# DIGITAL INITIATIVES IN HIGHER EDUCATION

## NMEICT

National Mission on Education Through ICT

सत्यमेव जयते

**MHRD** | Government of India
**Ministry of Human Resource Development**

सत्यमेव जयते

**Ministry of Human Resource Development**
Department of Higher Education
Government of India

## Foreword

The quality and access to higher education has been a subject of intense concern to all of us. The advancements in digital technologies are transforming the way educational resources are being created, disseminated and accessed across the world. Use of digital technologies in all aspects of higher education has also received a major push in India. This in turn helps the quality improvement & accessibility of Higher Education to large part of students as well as up-skilling of the teachers across the country. Digital technologies have also greatly impacted the management and governance of the institutions as well as the accreditation and ranking of the Higher Education Institutions (HEIs).

Department of Higher Education, Ministry of Human Resource Development, has undertaken many initiatives for exploiting the digital technologies in improving the quality & accessibility in Higher Education as well as better tools for accreditation and grading of educational institutions.

Finally, many new frontline technologies like Artificial Intelligence, Machine Learning, Autonomous Systems, Cognitive Systems, etc are emerging and these are going to give many new opportunities for all of us to further improve the quality & accessibility in higher education.

I sincerely believe that this Handbook on " Digital Initiatives in Higher Education" will help you in further disseminating and getting the benefits from these initiatives to improve the learning outcomes of not only the students but also the lifelong learners.

**R. Subrahmanyam, IAS**
Secretary

**Ministry of Human Resource Development**
Department of Higher Education
Government of India

## Preface

The use of Information and Communication technology (ICT) has great potential in improving the quality of education imparted and widening the access of education throughout the country. For this purpose, the Department of Higher Education, Ministry of Human Resource Development (MHRD) has undertaken many initiatives under 'National Mission on Education through Information and Communication Technology' (NMEICT) project. 'Study Webs of Active-Learning for Young Aspiring Minds' (SWAYAM), SWAYAM Prabha, National Digital Library, e-Yantra and many other initiatives are helping the students as well as teachers across India in their up-skilling as well providing them quality educational resources. In addition, these efforts will be leading to a great repository of knowledge, tools and enablers that can not only impart quality education and accessibility but also excite creativity and innovation in a billion minds, particularly young students, catalyzing them to attain their true potential in building the nation.

Technology is in a position to find a fine balance between the two competing demands on resources, ie. Equal Access and Excellence. Inspite of the potential for technology to reach out to the untouched areas and the positive ecosystem ( millennial population, improved connectivity ), many regions / areas remain untouched with these digital initiatives.

To reach out to Higher Educational Institutions (HEIs) in such regions and states which may not be much aware of these digital initiatives, an attempt is being made in the form of a Handbook on Digital Initiatives in Higher Education. This will provide all critical details about the various Projects and will help the Higher Educational Institutions to exploit these projects to improve the learning outcomes.

Any feedback for improving this handbook will be always welcome.

**Dr. N Saravana Kumar, IAS**
Joint Secretary (ICC & TEL)

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## NATIONAL MISSION ON EDUCATION THROUGH ICT (NMEICT)

To improve the learning outcomes and improve the access and quality of learning, Technology offers solutions, in the form of digital education. National Mission on Education through ICT (NMEICT) is a major initiative of Ministry of Human Resource Development (MHRD) to infuse digital education solutions to improve the access to quality contents and also to improve the learning outcomes.

Even though various initiatives have been taken up under NMEICT programme, the major currently ongoing initiatives like SWAYAM, SWAYAM Prabha, National Digital Library (NDL), e-Yantra, FOSSE, Spoken Tutorials, and Virtual Labs are being implemented by various higher educational institutions.

## SWAYAM
## www.swayam.gov.in

1. The 'Study Webs of Active Learning for Young Aspiring Minds' (SWAYAM) is India's own MOOCs platform offering free online courses on almost all the disciplines. A programme initiated by Government of India, designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality has the objective to ensure access to the best teaching learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for learners who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy. This is done through an indigenously developed IT/ Cloud platform that facilitates hosting of all the courses, taught in classrooms from 9th standard till Post-Graduation to be accessed by Anyone, Anywhere, Anytime. All the courses are interactive, prepared by more than 1000 reputed teachers in the country and are available free of cost.

2. The courses hosted on SWAYAM are in four quadrants - (i) video lecture, (ii) specially prepared reading material that can be downloaded/printed (iii) self-assessment tests through tests and quizzes and (iv) online discussion forum for clearing the doubts. The learning experience has been enriched by using audio-video and multimedia and state of the art pedagogy/ technology. Nine National Coordinators are involved in production and running of courses. University Grants Commission (UGC) for PostGraduation Non-Technical Education, Consortium for Educational Communication (CEC) for Under-Graduate Non-Technical Education, National Project for Technology Enabled Learning (NPTEL) for Engineering, National Council of Educational Research and Training (NCERT) for school education, National Institute of Open Schooling (NIOS) for out of School Education, Indira Gandhi National Open University (IGNOU) for Diploma & Certificates courses through distance learning, National Institute of Technical Teachers Training and Research (NITTTR) for teachers training, Indian Institute of Management (IIM) Bangalore for Management Studies and All India Council of Technical Education (AICTE) for Annual Refresher Programme in Teaching (ARPIT) courses and courses from foreign universities.

3. SWAYAM was formally launched on 09.07.2017 by the Hon'ble President of India. Till date, about 2200 Courses have been offered through SWAYAM in which about 500 courses are on offer for January 2019 semester. More than 50 Lakhs students have registered on SWAYAM platform and there are more than 1 crore enrollments in various courses. The framework for transfer of credits (upto a maximum of 20%) has been put in place by AICTE and UGC by bringing out necessary regulations. With this, the students studying in any Institution can transfer the credits earned through the SWAYAM Courses into their academic records. So far, about 122 Institutions/Universities have recognized the SWAYAM Courses for credit transfer and many others are in the process of doing the same.

Under a new initiative Annual Refresher Programme in Teaching (ARPIT), the Faculty Development Programme (FDP) of higher education faculty is also being offered through MOOCs under SWAYAM platform, for training maximum number of faculty and also to expose the teachers to technology enabled learning. Fifteen lakh untrained school teachers are also getting trained under D.El.Ed. programme of NIOS delivered through SWAYAM.

4. The Online Courses delivered on SWAYAM, are expected to reduce the digital divide by providing access to best content to all. By integrating SWAYAM MOOCs with conventional education, the learning outcomes of students are expected to improve in the coming days and can prove to be a game changer in the education sector.

**Action desired from the University / Institute / College:**

1. Every Institute should coordinate with UGC/NPTEL for starting "LOCAL CHAPTER (Digital Learning Monitoring Centre), to publicize and help the faculty and students. This will provide a local platform for discussion amongst students and faculty about enrolling of students, facilitating credit transfer, suggesting new courses, exam registration and helping students during the delivery of courses. Any clarification or coordination as required would be done by UGC/NPTEL.
2. Each University is requested to get the SWAYAM courses approved through their Academic Councils/Senate, for two following things on every semester basis

» Motivating students to register for courses in SWAYAM - to access to quality contents, which will help in ensuring a blended learning mode; and

» Allow CREDIT TRANSFER upto 20 % to those students who are willing to opt for learning the selected SWAYAM courses. (UGC and AICTE have issued regulations to facilitate credit transfer upto 20 %)

» Institute can decide to accept the SWAYAM course for extracurricular/ extra academic courses.

3. Extensive Publicity and orientation about the SWAYAM courses and benefits to the students by workshops and seminars, through the Local Chapters.

**Action by Faculty / Teachers:**

1. The faculty can facilitate effective teaching - both On Campus & Online. The role of faculty would change into Facilitator role, by acting as a mentor to assist the students in online learning.
2. SWAYAM course material may be used for Blended Learning or Flip Classes - which is a mix of classroom & online learning.
3. Students should be motivated and supported with handholding, for registering in SWAYAM portal and enrolment for various SWAYAM courses.
4. Talented Teachers across the Universities to be encouraged to produce and offer courses for SWAYAM. They need to approach the concerned National Coordinator under SWAYAM.
5. Funding support for creating & running MOOCs courses - 13.5 Lakhs for creation of one MOOCs course and Rs. 1.2 Lakh for running of one course.

**SWAYAM MOOCs Guidelines & Framework:**

1. Credit Transfer facility up to 20%

enabled by UGC/ AICTE- 'Credit Framework for online learning courses through SWAYAM Regulation 2016'. (ANNEXURE-I & II)

2. Amendment / Addition MOOCs Guidelines on 1st June, 2017 - standardizing the content delivery and for systematic development of the online Courses for 'Regulation 2016' (ANNEXURE-III)
3. Financial Norms for the Development of MOOCs for SWAYAM (ANNEXURE-IV)
4. Under Career Advancement Scheme (CAS) of UGC - creation of MOOCs or training through MOOCs is one of the eligibility criteria for promotion. (ANNEXURE-V)
5. UGC approved Annual Refresher Programme In Teaching (ARPIT) courses delivered on SWAYAM equivalent to one Refresher course for the purpose of Career Advance-ment. (ANNEXURE-VI (i)& (ii))
6. Contact details of National Coordinators and Popular Courses (ANNEXURE-VII)

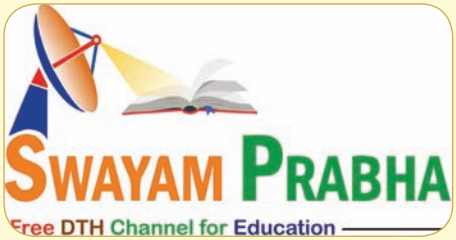
**Contact : Swayam Helpline (18001219025)**

**Email : support@swayam.gov.in**

**MHRD : Shri Harshvardhan Mathpal, Consultant**

**Email : harsha.jc@nmeict.ac.in**

## SWAYAM PRABHA
## www.swayamprabha.gov.in




1. SWAYAM PRABHA is an initiative to provide 32 high quality educational channels through DTH (Direct to Home) across the length and breadth of the country on 24X7 basis. This would enable to deliver e-education in a most cost effective & inclusive manner. The Department of Space has allotted two GSAT-15 transponders for the same. Hon'ble President of India has launched the SWAYAM Prabha on 9th July, 2017. The subscribers of free DTH service of Doordarshan (Free dish) and Dish TV (Zee) would be able to view these Educational channels using the same Set Top Box and TV. No additional investment would be required. These channels are also available on Jio mobile TV app. Other service providers are also considering the Ministry's proposal to provide free access. The contents are prepared by different MHRD agencies like CEC, IGNOU, IITs, NIOS and NCERT.

2. The DTH Channels cover the following:

- Higher Education: Curriculum based course contents at postgraduate and undergraduate level covering diverse disciplines such as arts, science, commerce, performing arts, social sciences and humanities, engineering, technology, law, medicine, agriculture, etc. All courses would be certification ready in their detailed offering through SWAYAM, the platform being developed for offering MOOCs courses.
- IIT PAL: To assist the student in the classes 11 and 12 aspiring to join IITs by encouraging scientific thinking and conceptual understanding critical to answer the 'tough' questions of JEE Advanced. This initiative is lead by IIT Delhi. The four channels are for Physics, Chemistry, Mathematics and Biology.
- School education (9-12 levels): Modules for teacher's training as well as teaching and learning aids for children of India to help them understand the subjects better and also help them in preparing for competitive examinations for admissions to professional degree programmes.
- Curriculum based courses that can meet the needs of lifelong learners of Indian citizens in India and abroad.
- Every day, there will be new content for at least four hours which would be repeated five more times in a day, allowing the student to choose the time of his convenience.
- SWAYAM PRABHA has been integrated on UMANG App also.

**Action desired from the University / Institute / College**

1. Each Institute should install DTH (Direct to Home) facility and TV, for viewing SwayamPrabha channels. All the 32 channels are freely available on DD Free Dish, Dish TV (Zee TV) and Jio Mobile App.
2. Depending on the Schedule of various courses / programmes, students can be motivated or gathered to watch the quality contents being provided through SwayamPrabha channels.
3. This would ensure access to quality educational contents to students in institutes located in remote areas, where internet connectivity is still not satisfactory.

**Contact : +91-7923268347 (Available on Monday to Friday from 9:30 AM to 6:00 PM)**

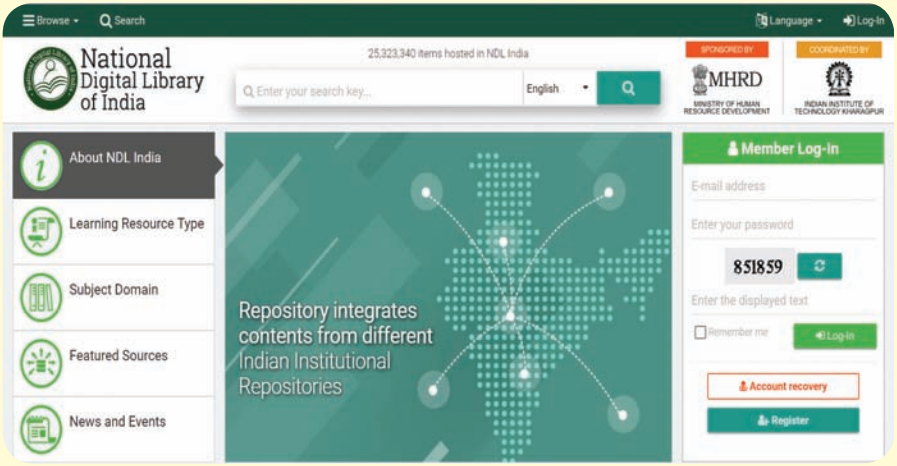
**Email : swayamprabha@inflibnet.ac.in**

**IIT M : Prof. Mangla Sunder**
**Email : mangal@iitm.ac.in**

**MHRD : Shri Amit Sharma, Consultant**
**Email : amit.co@nmeict.ac.in**

## NATIONAL DIGITAL LIBRARY (NDL)
## www.ndl.gov.in

- The National Digital Library of India (NDL) project has been entrusted to IIT Kharagpur to develop the overall framework of a facility that can provide a single window access to learners for e-contents/resources. The vision is to build NDL as a National Knowledge Asset that should become the key driving force for education, research, innovation and technology economy in India. NDL is available at https://www.ndl.gov.in. It is also available as Mobile App (Android and iOS) and on UMANG Platform. Anybody can register in NDL at no cost. Currently, NDL has about 200 lakh of content items and about 45 lakh of registered users.




- NDL integrates the existing digitized and digital contents across educational and cultural institutions / bodies, publishers, etc. to provide a single window access to different groups of users ranging across the entire population. NDL fetches metadata ("data that provides information about other data") of the contents and store and index these metadata in its servers so that all the e-contents can be searched and accessed in the fulltext by users through a single window. NDL does not store the actual (fulltext) contents in its servers; instead it gives to users links of respective content hosting sites as part of search results. Users access contents from respective content hosting sites by clicking these links.

**Participant Institutions:**

All Technical as well Non-Technical Institutions, Publishers, Open Educational Resource Portals

**Action desired from the University / Institute / College:**

(a) Dissemination of information about this facility to students and faculty and motivating them to use the e-resources available.

(b) Availability of Internet Connectivity: No special hardware or accessories are required to access NDL. NDL can be accessed from devices like PC, Laptop, Mobile devices supporting any web browser. However you will need internet connectivity to access NDL.

**(3) Individual Membership:**

Once you have typed the URL (https://www.ndl.gov.in) of NDL and land on the Landing page of NDL, you will find a window on the right hand side saying 'Member Log-In'. Click on the 'Register' button whereby a Registration form will open up. Fill up all the details on the form and submit. You will soon get a validation link in your mailbox. Click the link and validate and then you can start using NDL. From next time onwards, please use the Log-In button on the Home page for accessing NDL.

**(4) Bulk Registration for Institutions:**

A person from your institute, called Institutional Nodal Person (INP), can take the responsibility of getting all the persons of the institute registered in NDL. (S)he can get this done through the following steps:

» List all first name, last name and email id of your users (students, faculty members, staff) in an excel file (in one row for each user) and send the file to ndlsupport@iitkgp.ac.in or to rajendra.singh1310@gmail.com with a request to get these users registered

» NDL person will upload this excel in NDL system

» Each person (user) will soon receive his / her respective login credentials (user id and a system generated password) in his / her e-mail id. A person's NDL account will be activated upon his/her first login. During this first login user will need to modify the system generated password and may all also fill his/her profile. S(he) can then start using NDL.

