

**GOVERNMENT OF INDIA  
MINISTRY OF HUMAN RESOURCE DEVELOPMENT  
DEPARTMENT OF HIGHER EDUCATION**

**LOK SABHA**

**UNSTARRED QUESTION NO. 2225  
TO BE ANSWERED ON 01.01.2018**

**Shortage of Faculty**

**2225. SHRI SANJAY DHOTRE:  
SHRI RAHUL SHEWALE:  
SHRI BHARTRUHARI MAHTAB:**

**Will the Minister of HUMAN RESOURCE DEVELOPMENT be pleased to state:**

- (a) whether there is a shortage of faculty in institutions imparting technical education across the country;
- (b) if so, the details thereof, State/UT and institution-wise and the reasons therefor;
- (c) whether the Government has conducted any study/enquiry to assess the adverse impact of such shortage of faculty on education imparting by these institutions in the country and if so, the details and outcome thereof and if not, the reasons therefor;
- (d) whether the Government has accepted all the recommendations of the Kakodkar Committee, constituted by the Government to improve the quality of technical education and faculty development; and
- (e) if so, the details thereof along with the implementation status of such accepted recommendations and if not, the reasons therefor and the steps taken/being taken by the Government in this direction?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF HUMAN RESOURCE DEVELOPMENT  
(DR. SATYA PAL SINGH)**

- (a) to (c): Madam. There are some vacancies in the faculty, but the same is made good by research scholars, contract, adjunct and visiting faculty. As such, the teaching process is not adversely affected and these institutions maintain high academic standards. The State-wise details of the vacancies of faculty positions would be collected and furnished. All these institutions make sustained efforts to fill up the vacancies through rolling advertisement process.
- (d) & (e): After detailed deliberations, in which various points of views were expressed, the IIT Council accepted the report of Kakodkar Committee in principle and decided to constitute an Empowered Task Force for implementation of the recommendations for enhancing the autonomy of the IIT System with the intention of expanding the research output of IITs to produce 10,000 Ph.D graduates annually from around 1000 presently and increase faculty strength from around 4000 presently to 16000 by 2020 (Details at Annexure).

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**Annexure as referred to in part (d) & (e) of Lok Sabha Unstarred Question No. 2225 for 01.01.2018 asked by Shri Sanjay Dhotre, Shri Rahul Shewale and Shri Bhartruhari Mahtab regarding “Shortage of Faculty”.**

