

F. No. 1(5)/2012-HRD (Vol.IV)
Government of India
Ministry of Communications and Information Technology
Department of Electronics and Information Technology
6, CGO Complex, New Delhi – 110003

Dated: 04.03.2014

To

The Pay & Accounts Officer
Pay and Accounts Office
Department of Electronics and Information Technology
Electronics Niketan
New Delhi – 110 003

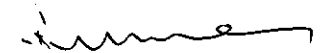
Subject: Administrative Approval

Sir,

I am directed to convey the Administrative Approval of the Competent Authority for implementation of the '**Scheme to enhance the number of PhDs in the Electronic System Design and Manufacturing (ESDM) and IT/IT Enabled Services (ITES) sectors ['The PhD Scheme']**' at a total estimated cost of Rs. 401 crore (Rupees Four Hundred one crore only) over a period of nine years. The details of the PhD Scheme are given in the Annexure enclosed.

2. This issues with the approval of the Cabinet Committee on Economic Affairs (CCEA) vide Communication No. CCEA/11/2014(i) dated 3.3.2014.

Yours faithfully



(Dr. Ajay Kumar)
Joint Secretary

Copy to:

1. The Principal Director of Audit (Scientific Departments), AGCR Building, IP Estate, New Delhi – 110001.
2. Drawing & Disbursing Section, DeitY
3. Finance Section, DeitY
4. Budget Section, DeitY
5. IT Research Academy (ITRA)
6. All GCs of DeitY
7. Chief Executive Officers of all autonomous bodies under DeitY
8. Director (Cabinet), Cabinet Secretariat, Rashtrapati Bhawan, New Delhi.
9. Joint Secretary, Prime Minister's Office
10. Sanction Folder



(Dr. Ajay Kumar)
Joint Secretary

A Scheme to enhance the number of PhDs in the Electronic System Design and Manufacturing (ESDM) and IT/IT Enabled Services (ITES) ['The PhD Scheme']

1. Background

- 1.1 The National Policy on Electronics (NPE 2012), and The National Policy on Information Technology (NPIT 2012) give special thrust on significantly increasing the number of PhDs in the country to enable India to compete globally in the coming decades, to develop an ecosystem of research, development and IP creation in these knowledge intensive sectors. The NPE 2012, interalia, sets an objective of creating 2500 PhDs annually by 2020 in Electronics System Design and Manufacturing (ESDM) and related fields. The NPIT, 2012 envisaged to set up Centers of Excellence in institutes of higher learning to promote high-end research in specialized ICT areas and producing quality doctoral and postdoctoral level researchers. There is need for a special programme to create necessary capacities to achieve the target. The scheme proposes to meet these objectives.
- 1.2 The proposed scheme is also expected to encourage working professionals and non PhD faculty members to pursue PhD in the ESDM or IT/ITES sectors.

2. Objective

- 2.1 The scheme aims at generating a total of 1500 PhDs for each of ESDM and IT/ITES sectors over a period of 5 years.
- 2.1.1 Out of the above, 500 PhDs for each of ESDM and IT/ITES sectors would be full-time PhD candidates have fellowship support as described in the scheme; and
- 2.1.2 The other 1000 PhDs for each of ESDM and IT/ITES sectors would be part-time PhD candidates who would receive one-time incentive as described in the scheme.
- 2.2 The scheme will also identify and support 200 Young Faculty to encourage and recognize Young Faculty involved in research and technology development in the areas of ESDM and IT/ITES with the objective to retain as well as attract young faculty in these sectors.
- 2.3 The scheme would mainly focus on themes which have direct relevance to the NPE 2012 and the NPIT 2012 (the ESDM and IT/ITES policies), through applied research aimed at promoting and development of innovative products for the market.