(5) NDL facilitates the uploading of inhouse resources produced in your Institute by the faculty members, staff, and students into the national repository; Meta data needs to be shared.

**Contact : National Digital Library of India Project, Central Library, Indian Institute of Technology Kharagpur, Kharagpur, India - 721302,**

**Email : ndl-support@iitkgp.ac.in**

**Phone : +91-3222-282435**

**PI/Co-PI : Prof. Partha Partim Das,**

**Email : ppd@cse.iitkgp.ernet.in**

**MHRD : Shri Praveen Rai, Consultant**

**Email : praveen.jc@nmeict.ac.in**

## e-YANTRA
## www.e-yantra.org

- e-Yantra is a project entrusted to IIT Bombay for enabling effective education across engineering colleges in India on embedded systems and Robotics. The training for teachers and students is imparted through workshops where participants are taught basics of embedded systems and programming. Engagement of teachers and students in handson experiments with robots by way of competition event is another innovative method of problem solving with out of box solutions. e-Yantra also helps colleges to setup Robotics labs/ clubs to make it a part of their routine training curriculum. More than 275 colleges across India have benefited with this initiative. All the projects and code are available on the e-Yantra website www.e-yantra.org as open source content.

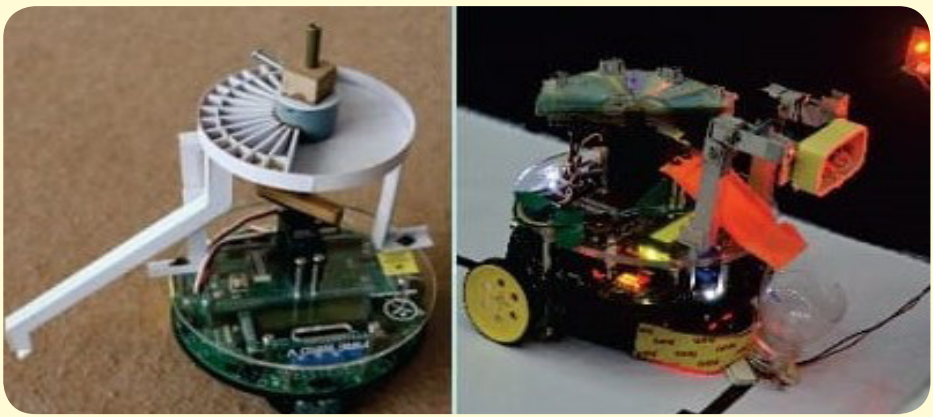
Robotics & Autonomous Systems.

**Participant Institutions:**

All Technical as well as Science Colleges and Polytechnics

**Action desired from the University / Institute / College:**

1. Dissemination of information about this facility to students and faculty.
2. e-Yantra Lab Setup Initiative (eLSI) is a college level program under which colleges are helped to setup robotics labs. It addresses infrastructure creation and teacher training to create an ecosystem at the colleges to impart effective engineering education using "Project Beased Learning." eLSI provides: (i) guidance and support for establishing robotics



- This unique initiative aims to create the next generation of embedded systems engineers with a practical outlook to help provide practical solutions to some of the real world problems using

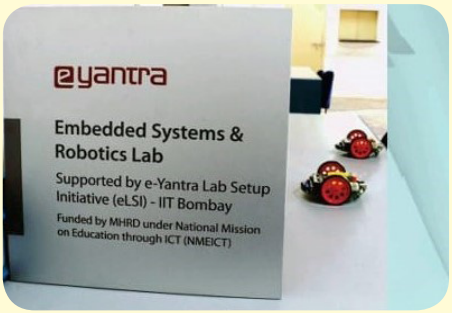
labs - three robotic kits are given to each participating college on lab setup and (ii) Two phased training for teachers. An Institution registers with a mail to "support@e-yantra.org" with

a request to set up an e-Yantra Lab. A college has to commit Rs 2 lakhs towards infrastructure (under e-Yantra guidance) and commit 4 teachers to be trained from different disciplines (such as CS, EE, Civil, Mech. etc.) following which the e-Yantra process takes over. Once equipment is purchased and teachers are trained, the lab is inaugurated online and plugged into the e-Yantra eco-system. The teacher training comprises a 2-day onsite workshop close to the college. After this, there is an online 2-3 month Task Based training (TBT) based on a robot that the teachers are given by the e-Yantra project. There are other benefits to having a lab such as extended participation in the e-Yantra Robotics Competition and participation in e-Yantra Ideas Competition that trains students in innovation. There is an annual e-Yantra Symposium at IIT Bombay where teachers from the labs congregate at IIT Bombay to learn of latest best practices and experiences in other labs.

3. e-Yantra Robotics Competition (eYRC) is a unique annual competition for undergraduate students in science and colleges. Selected teams are given a robotic kit complete with accessories and video tutorials to help them learn basic concepts in embedded systems and microcontroller programming. Abstractions of real world problems are assigned as "themes" which are then implemented by the teams using the robotic kits. The winners of this competition are eligible for summer internship in IIT Bombay. Students are to be encouraged to participate.

   The following Youtube link gives a brief idea of e-Yantra. "e-Yantra – Competition with a difference" https://youtu.be/izDTFhVExpY

4. e-Yantra Ideas Competition (eYIC). e-Yantra labs volunteer upto 4 proposals for solving local problems through automation. Shortlisted proposals are given a goahead to build their solutions under our mentorship using the lab infrastructure developed under e-Yantra. Innovations are from a variety of domains including healthcare, agriculture, smart cities, etc. See an overview of the e-Yantra Ideas Competition here: https://www.youtube.com/watch?v=WB-qftXeQVg




**Contact : ERTS Lab**
**1st Floor, KReSIT Building, IIT Bombay, Powai, Mumbai - 400076, Maharashtra**

**Email : support@e-yantra.org**

**PI/Co-PI : Prof Kavi Arya**

**Email : kavi@cse.iitb.ac.in**

**MHRD : Shri Praveen Rai, Consultant**

**Email : praveen.jc@nmeict.ac.in**

## VIRTUAL LAB
## www.vlab.co.in

This initiative provides remote access to Labs in various disciplines of Science and Engineering. Students can also strengthen their concepts by performing Virtual labs experiments at a place and time of their choice, outside lab hours. These Virtual Labs would cater to the students at the undergraduate level, postgraduate level as well as to research scholars. There are 12- participating institutes; IIT Delhi, IIT Bombay, IIT Madras, IIT Guwahati, IIT Kharagpur, IIT Kanpur, IIT Roorkee, NITK Surathkal, COE Pune, Amrita Vishwa Vidyapeetham, and Dayalbagh Educational Institute Agra. IIT Delhi is the Coordinating Institute.

**Participant Institutions:**

All Technical Institutions as well as Science Colleges

**Action desired from the University / Institute / College:**

1. Dissemination of information about this facility to students and faculty.
2. Good Internet Connectivity: Virtual Labs do not require any additional infrastructural setup for conducting experiments at user premises. The simulations based experiments can be accesses remotely via internet
3. There is no financial liability of any party for using Virtual Labs. It is free to use.
4. Explore to become Nodal Centre for conducting training & Workshops on Virtual labs: The Institute should be a Central, State University or Institute / college approved by AICTE/UGC. The Institute should provide a designated / common lab space having 30 PCs or more with minimum 1 Mbps internet broadband connection and a multimedia projector. A Nodal Center Coordinator for the Virtual labs should be nominated by the Head of the Institute (Director/Principal).

**Contact : WIRELESS RESEARCH LAB Room No - 206/IIA, Bharti School of Telecom, IIT Delhi, HauzKhas, New Delhi-110016**

**Email : support@vlab.co.in**

**Phone : 011-26582050**

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**MHRD : Shri Praveen Rai, Consultant**

**Email : praveen.jc@nmeict.ac.in**

## FOSSEE
## www.fossee.in

The FOSSEE (Free/Libre and Open Source Software in Education) Project, promotes the use of FLOSS (Free/Libre and Open Source Software) tools to improve the quality of education in our country. It aims to reduce the dependency on proprietary software in educational institutions. It is being implemented by IIT Bombay.

FOSSEE promotes the use of the state of the art FLOSS in teaching and research. Some of these tools are Scilab, Python, R, DWSIM, Open Modelica and Open FOAM. New FLOSS tools, such as eSim and upgrade existing tools are also developed. It also promotes open source hardware, such as Arduino. For more details please visit: https://fossee.in/. These tools are promoted by encouraging students and faculty to use them in education and research through the activities listed below:

**Textbook Companion** : Porting the solved examples from standard textbooks to one of the FLOSS supported by FOSSEE like Scilab, Python, Open Modelica and R.

**Lab Migration** : Migration of Labs in educational institutions to FLOSS only labs. Currently, FOSSEE supports Lab Migration under the following software: Scilab, eSim, OpenFOAM and DWSIM.

**Conferences and Workshops** : We conduct various conferences, seminars and remote workshops to introduce FLOSS to users.

**Niche software activities** : Toolbox development for Scilab, Flowsheeting with DWSIM, Case Study with Open FOAM, Circuit Simulation with eSim and Power System Simulation using Open Modelica and Open IPSL.

**Hardware activities** : Arduino, Open PLC using Atmel and Raspberry Pi, and PCB for eSim

**Massive blended training** : Connect with Remote Centres and help train several thousands of teachers on Moodle, Scilab, Python, R, etc.

**Participant Institutions** : All Technical and Science Colleges, and also colleges that do data analysis.

**Action desired from the University / Institute / College:**

1. Dissemination of information about this initiative to students and faculty.
2. The FOSSEE team invites educators/ researchers to partner and develop more such tools.

**Contact : The FOSSEE Team, CFD – Lab, Annex Building, Below HSS Dept., Opp. Metallurgical Dept., IIT Bombay, Powai, Mumbai – 400076, India**

**Email : info@fossee.in**

**Phone : (+91) 22 2576 4133**

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**Email : kannan@iitb.ac.in and Prof. Prabhu Ramachandran**

**MHRD : Shri Praveen Rai, Consultant**

**Email : praveen.jc@nmeict.ac.in**

## SPOKEN TUTORIAL
## www.spoken-tutorial.org

This project helps everyone learn various Free/Libre and Open Source Software all by oneself. The selfpaced, multilingual courses ensure that anybody with a computer and a desire for learning, can learn from any place, at any time and in a language of their choice. Internet is not required to use Spoken Tutorials. This project is being implemented by IIT Bombay.

» Even those students who are not fluent in English can learn from Spoken Tutorials through dubbing available in all 22 languages of the Schedule 8 of the Constitution, such as Hindi, Assamese, Bengali, Bodo, Gujarati, Kannada, Kashmiri, Malayalam, Manipuri, Marathi, Nepali, Oriya, Sanskrit, Punjabi, Tamil, Telugu, and Urdu.

» Even though one may listen to Spoken Tutorials dubbed in our languages, one would not lose the employment potential as all the videos are in English.

» One can self learn from Spoken Tutorials, as these are created for self learning, and also that Internet is not required to use it.

» One can, through Spoken Tutorials, learn (i) programming languages, such as C, C++, Java and Python (ii) OS software like Linux, Bash and Awk (iii) web development software like PHP/MySQL, Drupal and Joomla (iv) scientific and simulation software, such as Scilab, R, DWSIM, Open Modelica, Open FOAM, Osdag and eSim (v) office productivity software Libre Office (vi) graphic and animation software, such as Inkscape, GIMP, Blender, and Inkscape.

**Participant Institutions:**

Engineering, Polytechnic, Arts, Science, and Commerce, Colleges.

**Action desired from the University / Institute / College:**

1. Dissemination of information about this resource to students and faculty, encouraging them to use this, as AICTE/UGC approved MOOCs for ICT lab/practical courses/papers.
2. Disseminate the fact that institutions should register for annual membership with IIT Bombay, and have any number of students appear in any number of tests, and get free certificates when they pass online tests.
3. Disseminate the fact that the Spoken Tutorial team provides Maternal, infant and young child nutrition, thereby preventing Malnutrition.

**Contact : Spoken Tutorial Project, TCS Lab, Behind CAD Centre, IIT Bombay, Powai, Mumbai – 400076, Landline: 022 2576 4229.**

**Email : contact@spoken-tutorial.org**

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**Email : kannan@iitb.ac.in**

**MHRD : Shri Praveen Rai, Consultant**

**Email : praveen.jc@nmeict.ac.in**

## NATIONAL ACADEMIC DEPOSITORY
## www.nad.gov.in

National Academic Depository (NAD) is an online store house of academic awards (degrees, diplomas, certificates, mark sheets etc.) lodged by the academic institutions / school boards / eligibility assessment bodies in a digital format. NAD is on 24X7 online mode for making available academic awards and help in validating their authenticity, their safe storage and easy retrieval.

National Academic Depository comprises of two interoperable digital depositories viz. CDSL Ventures Limited (CVL) and NSDL Database Management Limited (NDML). The University Grants Commission (UGC) is the authorized implementing body of NAD. The details regarding NAD are available at www.nad.gov.in.

Students can now access their academic awards online from anywhere & at any time. Students can also authorize verification seeking entities to view & verify the academic certificates. NAD is permanent record of academic awards and there is no risk of losing, spoiling or damaging of academic awards. NAD is also an effective deterrence to fake and forged paper certificates.

**Participant Institutions:**

1. Central Educational Institutions comprising Central Universities, Central Higher Educational Institutions & institutions empowered by an Act of Parliament to grant degrees, Central Higher Educational Institutions awarding diplomas
2. State Universities and Deemed to be Universities
3. Institutions empowered by an act of State Legislature to grant degrees
4. Private Universities approved by University Grants Commission
5. Institutions approved by the Ministry of Skill Development & Entrepreneurship (MSDE) for participating in NAD.
6. Central Board of Secondary Education (CBSE);
7. Other School Boards
8. Central eligibility test conducting bodies i.e. UGC for National Eligibility Test (NET) and CBSE for Teacher Eligibility Test (TET).

**Stakeholders of NAD:**

1. Academic Institutions/School Boards/ Eligibility assessment bodies
2. Students and other award holders
3. Verification seeking entities i.e. banks, employer companies (domestic and overseas), Government entities, academic Institutions / Universities / Boards / Eligibility assessment bodies (domestic and overseas) etc.

**Action desired from the University / Institute / College:**

*Roles & Responsibilities of Academic Institutions (AIs)-*

The AIs shall:

1. Enter into a Service Level Agreement (SLA) with either of the two depositories to join NAD.

2. Provide certificate templates, data masters etc. to the depositories
3. Provide data of academic awards for lodging the academic awards on NAD
4. Identify staff to be trained in NAD system
5. Lodge Awards – Upload awards and seed with NAD ID
6. Verify & digitally sign data in prescribed formats – maker / checker

*Roles & Responsibilities of Students-*

Students shall:

1. Register on either of the depositories by providing basic registration details and obtain a unique NAD ID.
2. Submit NAD ID to AI for verification and seeding into award data
3. View & access all awards online at any time in a single account
4. Student can:

a) View/download digitally signed awards

b) Request printed copy of the certificate

c) Approve/reject request of any verification seeking entity for access to his/her certificate

d) Send copy of certificate to any verification seeking entity

**NAD Statistics- as on 22.03.2019**

- Total Academic Institutions onboard on NAD- 972
- Total number of Students registered on NAD- 4,97,670
- Total number of academic awards Lodged on NAD (including degrees, diplomas, marksheets etc.)- 2,99,20,140
- Number of verification seeking entities registered on NAD-182

**Contact : National Academic Depository Cell (NAD Cell), University Grants Commission**

**Old CRS Building, Jawaharlal Nehru University, Aruna Asaf Ali Marg, New Delhi-110067, Tele-011 26741315, 011 26742016,**

**Email : nad.ugc@gmail.com**

## PLAGIARISM DETECTION SOFTWARE

MHRD intends to provide plagiarism detection software to all the Universities to facilitate easy detection of plagiarised content in the academic and research works including articles in journals and conference proceedings, chapters in books, theses, research reports, assignments, project works, lecture notes, e-text / e-content for MOOCs and LMS, etc. The plagiarism detection software / tool should compare submitted documents with database of document maintained by the producers of plagiarism detection software consisting of subscription-based resources and open access resources from primary publishers and aggregators, current and archived Internet web pages and web documents, student paper database, etc.