Kakodkar Committee recommendations	Empowered Task Force recommendations on implementation	Present Status
<p><b>IITs as Research Institutions</b></p> <p>1. <b><u>Scaling up Ph.D. students</u></b> Scaling up Ph.D. students from less than 1,000 at present to 10,000 Ph.Ds by 2020-25 from 20 IITs (15 existing and 5 new to be setup).</p> <p>Scaling Ph.D scholars admission to include enabling bright UGs being admitted for Ph.D at the end of their 3<sup>rd</sup> year, teachers from other institutes joining for Ph.D. and significant nos. from industries joining sponsored Ph.D. programmes. A suitable fellowship scheme covering all categories of Ph.D. students to be put in place.</p>	<p>1. After the first year of a two year M.Tech. programme, an option be given to students to switch to a dual degree M.Tech.-Ph.D. programme. Students do not have to do a separate M.Tech. project and they can immediately start working on their Ph.D. On completion, the student will be awarded both an M.Tech. degree and a Ph.D. degree. An option to leave the programme with an M.Tech degree after three years (from the time of admission) will be available.</p> <p>2. Remuneration as per normal Ph.D. assistantship / fellowship will be available for 4 years as soon as they switch to the dual degree programme.</p> <p>3. Students in the final year of their B.Tech. programmes may be offered admission into Ph.D. programmes by seeking applications in October-December of the previous year and offering admissions by December for admission into the next July semester. To enable selections, students should have given the GATE examination in their third year. The National Co-ordination Board (NCB) of GATE is to be requested to allow third year B.Tech. students to appear for GATE. Students selected for admission are to be eligible for assistantship / fellowship for five years. To encourage students from CFTIs to enter the Ph.D. programme in the IITs, the need for qualifying in GATE to get admission is to be waived for them provided they have a CPI of at least 7.00 at the end of their third year. The need to qualify in GATE to avail assistantships / fellowships is also to be waived for such students provided they graduate with a CPI of at least 7.00.</p> <p>4. IITs and NITs (to start with- eventually to include other CFTIs and other engineering colleges) to mutually agree on sharing credits for the 4<sup>th</sup> year B.Tech based on course work at IIT.</p> <p>5. It is suggested that MHRD set up a special fellowship (a pool of funds) for Ph.D.s, which will be over and above the normal Ph.D. scheme of assistantships. About 10% of students at each IIT will be eligible for this fellowship. It will be open to all admitted Ph.D. students. Once given, it will be available for up to 4 / 5 years contingent on good performance. The fellowship may be awarded for two years in the first instance. The fellowship will be 1.5 times the Ph.D. assistantship. There will be no requirement of assisting in academic activities.</p> <p>6. It is recognized that in today’s competitive and globally connected world it is imperative that candidates get a global experience. In this context it is recommended that MHRD set up a scheme for funding of travel, registration, and daily allowances to Ph.D. students at IITs for presenting papers at</p>	<p>The measures suggested by the Empowered Task Force for scaling up Ph.D students have been approved by the IIT Council. Implementation of this involves the following :-</p> <ol style="list-style-type: none"> <li>i. Allowing 3<sup>rd</sup> year students to appear for GATE</li> <li>ii. Waiver from GATE for students admitted to PhD by an IIT on the basis of CPI &gt; 7.</li> <li>iii. Special fellowship @ 1.5 times the normal PhD fellowship for 10% students at each IIT.</li> <li>iv. Scheme for participation PhD students in one international conference.</li> <li>v. Access to NKN by industry and private engg. colleges wishing to sponsor PhD program in distance learning mode.</li> <li>vi. Other recommendations to Directors of IITs</li> </ol> <p><b><u>Action Taken</u></b></p> <p>The above decision of the Council is in the process of implementation in consultation with the Directors of IITs, Chairman, Coordination Board of GATE and Integrated Finance Division of the MHRD.</p> <p>A formal letter from the MHRD to Directors of IITs directing them to admit more Ph.Ds as per Kakodkar Committee recommendations and the decision of the IIT Council is being sent. This letter will also state that MHRD will provide corresponding increased financial support for scaling up the Ph.D intake.</p>