3. Institutions Eligible for support

- 3.1 All Indian Institutes of Technology (IITs), National Institutes of Technology (NITs), Indian Institute of Science (IISc), all Indian Institutes of Science Education and Research (IISERs), Central Universities, Deemed Universities under Central Government, Colleges/Institutions of national importance will be eligible for support under the scheme.
- 3.2 A University created under a Provincial Act, State Act, State Universities, Private Universities, Private Deemed Universities, "Colleges that are allowed to offer PhD", and other academic and R&D institutions will need to get recognized by the Academic Committee under the scheme to be eligible for support under the scheme.

3.3 The minimum requirement for the Institutions/Universities/Research Centers etc. for being eligible for support under the scheme will be compliance to the "UGC's Minimum Standards and Procedure for award of M. Phil/Ph.D. Degree, Regulation, 2009" (ref. The Gazette of India July 11, 2009 Part III Sec 4) as amended time to time.

4. Financial Support

4.1 Financial support to the following would be provided under the scheme

- 4.1.1 Full time PhD candidates;
- 4.1.2 Part-time PhD candidates;
- 4.1.3 Institutions registering PhD candidates under the scheme; and
- 4.1.4 Identified Young Faculty for undertaking research and technology development

4.2 The quantum of financial support that be provided to the above four categories will be as follows.

4.2.1 Full-time PhD candidates.

- 4.2.1.1 **Fellowship @ Rs. 22,500 per month in 1st and 2nd year, and @Rs. 25,000 per month in 3rd, 4th, 5th years of PhD.**
- 4.2.1.2 **Annual contingency grant/support: @ 30,000/- per year per full time PhD candidate for consumables etc.**
- 4.2.1.3 **Reimbursement of Rent (RoR):** For those fulltime PhD candidates who are not provided accommodation or choose not to avail the accommodation provided by the institution. The RoR would be on reimbursement basis, based on actual and subject to a ceiling based on location of the institution registering the PhD candidate. The ceiling would be 30%, 20%, and 10% of the fellowship amount as per the Government of India norms for class X, Y or Z cities respectively.
- 4.2.1.4 **Support for attending International conferences:** Support for attending up to two renowned international conferences per full-time PhD candidate: @ up to maximum support of Rs. 50,000/- for each international conference would be provided. The total support under the scheme is for 1000 such participations fulfilling the norms defined in the scheme on first come first serve basis.

4.2.2 Part-time PhD candidates

- 4.2.2.1 Part-time candidates who do not avail of any PhD Fellowship/scholarship/stipend from any Central or State Government shall be provided a one-time incentive of Rs 2.5 lakh on successful completion of the PhD degree.

4.2.3 Institutions registering PhD candidates

- 4.2.3.1 **Infrastructure grant** for up gradation/creation of the laboratory, equipment etc. (excluding civil construction/expansion of the building) @50% of the actual cost subject to a ceiling of Rs. 5 lakhs per full time candidate under the scheme. This grant would be one-time.
- 4.2.3.2 **Institutional over heads:** @ Rs. 25,000/- per year per full time candidate under the scheme for a maximum of five year for each candidate.

4.2.4 Young Faculty Research Fellowship

- 4.2.4.1 Research Fellowship @ Rs. 20,000 per month, in addition to regular income, for a maximum of five years.
- 4.2.4.2 Contingency/research grant of Rs. 5 lakhs per annum for presenting paper and research-work at national and international conferences and other research expenses for a maximum of five years.