**Participant Institutions:**

All Universities (in the first phase)

**Action desired from the University / Institute / College:**

Dissemination of information about this facility to students and faculty.

**Contact : Prof J P Singh Joorel, Director, INFLIBNET**

**Email : director@inflibnet.ac.in**

**MHRD : Shri Praveen Rai, Consultant**

**Email : praveen.jc@nmeict.ac.in**

## ANNUAL REFRESHER PROGRAMME IN TEACHING (ARPIT)
## www.swayam.gov.in

The Ministry of Human Resource Development has officially launched Online Annual Refresher Programme in Teaching (ARPIT) on 13th November, 2018, a major and unique initiative of online professional development of 15 lakh higher education faculty using the MOOCs platform SWAYAM. For implementing ARPIT, 75 discipline specific National Resource Centres (NRCs) have been identified in the first phase, which are tasked to prepare online training material with focus on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum. ARPIT will be an ongoing exercise so that every year. Identification of discipline specific NRCs for 2019 is ongoing. NRCs will continuously develop new refresher module in their earmarked discipline each year. The training materials will be uploaded and made available through SWAYAM. NRC will publish the list of the faculty who have been certified. The NRCs will revolutionize professional development of faculty by catering to massive numbers by leveraging ICT and online technology platform of SWAYAM.

There would be an End Term Proctored Examination, after completion of ARPIT Course, based on which the learners (teachers) would be certified.

UGC has notified the equivalence of ARPIT as a refresher course for Career Advancement Scheme (CAS) of faculty (DO Letter No. F.2-16/2002(PS)Pt.fI.II dated 3rd December, 2018). (Annexure-VI)

**Participant Institutions:**

All Public funded Educational Institutions such as Central Universities, IISc, IUCAA, IITs, IISERs, NITs, State Universities; UGC's Human Resource Development Centres (HRDCs), National Institutes for Technical Teachers Training (NITTTRs), IIITs, IGNOU etc.

**Action desired from the University / Institute / College:**

- Dissemination of information to Higher Education faculty about ARPIT initiative and UGC notification for equivalence of ARPIT as a refresher course for career advancement of faculty
- All faculty in Higher Educational Institutions to be encouraged to join ARPIT Courses on SWAYAM.

**Contact : Dr. Shakila T. Shamsu**
**OSD(NEP), Department of Higher Education, MHRD**
**shakilat.shamsu@nic.in**

**Technical Assistance : Swayam Helpline (18001219025)**

**Email : support@swayam.gov.in**

**MHRD : Vandana, Consultant**

**Email : vandana.indoria2@gmail.com**

## GENERAL OBSERVATIONS

1. Each Institute (University/College) should nominate a tech savvy faculty as Nodal Officer (TEL)-TEL refers to Technology Enabled Learning
2. Nodal Officer (TEL) should organise meeting of all faculty, to be chaired by Vice Chancellor/Principal to brief about the various digital initiatives possible to be implemented. This session should be used to enlighten the faculty about the benefits of digital initiatives, for the students.
3. Vice-Chancellor/Principal should motivate the faculty to accept the changes happening in the education sphere and embrace the digital initiatives.
4. Printed Pamphlets (consisting of various digital initiatives) should be distributed to all faculty. (MHRD will help in providing the soft copy of the same)
5. Faculty should be motivated to disseminate the information on digital initiatives to the students.
6. Faculty should be motivated to take up courses in SWAYAM and ARPIT, to understand firsthand the experience of digital education. This will make the faculty to motivate the students, with conviction
7. The Local Chapters (Digital Learning Monitoring Centres) should act as Digital Learning Clubs, in discussing and disseminating the information on various digital initiatives, motivating the students to register and get enrolled, facilitating credit transfer, suggesting new courses, exam registration and helping students during the delivery of courses.

**Annexure-I**

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

# भारत का राजपत्र
# The Gazette of India

असाधारण
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PART III—Section 4
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## विश्वविद्यालय अनुदान आयोग

## विश्वविद्यालय अनुदान आयोग ('स्वयं' के माध्यम से ऑनलाइन ज्ञान–अर्जन पाठ्यक्रमों हेतु क्रेडिट ढाँचा) विनियम, 2016

नई दिल्ली, 19 जुलाई, 2016

**मि0 सं0 1–100/2016/मूक्स(ई–कॉर्टेंट) 1. प्रस्तावना.—**

1.1 जबकि शिक्षा के प्रसार हेतु उच्चतर शिक्षा तक पहुंच को व्यापक बनाया जाना तथा प्राद्यौगिकी में हुई प्रगति का उपयोग कर तत्संबंधी लागत को कम करना है,

1.2 जबकि पारम्परिक एवं ऑनलाइन शिक्षा सहित, शिक्षा प्रदान करने के लिए वृहद् मुक्त ऑनलाइन पाठ्यक्रम (एमओओसी) एक व्यावहारिक मॉडल के रूप में उभरे हैं,

1.3 जबकि ऑनलाइन ज्ञान–अर्जन के भारतीय स्वरूप "स्वयं" (युवा एवं उच्चाकांशी बौद्धिकों के लिए सक्रिय ज्ञान–अर्जन की अध्ययन पद्धति) को ज्ञान–अर्जन के स्वदेशी प्लेटफॉर्म पर आरंभ किया जा रहा है।

1.4 जबकि ई–ज्ञान अर्जन की कहीं–भी, कभी–भी पद्धति तथा पारंपरिक और कक्षागत चॉक–एंड–टॉक अध्यापन पद्धति के बीच तालमेल बिठाने की आवश्यकता है ताकि एक अनुपम विषयवस्तु अंतरण प्रणाली को विकसित किया जा सके जो शिक्षार्थियों की आवश्यकताओं की पूर्ति कर सके तथा भौगोलिक सीमाओं से इतर ज्ञान का निर्बाध अंतरण सुनिश्चित कर सके।

1.5 जबकि एक ऐसी विनियामक प्रणाली स्थापित किए जाने की आवश्यकता है, जिससे ऑनलाइन ज्ञान–अर्जन तथा सामान्य कक्षागत ज्ञान–अर्जन के बीच निर्बाध संबध स्थापित किया जा सके।

अतः अब;

विश्वविद्यालय अनुदान आयोग, विश्वविद्यालय अनुदान आयोग अधिनियम, 1956 (1956 का तीसरा) की धारा 26 की उप–धारा(1) के खण्ड (च) और (छ) के अन्तर्गत प्रदत्त शक्तियों का प्रयोग करते हुए निम्नवत विनियम बनाता है, नामतः

**2. लघु शीर्ष, अनुप्रयोग एवं प्रवर्तन:**

2.1 इन विनियमों को **विश्वविद्यालय अनुदान आयोग ('स्वयं' के माध्यम से ऑनलाइन ज्ञान–अर्जन पाठ्यक्रमों हेतु क्रेडिट ढाँचा) विनियम, 2016** कहा जाएगा।

2.2 यह विनियम किसी केन्द्रीय अधिनियम, प्रान्तीय अधिनियम, अथवा किसी राज्य/संघशासित प्रदेश अधिनियम के अन्तर्गत स्थापित और निगमित सभी विश्वविद्यालयों तथा ऐसे विश्वविद्यालयों से मान्यताप्राप्त सभी संस्थानों तथा विश्वविद्यालय अनुदान आयोग अधिनियम, 1956 की धारा 3 के तहत ऐसे सभी समविश्वविद्यालय संस्थानों पर लागू होंगे।

2.3 यह विनियम ऐसे छात्रों के क्रेडिट अंतरण पर भी लागू होंगे जिन्होंने देश में किसी भी शैक्षिक संस्थान में एक नियमित/अंशकालिक छात्र के रूप नामांकन प्राप्त किया है।

2.4 यह विनियम शासकीय राजपत्र में प्रकाशन की तिथि से लागू होंगे।

**UNIVERSITY GRANTS COMMISSION**

**UGC (Credit Framework for Online Learning Courses through SWAYAM) Regulation, 2016.**

New Delhi, the 19th July, 2016

**No. F.1-100/2016(MOOCs/e-content) 1. Preamble.—**

1.1 Whereas Education has to widen the access to higher education and bring down its cost by using technological advances,

1.2 Whereas Massive Open Online Courses (MOOCs) have emerged as a viable model for imparting education, involving conventional and online education,

1.3 Whereas the Indian version of online learning is being launched on an indigenous platform of learning, named as SWAYAM (Study Web of Active Learning by Young and Aspiring Minds),

1.4 Whereas there is a need to create synergies between the salient features of anytime-anywhere format of e-Learning and the traditional classroom-based chalk and talk method to develop a unique content delivery mechanism, which is responsive to learners' needs and ensures seamless transfer of knowledge across geographical boundaries,

1.5 Whereas there is a need to put in place a regulatory mechanism that would allow seamless connect between the online learning and the regular class room learning,

Now therefore;

University Grants Commission in exercise of the powers conferred by clause (f) and (g) of sub-section (1) of Section 26 of the UGC Act 1956 (No. 3 of 1956), makes the following Regulations, namely;

**2. Short title, Application and Commencement:**

2.1 These Regulations shall be called the **UGC (Credit Framework for online learning courses through SWAYAM) Regulation 2016**.

2.2 These shall apply to all universities established or incorporated by or under a Central Act, a Provincial Act, or a State/Union Territory Act and all institutions recognized by or affiliated to such Universities and all institutions deemed to be universities under Section 3 of the UGC Act, 1956.

2.3 These shall further apply to the transfer of credits of such students who are enrolled as regular/part-time students in any educational institution in India.

2.4 These shall come into force from the date of their publication in the official Gazette.

**3. Definitions:**

3.1 'Academic Council' is the body empowered to take decisions regarding all academic matters in an institution including the decision regarding permitting online learning courses through SWAYAM.

3.2 'Course' shall mean a paper which is taught for at least one semester as a part of a subject

3.3 'Four quadrant approach': the four Quadrant approach means e-learning system that has the following components:

- Quadrant-I is e-Tutorial: that shall contain: Video and Audio Contentinan organised form, Animation, Simulations, Virtual Labs.
- Quadrant-II is e-Content: that shall contain: PDF/e-Books/illustration, video demonstrations, documents and Interactive simulations wherever required.
- Quadrant-III is Web Resources: that shall contain: Related Links, Open Content on Internet, Case Studies, An ecdotalin formation, Historical development of the subject, Articles.
- Quadrant-IV is Self-Assessment : that shall contain: MCQ, Problems, Quizzes, Assignments and solutions, Discussion forum topics and setting up the FAQ, Clarifications on general misconceptions.

3.4 'Host Institution' shall mean the institution duly recognised/approved by the regulating authority, to which the PI/SME offering the course belongs.

3.5 'Institution' shall mean any academic institution registered and functioning in India.

3.6 'MOOCs': Massive Open Online Courses (MOOCs) are such online courses which are developed as per the pedagogy stated herein; following the four quadrant approach and made available on the SWAYAM platform of Government of India.

3.7 'MOOCs Guidelines' shall mean guidelines on online learning issued by the MHRD vide its orders dated 11th March 2016 and subsequent addendums issued by the MHRD.

3.8 'National MOOCs Coordinator' (NMC) is a Nation level agency designated as such by the Government, for the purpose of coordinating the production of the online courses and for overseeing their quality in a designated sector of learning.

3.9 'Parent Institution' shall mean the institution/university/college where the student is enrolled as a regular/part-time student.

3.10 'Principal Investigator (PI)': The PI shall be a Subject Matter Expert (SME) belonging to a reputed educational institution, identified and entrusted with the task of developing and delivering MOOCs in a given area by the NMC.

3.11 'Sector' shall mean a particular level of learning such as high school, engineering/non-engineering diploma/degree/post-graduation.

3.12 'Subject' shall mean a discipline (eg Mathematics) taught in an educational institution consisting of specific courses, resulting in awarding of a certificate/diploma/degree.

3.13 'SWAYAM platform' is an IT platform developed and made functional by the Ministry of Human Resource Development of Government of India for the purpose of offering online learning courses on the MOOCs pattern.

**4. Online learning courses:**

4.1. The online learning courses shall be made available on the SWAYAM Platform by the PI identified by the National MOOCs Coordinator, through the Host Institution, as per the schedule finalised by him/her.

4.2. The SWAYAM shall notify to the Registrars of all the Institutions, on 1st June and 1st November every year, the list of the online learning Courses going to be offered in the forthcoming Semester.

4.3. All the Institutions shall, within 4 weeks from the date of notification by SWAYAM, consider through their Competent Authoritythe online learning courses being offered through the SWAYAM platform; and keeping in view their academic requirements,decide uponthe courses which it shall permit for credit transfer.

Provided that an Institution can only allow up to 20% of the total courses being offered in a particular program in a Semester through the online learning courses provided through SWAYAM platform.

4.4. While making this decision, the Academic Council may, *interalia*, consider allowing online courses of SWAYAM if:

a) There is non-availability of suitable teaching staff for running a course in the Institution or
b) The facilities for offering the elective papers (courses), sought for by the students are not on offer in the Institution, but are available on the SWAYAM platform.
c) The courses offered on SWAYAM would supplement the teaching-learning process in the Institution.

4.5 Every student,in the class of the institution,offering a particular paper (course) would be required to register for the MOOCs for that course/paper.

4.6 While allowing the online learning Courses offered by SWAYAM, it shall be ensured that the physical facilities like Laboratories, computer facilities, library etc, essential for pursuing the courses shall be made available free and in adequate measure by the parent institution.

4.7 The parent institution must designate a course coordinator/facilitator to guide the students throughout the course and to facilitate/conduct the Lab/Practical sessions/examinations.

**5. Evaluation and Certification of MOOCs**

5.1. The host institution and the PI shall be responsible for evaluating the students registered for the MOOCs course launched by him/her.

5.2. The evaluation should be based on predefined norms and parameters and shall be based on a comprehensive evaluation throughout the length and breadth of course based on specified instruments like discussions, forums,quizzes, assignments, sessional examinations and final examination.

5.3. Whereas an online examination would be the preferred mode, the PI shall be authorised to decide on the mode of conducting the final examination. This shall be announced in the overview of the Course at the time of offering the course.

5.4. In case, apen and paper final examination is to be conducted, the same shall be offered through any college/school volunteering to conduct the same. The decision in this respect will be of the PI and the host institution.

5.5. After conduct of the examination and completion of the evaluation, the PI through the host institution shall award marks/grade as per the evaluation scheme announced.

5.6. The final marks/grade shall be communicated to the students as well as the parent institution of the student, within 4 weeks from the date of completion of the final examination.

5.7. The parent Institution shall, incorporate the marks/grade obtained by the student, as communicated by the Host Institution through the PI of the SWAYAM course in the marks sheet of the student that counts for final award of the degree/diploma by the University with the proviso that the programs in which Lab/Practical Component is involved, the parent institution will evaluate the students for the practical/Lab component and accordingly incorporate these marks/grade in the overall marks/grade

5.8. A certificate regarding successful completion of the MOOCs course shall be signed by the PI and issued through the Host Institution and sent to the Parent Institution.

**6. Credit Mobility of MOOCs**

6.1. The parent Institution shall give the equivalent credit weightage to the students for the credits earned through online learning courses through SWAYAM platform in the credit plan of the program.

6.2. No university shall refuse any student for credit mobility for the courses earned through MOOCs.

**7. Amendment required in University Rules and Regulations for Seamless Integration of MOOCs**

7.1 Every Institution, shall within 4 weeks from the date of issue of these Regulations, shall decide through their Competent Authority, the amendments required in their Ordinances, Rules, Regulations etc to incorporate provisions of these Regulation.

**8. Transitory Measures**

8.1 The UGC shall notify a Standing committee to resolve any issues that may arise in the implementation of these regulations during the transition period of three years.

