

# CEC News

SPECIAL EDITION ON

DATA JOURNALISM



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NAMASTE

Media and Education  
03-16

EduToon  
17

Our Activities  
18-21

Lecture of the  
Month 22

Tweets On Digital  
Education 24-25

DTH Channels  
26-27



शैक्षिक संचार संकाय

Consortium for Educational Communication

(इलेक्ट्रॉनिक मीडिया पर विश्वविद्यालय अनुदान आयोग का एक अंतर-विश्वविद्यालय केन्द्र)

(An Inter-University Centre of University Grants Commission on Electronic Media)



## Chief Editor

Prof. Jagat Bhushan Nadda

Director, CEC



प्रिय पाठकों,

कोविड-19 के विश्वव्यापी प्रकोप के इस कठिन समय में समूचा विश्व इस चुनौती से लड़ने को प्रतिबद्ध है। इस कठिन घड़ी में शैक्षिक संचार संकाय, अर्थात् सी.ई.सी., आप सभी के साथ है। ऐसे वक़्त में हमें जिम्मेदार नागरिक होने के नाते एकजुट होकर इस महामारी से लड़ने की जरूरत है। मेरा आपसे अनुरोध है कि आप इस महामारी से लड़ने के लिए सहयोग करें और आवश्यक उपाय करें। इस चुनौती को पूरा करने के लिए भारत सरकार ने कई उपाय निकाले हैं। इनमें से एक उपाय है भारत के अधिकांश शिक्षण संस्थानों को कुछ समय के लिए बंद करना। पर आप निराश न हों!! घर पर रहते हुए भी, अब आप सी.ई.सी. यू.जी.सी. यूट्यूब चैनल, स्वयं मूक्स और स्वयं प्रभा डी.टी.एच. चैनल पर सी.ई.सी. की ऑनलाइन कक्षाओं में भाग ले सकते हैं।

आज, सी.ई.सी. एशिया में सबसे बड़ी डिजिटल शैक्षिक कंटेंट भंडार में से एक है। इसमें शैक्षिक सामग्री / कार्यक्रमों की एक विस्तृत श्रृंखला है, जिसके निर्माण और प्रसार में तेजी से वृद्धि हुई है। इस डिजिटल शैक्षिक कंटेंट की गुणवत्ता को लगातार उन्नत करने के लिए, सी.ई.सी. अपने कार्यबल और शिक्षाविदों के लिए नियमित रूप से कार्यशालाओं, प्रशिक्षण और क्षमता-निर्माण कार्यक्रमों का आयोजन करती है ताकि उनका नवीनतम शिक्षा प्रौद्योगिकी के साथ तालमेल बना रहे।

सी.ई.सी. डिजिटल शिक्षा के कार्यान्वयन में शामिल एक महत्वपूर्ण एजेंसी होने के नाते, अपने सभी शिक्षार्थियों को समावेशी शिक्षा प्रदान करने का और उन्हें अपने रोजगार में वृद्धि करने के लिए उपयुक्त कौशल-सेट से लैस करने का भरसक प्रयास करती है।

**आप सभी को मेरी हार्दिक शुभकामनाएं!**

जगत भूषण नड्डा

निर्देशक - सी.ई.सी.

Dear readers,

Consortium for Educational Communication stands in solidarity with the world in this difficult time of COVID-19 outbreak. As responsible citizens, we all need to come together and fight it. The Government of India has taken strong preventive measures to meet this challenge. One of the measures is to suspend teaching in most of the educational institutions in India. I request you to cooperate and take necessary measures to fight this pandemic. And don't you worry!! While at home, you can always attend CEC's online classes on CEC UGC YouTube channel, SWAYAM MOOCs and SWAYAM Prabha DTH Channels.

Today, CEC is one of the largest Digital Educational Content repositories in Asia. It has a wide range of educational content, the production and dissemination of which has risen exponentially. It constantly upgrades the quality of its digital educational content with the latest education technology through workshops and capacity-building programmes for its workforce and academicians.

CEC, being an important agency involved in implementing of Digital Education, strives to provide inclusive education to all its learners and equip them with apt skill-sets to increase their employability.

**My best wishes to you all**

Jagat Bhushan Nadda

Director, CEC

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# THE COMPLEX PECULIARITY OF DATA AND JOURNALISM



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Journalism has always been a topic of intense conceptual debate as to whether it can be seen as a separate form of discipline or whether any individual possessing the right set of tools can practice the art of journalism. Journalism, over the period of years, has seen a remarkable transformation in terms of political journalism, corporate journalism, environmental journalism, sports journalism to even citizen journalism. The latter has been a topic of intense debate by many media scholars and renowned journalists over the argument. They believe that the notion of “Journalism” is an art form that requires a certain understanding of the essential skills before it is put into practice. They have argued that just because technology is allowing accessibility to a layman, the similar cannot be said in the case of different art forms in which journalism is one.

