&D Section, (2 Copies), MeitY.
22. Sanction File.



**A. Composition of the Technical Advisory Committee**

1. Dr. V. K. Saraswat Member, NITI Aayog, New Delhi.	Chairman
2. Dr. Vijay P. Bhatkar Chairman, Governing Council, Indian Institute of Technology, Delhi.	Member
3. Prof. N. Balakrishnan Honorary Professor Indian Institute of Science, Bangalore.	Member
4. Dr. K. D. Nayak Chief Controller (Research & Development) Defence Research and Development Organization, Delhi.	Member
5. Prof. Rajat Moona Director General Centre for Development of Advanced Computing, Pune.	Member
6. Prof. R. Govindarajan Chairman, Supercomputer Education and Research Centre, Bangalore.	Member
7. Shri B. S. Jagadeesh Outstanding Scientist Bhabha Atomic Research Center, Mumbai.	Member
8. Prof. Alok Bhattacharya Dean, Department of Life Sciences Jawaharlal Nehru University, New Delhi.	Member
9. Shri N. Mohan Ram Advisor (High Performance Computing) Tata Consultancy Services, Bangalore.	Member
10. Group Coordinator (R&D in IT) Department of Electronics and Information Technology, New Delhi.	Member
11. Head, High Performance Computing Group Department of Science and Technology, New Delhi.	Member
12. Head, High Performance Computing Division Department of Electronics and Information Technology, New Delhi.	Convenor



**B. Terms of Reference of the Technical Advisory Committee:**

- i. To workout the implementation strategy of the mission.
- ii. To provide evidence based inputs to NSM-EB on positioning of technologies from time-to time vis-a-vis the international technological developments.
- iii. To define the overall deliverables of the mission and would make key recommendations on technologies to be adopted, number of systems to be developed/deployed, applications to be developed etc.
- iv. To conceptualise and recommend the R&D projects to be implemented under the mission taking into consideration the technology forecasts towards exascale computing.
- v. To provide overall direction to implementing agencies in executing the mission and monitor the progress of implementation to ensure smooth progress of the mission.
- vi. It would be responsible to ensure that the objectives of the mission in terms of attaining leadership in supercomputing and a roadmap towards self reliance.
- vii. Chairman could co-opt/invite any other experts on need basis.
- viii. The initial term of the Technical Advisory Committee is one year.
- ix. TA/DA for non-official members would be borne by DeitY as per Government of India norms.



भारत सरकार  
GOVERNMENT OF INDIA  
संचार और सूचना प्रौद्योगिकी मंत्रालय  
MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY  
इलेक्ट्रॉनिक्स और सूचना प्रौद्योगिकी विभाग  
DEPARTMENT OF ELECTRONICS AND INFORMATION TECHNOLOGY  
Website: www.deity.gov.in

संख्या DeitY/R&D/HPC/2(1)/2014/Pt.2  
No.....

दिनांक  
Dated : 29<sup>th</sup> April, 2016

**OFFICE MEMORANDUM**

**Subject :** Constitution of four Expert Groups under National Supercomputing Mission (NSM) viz. (i) Expert Group on Infrastructure; (ii) Expert Group on Research and Development (R&D); (iii) Expert Group on Application Development; and (iv) Expert Group on Human Resources Development.

The undersigned is directed to refer to the Administrative Approval of even number dated 9<sup>th</sup> April, 2015 conveying the approval of the Competent Authority for the implementation of the project entitled "National Supercomputing Mission (NSM): Building Capacity & Capability" jointly by the Department of Science and Technology (DST) and Department of Electronics and Information Technology (DeitY) at the total estimated cost of Rs. 4500.00 Crore (Rupees Four Thousand Five Hundred Crore only) over a period of seven years with contribution of Rs. 1760.00 Crore (Rupees One Thousand Seven Hundred Sixty Crore only) by the Department of Electronics and Information Technology and contribution of Rs. 2740.00 Crore (Rupees Two Thousand Seven Hundred Forty Crore only) by the Department of Science and Technology.

2. The undersigned is now directed to convey the approval of the Competent Authority to the constitution of four Expert Groups under National Supercomputing Mission (NSM) to provide expertise and direction in the respective areas of implementation viz. (i) Expert Group on Infrastructure; (ii) Expert Group on Research and Development (R&D); (iii) Expert Group on Application Development; and (iv) Expert Group on Human Resources Development. The composition(s) of the Expert Groups and their respective Terms of Reference are as under:

**1. Expert Group on Infrastructure**

Shri B S Jagadeesh, Outstanding Scientist, Bhabha Atomic Research Centre (BARC), Mumbai	Chairman
Prof. Milind Rane, Department of Mechanical Engineering, Indian Institute of Technology (IIT) Bombay, Mumbai	Member
Shri H Krishnamurthy, Chief Research Scientist, Indian Institute of Science (IISc), Bengaluru	Member
Shri R S Mani, STD, NIC and Project Director, NKN, New Delhi	Member
Shri R P Thangavelu, Centre for Mathematical Modelling and Computer Simulation (CMMACS), Bengaluru	Member
Dr Subrato Chatopadhyaya, Associate Director, C-DAC, Bengaluru	Member
Shri Ignestius Ernest Thambyraj, Member, Cloud Computing Innovation Council of India	Member (Industry Representative)
Representative of Department of Electronics & Information Technology/ Department of Science and Technology	Member
Shri Sanjay Wandhekar, Associate Director, C-DAC Pune	Convener

*Rajmeja*

इलेक्ट्रॉनिक्स निकेतन  
6, सी.जी.ओ. कॉम्प्लेक्स  
नई दिल्ली-110003



ELECTRONICS NIKETAN  
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NEW DELHI-110003



#### Terms of Reference of the Expert Group on Infrastructure:

- To draw the technical specifications of NSM infrastructure including specifications of systems, architecture, connectivity, data centre etc.
- To work closely with the applications development expert group to understand the specific architectural needs while drawing specifications.
- To give update of the important developments in systems and data centre technologies.
- To identify user agencies based on their compute, space and power requirement etc. for deploying the systems and provide recommendations to TAC.
- Chairman can co-opt additional experts as and when required.
- TA/DA in respect of non-official members would be borne from the NSM fund.