Prof. JASPAL S. SANDHU, Secy. UGC

[ADVT.-III/4/Exty./182 (113)]

**Annexure-II**

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
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## अखिल भारतीय तकनीकी शिक्षा परिषद्

### अधिसूचना

नई दिल्ली, 17 अगस्त, 2016

**अभातशिप (स्वयं के माध्यम से ऑनलाईन अधिगम पाठ्यक्रम के लिए क्रेडिट (ढांचा) (फ्रेमवर्क) विनियम, 2016**

**फा. सं. अभातशिप/पी और एपी/स्वयं/2016.—1. उद्देश्यिका :**

1.1 यतः शिक्षा को उच्चतर शिक्षा की पहुँच को व्यापक बनाना है और प्रौद्योगिकीय प्रगति का प्रयोग करते हुए इसकी लागत को कम करना है।

1.2 यतः व्यापक मुक्त ऑनलाईन पाठ्यक्रम (एमओओसी) पारंपरिक और ऑनलाईन शिक्षा का प्रयोग करते हुए शिक्षा प्रदान करने के लिए व्यवहार्य मॉडल के रूप में उभरा है।

1.3 यतः अधिगम के एक स्वदेशी प्लेटफार्म पर **स्वयं** (युवा और महत्वांकाक्षी मेधावियों द्वारा सक्रिय अधिगम का अध्ययन वेब) नामक ऑनलाईन अधिगम के भारतीय संस्करण का शुभारंभ किया जा रहा है।

1.4 यतः एक विशिष्ट विषय–वस्तु वितरण तंत्र विकसित करने के लिए, जो शिक्षार्थियों की आवश्यकताओं के प्रति उत्तरदायी हैं और समस्त भौगोलिक सीमाओं में ज्ञान का निर्बाध अंतरण सुनिश्चित करता है, ई–शिक्षण के कभी भी–कहीं भी (प्रारूप) तथा पारंपरिक कक्षा आधारित चॉक एवं व्याख्यान पद्धति की मुख्य विशेषताओं के बीच अभिक्रियाएं सृजित करने की आवश्यकता है।

1.5 यतः एक ऐसा विनियामक तंत्र स्थापित करने की आवश्यकता है, जो ऑनलाईन शिक्षण और नियमित कक्षा अधिगम के बीच निर्बाध संपर्क प्रदर्शित करे।

अतः, अब :

अखिल भारतीय तकनीकी शिक्षा परिषद् अखिल भारतीय तकनीकी शिक्षा परिषद् अधिनियम, 1987 (1987 का 52) की धारा 10 (ञ) और (पांच) के साथ पठित धारा 23 की उपधारा (आई) के अंतर्गत प्रदत्त की गई शक्तियों का प्रयोग करते हुए निम्नलिखित नियम बनाती है, अर्थात् (Sub-Section (i) of Section 23 read with Section 10 (i) and (v))

4097 GI/2016

**ALL INDIA COUNCIL FOR TECHNICAL EDUCATION**

**NOTIFICATION**

New Delhi, the 17th August, 2016

**AICTE (Credit Framework for online learning course through SWAYAM) Regulations, 2016**

**F. No. AICTE/P&AP/SWAYAM/2016.—1. Preamble:**

1.1 Whereas Education has to widen the access to higher education and bring down its cost by using technological advances.

1.2 Whereas Massive Open Online Course (MOOCs) have emerged as a viable model for imparting education, involving conventional and online education.

1.3 Whereas the Indian version of online learning is being launched on an indigenous platform of learning named as **SWAYAM** (Study Web of Active learning by Young and Aspiring Minds),

1.4 Whereas there is a need to create synergies between the salient features of any time any where format of e-Learning and traditional classroom based chalk and talk method to develop a unique content delivery mechanism which is responsive to learners' needs and ensures seamless transfer of knowledge across geographical boundaries.

1.5 Whereas there is a need to put in place a regulatory mechanism that would show seamless connect between the online learning and the regular class room learning.

Now, therefore:

All India Council for Technical Education in exercise of the powers conferred under sub-Section (i) of Section 23 read with Section 10 (i) and (v) of the All India Council for Technical Education Act, 1987 (52 of 1987), makes the following Regulations, namely:

**2. Short title Application and Commencement:**

2.1 These Regulations shall be called the AICTE (Credit Frame work for online learning courses through SWAYAM) Regulation 2016.

2.2 These shall apply to all Technical Institutions and Universities established or incorporated by or under a Central Act, a Provincial Act, or a State/Union Territory Act and all institutions recognized by or affiliated to such Universities and all intuitions deemed to be universities under Section 3 of the UGC Act 1956, imparting technical education.

2.3 These shall further apply to the transfer of credits of such students who are enrolled as regular/part time students in any educational institution in India.

These shall come into force from the date of their publication in the official Gazette.

**3. Definitions:**

3.1 'Academic Council' is the body empowered to take decisions regarding all academic matters in an institution including the decision regarding permitting online learning courses through SWAYAM.

3.2 'Course' shall mean a paper which is taught for at least one semester as a part of a subject.

3.3 Four quadrant approach: the four Quadrant approach means e-learning system that has the following components:

- **Quadrant-I** is e-Tutorial: that shall contain: Video and Audio Content in an organized form, Animation, Simulations, Virtual Labs.
- **Quadrant-II** is e-Content: that shall contain: PDF/e-Books/ illustration, video demonstrations, documents and Interactive simulations wherever required.
- **Quadrant-III** is Web Resources: that shall contain: Related Links, Open Content on internet, Case Studies, Anecdotal information, Historical development of the subject, Articles.
- **Quadrant-IV** is Self-Assessment: that shall contain: MCQ, Problems Quizzes, Assignments and solutions, Discussion forum topics and setting up the FAQ, Clarifications on general misconceptions.

3.4 'Host Institution' shall mean the institution duly recognized /approved by the regulating authority to which the PI/SME offering the course belongs.

3.5 'Institution' shall mean any academic institution registered and functioning in India.

3.6 'MOOCs': Massive Open Online Courses (MOOCs) are such online courses which are developed as per the pedagogy stated herein; following the four quadrant approach and made available on the SWAYAM platform of Government of India.

3.7 'MOOCs Guidelines' shall mean guidelines on online learning issued by the MHRD vide its orders dated 11th March, 2016 and subsequent addendums issued by the MHRD.

3.8 'National MOOCs Coordinator' (NMC) is a Nation level agency designated as such by the Government, for the purpose of coordinating the production of the online courses and for overseeing their quality in a designated sector of learning.

3.9 'Parent Institution' shall mean the institution/university/college where the student is enrolled as a regular /part-time student.

3.10 'Principal Investigator (PI)': The PI shall be a Subject Matter Expert (SME) belonging to a reputed educational institution, identified and entrusted with the task of developing and delivering MOOCs in a given area by the NMC.

3.11 'Sector' shall mean a particular level of learning such as high school engineering/non-engineering diploma/degree/post-graduation.

3.12 'Subject' shall mean a discipline/ branch (e.g. Civil Engineering, Architecture, Pharmacy etc.) taught in an educational institution consisting of specific courses, resulting in awarding of a certificate/diploma/degree.

3.13 'SWAYAM platform' is an IT platform developed and made functional by the Ministry of Human Resource Development of Government of India for the purpose of offering online learning courses on the MOOCs pattern.

**4. Online learning courses:**

4.1 The online learning courses shall be made available on the SWAYAM platform by the PI identified by the National MOOCs Coordinator through their Institution, as per the schedule finalized by him/her.

4.2 The SWAYAM shall notify to the Registrars of all the Institutions, on 1st June, 1st November every year, the list of the online learning courses going to be offered in the forthcoming Semester.

4.3 All the Institutions shall, within 4 weeks from the date of notification by SWAYAM, consider through their Competent Authority the online learning courses being offered through the SWAYAM platform; and keeping in view their academic requirements, decide upon the courses which it shall permit for credit transfer.

Provided that an Institution can only allow up to 20% of the total courses being offered in a particular program in a Semester through the online learning courses provided through SWAYAM platform.

4.4 While making this decision, the Academic Council may, interalia, consider allowing online courses of SWAYAM if:

a) There is non-availability of suitable teaching staff for running a course in the Institution or

b) The facilities for offering the elective papers (courses), sought for by the students are not on offer in the Institution, but are available on the SWAYAM platform.

c) The courses offered on SWAYAM would supplement the teaching-learning process in the Institution.

4.5 Every student, in the class of the institution, offering a particular paper (course) would be required to register for the MOOCs for that course/paper.

4.6 While allowing the online learning Courses offered by SWAYAM, it shall be ensured that the physical facilities like Laboratories, computer facilities, library etc. essential for pursuing the courses shall be made available free and in adequate measure by the parent institution.

4.7 The parent institution must designate a course coordinator/facilitator to guide the students throughout the course and to facilitate/conduct the Lab/Practical sessions/examinations in Approved Institutions.

**5. Evaluation and Certification of MOOCs**

5.1 The host institution and the PI shall be responsible for evaluating the students registered for the MOOCs course launched by him/her.

5.2 The evaluation should be based on predefined norms and parameter and shall be based on a comprehensive evaluation throughout the length and breadth of course based on specified instruments like discussions, forms, quizzes, assignments, sessional examinations and final examination.

5.3 Whereas an online examination would be the preferred mode, the PI shall be authorized to decide on the mode of conducting the final examination. This shall be announced in the overview of the Course at the time of offering the course.

5.4 In case, a pen and paper final examination is to be conducted, the same shall be offered through any college/school volunteering to conduct the same. The decision in this respect will be of the PI and the host institution.

5.5 After conduct of the examination and completion of the evaluation, the PI through the host institution shall award marks/grade as per the evaluation scheme announced.

5.6 The final marks/grade shall be communicated to the students as well the parent institution of the student, within 4 weeks from the date of completion of the final examination.

5.7 The parent institution shall, incorporate the marks/grade obtained by the student, as communicated by the Host Institution through the PI of the SWAYAM course in the marks sheet of the student that counts for final award of the degree/diploma by the University with the proviso that the programs in which Lab/Practical Component is involved, the parent institution will evaluate the students for the practical/Lab component and accordingly incorporate these marks/grade in the overall marks/grade.

5.8 A certificate regarding successful completion of the MOOCs course shall be signed by the PI and issued through the Host Institution and sent to the Parent Institution.

**6. Credit Mobility of MOOCs**

6.1 The parent institution shall give the equivalent credit weightage to the students for the credits earned through online learning courses through SWAYAM platform in the credit plan of the program.

6.2 No Institutions/University shall refuse any student for credit mobility for the courses earned through MOOCs.

**7. Amendment required in University Rules and Regulations for Seamless Integration of MOOCs**

7.1 Every Institution/University imparting Technical Education shall within 4 weeks from the date of issue of these Regulations, shall decide through their Competent Authority, the amendments required in their Ordinances, Rules, Regulations etc to incorporate provision of these Regulation.

**8. Transitory Measures**

8.1 The AICTE shall notify a Standing committee to resolve any issues that may arise in the implementation of these regulations during the transition period of three years.

Prof. ALOK PRAKASH MITTAL, Member Secy.

[ADVT.-III/4/Exty./217(162)]

**Annexure-III**

F.No. 8-1/2015-TEL(pt.)
Government of India
Ministry of Human Resource Development
Department of Higher Education
(TEL Division)
*****

426-C, Shastri Bhawan
New Delhi, dated 15.06.2018

**Subject: Amendment / Addition to the Guidelines for Developing Online Courses for SWAYAM – reg.**

The undersigned is directed to forward herewith the amendment/addition to the **Guidelines for developing Online Courses for SWAYAM** issued in June, 2017 vide letter dated 06.06.2017 for information & necessary action.

2. This issues with the approval of the competent authority.

(Malathi Narayanan)
Deputy Secretary (ICT)
Tel: 011-23385220

Encl: As above.

To,

1. Prof. K. Mangala Sunder, IIT Madras
2. Prof. Jagat Bhushan Nadda, Director, CEC, New Delhi
3. Prof. Uma Kanjilal, IGNOU, New Delhi
4. Prof. C. B. Sharma, Chairman, National Institute of Open Schooling (NIOS), New Delhi.
5. Prof. Amarendra Behera, NCERT, New Delhi
6. Prof. Pankaj Mittal, University Grants Commission (UGC), New Delhi
7. Prof. Jose P. D, IIM Bangalore
8. Prof. Sudhindra Nath Panda, Director, NITTTR Chennai
9. Dr. Manpreet Singh Manna, Director, AICTE, New Delhi

Copy for information to:-

1. PS to Secretary(HE), M/o HRD
2. PS to Joint Secretary (TEL), M/o HRD
3. Shri Parmeshwaran N., Advisor, NMEICT

F.No.8-1/2015-TEL
Government of India
Ministry of Human Resource Development
Department of Higher Education
(TEL Division)
****

Shastri Bhawan
New Delhi dated 15.06.2018

**Amendment / Addition to the Guidelines for developing Online Courses for SWAYAM**

This is an addition to the **"Guidelines for developing Online Courses for SWAYAM"** issued on 1st June, 2017 and will form part of the above guidelines.

**6.6 Guidelines for Course Coordinators to offer courses to the students from other Universities / Institutions**

The objective of this Amendment / Addition is to facilitate Course Coordinators to offer courses to the students from other Universities / Institutions. In this courses coordinator works as a remote teacher to the University /Institution which accepts this course of the teacher (Course Coordinator).

The scheme would work as follows:

a) The MOOC version of all such courses which are already being offered in the host institution, would not need further approval by the concerned University Academic Council (AC) before hosting.
b) However, if any new course, which is not already approved by the AC of the university, is proposed to be offered under SWAYAM, the same shall be duly approved by the AC specifying the credits available, the modalities for evaluation etc.
c) The Course Coordinator, thereupon, is authorised to run the course, and also conduct evaluation either directly, or through a third party, after which the candidates would be awarded marks.
d) In order to ensure that the evaluation is standardised, the National Coordinator, in consultation with stakeholder Universities, will prescribe the detailed guidelines for evaluation and setting of question paper.
e) The Course Coordinator, based on the detailed guidelines prescribed by the National Coordinator, will set the examination paper, run the exam and will convey the marks directly to the Controller of Examinations of the parent Institute of the learners.
f) The Controller of Examination of the Parent University (where the SWAYAM learner is enrolled) will accept the marks provided by the CC and would incorporate in the mark sheet of the student.

*****

# Guidelines for developing Online Courses for SWAYAM

## 1st June 2017

Government of India
Ministry of Human Resource Development
Department of Higher Education

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**BACKGROUND AND PERSPECTIVE**

Whereas, with a view to providing access to the best quality learning resources across the country, the project 'Study Webs of Active Learning for Young Aspiring Minds' (SWAYAM) has been started.

Whereas, SWAYAM provides an integrated platform and portal for online courses, using information and communication technology (ICT) covering High School till all higher education subjects and skill sector courses to ensure that every student benefits from learning material through ICT;

Whereas, SWAYAM is a:

1. One-stop web and mobile based interactive e-content for all courses from High School to University level.
2. High quality learning experience using multimedia on anytime, anywhere basis.
3. State of the art system that allows easy access, monitoring and certification.
4. Peer group interaction and discussion forum to clarify doubts
5. Hybrid model of delivery that adds to the quality of classroom teaching.

Whereas, SWAYAM involves development of Massive Open Online Courses (MOOCs) compliant e-content (video and text) and building a robust IT platform;

Whereas, in order to disseminate educational content to masses, the MHRD has launched 32 Direct-To-Home (DTH) educational TV channels called "SWAYAM Prabha" broadcasting education content 24x7 basis, and the content developed under SWAYAM would be used for transmission in SWAYAM Prabha (SP) DTH channels.

