

# Proposal for CSR funds

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## About NPTEL

The National Programme on Technology Enhanced Learning (NPTEL) was initiated by seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee) along with the Indian Institute of Science, Bangalore in 2003. Five core disciplines were identified, namely, civil engineering, computer science and engineering, electrical engineering, electronics and communication engineering and mechanical engineering and 235 courses in web/video format were developed in this phase.

The main goal of NPTEL Phase II (2009-14) was to build on the engineering and core science courses launched previously in NPTEL Phase I. An additional 600 web and video courses were created in all major branches of engineering, physical sciences at the undergraduate and postgraduate levels and management courses at the postgraduate level. Several improvements such as indexing of all video and web courses and keyword search were implemented.

## Some highlights:

- Largest online repository in the world of courses in engineering, basic sciences and selected humanities and social sciences subjects
- Online web portal <http://nptel.ac.in> - more than 400 million views
- Youtube channel for NPTEL - most subscribed educational channel, 12 lakh+ channel subscribers, 310 million+ views
- More than 40000 video hours have been uploaded in NPTEL
- Most accessed library of peer-reviewed educational content in the world
- 33000+ hours of transcribed content; 27000+ hours of subtitled videos

## Need Analysis for Open Online courses

“Only one in four engineering graduates in India is employable, based on their technical skills, English fluency, teamwork and presentation skills and of the 4 lakh odd engineering graduates, who graduate each year, only about 20% is good enough for India Inc. - NASSCOM”

Some sample articles supporting the above statement can be seen below.

[http://articles.economictimes.indiatimes.com/2011-04-07/news/29392668\\_1\\_engineering-colleges-employability-study-nasscom](http://articles.economictimes.indiatimes.com/2011-04-07/news/29392668_1_engineering-colleges-employability-study-nasscom)

<http://timesofindia.indiatimes.com/city/mumbai/Only-18-engineering-grads-are-employable-says-survey/articleshow/38438996.cms>

A discussion between NASSCOM officials and the heads of Information Technology (IT) companies with the Coordinators of NPTEL resulted in the decision to launch open online courses to which anyone can enrol and learn and can earn a course certificate too by writing a proctored certification exam.

The areas identified for providing courses to fill the gaps were – programming and coding skills, English communication skills and technological tools used in various areas of engineering and IT.

The first course offered as a pilot was Programming, Data Structures and Algorithms whose syllabus was a collaborative effort between industry and academia. This was followed subsequently by multiple course offerings in various disciplines targeted at both UG and PG students. Courses such as Design and Analysis of Algorithms, Digital Circuits, Wireless Technologies and Electromagnetism fall in the category of technical subjects, while Better Spoken English, Management Services, Quantitative Finance, Strategy and Game Theory and Operations Research cater to developing the soft skills and business acumen of students.

## **Why was this initiative through the model of Open Online Courses?**

- Massive Open Online Courses (MOOC) is essentially an asynchronous platform and a process for teaching through pre-recorded lectures, resource video materials, lecture notes, assignments and quizzes, which are usually online and provide self assessment in regular intervals during learning.
- The learning, through scheduling of fixed time duration for completion of courses and, therefore, the simultaneous participation of teachers and a large number of students may be termed synchronous and is thus similar to a classroom, albeit on the Internet and being much larger in size.
- When offered with consideration for students in non-urban and rural areas through supplementary DVDs and mobile delivered content, they enable quality and equitable access to a much larger population of students and can lead to a significant rise in the Gross Enrollment Ratio.
- These courses are open for anyone to access – at no cost. So anyone who is interested in learning gets access to quality content, which also includes discussion with the content creator and access to assignments for self testing.
- The faculty who are currently offering courses are from the IITs or from other reputed institutes such as CMI, IMSc etc.

## **NPTEL Online Certification**

The objective of enabling students obtain certificates for courses is to make students employable in the industry or pursue a suitable higher education programme.