However, in the case of network-driven society, a new concept of data-driven journalism has emerged which too has been a topic of debate on similar grounds. There is no denying in the fact that with

the advancement in ICT and gradual growth of digital media forms, there has been a vast explosion in the case of information markets where certain physical attributes have acclimatized with the digital space and also at the same time certain attributes have gradually disintegrated due to the same. For instance, the pre-ICT boom in the case of informational requirements, consumers used to keep a telephone booklet containing numbers for various forms of services. Currently, everything can be found through search engines such as Google. Also in terms of getting personalized information, there are more than 10,000 applications readily available for the users to gain access to information. However, this digital engagement also has blurred the boundaries between day-to-day forms of engagement amongst users and the skills required to practice a particular art form such as journalism. The most important aspect of digital-based engagement has been that it has brought about the levels of interactivity to a more advanced stage where information sharing is instantaneous and every user is a prosumer of



information (both consumer and producer at the same time). However, in this stage, there is a false consciousness over the idea of creation of information wherein the digital space it is believed that every information created will have a consumption value. Unfortunately, it is the other way round where too much of information created has led to the creation of more and more nuisance value and information overload for the users in terms of determining which data set is necessary for them. This, in turn, has become a challenging process for them.

Here in this scenario, the notion of “data-journalist” and the practice of “data-journalism” becomes pivotal because a data-based journalist is building a narrative on the basis of existing information in the digital space which are existing but are left dormant and raw. These information sets possess an information value but require an additional stage for processing so as to provide clarity over the argument which is being highlighted. In this playing-field, the data-journalist has a very important role to play as he/she is engaging in the process of analytical research to link all the nodes for constructing a sound meaning from the information sets which ultimately can help in present-

ing a social picture to the public in a simple and straight manner.

Data-journalism as a sub-set of journalism requires a certain degree of sensitivity and skill-set in terms of building a narrative through the existing data-sets. It is a very important form of journalism as the degree of in-depth investigation as required in most of the journalistic practices such as crime-reporting and etc. are way less in terms of intensity. What is crucial for the journalist is to identify the information set which has the qualities of reliability and validity of the information in the long run. Manuel Castells, a prominent media scholar, had stated that over time with the advancement of information technologies and its accessibility to the common public, there will be a transformational shift from the value of commodities to the value of information where information will become the most demanding commodity. The economy will be driven on the basis of knowledge created through the information and the whole society will operate on the basis of networks. The facts as presented by Castells are reflecting in the case of India as it possessing almost 17% of the global population where access to digital technologies amongst both the rural and urban population is expanding at an exponential rate. By 2023 it will be more than 627 million. As a result, India will be one of the biggest producers and consumers of information. With the Government of India already taken the initiative of open government portal of data.gov.in in terms of making data on various parameters readily available, the data-sets however, are, raw and require a degree of data processing. More than 10,000 resources and 240 visualizations are available which require information processing for building the narrative. Data journalism is one of the most potential fields in the domain of journalism which is gaining momentum as there is a dire need for experts in the given field who possess the talent for deciphering the data-sets in building the narratives which can be helpful for the society in terms of formation of public opinion and sound public action in the long run.

Data journalists can be equated with artists as like every artist, the data journalist is observing the social surroundings on the basis of information and is creating a discourse out of complex meanings in a more simplistic manner through visual and multi-media forms such as infographics and etc. This quality of data-journalism is unique as it is allowing the development planners to objectively understand how the process of information is shaping into sound knowledge for effective action. Since the whole process of knowledge creation and action is dependent on the information sets, it is crucial for a data journalist to identify the right kind of information sets for the right kind of narrative building. The biggest fear in the case of data-driven journalism is the problem of exclusivity. Since the data is readily available online, most of the journalism practitioners feel that the aspect of exclusivity is lost. In addition to that, there is always a competition of building newer data-sets without even properly exploring as to whether the information over the exploring concern exists online. As a result, most of the data which is available online tends to lose its authenticity over time. Apart from that, it is also crucial for the journalist to be highly media literate in terms of distinguishing between a good

and a bad data-set. Without these set of skills, processing of information can be a very challenging task for any journalist.