5 Terms and Conditions for support of PhD candidates

- 5.1 The support will be for **additional** PhD candidates taken up by an institution. No support would be provided for current levels of enrolment in the PhD programme.
- 5.2 The candidates enrolled/registered for PhD during the period of the scheme would only be eligible to apply for the financial support.
- 5.3 The number of PhD candidates that an institution can take up under the scheme will be determined Department wise based on number of Faculty members available to guide/mentor/advise the PhD candidates and the current levels of enrolment. It will not be permissible to take more candidates in one Department in lieu of vacancies in another Department. Departments which are primarily in the area of ESDM or IT/ITES as the case may be are automatically eligible for assistance under the scheme. In other Departments, PhD candidates who are working in the area of ESDM and IT/ITES would be eligible for support subject to criteria provided in the scheme.
- 5.4 ESDM and IT/ITES are meta technologies, and the work in these sectors also span other sectors. Departments which are primarily not in the area of ESDM or IT/ITES, may also take advantage of the scheme, provided the research work being pursued by the identified PhD candidate is related to ESDM or IT/ITES. Such requests for support to other Departments will be considered by the 'Academic Committee' to be constituted by the Department of Electronics and IT (DeitY) for the purposes of this scheme. However the total number of candidates supported in other Departments will not exceed the total number of support provided to the Departments (in the same institute/University) which are primarily in the area of ESDM or IT/ITES.
- 5.5 Student/Faculty (**S/F**) ratio for any Department of the institution will be the determinant of the number of PhD candidates that can be supported in the said Department. This ratio will be determined by an 'Academic Committee' to be constituted by the Department. The Faculty members for the purpose of this ratio will be those faculty members who are qualified as per UGC norms to guide/advise PhD candidates work under them.
- 5.6 For the purposes of this scheme, the maximum number of PhD candidates which a given Department of a given institution may take will be equal to **S/F** ratio multiplied by the number of faculty members say **M**. The total number of enrolled PhD candidates in the Department, at the commencement of the scheme, be **T**. The average annual enrolment of PhD candidates, in the Department, over the past three years be **A**. While determining **A**, the fractions would be rounded off. The additional number of PhD candidates that a Department of an institution may enroll per year will be $((M \text{ multiply } S/F) \text{ minus } T \text{ minus } A)/5$, where 5 represents the number of years which a PHD candidate is expected to spend in the programme.
- 5.7 For every five candidates supported by the Department of Electronics and IT under this scheme, at least one candidate should be supported by industry/State Government concerned. It shall be the responsibility of participating institution to work with industry/State Government to enlist the PhD candidates which are supported by the industry/State Government. The institution is free to determine the terms and conditions of the PhD candidate enrolled through industry/State Government support. However, such support shall not be less than the support

provided to PhD candidates as per 'the PhD Scheme' of DeitY. DeitY may, however, consider waiver of this ratio in deserving cases.

- 5.8 The candidate would be eligible for Fellowship for the period during which the candidate is in good standing, and fulfills the requirements of the PhD successfully. The maximum period for which the support would be available for any fulltime candidate would be five years or till the completion of PhD whichever is earlier.
- 5.9 The participating Institution will ensure that a candidate receiving fellowship under this scheme is not receiving any financial support for PhD from any other scheme of Government of India/States etc. at the same time. The candidates who have availed support for their PhD from any other scheme of Government of India/States etc will be automatically be stands disqualified for support under this scheme.
- 5.10 The support for attending international conferences for full-time PhD candidates shall be subject to availability as per overall ceiling of 1000 participations. The above support would be to cover the travel and other expenses for attending International conferences, where the research paper of the PhD candidate has been accepted for the presentation by the candidate. A list of renowned International Conferences related to the areas of ESDM and IT/ITES would be prepared by the 'Academic Committee' for the Scheme for the purpose of this support.
- 5.11 Necessary provisions for teaching by full-time PhD candidates at undergraduate/postgraduate level would be formulated by the Academic Committee for the scheme. These will be adopted by the participating Institutions under the PhD Scheme.
- 5.12 The selection criterion of the PhD candidates to be supported under the scheme will be devised separately by the Universities/Institutions in consultation with the 'Academic Committee' setup by DeitY. However, a balance would be maintained between basic research and applied research. The 'Academic Committee' setup by DeitY under the HRD Division, DeitY would look in to this issue from time to time and make suitable recommendations.

6 Terms and conditions for Young Faculty Research Fellowship

- 6.1 An Institution would be **eligible** for one Young Faculty Research Fellowship grant for every 5 full time PhD Candidates supported under this scheme in the institution in a given year.
- 6.2 Young Faculty Research Fellowship is meant for those who have a proven track-record as evident from their research publications and recognitions. The Young Faculty must have 'a regular position in the Institute and should be engaged in research' or 'must be in a position on a regular scale, which leads to a regular position in the Institute and should be engaged in research'. If he /she is availing any other fellowship, he/she will have to opt for only one of the fellowships.
- 6.3 The details of qualifications, age limits and selection mechanism of such young faculty would be defined separately by the 'Academic Committee'.