Through an online portal, 4-, 8-, or 12-week online courses, typically on topics relevant to students in all years of higher education along with basic core courses in sciences and humanities with exposure to relevant tools and technologies, are being offered. The enrolment to and learning from these courses involves no cost. Following these online courses, an in-person, proctored

certification exam will be conducted and a certificate is provided through the participating institutions and industry, when applicable.

### **Certification process:**

NPTEL began the initiative of offering certification to students for courses in March 2014. The process of certification is as follows.

1. Subject Matter Experts (SME - faculty from IITs or partner institutes with input from industry) create recorded video content for courses.
2. The course is uploaded on the portal and opened for enrollments, **which is free.**
3. Every week, about 3 hrs of video content is released along with an assignment , which is evaluated and provides the student with a score.
4. Teaching Assistants (TAs) and the faculty members support the discussion forum - answering questions and clearing doubts.

**5. If someone wants to get a certificate from the IITs/IISc after doing the course, he/she should register for the in-person proctored certification exam that is conducted in about 100 cities across India in collaboration with an exam partner. The certification exam is not free but has a nominal fee of Rs 1100.**

**6. Final score=25% assignment score + 75% exam score. To be eligible for a certificate, the learner should have scored  $\geq 40\%$  final score. E-verifiable certificates are made available on [nptel.ac.in/noc](http://nptel.ac.in/noc) and hard copies are also dispatched to the candidates.**

7. These certificates are envisioned for use in credit transfer to universities or for making the student more employable or for enhancing his growth in his current place of work.

### **Some statistics regarding the open online courses since March 2014 till October 2017**

Completed courses: 514

Enrollments across courses: 27,00,000+

Number of exam registrations: 1,82,000+

Courses to be offered between Jan-Apr 2018: 228

All the statistics pertaining to completed courses are available at [nptel.ac.in/noc](http://nptel.ac.in/noc).

A feedback video about NPTEL online courses: <https://youtu.be/SNbbQs-iwJE>

## **Use of the course/certificate**

1. Enables the student to directly engage and learn from the best faculty in the country in that particular subject. This strengthens the fundamentals of the student in the course
2. Gives the students the opportunities to explore new areas of interest - which are not possible in regular college environment. Also gives students the opportunity to learn in greater depth the subjects they wish to master.
3. The audience in a MOOC includes students spanning the length and breadth of India and a small fraction of foreign students. This mix of peer group gives the students a chance to assess where they stand with respect to this group of learners. These courses are also serving as faculty development programmes (15-20% of enrollments are by faculty in different colleges). About 15-20% audience is also people from the industry at various levels.
4. These courses also bring out the self-learning initiative of the students - where their own motivation is what drives them to complete the course and not external compulsions. This fosters the habit of keeping oneself updated always by means of self-study.
5. The certificates issued bear the stamp of CCE, IIT and hence are valuable additions when the student is applying for jobs.
6. Companies can also dig into this pool of candidates with specialized skills - in case they wish to recruit.

## **Regarding fee for certification exam - Need for CSR funds**

When a survey was done among students who had scored well in the assignments during the course but who had not registered for the certification exam, a large percentage of them quoted the fee of around Rs 1000 being too high to pay due to the economic background of their family and their availing educational loans to pay for the college.

Hence if any funds can be given to enable students to overcome the situation of the fee being a hurdle to obtain certification, it would ensure that they complete these courses. This would be distributed to the students on a merit cum means basis.

## **Proposal**

In the context of the background given above, we would like to partner with you in your CSR activities, where funds given by you will enable the deserving candidates (the beneficiaries are from all across India) to complete the learning process and obtain a certificate and lack of funds will not be a deterrent in this for them.

NPTEL partners with around 1600 colleges as on date in the form of NPTEL Local Chapters and the candidates of these colleges are the people to who the fee waiver will be passed on. ([http://nptel.ac.in/LocalChapter/list\\_of\\_colleges.php](http://nptel.ac.in/LocalChapter/list_of_colleges.php)). Many of these colleges are in the Tier II and III cities with students coming in from rural and financially weak backgrounds.