With the advent of more advanced forms of information learning such as artificial intelligence, bots and etc. it is going to be a task of utmost responsibility for a data journalist in aiding in the creation of data-sets that possess the qualities of shaping sound knowledge amongst the users. These data-sets will also be useful in terms of complementing the technologies of artificial intelligence which will be automatizing the process of creation of multiple meanings through machine learning. However, it is important that data journalism should be given the utmost importance as it will not only aid in terms of filtering the information in a systematic manner but will also provide a safety net in terms of effective gatekeeping of quality information sets that are available online.



# DATA JOURNALISM: A NEW WAY OF DOING OLD THINGS



**Prof. Hemant Joshi**  
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It will be difficult to think about journalism without data. Even if we talk about nose for news, it is smelling data that makes news. Then what is so special about 'Data Journalism'? We have recently seen a spate of new jargon in journalism which starts from post truth, fake news and now data journalism. In a way all these terms are oxymoron as we could dispute 'the truth' but cannot replace it with post truth, there is either something called news or no news but there cannot be something that we may call fake news. Similarly, journalism has always depended on facts, data and truth. As we are living in a digital age; where there are so many new inventions and innovations are happening. The information technology has given us Artificial Intelligence, Data crunching and data mining software, digitalization of image, music and text and so on. The digitalization of records has made the biggest difference. The statistics has provided us with immense possibility to tell stories in much more convincing and much more interesting manner and that for me is the crux of Data Journalism.

Statistics allow us to analyse the data in many more ways than we could possibly think of. In one of the FICCI report on media, it was shown that there are around 63 million people in India who had access one or more kinds of media for their information and entertainment needs. This in comparison to earlier data would give us some relief that more people have been accessing media. In fact, that was the purpose of FICCI because it is using the data to show

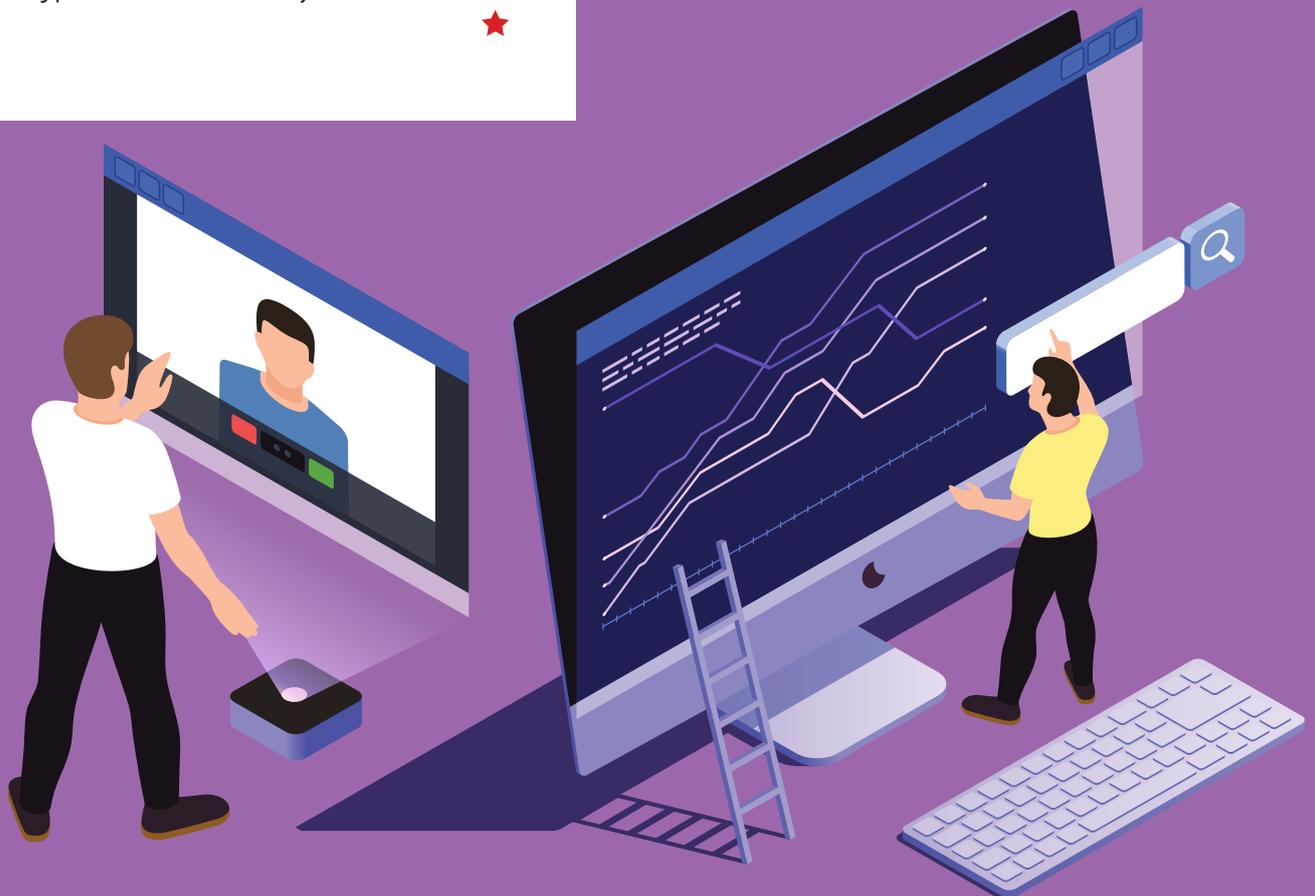
the areas where investment could be done. However, one other way of looking at the same figure is to relate this data with the total population of the country which then would paint a gloomy picture that out of 125 million people only 63 million people have access to one or the other kind of media. It is indeed a very positive trend where the news and information is based on huge amount of data, the numeric data allows us to portray it in imaginative and interesting graphs and charts that satisfy our newly acquired desire to read visuals to make sense of the world. But it has placed more responsibility on the readers as they now have to be more critical of what is being shown to them or projected as news.