Whereas, there is a need for synergizing the quality of contents on these platform, and for standardizing the content delivery;

Now, with a view for systematic development of the online courses for the SWAYAM, the following guidelines which propose to lay down technical and production standards for the e-content have been issued:

**1. DEFINITIONS:**

1.1. In these guidelines, unless the context otherwise requires, the following words shall have the following definitions:

a) '**Academic Advisory Council (AAC)**', shall mean a group of academicians of repute identified and appointed by the National Coordinator with the mandate of identifying the CCs, examining the course proposals and approving them.

b) '**Course Coordinator (CC)**': The CC shall be a Subject Matter Expert (SME) belonging to a reputed educational institution/Industry or a specialist in the field identified and entrusted with the task of developing online course in a

given area by the NC.

c) '**Course**' shall be of two types: credit courses and non-credit courses.
   i. *Credit Course* shall mean a course which is taught for at least one semester as a part of as subject/programme.
   ii. *Non-Credit Course* shall include courses like awareness programme, continuing education programme or training of specific skill set as independent course, which are not part of any set curriculum. It can be of shorter duration.

d) '**Four quadrant approach**': The four Quadrant approach means e-learning system that has the following components:
   i. Quadrant-I is e-Tutorial; which shall contain: Video and Audio Content in an organized form, Animation, Simulations, video demonstrations, Virtual Labs, etc, along with the transcription of the video.
   ii. Quadrant-II is e-Content; which shall contain; self instructional material, e-Books, illustrations, case studies, presentations etc, and also contain Web Resources such as further references, Related Links, Open source Content on Internet, Video, Case Studies, books including e-books, research papers & journals, Anecdotal information, Historical development of the subject, Articles, etc.
   iii. Quadrant-III is the Discussion forum for raising of doubts and clarifying them on a near real time basis by the Course Coordinator or his team.
   iv. Quadrant-IV is Assessment, which shall contain; Problems and Solutions, which could be in the form of Multiple Choice Questions, Fill in the blanks, Matching Questions, Short Answer Questions, Long Answer Questions, Quizzes, Assignments and solutions, Discussion forum topics and setting up the FAQs, Clarifications on general misconceptions.

e) **Host Institute**, Educational Institute offering the MOOC and conducting end examination, awarding credits and certification.

f) '**MOOCs**': Massive Open Online Courses (MOOCs) are such online courses which are developed as per the pedagogy stated herein and following the four quadrant approach.

g) '**National Coordinators (NCs)**': National Coordinators are the Institutions that have been so designated by the Ministry and assigned a specific sector for preparation of online courses for SWAYAM.

h) **Parent Institute, I**nstitute to which student registered for MOOC is enrolled.

i) '**Sector**' shall mean a particular level or discipline of learning allotted to a NC by the MHRD.

j) '**Subject Matter Expert Groups (SMEGs)**'shall mean a group of reputed academicians in a particular subject identified by the National Coordinator in each subject.

k) '**Subject**' shall mean a specific area under a discipline (Example: Physics) taught in an educational institution consisting of specific programme/ courses, resulting in the award of a certificate/ diploma/ degree.

l) '**SWAYAM Academic Board**' shall be a apex academic body that would lay down standards of quality for the courses to be offered through SWAYAM.

m) '**SWAYAM Board**' shall be the Authority that would be overall in-charge of the formulation of the Platform, prescribe quality of content and facilitate conduct of examinations.

## 2. SWAYAM Board

SWAYAM Board (SB) shall be the Body for managing the SWAYAM and SWAYAM Prabha by coordinating the work of technical and academic bodies so as to deliver high quality online education.

a) Composition: The Board shall have the following membership:
   i. Secretary (Higher Education) – Chairperson
   ii. Chairperson UGC
   iii. Chairperson AICTE
   iv. (5) Bureau heads from the Ministry of HRD (ex-officio) looking after: Technical Education, Management Education, Higher Education, School Education, Open/Distance Education
   v. All National Coordinators of SWAYAM and SWAYAM PRABHA
   vi. JS&FA of MHRD
   vii. Mission Director NMEICT (Member Secretary)

b) Functions: The SB shall discharge the following functions:
   i. Take decisions for smooth running of SWAYAM and SWAYAM PRABHA platforms.
   ii. Lay down Policy regarding implementation issues including: cost payable for development and delivery of the courses, examination fees, accepting the content from foreign/private institutions/universities, within parameters laid down by the competent authority.
   iii. Review the progress of each NC pertaining to sanction, progress, development and delivery of various online courses.
   iv. Any other matter that has arisen during the operation and delivery of SWAYAM and SWAYAM Prabha.

c) Secretariat: The SB shall have a secretariat located in AICTE/ MHRD for servicing the Board, composition of which would be decided by the Board.

## 3. SWAYAM Academic Board (SAB):

(1) There shall be a SWAYAM Academic Board responsible for guiding the National Coordinators and for laying down quality standards. The SAB shall be constituted as follows:
   i. Chairman UGC – Co Chairperson
   ii. Chairman AICTE – Co Chairperson
   iii. Two technical experts nominated by the Ministry
   iv. Two reputed academicians nominated by the Ministry
   v. Two representatives from the Industry, one each nominated by MSME and Ministry of Skill Development
   vi. Director AICTE – Member Secretary

(2) The SAB shall discharge the following functions:
   i. Monitor the quality of the courses on the SWAYAM and lay down quality standards.
   ii. Offering of courses on SWAYAM
   iii. Integration of SWAYAM and SWAYAM Prabha
   iv. Monitor the progress of conduct of the end-term examinations

for the SWAYAM courses and resolve issues if any.

v. Monitor the progress of transfer of credits and resolve issues if any.

## 4. NATIONALCOORDINATORS

4.1. The following shall be National Coordinators for each of the Sectors for the purpose of development of the e-content, delivery of online courses and overseeing the assessment procedures of courses offered on SWAYAM. However, the Ministry can add National Coordinators from time to time depending on the need for expanding the Courses to be offered:

| S. No. | National MOOCs Co-ordinator | Sectors |
|---|---|---|
| 1 | University Grants Commission(UGC) | Non-Technology Post Graduate Degree Programmes. |
| 2 | NPTEL | Technical / Engineering UG & PG degree programmes. |
| 3 | Consortium for Educational Communication | Non Technology Under Graduate Degree programmes. |
| 4 | IGNOU | Diplomas and Certificates programmes |
| 5 | NCERT | School Educational Programmes from Class $9^{th}$ to $12^{th}$. |
| 6 | NIOS | Out of school children Educational Programmes from Class $9^{th}$ to 12th. |
| 7 | IIM Bangalore | Management programmes. |
| 8 | NITTR, Chennai | Teacher Training programme. |

## 5. SCOPE OF SWAYAM

5.1. The SWAYAM shall cover the following:

a) Curriculum based course contents covering diverse disciplines such as arts, science, commerce, performing arts, social sciences and humanities, engineering, technology, law, medicine, agriculture etc. in higher education domain (all courses to be certification-ready).

b) School education (9-12 levels) modules; for teacher training as well as teaching and learning aids to learners to help them understand the subjects better and also to help them in better preparedness for competitive examinations for admissions to professional degree programmes.

c) Skill based courses, which cover both post-higher secondary school skills that are presently the domain of polytechnics as well as industrial skills certified by the sector skill councils of various Ministries.

d) Advanced curriculum and professional certification under a unified scheme in higher education domain that can be tailored to meet the demands of Choice Based Credit System (CBCS) currently being implemented in India at under graduate level.

e) Curricula and courses that can meet the needs of life-long learners.

f) Independent courses which may not be part of any set curriculum and may be taught as awareness courses, continuing education programme and for training of specific skill sets.

## 6. Creation of online courses for SWAYAM:

### 6.1. Identification:

The National Coordinators (NC) shall ensure that work of converting a course into a MOOC shall be done in a comprehensive manner, such that there is complete coverage of all the courses in a subject/programme.

a) The NC shall identify courses where online education is possible and preferred. The identified courses shall be advertised in newspaper and other media calling for Expression of Interest (EoI).

b) In all identified courses, **Expression of Interest** (EoI) can be invited for credit courses from CC through recognised Universities/ Institute of National Importance and other educational Institutions authorized to award degrees/credits and from subject specialists both in Public and Private Sectors for non-credit courses.

c) The CC while submitting the expression of interest (EoI) shall also submit an undertaking from a Host University/Institution conveying its willingness to offer the course for credit, conduct examination, assessment, evaluation, issue certificates and transfer the credits to the students of the Parent University/Institution as per the UGC/ AICTE/any other regulatory body Regulations issued for the purpose.

d) After evaluating the EoI received, the NC shall identify a Course Coordinator (CC) for each Course, based on (i) the quality of the sample content, (ii) reputation of the expert/ institute and (iii) teaching-learning methods proposed, and invite him/her to prepare the MOOC within 6 months from that date.

e) The NC shall ensure that no further courses are allotted to a CC unless he/she has successfully completed a course allotted earlier.

f) In case two or more CC from the same Institution drop / discontinue courses at a given time, the host Institute shall be denied further participation for a stipulated time.

g) In case, the selected CC is a private person or a private institution, not entitled to award credits/ certificate, it shall identify a public Institution authorized to offer credits/ certificate for the course and issue certificate, as Co-applicant. An MoU between the two defining their roles will be formulated and later approved by the NC / SB.

h) The NC shall constitute the following Committees immediately:
   i. **Academic Advisory Council** (AAC) consisting of academicians for assisting the NC to consider and take decisions on every MOOC proposal.
   ii. **Subject Matter Expert Groups** (SMEGs) for each subject consisting of academicians for evaluating the Proposals for Online Courses and make recommendations for its acceptance, improvement or rejection.

i) The courses, which carry credits/ certification, shall be cleared by the 'host' University/Institute, who shall also agree to conduct End Examination, assessment and grant credits/ certification.

सत्यमेव जयते

FREE ONLINE EDUCATION swayam

**6.2. Pre-production activities (12 weeks/Online Course)**

a) Each CC shall constitute an academic team of educationists with proven abilities for preparation of the Teaching Learning Material (along with the pedagogy and the activity-based interventions for improving the delivery of the content).

b) The CC shall, within 2 weeks from the date of appointment, prepare a

c) **Proposal for MOOC** consisting of the following and submit the same to the NC for approval:

i. Introductory module: Defining the Course design, qualifications for taking the course, introductory video, assessment system, credits to be awarded, starting date/ending date, and expected outcomes.

ii. Scheduling of course: lectures / reading material / assignments / quizzes/ test into weeks and short modules.

iii. Instructional videos to be prepared – along with the transcript, multi-media techniques to be used, and the name of the teacher-on-the-camera.

iv. Details of reading material such as lecture notes / additional readings to be provided.

v. Self-assessment modules: The total number of quizzes and assignments to be provided for the course.

vi. Assessment system: Weekly /biweekly assessments and assignments that would be required to be taken by the students.

vii. Reading material: Notes/extra readings.

viii. Self-assessment modules: Quizzes and tests.

ix. Assessment system: Weekly assessments and assignments.

x. Discussion forum: List of Teaching Assistants for handling the discussion forum and answering queries raised by registered Students.

xi. The CC shall ensure that the Online Course, (where **Credits/Certificate** on the Course are to be offered) under SWAYAM, (i) is Cleared by a University/ Institute and (ii) the University/ Institute agrees to issue certificate(s) and **'Transfer the Credits'** to Registered Students under SWAYAM that are existing as regular & enrolled students from a recognized University/Institute across the country and shall follow, the UGC & AICTE (Credit Framework for Online Learning Courses through SWAYAM) Regulation, 2016, a 'Gazette Notification' issued on 19th July 2016 & 17th August 2016, respectively.

Non-submission of the proposal in the above manner within the given period shall automatically result in cancellation of the order entrusting the work.

d) On receipt of the Proposal for MOOC, the NC shall place the same before the **Subject Matter Expert Groups (SMEGs)** for its consideration. The SMEGs shall convey its approval, amendment or rejection within Three weeks. In case the Subject Matter Expert Groups (SMEGs) makes suggestions for improvement/changes, the CC shall make the changes and present the same within 2 weeks further. The Subject Matter Expert Groups (SMEGs), may thereupon, make the final recommendation to the Academic Advisory Council (AAB).

e) Based on the feedback given by the Subject Matter Expert Groups (SMEGs), the Academic Advisory Council (AAB) shall examine each

proposal and either approve, suggest changes or reject same within a further period of 2 weeks from the date of receipt of Subject Matter Expert Groups (SMEGs) report. The AAB shall also recommend to the NC the required budget for preparing the MOOC.

f) The NC shall thereupon, and without any further delay, communicate the decision to the CC and also release the funds required for starting the production.

**6.3. Production activities (8 weeks/ Online Course)**

On receipt of the approval from the NC, the CC shall proceed for production of the videos in the following manner:

a) **Identification of the studio**: In order to have uniformity in Technical quality of contents developed under SWAYAM & have compatibility between contents developed by NMCs, it is recommended to have uniform set of equipment being used by CCs. The studio hired by CC shall have all equipment as listed in **Annexure–I**. In case a studio of these specifications is available in the institution, the same shall be used. Otherwise, a studio with these facilities can be hired for the purpose of making these Programmes as per the rates given in **Para 9 A).**

b) **Production team**: There shall be a Production team experienced in preparing Programmes for educational purposes, consisting of a Director/Producer, Instructional Designer, Production Assistant, Camera persons, multi-media technicians and Editors, who can be paid by the Course Coordinator as per the rates given in **Para 9 A).**

c) **Duration of content**: A four-credit course may have overall duration of about 20 hours of video lectures and reading Module (a course may have upto 40 Modules). Content is required to be submitted in a hard disk, the (i) 'Video Edit files' @ 10 Mbps for transmission on SWAYAM PRABHA and (ii) further compressed files @ 2.5 Mbps along with other TLM (in SWAYAM Template) for delivery through SWAYAM.

d) **Presentation techniques:**

- The production of programme may be done in a manner that a substantial part that at least 75% of the total duration of each production should use innovative learning techniques viz. case-studies, scenarios, animation, analogies, individual or group activities, concept-mapping, in-text learning quizzes, interactive exercises within learning modules, discussion forum, multi-media techniques, innovative graphics, live experiments, demonstrations, role-plays, field documentaries etc.
- It shall be the responsibility of the CC to ensure that none of the graphics, animations, images, sound clips, video clips used are plagiarized or cited without formal permissions from owners who must be informed of the distribution policies of SWAYAM.
- It shall be the responsibility of the CC to ensure that none of the graphics, animations, images, sound clips, video clips used are plagiarized.
- Whereas direct lecture focused on the teacher can be used, it may be kept for less than 15% of the total duration of video. Even in this case, the teacher should speak extempore and should not read from written material or even a Teleprompter. It should be ensured that the teacher before the camera is presentable as per television practices.

e) **Transcription of Video** shall be prepared along with the programme, which may be needed for translation of the transcript and for sub-titling in other languages.

**6.4. Post production activities (4 weeks/Online Course)**

There shall be a post-production team consisting of the Video Editor, Sound Editor and Music team, equipped with video editing software working in Non-Linear Editing System (NLE) along with suitable equipment listed in **Annexure–I.** They shall be responsible for:

- Video editing the programme using HD parameters.
- Writing, (re)recording, and editing the soundtrack if needed.
- Adding visual special effects, multimedia effects and computer-generated imagery (CGI)
- Sound re-recording or mixing with professional audio equipment.

**6.5. Review of the Course content and approvals (4 weeks/Online Course)**

a) On completion of the programmes, the CC shall intimate the NC about the readiness for review of the Course.

b) Immediately thereupon, the NC shall get the course Previewed/reviewed from academic and technical experts and thereafter convene the SMEGs meeting for viewing the course in detail along with the video and reading resources.

c) The SMEGs, after viewing the course shall verifying the following and based on these recommendations, the NC will place the course before the AAB, which will approve the Course for uploading on the SWAYAM portal:
   - Final typos and grammar checks.
   - Brand language/message (i.e. in keeping with Online Course guidelines)
   - Pedagogy and learning experience.
   - Formatting of text and images.
   - Ensuring the presence of basic Online Course elements like video/e-Content, discussion forums, Interactive elements, assignments, assessment methodology etc.
   - Video quality checks.

d) The NC in consultation with the CC, will also recommend the 'Start date' and the 'End date' for the course.

e) Based on these recommendations, the NC will place the course before the AAB, which will approve the Course for uploading on the SWAYAM portal.

**7. Notification of Course to all Universities**

As soon as AAB approves a course, the same will be reported to the SWAYAM Board by the NC. The SWAYAM Secretariat shall request the concerned regulator to communicate to all Universities/Institutes under their jurisdiction to notify the courses to their departments and affiliating institutions for availing and transfer of credits by students enrolled with them.