NPTEL operates on a non-profit mode and the fee collected is equivalent to the expenses involved in the conduct of exams and dispatch of the certificates. Also the MHRD support is for the creation and offering of the courses and does not cover the exam.

We give the students a 50% waiver on the exam fee if we can get sponsorship from companies for the same. Announcing this option and selection criteria for students: The list of candidates recommended by the Principal of the college as requiring financial assistance is communicated to NPTEL and such students can be covered under this scheme. They initially pay the entire fee and only if they write the exam and pass the course, do we refund the 50% to them.

**So the beneficiaries will be mainly students in colleges who require this financial support to complete the course. NPTEL is only the facilitator in this case and the funds are not related to activities within the IITs.**

With growing number of Local Chapters and increasing participation in the courses, we look forward to support from your company to make this initiative have a wider impact and to try and ensure that deserving and meritorious candidates do not miss out on the chance of getting certified owing to personal economic reasons.

Fee waiver proposed for 2018-2019

	Number of students	Fee waiver per student (INR)	Amount (INR)
Jul-Nov 2018	20000	550	1,10,00,000/-
Jan-Apr 2018	20000	550	1,10,00,000/-

**Total required by us: Rs 2,20,00,000/-**

You can support as many as you can from the number proposed. In the past we have seen that most of the waivers passed have been to students studying primarily in Tier 2 and 3 cities.

## **2. Faculty development programme 2018-2019**

The NPTEL online certification courses are now popular with faculty members of various colleges who take up the courses to learn how to teach content in a course, or to upgrade their knowledge in a subject, to explore a new area so that they may introduce the same in their college for their students, to be better equipped for research work they are doing, etc. Hence these courses are also turning into faculty development initiatives.

Hence we wish to propose an “NPTEL Faculty development” programme. We wish to incentivise faculty members from colleges who also appear for these exams by giving them Rs 550 off on the exam fee if they score more than 60% consolidated score.

Period	Number of faculty members	Fee waived/faculty member	Total	
Jul-Nov 2018	3000	Rs 550.00	Rs 16,50,000.00	
Jan-Apr 2018	3000	Rs 550.00	Rs 16,50,000.00	

**Total: Rs 33,00,000.00**

### 3. Internships (2018-2019)

We wish to further extend the scope of work to provide more value add to the candidates who do well in our courses by means of facilitating internships with the course instructors, the details of which are given below.

Since 2014 NPTEL has been offering certification courses in a MOOCs format. This certification process includes an in-person proctored exam which counts towards 75% of the score for the course. The remaining 25% is obtained from online weekly assignments. 514 courses have been completed so far in this format with over 2.7 million enrolments, and with nearly 130,000 successfully completing these courses and receiving certificates from the Center for Continuing Education of the respective IITs/IISc.

The courses are free. All content can be viewed for free, all assignments can be submitted and evaluated for free. To participate in the final exam alone there is a nominal fee of Rs 1100, in order to cover the costs of invigilation, center expenses, certificate printing etc. While the course content and exam papers as well as evaluation is prepared and carried out by the professors, the exam is deployed in nearly 110 centers across the country, using the assistance of an exam partner.

One of the standout features of the NPTEL process is that it enables students from even remote corners of the country as well as faculty from the IITs and IISc, access each other - something that would most likely not be possible otherwise.

Since the NPTEL process compares students from across the country in a unified manner, it enables identification of excellent students from various corners of the country. Many of these toppers are excited to do a short internship with the faculty and several faculty have also expressed interest to enable the same.

It is proposed to support such students to carry out an internship with IIT/IISc professors, such that the amount will cover the cost of travel, accommodation, and a nominal stipend for the toppers of NPTEL courses. Hence the following process and expenditure is proposed:

1. The internships will be in May-July 2018 (summer internship) and Nov-Dec 2018 (winter internship).
2. Accommodation will be arranged in the hostels of the corresponding IIT where the course instructor hails from.