Data mining, data crunching and fathoming out large number of documents is the new way of telling the story. Journalists using of various software for hunting for the story has alerted the governments, various national and international organisations and corporations. But with the increasing digitalization, it has become impossible for them to hide facts and statistics. The access of numerous documents and data available on net has given a further push to what we now a days call 'Data Journalism'.

The use of data in journalism is extensive. From the financial crisis to economics behind the products we use, from misuse of public funds to abstracts threats like unemployment. Data trans-

forms all such abstractions into something everyone can relate or understand. It helps use to take decisions about our education or profession. Data helps us analyse the dynamics of complex situations, shows us the fallacies and allows us to see the possible solutions for complex problems. All these have become easier for today's journalists as he has not to run from one office to another, from libraries to archives. Everything is available at the click of a command on a machine capable of providing us access to digital data.

Data has changed the profession of information gathering and has allowed journalists to write news and articles based on facts and insights in a new way; it has reduced the scope of guessing and looking for quotes to write a news story. Not only media houses but various companies and institutions are looking for 'sense makers' and professionals who know how to dig through data and convert it to something that is tangible. But on a serious note, we must ask if that has at all changed the game? No, journalists were doing it for ages, only the techniques are new and they are using new types of media to do journalism.



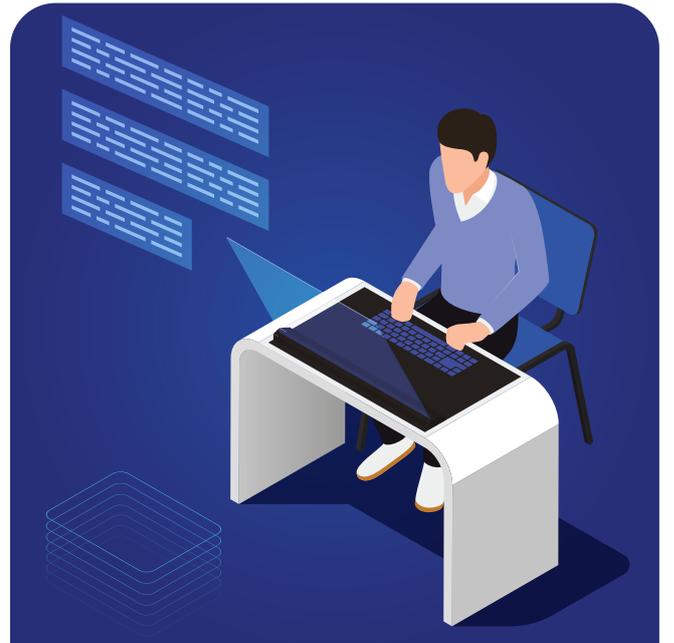
# डाटा जर्नलिज्म बनाम उद्योग

## जगत 4.0 [Data Journalism Vs Industry 4.0]



रवीन्द्र कुमार,  
एकेडमिक कॉर्डिनेटर सीईसी

डाटा जर्नलिज्म भारत जैसी उभरती अर्थव्यवस्था के लिए एक शुभ प्रस्तावना का आगाज कहा जाय तो अतिरंजना नहीं होगी। डाटा जहां आज हमारे दैनिक आचार-व्यवहार में नितांत ही जरूरी तौर पर शामिल हो गया है तो उसे कमतर आंकना आज के दौर से मुंह मोड़ने वाला साबित होगा। पेशे के तौर पर अगर जर्नलिज्म यानी पत्रकारिता की बात करें तो ये मौजूद आधुनिक संचार माध्यमों को बखूबी इस्तेमाल कर सूचना और ज्ञानवर्द्धन की चीजों को हम तक पहुंचाता रहा है। मौजूदा सूचना-तकनीक युग में इसकी विश्वसनीयता और पैमाने पर कसी होने की दरकार कोई बेमानी नहीं है। आज इक्कीसवीं सदी यानी सूचना-तकनीक काल के औद्योगिक युग 4.0 में जी रहे हैं जहां हमसे जुड़ी ज्यादातर खबरें/ चीजें कसौटी पर कसकर पहुंचाने वाले माध्यम और उसके परिष्कृत करने की सुविधाएं