#### 2. Expert Group on Research & Development (R&D)

Prof. R Govindarajan, Indian Institute of Science ( IISc.), Bengaluru	Chairman
Prof. Mainak Chaudhuri, Indian Institute of Technology (IIT) Kanpur	Member
Prof. Ashwin Gumaste, Indian Institute of Technology (IIT) Bombay	Member
Prof. Anshul Kumar, Indian Institute of Technology (IIT) Delhi	Member
Sh Anupam Mondal, Advanced Numerical Research & Analysis Group (ANURAG), Defence Research and Development Organization (DRDO)	Member
Mrs. Geetha Manjunath, Xerox Reserch Centre India (XRCI)	Member (Industry Representative)
Representative of Department of Electronics & Information Technology/ Department of Science and Technology	Member
Ms N. Mangla, Joint Director, C-DAC Bengaluru	Convener

#### Terms of Reference of the Expert Group on Research & Development (R&D):

- To define frameworks and key components for building exa-scale supercomputing systems.
- To give update of the important developments in system architecture, infrastructure management, scalable algorithms, futuristic applications, power optimization techniques, cooling technologies etc.
- To identify NSM R&D programs to be taken up for these technologies.
- Evaluate the R&D proposals and provide recommendations to TAC.
- Review and Monitor the R&D projects/programs taken up under the mission.
- Chairman can co-opt additional experts as and when required.
- TA/DA in respect of non-official members would be borne from the NSM fund.

#### 3. Expert Group on Application Development

Prof. Alok Bhattacharya, Jawaharlal Nehru University ( JNU), New Delhi	Chairman
Prof. S Balasubramanian, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru	Member
Prof. Yashwant Gupta, National Centre for Radio Astrophysics ( NCRA), Tata Institute of Fundamental Research (TIFR), Pune	Member
Prof. Sanjay Mittal, Indian Institute of Technology (IIT ) Kanpur	Member
Prof. Ravi Nanjundiah, Indian Institute of Science (IISc.), Bengaluru.	Member
Dr. Sunil D. Sherlekar, Sankhya Sutra Labs Pvt Ltd., Bengaluru.	Member (Industry Representative)
Dr Debashish Bhattacharya, Defence Research and Development Laboratory (DRDL), Hyderabad	Member
Representative of Department of Electronics & Information Technology/ Department of Science and Technology	Member
Dr. Rajendra Joshi, Associate Director, C-DAC Pune	Convener



**Terms of Reference of the Expert Group on Application Development:**

- Identification of applications keeping in mind requirements of end users in extramural application domains, investigating on key application breakthroughs, quantifying their societal, environmental and economical impacts and performing a gap analysis between current situation and required targets.
- Identification of key scalable algorithms, libraries targeted towards selected hardware platforms that can be used in identified applications and proposes for development of these.
- Interact closely with expert group on infrastructure to address the architectural needs of specific applications.
- Identify and recommend bringing on board, local and global domain experts who can contribute towards selected applications.
- Evaluate the application development proposals and provide recommendations to TAC.
- Review and Monitor the application development/deployment taken up under the mission.
- Chairman can co-opt additional experts as and when required.
- TA/DA in respect of non-official members would be borne from the NSM fund.

**4. Expert Group on Human Resources Development**

Dr Jaya Panvalkar, Chairman Governing Council, SVNIT, Surat	<b>Chairman (Industry Representative)</b>
Prof. Kalpesh Kapoor, Indian Institute of Technology (IIT) Guwahati	Member
Prof. Sanjoy Bandyopadhyay, Indian Institute of Technology (IIT) Kharagpur	Member
Prof. S Krishnaswamy, Madurai Kamraj University	Member
Prof. Sathish Vadhiyar, Indian Institute of Science ( IISc), Bengaluru	Member
Prof. P.S.V. Nataraj, Indian Institute of Technology (IIT) Bombay	Member
Representative of Department of Electronics & Information Technology/ Department of Science and Technology	Member
Shri Ashish Kuvelkar, Associate Director, C-DAC Pune	Convener

**Terms of Reference of the Expert Group on Human Resource Development:**

- To investigate and describe state-of-the-art, trends, and future needs in HPC training and education.
- Design the education and training programs, to meet objectives of NSM to develop HPC aware manpower, and formulate the delivery mechanisms of these programs across the country.
- Adapt the courses to include newer programming paradigms.
- Plan and define Higher education at UG, PG and PG diploma level education in HPC.
- Provide recommendations to TAC on all above.
- Chairman can co-opt additional experts as and when required.
- TA/DA in respect of non-official members would be borne from the NSM fund.

  
(R. K. Juneja)  
Joint Director  
Tele : 24301303

To

1. The Chairmen and Members of all the four Expert Groups.
2. Secretary, Department of Electronics and Information Technology.
3. Secretary, DST, Technology Bhavan, New Mehrauli Road, New Delhi.
4. Director-General, Centre for Development of Advanced Computing (C-DAC), Pune.
5. D&D Section, Deity.
6. GC(DD)/HOD(SAK)/JD(RKJ).

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