3. Concurrence will first be sought from the faculty members to accept students as interns and also get confirmation on the number of students they can take, the duration, which year the candidate needs to be in (UG/PG) and any other pre-requisites in terms of courses taken.
4. After the final exams are complete and toppers are identified, NPTEL office will match the toppers for these courses and write to the candidates asking if they would like to avail this.
5. Based on their response, we will finalize the list of students.
6. An NPTEL internship certificate will be given to them when they complete.
7. We will also publish this data on the website.

The estimated expenses will be as follows:

Travel (onward and return): Rs. 3,000/= (reimbursement on actuals)

Accommodation (Hostel): Rs. 3,000/= per week

Stipend: Rs. 2,000/= per week

Duration of internship	Travel (INR)	Stay+stipend (INR)	Total (INR)
1 week	3000.00	5000.00	8000.00
2 weeks	3000.00	10000.00	13000.00
4 weeks	3000.00	20000.00	23000.00

We propose the following number of students for the months of May-July 2018 and Nov-Dec 2018.

Duration of internship	Number of students (May-July 2018)	Number of students (Nov-Dec 2018)	Expense per candidate (INR)	Total expenditure (INR)
1 week	50	50	8000.00	8 lakhs
2 weeks	50	50	13000.00	13 lakhs
4 weeks	50	50	23000.00	23 lakhs

**Total: Rs 44 lakhs**

#### 4. Industry organized workshops

We also wish to propose harnessing the expertise of the industry personnel and facilitating interactions between them and the NPTEL learners, and in the process, expose the learners to current trends and technologies from the industry's perspective. The process will be as follows:

1. A company will be identified who wishes to provide resources for a half day or full day workshop.

2. The following will be the parameters for the workshop:
  - a. The date
  - b. site of conduct of workshop
  - c. half day or full day workshop
  - d. nature of the workshop (whether it will be a technical hands on or a demonstration/lecture series or a soft skills workshop)
  - e. Number of participants
  - f. Pre-requisites for attending the workshop
3. Once the above are finalized, the candidates will be contacted and asked to register.
4. Candidates will make their own arrangements to travel and reach the venue.
5. Arrangements from NPTEL's side for workshop:
  - a. Booking a hall with appropriate capacity
  - b. Arranging for recording/streaming facility if required
  - c. Refreshment for tea break and lunch
6. Logistics for the speakers if requested for will also be done by NPTEL.

NPTEL also proposes to invite companies who wish to hire from the pool of NPTEL learners and organize the coming together of the two stake holders at mutually convenient venues. Expenses for this can also be considered under this same head.

Estimated budget for conduct of one workshop:

Number of participants	Expense per candidate (snacks and lunch)	Hall hiring charge	Miscellaneous (certificates/speaker logistics/memento,etc )	Total
50	Rs 300	Rs 3000.00	Rs 10000.00	Rs 28000.00
100	Rs 300	Rs 5000.00	Rs 10000.00	Rs 45000.00
200	Rs 300	Rs 10000.00	Rs 10000.00	Rs 80000.00
500	Rs 300	Rs 10000.00	Rs 10000.00	Rs 170000.00

Budget for workshops proposed in the year 2018-2019:

Number of participants	Number of workshops	Expense/workshop	
50	10	Rs 28000.00	Rs 2.8 lakhs
100	10	Rs 45000.00	Rs 4.5 lakhs
200	5	Rs 80000.00	Rs 4 lakhs
500	3	Rs 170000.00	Rs 5.1 lakhs
TOTAL	28		Rs 16.4 lakhs

**Total budget proposed by NPTEL:**

Admin overheads = Rs 20 lakhs

Total budget proposed:

Rs 220 lakhs + Rs 33 lakhs + Rs 44 lakhs + Rs 16.4 lakhs + Rs 20 lakhs = Rs 333.4 lakhs

In case you are interested and wish to know more: please contact



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