मौजूद हैं। ये सूचनाएं-खबर आदि के माध्यम से हमारे पास तक पहुंचती रही हैं। पुरातन काल से विभिन्न जनसंचार माध्यमों का दौर और जिम्मेदारियां समय से साथ नए कलेवर में ढलती रही है, डाटा जनित पत्रकारिता भी अब उसी लय में नए अध्यायों को गढ़ने की चुनौती के लिए तैयार है। इसमें ये जोड़ना बेहद जरूरी है कि चुनौती की स्वीकार्यता जितनी संतुलित होगी तो इस पर कायम रहना उतना ही सुखदायी होने की संभावनाओं को बढ़ा देता है। जहां जर्नलिज्म (पत्रकारिता) जैसे पेशे को पहले से ही विश्वसनीयता के मापदंडों में जांचा-परखा जाता रहा है अब इसको डाटा के नजरिए से परिमार्जित करने की विधा शामिल होने से और धारदार बनाने की चुनौती तमाम पेशेवर लोगों और और इस व्यवसाय में शामिल बहुलांश लोगों की जिम्मेदारी को बढ़ाते ही हैं। डाटा रूपी विशाल सूचना-तंत्र वाले इस युग के फैलते स्वरूप के बारे में ख्यातिलब्ध शोध संस्थान गार्टनर के सीनियर वाइस प्रेसिडेंट पीटर सोनडरगार्ड कहते हैं कि इक्कीसवीं सदी में सूचना एक ईंधन के समान है और इसका परिष्करण समाशोधन करने वाला इंजन सरीखा है।



### नई विधा:

जर्नलिज्म जैसे तो उद्भव काल से ही अपने मूल स्वभाव में जन-सरोकारी के साथ तथ्यपरक रहा है पर औद्योगिक युग 4.0 में डाटा जर्नलिज्म की दस्तक से इसका दायरा काफी विहंगम हो गया है। जहां असंख्य डाटा रूपी सूचनाएं हमारे आस-पास रहती हैं पर इसको सार्थकता से पेश करने का असल ही व्यवसायिकता है। डाटा/ आंकड़ों के सैलाब को तीन तरीके से प्रबंध करना इसकी अहम कड़ी होती है। पहला है कि खबरों या डाटा का चयन करते समय काफी सावधानी बरतनी होती है। साथ ही दूसरा कि

इन आंकड़ों को छलनीनुमा प्रक्रिया से गुजारा जाए। तीसरी और अहम कड़ी इसमें शामिल होती है कि जो आंकड़े अपने यूजर तक पहुंचाना है उसको रोचक, आसान तरीके से ग्राह्य होने के लायक बनाया जाए। इन तीन तरीकों में सबसे चुनौतीपूर्ण जिम्मा तीसरा होता है जो कि हमारी प्रस्तुति यानी रचनात्मकता के जरिए इसकी निरसता को तो तोड़ता ही है साथ ही प्रस्तुतिकरण के जरिए यूजर खुद इससे जुड़ाव भी महसूस करने लगता है।

### बदलता परिदृश्य:

जन संचार और उससे जुड़े जानकारों की माने तो उद्योग 4.0 युग में हम तकनीकी बदलावों की उस दहलीज पर खड़े हैं जहां हमारे रहवास, कार्य-शैली और आचार-शैली को रूपांतरित होना अति आवश्यक है। जानकारों का ये भी मानना है कि इन बदलावों के संचरण को मानव सभ्यता ने पहले कभी अनुभव नहीं किया है। दुनियाभर में उद्योग जगत के सबसे बड़े फोरम विश्व आर्थिक मंच के एक दस्तावेज के मुताबिक डाटा से संचालन, विशिष्टजनित कंप्यूटर पर निर्भरता, आर्टिफिशियल इंटेलिजेंस और विश्लेषणात्मक दक्षता अब समय की जरूरत बन गई है। जर्नलिज्म अब वो नहीं है जो हमें आंखों देखी या घटनाक्रम के बारे में जानकारी मुहैया करा सके। बल्कि अब आंकड़ों के माध्यम से वो सब भी पेश सकते हैं जिन्हें वैसे नहीं समझा जा सकता है। उद्योग 4.0 ने अब वो तकनीक उपलब्ध करा दी है जो थका देने वाले आंकड़ों को परिणति तक पहुंचाने में मददगार साबित हो रहे हैं। वेब मायाजाल में अब ऐसे सहायक/ टूल्स मौजूद हैं जिनके जरिए आपकी परिष्कृत और (विजुअलाइज) करने की सीमितता असीमितता में बदल जाती है।