<p>2. IITs to become Research Institutes, with focus on high quality frontier research and technology development within Indian context.</p> <p>3. IITs should aim to acquire technology leadership in at least 3 to 4 areas.</p>	<p>international conferences. A Ph.D. student will be eligible for support for at least one such conference during his / her programme provided a paper in which he / she is a co-author is accepted at the conference.</p> <p>A Ph.D. programme for persons working in industry is to be introduced in all IITs. A student will have the option to fulfill his course requirements through courses to be delivered remotely using the National Knowledge Network (NKN). Industry wishing to participate in such programmes may be allowed to access NKN for this purpose as per financial terms decided by NKN. The High Level Committee (HLC) of NKN is to be requested to allow this.* Each IIT will introduce these programmes on their own and so each IIT will award separate degrees. The proposal is to be sent to Senates of IITs for their consideration. The fees would be set so that the programmes are self-sustaining, they bring in some income to the Institute, and they also provide remuneration to faculty and staff taking part in the programmes. Sharing of courses among IITs will be done as is feasible.</p> <p>7. Similar programme as discussed above will operate for teachers in Engineering Colleges. Private Colleges wishing to participate in such programmes may be allowed to access NKN for this purpose as per financial terms decided by NKN. The High Level Committee (HLC) of NKN is to be requested to allow this. The financial requirements for these programmes will be met by MHRD. The proposal is to be sent to Senates of IITs for their consideration. The IITs are to send a joint proposal to MHRD giving details of the funds required.</p> <p>8. A trainee teacher scheme for NITs has also been approved by IIT and NIT councils.</p> <p>9. In order to broad base research at IITs create specific budgetary provision for</p> <ul style="list-style-type: none"> <li>i) Encouraging PhD students from abroad</li> <li>ii) Create adequate number of Post Doc. positions</li> </ul>	<p>2 &amp; 3. The following actions are being taken to implement the recommendations of the Kakodkar Committee / decision of the IIT Council :-</p> <ul style="list-style-type: none"> <li>- Creation of R&amp;D Budget – Modalities can be worked out separately.</li> <li>- Each IIT to identify areas where they are confident to reach Technology leadership in about 10 year time.</li> </ul>
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<p>4. Research groups in one or more IITs to take up large projects together to address major national challenges.</p> <p>5. Set up Research Parks at each of the IITs similar to IIT Madras Research Park.</p> <p>6. Enable Ministries to set up R&amp;D labs in IITs to drive technology development relevant to national programmes being piloted by them.</p> <p>7. Large scale executive training programme for industry jointly conducted with each IIT using video links.</p> <p><b>Financial autonomy and governance</b></p> <p>(a) Government to financially support research at IITs in the plan mode to meet the potential national needs in terms of research technology &amp; human resource in Science &amp; Technology and entrepreneurship. For this purpose, an annual outlay on the basis of 1.5 lacs per student should be made available to each of the established IITs. For the new IITs which are at present on project mode an endowment grant of Rs. 50 crores per IIT (over next 5 years) be made available to enable a degree of flexibility in academic activities.</p> <p>(b) The IITs need to expand infrastructure to support scaling up of academic and research programmes. Government to give capital funds for expansion at the rate of Rs. 20 lacs per additional student. There is also need to rejuvenate the existing ageing infrastructure at Rs. 5 lac per student as existing on March 2011. Funds allotted for expansion taking place currently to accommodate OSC recommendations are inadequate and need to be increased to 15 lac per student.</p>	<p>As stated at Sl.5 above, the Council has not yet taken any decision on Financial Autonomy and Governance Structure. The matter will be placed before the Council at its next meeting.</p>	<p>4. The IIT Council (through IITs on rotation) will organize an yearly Conference where it will invite all Faculty members of IITs to showcase their best Technology works. Funds for this purpose will be provided through National Initiative on Technology Transfer.</p> <p>5. A Workshop will be held at IIT Madras on 8<sup>th</sup> June, 2013. Directors of IITs have been requested to attend.</p> <p>6. A letter has already been send to all Ministries under the Signatures of the Secretary, MHRD.</p> <p>7. IITs are being requested to workout modalities.</p> <p>As stated at Sl.5 above, the Council has not yet taken any decision on Financial Autonomy and Governance Structure. The matter will be placed before the Council at its next meeting.</p>