7 Terms and conditions relating to participating institutions

- 7.1 The support under the scheme will be provided to the institution granting the PhD degree and no direct funding support will be provided by Government of India to the PhD candidates or faculty members or to the Departments in the supported institution. The institution will be responsible for seeking financial support and for furnishing utilization certificates of the funds released and based on the scheme parameters, and as per conditions of the sanction of grant-in-aid.
- 7.2 The PhD candidates who successfully complete their PhDs, either as full-time or part time, and are provided financial assistance under the scheme shall be counted towards achieving the target of the scheme.
- 7.3 The participating institution shall ensure that a PhD candidate supported under the scheme is not funded from CSIR/UGC.
- 7.4 IPR generated under the Scheme will be governed by existing rules and regulations of Government/UGC/CSIR.
- 7.5 All institutions who will participate would be subjected to Audit of their accounts/records in respect of the scheme as per government norms.
- 7.6 Assets created under the scheme using the research grant to the participating institutions would be used by Institutions for the research and development activities in these institutions after the end of the scheme.

8 Governance Mechanisms

- 8.1 **Academic Committee:** An 'Academic Committee' can be constituted by DeitY to perform various roles assigned to it in this scheme.
- 8.2 **Online Platform:** An online platform will be created by DeitY to facilitate interaction between Academia and Industry in order to cater to the research needs of the industry in the ESDM and IT/ITES. This platform would, inter alia,
- a) Help in seeking inputs from industry about areas in which PhDs are needed;
 - b) Enable/encourage joint research by academic institutions and industry; and
 - c) create a database /information system/MIS for efficient monitoring of the scheme.
- 8.3 **Implementation Agency:** To provide secretariat and managerial support, a suitable and capable agency is proposed to be engaged. Information Technology Research Academy (ITRA), a Division of 'Media Lab Asia', a Section-25 not-for-profit organization of Department of Electronics & Information Technology, Government of India, would be responsible for providing implementation support as such other roles as assigned by DeitY from time to time.
- 8.4 **Project Review and Steering Group (PRSG):** Periodic review (around in six months) of the scheme would be done by the PRSG setup by, the HRD Division, DeitY.
- 8.5 **PhD Cell:** To provide support in DeitY for such work provision for separate PMU shall be created in the form of "PhD cell" under the HRD Division, DeitY. The PMU would inter alia:

- a) Take steps to monitor the scheme towards fulfillment of the qualitative and quantitative objectives;
- b) Provide secretariat support for holding meetings of the Academic committee and the PRSG and other meetings related to the implementation of the scheme;
- c) Provide support for creating the online platform/database/MIS
- d) Support required for methods to develop entrepreneurship skills in the PhD Candidates enrolled under the scheme.
- e) Support required to provide appropriate linkages with various existing/proposed schemes like: C2S, ISEA-Phase II, ITRA, C-Met, SAMEER, C-DAC, ICT Academies etc.
- f) Support required for appropriate linkages of the scheme with Venture Capital linked research development under the proposed EDF Scheme of DeitY
- g) Support required for managing IPR generated under the scheme

9 Miscellaneous

- 9.1 Collaborations with internationally reputed academics and R&D Institutions will be encouraged.
- 9.2 Impact assessment in the fourth year after the start of the scheme would be done by a third party (institution/body of repute for such purpose such as IIM etc.).
- 9.3 Detailed guidelines regarding operationalization of the scheme would be issued by the HRD Division, DeitY after the approval of the scheme

10. Duration of Scheme

10.1 The duration of scheme would be for five years for the purposes of selecting PhD candidates for support under the scheme. However, the funding would be continued till 9th year for the commitments already made during the scheme period.


(Dr. Ajay Kumar)
Joint Secretary