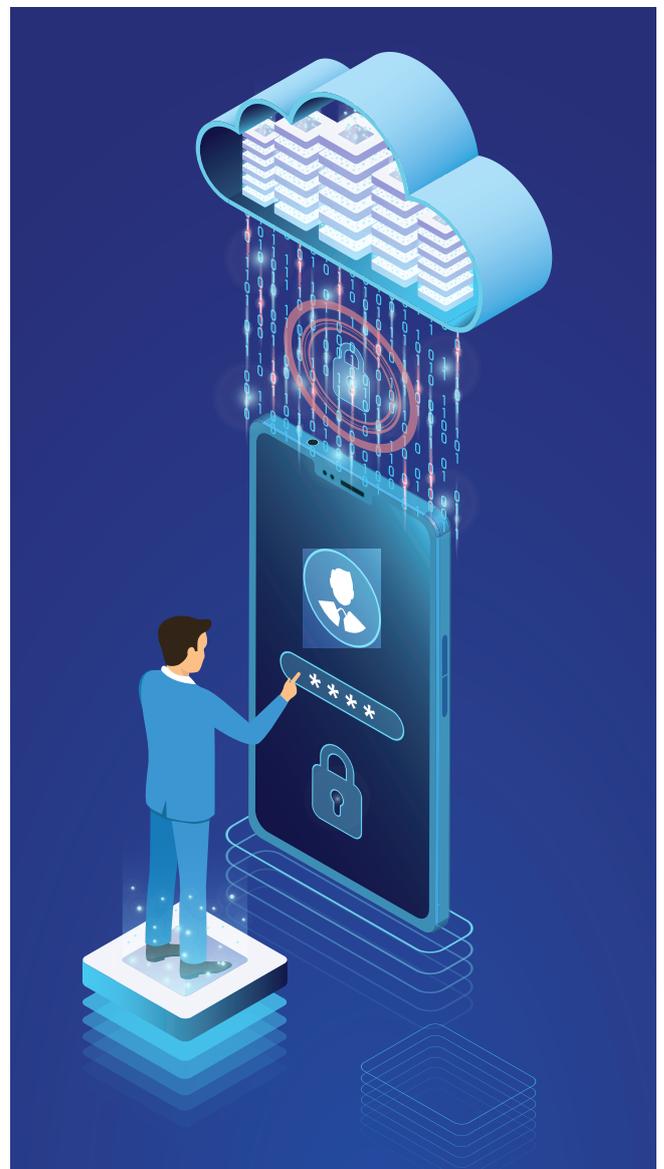
### डाटा प्राकृतिक संसाधन:

उद्योग 4.0 युग में अब जर्नलिज्म भी इसके बदलावों से अछूता नहीं है। वेब जैसे विस्तृत प्लेटफॉर्म के कारोबार ने इसकी सुग्राह्यता को सुलभ कराने का साथ ही पेशेवर लोगों के लिए सभावनाओं को उतरोत्तर बढ़ा दिया है। डाटा जनित कारोबार से जुड़े लोगों का तो यहां तक मानना है कि आज के युग में डाटा एक प्राकृतिक स्रोत का रूप ले चुका है। तमाम सारे उद्योग घराने इस सकारात्मक बदलाव को अपने पक्ष में करने की योजना पर अमल शुरू कर चुके हैं। पेशेवर यानी डाटा जर्नलिज्म से संबद्ध प्रोफेशनल्स को इस बदलती भूमिका के लिए खुद को तैयार करना होगा। साथ ही तकनीकी निर्भरता को एक अवसर समझकर उसको अवश्य भुनाना चाहिए।

### नई उड़ान की तैयारी:

डाटा जर्नलिज्म से न सिर्फ पेशेवर तरीके बल्कि शिक्षा, आर्थिक और नीतिगत फैसलों पर भी व्यापक प्रभाव डालने जा रहा है। इसका ही नतीजा है कि अब कई नई व्यावसायिक पेशेवरों की जरूरत आन पड़ी है। इन पेशेवरों को तैयार करना और उद्योग की जरूरत के लिए तैयार करना सरकारों के लिए भी बड़ी चुनौती है।