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| <p>(c) MHRD to pay full operating cost of education + scholarships for all Post Graduate students (Ph.D., MS and M.Tech.) as well as for Undergraduate students from reserved category and economically weaker sections. Some merit cum mean scholarships should also be made available to needy and deserving students. A hassle free loan facility not requiring any collateral or parental guarantee to be made part of the admission process.</p> <p>(d) Except for legacy payments like old pension the IITs are to be financially independent of the Non-Plan Budget of the Government. Fees are to be fixed at a level to cover the operational expenditure.</p> <p>(e) IITs are to be totally independent of MHRD for their governance and management functions. They are to be run by their Boards. This includes management structure, rules and regulations for faculty / staff hiring and remuneration, approving of budgets and fixing fees etc. C&amp;AG Audit to continue based on financial rules formulated by the Board.</p> <p>(f) IITs should enhance their financial inputs through donations. The donations be made income tax free. Necessary amendments wherever necessary in the law be made.</p> <p>(g) The IIT Boards will select and appoint a Director (with the approval of Chairman of the council?) using a Search Committee process. IIT Boards will nominate the Chairman to be appointed after approval of the IIT Council.</p> <p>(h) The Board will consist of one representative from Central Government, one from State Government, 3 industry persons selected from a council approved panel recommended by the Chairmen, of CII, FICCI, ASSOCHAM and NASSCOM (in a joint meeting), 3 Scientists/Technocrats selected from a council approved panel recommended by Chairmen of Science and engineering Academies (in a joint meeting), 2 Alumni, 2 Faculty members from the Institute and 1 eminent citizen appointed by the Board, the Chairman and the Director with the approval of the IIT Council.</p> <p>i) The IITs will sign an MOU every year with the MHRD in line with the aims and policies of the Government of India. The MOU would need to be reviewed and approved by the IIT Council.</p> <p>(j) The Visitor may require the IIT Council to appoint an External Review Committee for each IIT once in a 5 year. The Review Committee Report and action taken to be made public.</p> |  |  |
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<p>(k) Emergency Powers of the Visitor over the IITs are to continue.</p> <p><b>3. Faculty</b></p> <p>(a) Scaling up of quality faculty is the key. It is required to scale up 16,000 faculty members in about 10 years (from little over 4,000 currently).</p> <p>(b) Part time / adjunct faculty from Industry, visiting faculty and post doctoral positions in IITs to be strengthened.</p> <p>(c) Faculty pay scales and remuneration is to be decided by the respective Boards within the financial constraints of the Institutes.</p> <p>(d) The Board to decide the roles / responsibilities and appraisal of faculty which will include teaching, research, technology development and industrial consultancy as well as policy and standard development. Besides they may be involved in Administration.</p> <p><b>4. Role of the Staff</b></p> <p>(a) The IIT Boards could decide on staff numbers, remuneration and pay scale.</p> <p>(b) Most of the staff members be hired as outsourced staff on contract.</p> <p><b>5 Innovation and entrepreneurship</b></p> <p>(a) The IITs must recognize that technology development, innovation and nurturing entrepreneurship are some of their key tasks.</p> <p>(b) B.Tech. and M.Tech. curriculum needs correction to provide greater flexibility to provide greater choice to students so that they can better prepare for a chosen career option.</p> <p>(c) Greater interaction with Industry in the product development mode should be adopted.</p> <p><b>6. Scaling engineering education with quality in India.</b></p>	<p>( yet to be discussed by Empowered Task Force )</p> <p>( yet to be discussed by Empowered Task Force )</p> <p>( yet to be discussed by Empowered Task Force )</p> <p>( yet to be discussed by Empowered Task Force )</p> <p>( yet to be discussed by Empowered Task Force )</p> <p>( yet to be discussed by Empowered Task Force )</p>	<p>(a) Action in progress by all IITs.</p> <p>(b) Action in progress by all IITs.</p> <p>(c) This requires amendment to Act &amp; Statutes</p> <p>(d) This requires amendment to Act &amp; Statutes</p> <p>(a) This requires amendment to Act &amp; Statutes</p> <p>(b) Provision already exists in the Act &amp; Statutes of old IITs for appoint staff on contract in prescribed pay scale.</p> <p>Hiring of staff through outsourcing – already being done.</p> <p>Action is being taken by the IITs through its Senates.</p>
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<p>(a) The Committee recommends a plan to create at least 100,000 quality engineering graduates per year through Central Government Funded Institutions alone.</p> <p>(b) Identification and creation of 50 Central Government Funded Institutions (other than 20 IITs) which could be nurtured with the help of Young IIT Faculty. This will include NITs, ISERS, NISER, NIITs and certain other institutions.</p> <p>(c) New IITs can boldly experiment with radically new ways of teaching, research and administration. Shortage of experienced faculty could be turned into benefit by judicious use of multimedia and networking technologies to augment the class room experience. In research, apart from setting up state of the art facilities, the new IITs can build collaborative relationships with like minded institutions around the world.</p> <p>(d) In the established IITs, the Directors and the Boards should spent much of their quality time on academic innovations and impact rather than dealing with routine issues such as service conditions of long time staff.</p> <p>(e) The Board, the Director and the faculty of new IIT should be selected for their openness to new ideas and should be encouraged to experiment with teaching, research and administration.</p> <p>(f) The new IITs have a unique potential to catalyse the transformation of the IIT system. Hence, they need special treatment to ensure that they realize this potential by building on the strengths of the IIT system while avoiding its weaknesses.</p>	<p><b>(Not yet discussed by the Empowered Task Force)</b></p>	<p>IITs are being advised to implement these suggestions / decisions.</p>
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