**8. ASSESSMENT AND CERTIFICATION**

a) The CC shall decide the suitable assessment system for the course based on the stated learning outcomes, in consultation with the host University/

institution offering the course.

b) Normally, the assessment shall have both formative assessment to promote deeper learning, critical thinking and reflection, in combination with summative assessments designed to gauge student achievement and/or performance. Summative assessments may include graded quizzes, reports or projects, peer assessments or proctored examination.
Whereas an online examination would be the preferred mode, the CC may decide on the mode of conducting the final examination. Efforts must be made to include industry or industry bodies as partners in the certification process for further value addition to the students. Wherever possible, education and R & D team members from the industry need to be included in the design of course contents and problem sets. However, problems may be of a generic nature and specific practices of participating industries should not be used as contents.

c) In case, a pen and paper final examination is to be conducted, the same shall be offered through any college/school volunteering to conduct the same. The decision in this respect will be taken by the host institution.

d) After conduct of the examination and completion of the evaluation, the host institution shall award marks/grade as per the evaluation scheme announced, within 4 weeks from the date of completion of the final examination.

e) On successful completion of each course, the host institution offering the Online Course would issue the certificate, along with the number of credits and grades, through which the student can get credits transferred into his/her marks certificate issued by his/ her parent institution.

## 9. INTELLECTUAL PROPERTY RIGHTS /COPYRIGHTHANDLING

a) The CC shall follow copyright laws for any readings, images, and video clips used as core and supplementary reading in case of licensed material if used and submit an undertaking to that effect to the NC.

b) All contents (text, audio, video, animation, quiz etc.) developed with the funding of NMEICT will be the property of SWAYAM.

c) All courses and contents posted in SWAYAM will be copyrighted to SWAYAM. Ministry will, from time-to-time, announce policies for access and charges, if any (for certification) and will also publish appropriate Open Educational Resources policy in consultation with other national and international bodies.

d) The CC shall be given explicit permission for creating books and other distribution materials ever for commercial purposes with the explicit undertaking that contents published in SWAYAM shall remain there.

e) The terms of service should be clearly laid out so as to address the following key points by the CC:
   - Any disclaimers should be clearly spelt out.
   - User /student/ institutions should be informed about the usage rights of the course content available on SWAYAM.

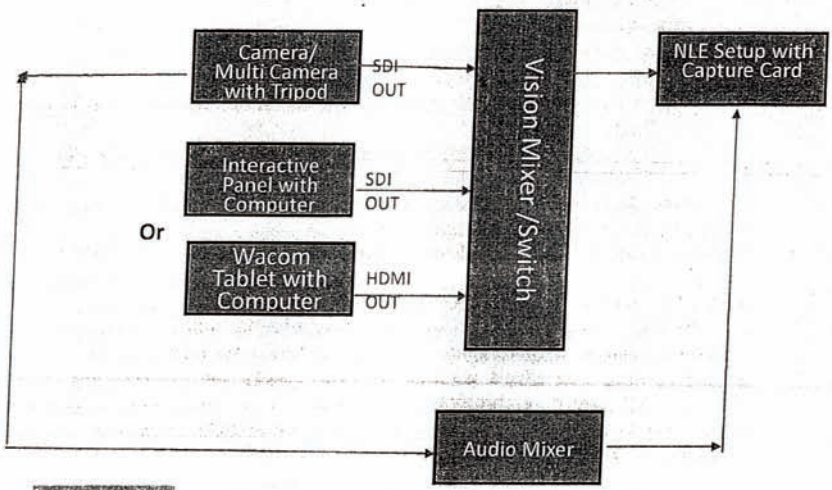
*****

**Annexure-I**

**Equipment Setup & Specifications, for use in development of Online Course.**

**Note:** Make/Models/trade names appearing in Annexure-I are indicative only, equipment with similar or better features & Specification are acceptable.

**Block Diagram**




**1. Camera(s):**

Three 1/3" type; Full HD CMOS sensors; PAL color; 1920x1080/50i; Gross Pixels ≥ 2.2 Million; camera to have a resolution of ≥ 850 TVL; Sensitivity: ≥ F10; S/N 54 db; Motorized Zoom Lens>20X (28 mm to 560mm) with optical image stabilization; Proxy Video; Aspect Ratio 16:9; Audio: AAC 2ch, 16bit, 48kHz; Multi-Camera Synchronizing with Genlock IN and TC IN/OUT; HD Recording ≥ 50 Mbps, should also support Intra / LONG GOP recording. Two or more Memory Card/Media Slots, Hot Swap for Continuous Recoding, with content security features. To support AVC H.264/MPEG4, MOV Files / Quick Time; Video out: SDI & HDMI.

Camera to have a suitable **Tripod,** with minimum payload (> the weight of Camera setup). Tripod should have floor spreader.

**2. Non-linear editing:**

**Specifications: Non-Linear Editing Unit.**

**a). Editing Software:** Adobe Creative Cloud for Teams

**c). Hardware:**

- Windows 10 Professional 64bit OS
- 1TB 7200 RPM SATA 1st Hard Drive
- 500GB 7200 RPM SATA 2nd Hard Drive
- USB Keyboard
- USB Optical Mouse
- SuperMulti DVDRW SATA 1st
- NVIDIA Quadro GPU (K4000 or better)
- Dual Xenon Processor Air Cooling Kit (E5-2620 v2 2.10Ghz 15MB 1600 6C 1st CPU)
- 32GB DDR3-1866 (8x4GB) 2CPU Unbuffered RAM
- 21" Monitor (1920 X 1080).

**d). Video Capture Card** compatible to the NLE software similar to Black Magic Design/ HD Extreme / AJA / MATROX / DVS.

Native editing for DV, DVCAM, DVCPRO, DVCPRO 50, DVCPRO HD, AVC-INTRA, Long GOP, XAVC, FireWire device control, Still images: PSD, BMP, JPEG, PICT, PNG, SGI, TARGA, TIFF. Support for AIFF, WAV, MP3, CAF, BWF, SDII, NeXT, QuickTime.

**e). Effects:** FxPlug support, Real-time software-based audio normalization, RT Extreme for scalable software-based, multi stream real-time effects in DV, SD, and HD formats, Real-time effects playback on main display and on NTSC/PAL or HD monitora with perfect synchronization, Dynamic RT for automatically adjusting playback quality and/or frame rate based on hardware capabilities Key frame graphs and editing in Viewer or Timeline, More than 200 transitions, effects, and filters, Import multilayered Photoshop files with layers and alpha support

**f). Character Generator** Software with latest Patches to support English/ Hindi –Devnagri, technical & scientific fonts, symbols etc.

3. **Card Reader:** compatible to the Memory Card of Camera's:

4. **(a) Interactive 27" Multi Touch Display & Pen:**

Resolution >5000 lpi; Having >2000 pressure levels, widescreen 16:9 display; resolution of 2560 x 1440; Using Adobe RGB; 1.07 billion colors; Works with Photoshop® and Adobe® Illustrator CC; USB-3 & HDMI connectivity to PC & Mac; with features to Brush, Draw, Paint, Image editing, 3D Animation, scroll, zoom and rotate.

**OR**

**4. (b) Interactive touch screen panel with required computer, pen and software.**

| **Interactive touch screen panel with required computer, pen and software & appropriate adjustable Mount with total upto 6' Height.** | |
|---|---|
| LCD Panel: | ≥ 50 inch widescreen. |

| | |
|---|---|
| Max resolution: | 1920 x 1080 |
| Brightness: | 300 cd/$m^2$ or more |
| Contrast ratio: | 3,000:1 or better |
| Response time: | 6 ms or better |
| Driver: | OS: Windows / Linux/ MAC |
| Touch pen or Finger Interactivity: | Yes |
| Video input: | Compatible with the computer |
| Video outputs: | Compatible with the computer & Vision Switcher |

**Note:**

a. The interactive panel system should be provided with: a computer having at least one HDMI output port, two USB ports and a trolley stand.

b. PC should have a single processor Intel Core i7 4930K 3.4 GHz or higher and the VGA card should be GTX 780 or higher. Equivalent AMD VGA card may also be provided with MS Office suite latest version installed.

c. Any digital peripheral / glues / distribution amplifier required with the system should be quoted as per the offered workflow design.

**5. Laptop Touch Screen ≥15"**

- Processor: Intel® Core™ i5 processor or better, 2.40 GHz or more.
- Operating system: Windows 10, 64bit.
- Display: 14.0" or 15.0"
- Memory: 8GB (4GB x2) DDR3 1600Mhz or more.
- Hard drive: 500GB 5400RPM for laptop, SATA hard drive.
- Open Office suite latest version.
- Optical drive.
- Wi-Fi, LAN, Bluetooth.
- HDMI true HD support Out Put.
- Built-in speakers for laptop.
- Ports: network connector RJ45, HDMI, USB 3.0, headphone jack, microphone jack, SD card reader.
- Battery capacity 4 hours or more continuous use.
- Ampli-speakers for the PCs.

**6. Vision Mixer /Switcher**

For connecting Cameras, Interactive Panel and Tablet: 4-CH HD Video Switcher with Inbuilt Frame Synchronizer on all inputs, Frame Storage capabilities, supporting 2-CH HD-SDI, 2-CH HDMI inputs, 2-CH HD-SDI & 1-CH HDMI outputs, 1 x Chroma-Keyer, 1x DSK.

**7. Audio mixer:**

Input channels: 8 Channels with minimum 6 Mic/Line selectable inputs.
I/O interface: XLR / Phono, (balanced/un-balanced).

Input sensitivity: Mic -60 db or better, Line 0 db
Audio frequency response: ≤ 20 Hz - ≥ 20 KHz ± 0.5 db
Total harmonic distortion & noise: ≤ 0.01 % -30dbBu input routed to Mix, Mic gain 30dB
S/N ratio: Better than 100 dB
EQ bands: 2 (HF, MF & LF)
Variable send (aux) buses: Minimum 2
Returns: Minimum 2

**Other features:**

- True, professional +48V phantom power (min 2 I/P) for condenser microphones.
- Linear / Slider fader.
- RCA / Phono playback inputs and record outputs.
- Peak LEDs on all input channels.
- Mute and PFL on input channels. Output metering.

**8. Microphones:**

UHF wireless Lavalier / collar diversity microphone with Compatible Receiver having minimum of 6 selectable channels as per Indian region

THD: ≤ 1 %
Signal/Noise ratio: ≥ 100 dB
Rf output: ≥ 25 mW
Battery life (operating time): Min. 8 hours (2AA Batteries)
Polar pattern: Supercardiod / Hypercardiod / Cardiod
Mic type: Electret /Condenser / permanent Polarised
Frequency range: ≤ 40 Hz to ≥ 20 kHz ± 3db,
Receiver Output: XLR (Balanced) Line output
Accessories: Wind shield, Mic Clip & other standard accessories

**9. Active speaker (2 way)**

Type: Active
Low/mid driver dimensions: 5" or more
Tweeter dimensions (mm): 20 mm to 40 mm
RMS: (Both LF + HF): ≥ 50 watts
Frequency response: ≤45 Hz - ≥ 20000 Hz
Max. SPL: ≥ 100 dB
Protection circuits: Overload
Controls: Treble, volume, mains switch (on/off)
Line inputs: Minimum 1
Line inputs connectors: XLR & 6.3 mm Jack
Input Sensitivity: Selectable -10 dB/+4 dB
Operating voltage: 230 V A C ± 10%, 50 Hz

**10. Studio Cool Lights:**

**STUDIO LED Lights– for Day Lights:**

a) LED ≥ 50 W with diffuser & Barn-doors.
1. Colour temperature: about 5600K & 3200K
2. Control: Manual.
3. Ceiling Mount.
4. On board system to control intensity from 0-100%
6. 4 leaf barn door, diffusers, C clamp, safety bond

b) LED Diffused Panel lights, ≥ 50 W –
1. Colour temperature: about 5600K
2. Control: Manual
3. Ceiling Mount.
4. 4 leaf barn-door, diffusers, C clamp, safety bond.

**11. UPS:**

Approved Brands Company ISO 9001 with minimum 30 minutes backup. Sealed maintenance free VRLA Battery. If more wattage UPS is required, bidder should justify the same by submitting the Power Load requirement of the equipment. Some of the features required in UPS are:

- Single Phase IN and Single Phase OUT
- Wattage: ≥ 10 KVA
- Type:(On-line) IGBT
- Input power factor: ≥ 0.98
- Output power factor: 0.8 or better
- Input power supply: 160 V - 270 V 50HzAC.
- Output 230 V ±1%, 50 Hz AC.
- Isolated I/p o/p. Battery Bank with Frame/Rack

**B) Post Production processes & Standards.**

- Video recording format: Full HD 1920x1080 pixels.
- Videos aspect ratio: 16:9 (widescreen).
- Module Delivery: 1080i following MPEG-4 AVC Compression.
- Audio Channel 1 to have Mixed Audio Track.
- Font size: Heading: 24-30; Sub-heading: 22-26; Body: 20-24;
- Full screen Video Frame.
- All graphs and diagrams must have clear font.
- The expert/teacher should speak extempore as delivery made in case of classroom set-up and avoid reading from written material or a Teleprompter.
- Video frame to maintain 6-8% headroom;
- Video quality and Audio levels should be constantly monitored while recording.

Voice modulation be taken care of. Video clips or audio clips from eminent experts, outdoor shooting, lab based demo etc. can be used appropriately.

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Annexure-IV



F. No.8-1/2015-TEL
Government of India
Ministry of Human Resource Development
Department of Higher Education
TEL division

Dated 04th December, 2017

**Office Memorandum**

**Sub: Financial Norms for Development of MOOCs for SWAYAM**

The financial guidelines for development of MOOCs under SWAYAM had been issued vide O.M. No. 8-1/2015-TEL dated 11th March, 2016. After a detailed interaction with the Course Coordinators held on the 2nd March 2017, a revised cost structure has been worked out based on the actual requirements in the field. These revised cost guidelines have been approved by the SFC in their meeting held on 26th September 2017.

2. Accordingly, the following cost norms for courses under the SWAYAM would be applicable with effect from the date of issue of the O.M.:

**A. Development of new MOOCs:**

**Teaching Learning Material(TLM) & On-Camera Presentation**

| S. No. | Details | Rs Lakh |
|---|---|---|
| 1 | Preparation of the TLM, assessment, presentations, online reference material etc. including transcript - for 40 hours course material | 1.50 |
| 2 | On Camera presentation by SME @ Rs. 5000 per module (30 minutes) | 2.00 |
| 3 | Academic Review with two subject matter experts (for all four quadrant material) @ Rs. 1000 per module (30 minutes) | 0.80 |
| 4 | Technical review by one technical expert @ Rs. 500 per module (30 minutes) | 0.20 |
| | **Sub-Total payment to SMEs and Reviewers(for 40 hours)** | **4.50** |

**Video Production (Tentative - 40 hours):**

| S.No. | Details | Rs lakh |
|---|---|---|
| 1. | Production cost (including cost of studio, set, crew and instructional designer) | 5.25 |
| 2. | Multimedia or outdoor shooting inputs | 1.75 |
| 3. | Post production (@ Rs. 5,000 per hour) | 2.00 |
| | **Sub-Total Video Production Cost** | **9.00** |

**B. Repurposing of existing e-content to MOOCs**

Repurposing of the old material shall normally be not encouraged. Only where the material already existing is conforming to the quality guidelines issued on 1st June 2017, repurposing can be done.

The financial norms for repurposing of existing e-content courseware to MOOCs shall be maximum of 6 Lakhs per course (of 40 hours duration). For shorter/longer courses the payment would be proportionate. The National Coordinator (NC) shall make the assessment regarding the quantum of work involved in repurposing and make payment accordingly, subject to the maximum limit.

**C. Support to the National Coordinator (NC) per year**

| S No | Details | Rs lakh |
|---|---|---|
| 1 | Support equipment for preview and consumables | 5.00 |
| 2 | Human Resource (only contractual)<br>- Coordinator @ Rs. 70,000 per month (1)<br>- One Project Associate per 50 Courses- @ Rs. 35,000 per month<br>- One Data Entry Operator-@ Rs.20,000 and one Account Assist.-@ Rs.30,000 ≥ 50 Courses handled by NC. | 8.40<br>As per number of Courses |
| 3 | Academic Advisory Board meetings @ Rs.2.00 Lakhs per Annum | |
| 4 | Subject Matter Expert Groups (SMEGs) Meeting @ Rs.2.00 Lakhs per Annum | |
| 5 | Workshops/Subject (1 workshops/50 persons each/Rs. 4000 per person) = 2.0 Lakhs/5 Course | As per number of Courses |

3. The above cost norms would be applicable from the date of issue and would be subject to the following:
   a. The norms would be applicable only for the courses that are produced new/fresh.
   b. The norms for TLM, On camera presentation and video production are for a 40 hour course (20 hours video and 20 hours of e-text). For courses which are of more/less duration the payment would be proportional.
   c. The National Coordinator (NC) should follow the procedure prescribed in the June 2017 guidelines for selection of courses.
   d. The courses should strictly comply with quality and other parameters prescribed in the June 2017 guidelines. A compliance certificate in this regard should be given for each course by the Course Coordinator (CC).
   e. Before uploading every course on SWAYAM, NC should verify and certify that the course is in compliance with the June 2017 guidelines.
   f. The payment would be made by NC to the Host Institute and not to the CC directly.

g. The payment would be made only after acceptance of the deliverables by NC.
h. The CC has to give an undertaking that the course has not been submitted to any other agency for funding and has not received funding from any other source.
i. The payment would be made only for courses that would result in award of credit or certificate. The host institute should give the necessary commitment regarding conduct of examination and award of credit or certificate.
j. The receipt of payments by the CC/SME shall be regulated by the norms prevalent in the host institution.
k. The complete IPR of all the courses uploaded on SWAYAM shall be with the MHRD.