डाटा जनित जर्नलिज्म को पाठ्यक्रम या कोर्स का हिस्सा बनाकर इससे जुड़े पेशेवरों को तैयार करने से ही इस नई उड़ान को पंख दिए जा सकते हैं। डाटा विश्लेषण से जुड़े जानकार इस मौके को पत्रकारिता जगत के लिए नए उड़ान वाली संज्ञा पहले ही दे चुके हैं। बस नीति नियंताओं के लिए भी यह सूचक है कि समय की जरूरत को देखते हुए डाटा जनित पत्रकारिता में उद्योग 4.0 की क्या महत्ता हो सकती है उसको चिन्हित करें? साथ ही इस नई भूमिका को कैसे व्यापकतम बनाया जाए इसे अभी चुनौती की तरह लिया जाए तो देश और राष्ट्र के बेहतर विकासोन्मुखी होने की नींव रखी जा सकती है। अंत में इस चुनौती के बारे में यह कहना जरूरी है कि - आप ऋतुओं के बदलने का आभास जब कर रहे हैं तो बसंत आने की तैयारी भी उम्दा करनी ही पड़ेगी। #



# THE RISE OF THE DIGITAL ERA IN SCIENCE JOURNALISM



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Science journalism involves reporting about scientific matters to the public. The field encompasses interactions between scientists, journalists and the common people. It was the year 1994 when the first-ever web online media outlets were initiated in various countries all over the globe. After twenty-five years in professional and academic circles, digital or online journalism started taking place and science journalism could not be left far behind. This particular domain of journalism has undergone remarkable modifications since its inception more than a century ago. However, there are lawful allegations that some present-day photographers/reporters are in close proximity to their provenance, or are otherwise impuissant to convey unprejudiced scrutiny of the field. More so, a widened media ecosystem can be often seen awashed with low-quality, sensationalizing, misleading, without backed by any scientific evidences pseudoscientific material. It is worthwhile to reflect on how successful the vocation has become since its starting, how digitalization, in particular, has shaped its today and to delve into what digital science journalism holds for tomorrow. Talking about the old-time global scenario, particularly the 1890s, there were no science journalists

who were working full-time in the United States and Britain. Although, there was H. G. Wells, who was a well-known English writer who used to write short stories, novels, works of social commentary, history, satire, science fiction, autobiography, biography and recreational war games. When he wasn't writing science fiction, he used to write newspaper articles on authentic scientific findings, highlighting the requirement of writers to pen down the jargon of scientists' in a language that was intelligible to people from non-science fields. In an 1894 edition of Nature, Wells wrote of the need to employ what today is called narrative nonfiction: "The fundamental principles of construction that underlie such stories as Poe's 'Murders in the Rue Morgue', or Conan Doyle's 'Sherlock Holmes' series, are precisely those that should guide a scientific writer." In the year 1904, Adolph Ochs, founder of the modern New York Times, appointed legendary Carr Van Anda as his managing editor. Van Anda may have been the most scientifically sharp-witted news executive of the twentieth century. He had studied physics and astronomy at university. He wrote scientific stories and emboldened his reporters to cover science. He emphasized the necessity for realism and right-

ness: in an often-quoted anecdote, Van Ande rectified a mathematical error in one of the lectures of Albert Einstein that The New York Times was almost about to print, after cross-checking with Albert Einstein. Different from today's time, the writing work of the majority of reporters in the science field in those days mostly included translated jargons of scientists and explanation of their statements and medical leaders. As per a historian of science journalism at Cornell University in Ithaca, New York, Bruce Lewenstein, the small number of science journalists at newspapers of the US in the 1930s and 1940s were of the opinion that it is their duty to coax the society to acquire science as the salvation of society. This was a vestige of the Progressive Era in American history that spanned the 1890s to the 1920s, in which intellectuals of all stripes believed that society was perfectible and that the wonders of science and technology would lead civilization towards this ideal. To accomplish this task, reporters of science in the United States came to the conclusion that they needed scientists to take them more seriously and thus launched the National Association of Science Writers (NASW) in the year

1934. They started calling themselves 'writers' instead of 'journalists' or 'reporters' to sound more professional. All the 12 members of NASW informed scientists that they can, without any worries, talk to members as they belonged to an elite part of society. The scientists were given instructions not to talk to people outside the NASW because those reporters were not 'true science reporters'.