4. All the National Coordinators are requested to adopt these norms while sending proposals for release of money for production of courses as per the action plan already approved by the SWAYAM Board.

M Narayanan
**(Malathi Narayanan)**
**Deputy Secretary to Govt**

Annexure-V

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

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विश्वविद्यालय अनुदान आयोग

अधिसूचना

नई दिल्ली, 18 जुलाई, 2018

**विश्वविद्यालय अनुदान आयोग (विश्वविद्यालय और महाविद्यालयों में शिक्षकों और अन्य शैक्षिक कर्मचारियों की नियुक्ति हेतु न्यूनतम अर्हता तथा उच्चतर शिक्षा में मानकों के रखरखाव हेतु अन्य उपाय संबंधी विनियम, 2018**

**सं. एफ. 1-2/2017 (ईसी/पीएस).**—विश्वविद्यालय अनुदान आयोग अधिनियम, 1956 (1956 का 3) की धारा 14 के साथ पठित धारा 26 की उपधारा (झ) के खंड (ड.) और (छ) के तहत प्रदत्त शक्तियों का प्रयोग करते हुए तथा "विश्वविद्यालय अनुदान आयोग (विश्वविद्यालय और महाविद्यालयों में शिक्षकों और अन्य शैक्षिक कर्मचारियों की नियुक्ति हेतु न्यूनतम अर्हता तथा उच्चतर शिक्षा में मानकों के रखरखाव हेतु अन्य उपाय संबंधी विनियम, 2010" (विनियम सं. एफ 3-1/2009 दिनांक 30 जून, 2010) तथा समय- समय पर इनमें किए गए सभी संशोधनों का अधिक्रमण करते हुए, विश्वविद्यालय अनुदान आयोग, एतद्द्वारा निम्नलिखित विनियमों को तैयार करता है, नामतः –

1. **लघु शीर्षक, अनुप्रयोग एवं प्रवर्तन:**

1.1 इन विनियमों को विश्वविद्यालय अनुदान आयोग (विश्वविद्यालय और महाविद्यालयों में शिक्षकों और अन्य शैक्षिक कर्मचारियों की नियुक्ति हेतु न्यूनतम अर्हताएं तथा उच्चतर शिक्षा में मानकों के रखरखाव हेतु उपाय) संबंधी विनियम, 2018 कहा जाएगा।

1.2 ये विनियम विश्वविद्यालय अनुदान आयोग अधिनियम, 1956 की धारा 2 के खंड (झ) के तहत संबंधित विश्वविद्यालय के साथ परामर्श कर किसी केन्द्रीय अधिनियम, प्रांतीय अधिनियम, अथवा किसी राज्य अधिनियम के द्वारा स्थापित अथवा निगमित प्रत्येक विश्वविद्यालय, आयोग द्वारा मान्यता प्राप्त संघटित अथवा संबद्ध महाविद्यालय सहित प्रत्येक संस्थान और उक्त अधिनियम की धारा 3 के अंतर्गत प्रत्येक सम विश्वविद्यालय संस्थान पर लागू होंगे।

1.3 यह विनियम अधिसूचित किए जाने की तिथि से लागू होंगे।

2. उच्चतर शिक्षा में मानकों को बनाए रखने के एक उपाय के रूप में विश्वविद्यालय और महाविद्यालय शिक्षकों, पुस्तकाध्यक्षों और निदेशक, शारीरिक शिक्षा और खेलकूद की नियुक्ति और अन्य सेवा शर्तों की न्यूनतम अर्हताएं इन विनियमों के अनुबंध में दी जाएंगी।

3. यदि कोई विश्वविद्यालय इन विनियमों के उपबंधों का उल्लंघन करता है तो ऐसे उल्लंघन किए जाने अथवा इस प्रकार उपबंधों का पालन करने में असफल रहने पर उक्त विश्वविद्यालय द्वारा दिया गया कारण, यदि कोई हो, पर विचार करते हुए आयोग, अपनी निधियों में से विश्वविद्यालय को प्रदान किए जाने वाले प्रस्तावित अनुदानों को रोक सकता है।

4097 GI/2018

**6.4 STAGES OF PROMOTION UNDER THE CAREER ADVANCEMENT SCHEME OF INCUMBENT AND NEWLY-APPOINTED ASSISTANT PROFESSORS/ASSOCIATE PROFESSORS/PROFESSORS**

**A.** The entry-level Assistant Professors (Level 10) shall be eligible for promotion under the Career Advancement Scheme (CAS) through two successive levels (Level 11 and Level 12), provided they are assessed to fulfill the eligibility and performance criteria as laid down in Clause 6.3. of these Regulations.

**B. Career Advancement Scheme (CAS) for Colleges teachers**

**I. Assistant Professor (Academic Level 10) to Assistant Professor (Senior Scale/Academic Level 11)**

**Eligibility:** Assistant Professors who have completed four years of service and having a Ph.D. degree or five years of service and having a M.Phil. / PG Degree in Professional Courses, such as LLM, M.Tech.,M.V.Sc., M.D., or six years of service for those without Ph.D./M.Phil./ PG Degree in Professional courses.

i. Attended one Orientation course of 21 days' duration on teaching methodology; and

ii. Any one of the following: Completed one Refresher / Research Methodology Course

OR

Any two of the following: Workshop, Syllabus Up-gradation Workshop, Training Teaching-Learning-Evaluation, Technology Programmes and Faculty Development Programmes of at least one week (5 days) duration,

OR

Completed one MOOCs course (with e-certification) or development of e-contents in four-quadrants / MOOC's course during the assessment period.

**CAS Promotion Criteria:**

A teacher shall be promoted if;

i. He/she gets 'satisfactory' or 'good' grade in the annual performance assessment reports of at least three/four/five of the last four/five/six years of the assessment period as the case may be, as specified in Appendix II, Table 1, and;

ii. The promotion is recommended by the screening-cum-evaluation committee.

**II. Assistant Professor (Senior Scale/Academic Level 11) to Assistant Professor (Selection Grade/Academic Level 12)**

**Eligibility:**

1) Assistant Professors who have completed five years of service in Academic Level 11/Senior Scale.

2) Any two of the following in the last five years of Academic Level-11/ Senior Scale: Completed courses/programmes from among the categories of Refresher Courses/Research Methodology course/Workshops/Syllabus Up Gradation Workshop/ Teaching-Learning-Evaluation/ Technology Programmes/ Faculty Development Programme/ Syllabus Up-gradation Workshop/ Teaching-Learning-Evaluation/ Technology Programmes/ Faculty Development Programmes of at least two weeks (ten days) duration (or completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration); or completed MOOCs course in the relevant subject (with e-certification); or Contribution towards development of e-content in 4-quadrant (at least one quadrant) minimum of 10 modules of a course/contribution towards development of at least 10 modules of MOOCs course/ contribution towards conducting of a MOOCs course during the period of assessment.

**CAS Promotion Criteria:**

A teacher shall be promoted if;

i) The teacher gets 'satisfactory' or 'good' grade in the annual performance assessment reports of at least four of the last five years of the assessment period, (as prescribed in Appendix II,Table 1) and

ii) The promotion is recommended by the Screening-cum-evaluation committee.

**III. Assistant Professor (Selection Grade/Academic Level 12) to Associate Professor (Academic Level 13A)**

**Eligibility:**

1) Assistant Professor who has completed three years of service in Academic Level 12/Selection-Grade.

2) A Ph.D. degree in subject relevant /allied/relevant discipline.

3) Any one of the following during the last three years: completed one course / programme from amongst the categories of Refresher Courses/ Methodology Workshop/Syllabus Up-gradation Workshop/ Teaching-Learning-Evaluation Technology Programme/ Faculty Development Programme of at least two weeks (ten days) duration (or completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration); or completed one MOOCs course (with e-certification); or contribution towards development of e-contents in 4-quadrant(at least one quadrant) minimum of 10 modules of a course/contribution towards development of at least 10 modules of MOOCs course/ contribution towards conduct of a MOOCs course during the period of assessment.

**CAS Promotion Criteria:**

A teacher may be promoted if;

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least two of the last three years of the assessment period as prescribed in Appendix II,**Table 1**, and

ii) The promotion to the post of Associate Professor is recommended by the selection committee in accordance with these Regulations.

**IV. Associate Professor (Academic Level 13A) to Professor (Academic Level 14)**

**Eligibility:**

1. Associate Professors who have completed three years of service in Academic Level 13A.
2. A Ph.D. degree in subject relevant/allied/relevant discipline.
3. A minimum of 10 research publications in peer-reviewed or UGC-listed journals out of which three research papers shall be published during the assessment period.
4. A minimum of 110 Research Score as per Appendix II,Table 2

**CAS Promotion Criteria:**

A teacher shall be promoted if;

i) The teacher gets 'satisfactory' or 'good' grade in the annual performance assessment reports of at least two of the last three years of the assessment period, as per Appendix II, Table 1 and at least 110 research score as per Appendix II, Table 2.

ii) The promotion to the post of Professor is recommended by selection committee constituted in accordance with these Regulations.

**C. Career Advancement Scheme (CAS) for University teachers**

**I. Assistant Professor (Academic Level 10) to Assistant Professor (Senior Scale/Academic Level 11)**

**Eligibility:**

i) An Assistant Professor who has completed four years of service with a Ph.D. degree or five years of service with a M.Phil. / PG Degree in Professional Courses, such as LLM, M.Tech, M.V.Sc.and M.D., or six years of service in case of those without a Ph.D./M.Phil./ PG Degree in a Professional course and satisfies the following conditions:

ii) Attended one Orientation course of 21 days duration on teaching methodology;

iii) Any one of the following: Completed Refresher/ Research Methodology Course/ Workshop/ Syllabus Up-gradation Workshop/ Training Teaching-Learning-Evaluation, Technology Programmes/ Faculty Development Programmes of at least one week (5 days) duration, or taken one MOOCs course (with e-certification) or development of e-contents in four-quadrants / MOOC's course during the assessment period; and

iv) Published one research publication in the peer-reviewed journals or UGC-listed journals during assessment period.

**CAS Promotion Criteria :**

**A teacher shall be promoted if;**

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least three/four/five of the last four/five/six years of the assessment period as the case may be (as provided in Appendix II,Table 1), and;

ii) The promotion is recommended by the screening-cum evaluation committee.

**II. Assistant Professor (Senior Scale/Academic Level 11) to Assistant Professor (Selection Grade/Academic Level 12)**

**Eligibility:**

i) Assistant Professors who has completed five years of service in Academic Level 11/Senior Scale.

ii) A Ph.D. Degree in the subject relevant/allied/relevant discipline.

iii) Has done any two of the following in the last five years of Academic Level 11/Senior Scale: Completed a course / programme from amongst the categories of Refresher Courses/Research Methodology/ Workshops/ Syllabus Up-gradation Workshop/ Teaching-Learning-Evaluation/ Technology Programmes / Faculty Development Programme of at least two weeks (ten days) duration (or completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten

days) duration), or, completed one MOOCs course in the relevant subject (with e-certification); or contribution towards the development of e-content in 4-quadrant (at least one quadrant) minimum of 10 modules of a course/contribution towards the development of at least 10 modules of MOOCs course/ contribution towards conduct of a MOOCs course during the period of assessment.

iv) Published three research papers in the peer-reviewed journals or UGC-listed journals during assessment period.

**CAS Promotion Criteria:**

A teacher shall be promoted if;

i) The teacher gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least four of the last five years of the assessment period, (as prescribed in Appendix II, Table 1) and;

ii) The promotion is recommended by the Screening-cum-evaluation committee.

**III. Assistant Professor (Selection Grade/Academic Level 12) to Associate Professor (Academic Level 13A)**

1) Assistant Professor who has completed three years of service in Academic Level 12/ Selection grade.

2) A Ph.D Degree in the subject concerned/allied/relevant discipline.

3) Any one of the following during last three years: completed one course / programme from amongst the categories of Refresher Courses/ Research Methodology Workshops/Syllabus Up-gradation Workshop/ Teaching-Learning-Evaluation Technology Programme/ Faculty Development Programme of at least two weeks (ten days) duration (or completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration); or completed one MOOCs course (with e-certification); or contribution towards the development of e-content in 4-quadrant (at least one quadrant) minimum of 10 modules of a course/contribution towards development of at least 10 modules of MOOCs course/ contribution towards conduct of a MOOCs course during the period of assessment.

4) A minimum of seven publications in the peer-reviewed or UGC-listed journals out of which three research papers should have been published during the assessment period.

5) Evidence of having guided at least one Ph.D. candidate.

**CAS Promotion Criteria:**

A teacher shall be promoted if;

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least two of the last three years of the assessment period as specified in Appendix II,Table 1, and has a research score of at least 70 as per Appendix II,Table 2.

ii) The promotion is recommended by a selection committee constituted in accordance with these Regulations.

**IV. Associate Professor (Academic Level 13A) to Professor (Academic Level 14)**

**Eligibility:**

1) An Associate Professor who has completed three years of service in Academic Level 13 A.

2) A Ph.D degree in the subject concerned/allied/relevant discipline.

3) A minimum of ten research publications in the peer- reviewed or UGC-listed journals out of which three research papers should have been published during the assessment period.

4) Evidence of having successfully guided doctoral candidate.

5) A minimum of 110 Research Score as per Appendix II, Table 2.

**CAS Promotion Criteria:**

A teacher shall be promoted if;

i) He/she gets 'satisfactory' or 'good' grade in the annual performance assessment reports of at least two of the last three years of the assessment period, as per Appendix II,Table 1, and at least 110 research score, as per Appendix II,Table 2.

ii) The promotion is recommended by a selection committee constituted in accordance with these Regulations.

**V. Professor (Academic Level 14) to Senior Professor (Academic Level 15)**

A Professor can be promoted to the post of Senior Professor under the CAS. The promotion shall be based on academic achievement, favourable review from three eminent subject -experts who are not of the rank lower than the rank of a Senior Professor or a Professor having at least ten years' of experience. The selection shall be based on 10 best publications during the last 10 years and interaction with a Selection Committee constituted in accordance with these Regulations.

**Eligibility**:

i) Ten years' experience as a Professor.

ii) A minimum of ten publications in the peer-reviewed or UGC-listed journals and Ph.D. degree has been successfully awarded to two candidates under his/her supervision during the assessment period.

**D. Career Advancement Scheme (CAS) for Librarians**

**Note:**

i) **The following provisions apply only to those persons who are not involved in the teaching of Library Science. Teachers in institutions where Library Science is a teaching department shall be covered by the provisions given under sections 6.4 (B) and 6.4 (C), of these Regulations for Colleges/Institutions and for Universities, respectively.**

ii) **The Deputy Librarian in Universities shall have two levels i.e. Academic Level 13A and Academic Level 14 while College Librarians shall have five levels i.e. Academic Level 10, Academic Level 11, Academic Level 12, Academic Level 13A and Academic Level 14.**

**I. From University Assistant Librarian (Academic level 10)/College Librarian (Academic level 10) to University Assistant Librarian (Senior Scale/Academic level 11)/ College Librarian (Senior Scale/Academic level 11):**

**Eligibility:**

An Assistant Librarian/ College Librarian who is in Academic Level 10 and has completed four years of service having a Ph.D. degree in Library Science/ Information Science/ Documentation Science or an equivalent degree or five years' of experience, having at least a M.Phil.degree, or six years of service for those without a M.Phil or a Ph.D. degree.

(i) He/she has attended at least one Orientation course of 21 days' duration; and

(ii) Training, Seminar or Workshop on automation and digitalisation, maintenance and related activities, of at least 5 days, as per Appendix II, Table 4.

**CAS Promotion Criteria:**

An Assistant Librarian/College Librarian may be promoted if:

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least three/four/five out of the last four/five/six years of the assessment period as the case may be as specified in Appendix II, Table 4, and

ii) The promotion is recommended by a screening-cum-evaluation committee.

**II. From University Assistant Librarian (Senior Scale/Academic level 11)/College Librarian (Senior Scale/Academic level 11) to University Assistant Librarian (Selection Grade/ Academic level 12/ College Librarian (Selection Grade/Academic level 12)**

**Eligibility:**

1) He/she has completed five years of service in that grade.

2) He/she has done any two of the following in the last five years: (i)Training/Seminar/Workshop/Course on automation and digitalisation, (ii)Maintenance and other activities as per Appendix II,Table 4 of at least two weeks (ten days) duration (or completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration), (iii) Taken/developed one MOOCs course in the relevant subject (with e-certification), or (iv) Library up-gradation course.

**CAS Promotion Criteria:**

An individual shall be promoted if:

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least four out of the last five years of the assessment period, as specified in Appendix II,Table 4, and;

ii) The promotion is recommended by a screening-cum-evaluation committee.

**III. From University Assistant Librarian (Selection Grade/Academic level 12)/ College Librarian (Selection Grade/Academic level 12) to University Deputy Librarian (Academic Level 13A)/College Librarian (Academic Level 13A)**

1) He/she has completed three years of service in that grade.

2) He/she has done any one of the following in the last three years: (i)Training/Seminar/Workshop/Course on automation and digitalization, (ii)Maintenance and related activities as per Appendix II,Table 4 of at least two weeks' (ten days) duration, (iii) Completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration), (iv) Taken/developed one MOOCs course in the relevant subject (with e-certification), and (v) Library up-gradation course.

**CAS Promotion Criteria:**

An individual shall be promoted if:

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least two out of the last three years of the assessment period, as specified in Appendix II,Table 4; and

ii) The promotion is recommended by a Selection Committee constituted as per these Regulations on the basis of the interview performance.

**IV. The criteria for CAS Promotions from University Deputy Librarian/College Librarians (Academic Level 13A) to University Deputy Librarian/College Librarians (Academic Level 14) shall be the following:**

1) He/she has completed three years of service in that grade.

2) He/she has done any one of the following in the last three years: (i)Training/Seminar/Workshop/Course on automation and digitalization, (ii)Maintenance and related activities as per Appendix II,Table 4 of at least two weeks' (ten days) duration, (iii) Completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration), (iv) Taken/developed one MOOCs course in the relevant subject (with e-certification), and (v) Library up-gradation course.

3) Evidence of innovative library services, including the integration of ICT in a library.

4) A Ph.D. Degree in Library Science/Information Science/Documentation /archives and Manuscript-Keeping

**CAS Promotion Criteria:**

An individual shall be promoted if:

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least two out of the last three years of the assessment period, as specified in Appendix II,Table 4; and

ii) The promotion is recommended by a Selection Committee constituted as per these Regulations on the basis of the interview performance.

**E. Career Advancement Scheme (CAS) for Directors of Physical Education and Sports**

**Note:**

**i) The following provisions apply only to those personnel who are not involved in teaching physical education and sports. Teachers in institutions where Physical Education and Sports is a teaching department shall be covered by the provisions given under sections 6.4 (B) and 6.4 (C), of these Regulations for Colleges/Institutions and for Universities, respectively.**

**ii) The Deputy Director Physical Education and Sports in Universities shall have two levels i.e. Academic Level 13A and Academic Level 14 while College Director Physical Education and Sports shall have five levels i.e. Academic Level 10, Academic Level 11, Academic Level 12, Academic Level 13A and Academic Level 14.**

**I. From Assistant Director of Physical Education and Sports (Academic Level 10)/College Director of Physical Education and Sports (Academic Level 10) to Assistant Director of Physical Education and Sports (Senior Scale/Academic Level 11) / College Director of Physical Education and Sports (Senior Scale/Academic Level 11)**

**Eligibility:**

i) He/she has completed four years of service with a Ph.D. degree in Physical Education or Physical Education & Sports or Sports Science or five years of service with an M.Phil. degree or six years of service for those without an M.Phil or Ph.D. degree.

ii) He/she has attended one Orientation course of 21 days' duration; and

iii) He/she has done any one of the following: (a)Completed Refresher / Research Methodology Course/ workshop, (b)Training Teaching-Learning-Evaluation Technology Programme/ Faculty Development Programme of at least 5 days duration and (c) Taken/developed one MOOCs course (with e-certification).

**CAS Promotion Criteria:**

An individual may be promoted if:

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least three/four/five of the last four/five/six years of the assessment period as the case may be, as specified in Appendix II, Table 5; and

ii) The promotion is recommended by a screening-cum-evaluation committee.

**II. From Assistant Director of Physical Education and Sports (Senior Scale/Academic Level 11)/ College Director of Physical Education And Sports (Senior Scale/Academic Level 11) to University Assistant Director of Physical Education and Sports (Selection Grade/Academic Level 12) / College Director of Physical Education and Sports (Selection Grade/Academic Level 12)**

1) He/she has completed five years of service in that grade.

2) He/she has done any two of the following in the last five years: (i)Completed one course / programme from among the categories of refresher courses, research methodology workshops, (ii)Teaching-Learning-Evaluation Technology Programmes / Faculty Development Programmes of at least two weeks (ten days) duration, (iii)Completed two courses of at least one week(five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration), and (iv) Taken/developed one MOOCs course in the relevant subject (with e-certification).

**CAS Promotion Criteria:**

An individual may be promoted if;

i) He/she gets a 'satisfactory' or 'good' grade in the annual performance assessment reports of at least four out of the last five years' of the assessment period as specified in Appendix II,Table 5, and;

ii) The promotion is recommended by a screening-cum-evaluation committee .

**III. From University Assistant Director of Physical Education and Sports (Selection Grade/Academic Level 12)/ College Director of Physical Education and Sports (Selection Grade/Academic Level 12) to University Deputy Director of Physical Education and Sports (Academic Level 13 A)/ College Director of Physical Education and Sports (Academic Level 13A)**

1) He/she has completed three years of service.

2) He/she has done any one of the following during last three years: (i)Completed one course / programme from among the categories of Refresher Courses, Research Methodology Workshop, (ii)Teaching-Learning-Evaluation Technology Programmes / Faculty Development Programmes of at least two weeks (ten days) duration (or completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration), (iii) Taken / developed one MOOCs course in relevant subject (with e-certification).

**CAS Promotion Criteria:**

An individual may be promoted if;

i) He/she gets a 'satisfactory' or 'good' grade performance assessment reports of at least two out of the last three years of the assessment period as specified in Appendix II,Table 5, and;

ii) The promotion is recommended by a selection committee constituted as per these Regulations on the basis of the interview performance.

**IV. The criteria for CAS Promotions from University Deputy Director Physical Education and Sports/College Director Physical Education and Sports (Academic Level 13A) to University Deputy Director Physical Education and Sports/College Director Physical Education and Sports (Academic Level 14) shall be the following:**

1) He/she has completed three years of service.

2) He/she has done any one of the following during last three years: (i)Completed one course / programme from among the categories of Refresher Courses, Research Methodology Workshop, (ii)Teaching-Learning-Evaluation Technology Programmes / Faculty Development Programmes of at least two weeks (ten days) duration (or completed two courses of at least one week (five days) duration in lieu of every single course/programme of at least two weeks (ten days) duration), (iii) Taken / developed one MOOCs course in relevant subject (with e-certification).

3) Evidence of organising competitions and coaching camps of at least two weeks' duration.

4) Evidence of having produced good performance of teams/athletes for competitions like state/national/inter-university/combined university, etc.

5) A Ph.D. in Physical Education or Physical Education and Sports or Sports Science.

**CAS Promotion Criteria:**

An individual may be promoted if;

i) He/she gets a 'satisfactory' or 'good' grade performance assessment reports of at least two out of the last three years of the assessment period as specified in Appendix II,Table 5, and;

ii) The promotion is recommended by a selection committee constituted as per these Regulations on the basis of the interview performance.

Annexure-VI

ज्ञान-विज्ञान विमुक्तये
प्रो॰ धीरेन्द्र पाल सिंह
अध्यक्ष
Prof. D. P. Singh
Chairman

सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission
(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)
बहादुरशाह ज़फ़र मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi-110002
दूरभाष Phone : कार्यालय Off : 011-23234019, 23236350
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**BY E-MAIL**

**D.O.No.F.11-1/2018 (HRDC/NRC)** **1st January, 2019**

Dear Vice Chancellor,

As you are aware, the Ministry of Human Resource Development, Government of India has invested significant amount of resources towards capacity building and enhancement of professional skills of faculty of higher education institutions under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT). Annual Refresher Programme in Teaching (ARPIT) is one such initiative, launched by MHRD on 13th November, 2018 with the objective of providing online courses in various disciplines for professional development of higher education faculty using the Massive Open Online Courses (MOOC) platform SWAYAM.

For the implementation of ARPIT, 75 discipline-specific National Resource Centres (NRCs) have been identified to prepare online training material with focus on latest developments in the discipline including new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum.

UGC has already granted equivalence to ARPIT courses at par with Refresher Courses for the purpose of Career Advancement Scheme.

Through this letter I wish to draw your attention to the newly launched ARPIT courses and also to request you to encourage your faculty to participate in the ARPIT courses available on SWAYAM platform, not only for keeping themselves abreast of latest developments in their disciplines but also for aiding their career progression.

With regards,

**Yours sincerely,**

**(Prof. D.P. Singh)**

**To,**

**The Vice-Chancellor of all universities**
**(As per list attached)**

**Copy to:**
1. Publication Officer, UGC, New Delhi (For uploading on UGC website)

**(Prof. D.P. Singh)**

प्रो. रजनीश जैन
सचिव

**Prof. Rajnish Jain**
**Secretary**

सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
**University Grants Commission**
(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)
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E-mail : secy.ugc@nic.in

D.O.No.F.2-16/2002(PS)Pt.fl.II

December 3, 2018

Respected Sir/Madam,

A unique initiative of online professional development of in-service teachers' of higher education, using MOOCs platform SWAYAM-Annual Refresher Programme in Teaching (ARPIT) was launched by MHRD on 13th November, 2018. The ARPIT is 40 hour programme with 20 hours of video content offered in a highly flexible format which can be done at one's own pace and time. The programme has built-in assessment exercises and activities as part of the academic progression in the course. At the end of the course, there is a provision for terminal assessment which can be either online or written examination.

It has been decided by the UGC that successful completion of the courses offered under the ARPIT programme with 40 hour of instruction material with a proctored examination will be treated as equivalent to one Refresher Course for the purposes of Career Advancement.

This is for the information of all universities and colleges.

With regards,

Yours sincerely,

**(Rajnish Jain)**

**To the Vice-Chancellors of all Universities**

Annexure-VII

## Contact details of National Coordinator

| S. No. | National Coordinator | Area | Contact |
|---|---|---|---|
| 1 | University Grants Commission | PG Non Engineering | Dr.(Mrs.) Pankaj Mittal, Additional Secretary-I , UGC pankajmittal.ugc@nic.in, pankajugc@gmail.com |
| 2 | Consortium for Educational Communication | UG Non Engineering | Prof. Jagat Bhushan Nadda, Director, CEC director.cec@nic.in , director@cec-ugc.org |
| 3 | National Programme on Technology Enhanced Learning | UG & PG Engineering | Prof. Andrew Thangaraj, NPTEL coordinator andrew@nptel.iitm.ac.in |
| 4 | Indian Institute Of Management Bangalore | Management | Prof. P.D. Jose, Chair, MOOCs Initiative, IIM Bangalore jose@iimb.ac.in |
| 5 | National Council of Educational Research and Training | School 9th to 12th | Prof. Amarendra Behera, Joint Director, CIET - NCERT amarendra.behera@ciet.nic.in |
| 6 | Indira Gandhi National Open University | Certificate & Diploma Courses | Dr. Uma Kanjilal, Director , (IUC-TEFED) , IGNOU ukanjilal@ignou.ac.in |
| 7 | National Council of Educational Research and Training | Teacher Training | Prof. SUDHINDRA NATH PANDA, Director ,NITTTR Chennai nitttrchennai.director@gmail.com , sudhindra.n.panda@gmail.com |
| 8 | The National Institute of Open Schooling | Open School 9th to 12th | Prof. C.B. Sharma, Chairman, NIOS cm@nios.ac.in , cbsharma01@gmail.com |
| 9 | All India Council of Technical Education | Annual Refresher Programme in Teaching & Foreign Universities | Dr. N.H. Siddalingaswamy, Director (e-Governance), AICTE nhsswamy@aicte-india.org |

## Technical Popular Courses of January 2019 Semester

| Top 20 NPTEL Courses | | | |
|---|---|---|---|
| **S. No.** | **Course Title** | **National Coordinator** | **Total Enrolment** |
| 1 | Programming in Java | NPTEL | 66613 |
| 2 | Problem solving through Programming In C | NPTEL | 65678 |
| 3 | Joy of computing using Python | NPTEL | 57209 |
| 4 | Non-Conventional Energy Resources | NPTEL | 50020 |
| 5 | Programming, Data Structures and Algorithms using Python | NPTEL | 48413 |
| 6 | Data Base Management System | NPTEL | 42625 |
| 7 | Enhancing Soft Skills and Personality | NPTEL | 38561 |
| 8 | Machine Learning | NPTEL | 38449 |
| 9 | Programming In C++ | NPTEL | 37993 |
| 10 | Introduction to Internet of Things | NPTEL | 34062 |
| 11 | Cloud Computing | NPTEL | 28864 |
| 12 | Big Data Computing | NPTEL | 21767 |
| 13 | Machine Learning for Engineering and Science Applications | NPTEL | 21534 |
| 14 | Better Spoken English | NPTEL | 20563 |
| 15 | Digital Electronic Circuits | NPTEL | 19121 |
| 16 | Microprocessors And Microcontrollers | NPTEL | 18418 |
| 17 | Data Mining | NPTEL | 18004 |
| 18 | Electric Vehicles - Part 1 | NPTEL | 17485 |
| 19 | Design and Analysis of Algorithms | NPTEL | 17036 |
| 20 | CMOS Digital VLSI Design | NPTEL | 15977 |

## Non-Technical Popular Courses of January 2019 Semester

| Top 20 Non NPTEL Courses | | | |
|---|---|---|---|
| **S. No.** | **Course Title** | **National Coordinator** | **Total Enrolment** |
| 1 | ICT in Teaching and Learning. | NITTTR | 8612 |
| 2 | Artificial Intelligence | UGC | 5737 |
| 3 | Academic and Research Report Writing | NITTTR | 4731 |
| 4 | Problem Based Learning | NITTTR | 4598 |
| 5 | Advertising and Consumer Behaviour | CEC | 4044 |
| 6 | Learning and Instruction | NITTTR | 3172 |
| 7 | Introduction to Marketing Essentials | IIM Bangalore | 2990 |
| 8 | Nature of Language | CEC | 2915 |
| 9 | IT Fundamentals | CEC | 2718 |
| 10 | Introduction to Managerial Economics | IIM Bangalore | 2660 |
| 11 | Basics of Photography | CEC | 2634 |
| 12 | Awareness Programme on Solar Water Pumping System | IGNOU | 2396 |
| 13 | Solid and Hazardous Waste Management | UGC | 2375 |
| 14 | Intellectual Property Rights | IIM Bangalore | 2162 |
| 15 | Communication Technologies in Education | UGC | 2159 |
| 16 | Fundamentals of Outcome-based Curriculum in Engineering Education | NITTTR | 1987 |
| 17 | Animations | UGC | 1980 |
| 18 | Plant biochemistry and plant biotechnology | CEC | 1966 |
| 19 | Senior Secondary-Psychology | NIOS | 1919 |
| 20 | Introduction to Operations Management | IIM Bangalore | 1906 |

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Government of India

**Ministry of Human Resource Development**