It is after this time that the 'Gee-Whiz Age' of science reporting took its form in which more importance was given to the wonders of science and reverence for scientists instead of analysis on the work done or any anticipation of its effects on society. In the year 1937, George W. Gray, who covered science for Time magazine, wrote that science journalism should serve to make "the scientific method an integral part of popular education and through it a universal element of civilized thinking". When Gray won an award in 1949 from the American Association for the Advancement of Science, he gushed: "What counts most is the recognition from scientists themselves." Throughout much of this period science reporters encouraged the mythos, as Lewenstein puts it, "that the proper relationship between scientists

and science writers was one of trust and respect." One of the best examples of such trust and respect can be seen in science reporter William Laurence's coverage of the Manhattan Project to develop the first atomic bomb.

The amount of science journalism boomed starting with the birth of a science section in The New York Times in 1978. By the boom's peak in the year 1987, around 147 newspapers had at least a weekly science page, and four new popular-science magazines had joined the venerable Scientific American and Science News. Sadly, this upturn was short-lived. By the late 1980s the magazine upsurge was over — all the new titles, none of which was ever profitable, died except for Discover, which still exists alongside the older titles. The number of newspaper science sections started to fall, eliminat-



ing all but the handfuls that survive today. In India, science journalism began in the 19th century. Digdarshan, a monthly trilingual (it used Hindi, Bengali, and English) journal was published in Hooghly in West Bengal. It was only after Independence that steps were taken to publicize science. The Scientific Policy Resolution of March 4, 1958 played a significant role in spreading science education and also in developing industry and technology. Attention of media was restricted to publishing news of discoveries in science and related developments, mostly in the inside pages. In the last two decades there has been a measurable augmentation of the scope of science and technology coverage in daily newspapers and magazines, owing to the developments in science-intensive sectors of the “new economy”, notably information technology and biotechnology. However, it would be worth mentioning here that no matter how much science journalism has expanded over the time, no notable improvement in the quality of science writing has taken place. The message of science is yet to reach large sections of people, who still largely remain in the grip of superstition, across the country. This is evident from the recent incident of mass whipping of women, in a Tamil Nadu village, who were allegedly possessed by “evil spirits”.

With the blossoming of technology and electronic communication tools and platforms, scope of journalism has expanded and encompasses all domains of information delivery. Around 80% of Indians consume news and get information on the Internet, primarily through social media and instant messaging services. Bypassing the barriers of time and accessibility, large number of news organizations use web-based services like Facebook, Twitter, YouTube, LinkedIn etc. Digital science journalism goes beyond what daily newspapers and magazines do in a general sense. It is excessively going online, where there are numerous possibilities of offering rich content including graphics. It also includes relatively accessible material published in high-impact science journals, for example Nature and Lancet. Besides,

there is investigative and independent science journalism, which is becoming popular. SciDev.Net is one such “world’s leading source of reliable and authoritative news, views and analysis about science and technology for global development”. IndiaBioscience (indiabioscience.org) is an organization nurtured within the campus of the National Centre for Biological Sciences, Bangalore that “aims to increase the visibility of science in society, by being a hub for policy discussions, science communication, and as an aggregator of information”.

As the ‘Digital Era’ is expanding its horizon, traditional news outlets are vanishing, giving science journalists the liberty to publish their content online with graphics, enabling them to connect directly with the readers. But, scientists can also use the online media and take their agendas directly to the public. It is becoming increasingly difficult for readers to tell which sources are disinterested and which have an axe to grind. If science journalists are to regain relevance to society, not only must they master the new media, they must learn enough science to analyze and interpret the findings – including the motives of the funders. Recently, the #savescience movement began trending on several social media platforms mainly because of the unscientific statements which are constantly being published in multiple scientific forums online and otherwise. A number of students, teachers and researchers participated in the debate. The discussions highlighted the need of strict regulations on what can be posted and what not. Scientific community should work together to denounce pseudoscience claims and promote rigorously-tested and validated science.

No wonder ‘digitalization’ of science journalism has made the essence of science reach and influence masses but still there are ‘miles to go’ and while we embark on this journey, let’s move forward responsibly. ★

# MOOCS AND BLENDED LEARNING: THE FUTURE OF LEARNING



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Blended Learning is a concept where traditional classroom methods are combined with online tools to provide a more enriched learning experience for the students. The term Blended Learning was coined in the late 1990s. However, the term is still evolving with newer pedagogical interventions and innovations being practiced across the globe. Different scholars and researchers provide different interpretations of the term based on their experience and practices. With the proliferation of the MOOCs (Massive Online Open Course) especially those being funded by the governments in developing countries the term is getting more refined and redefined. Under the National Mission on Education through ICT (NME-ICT) of the Ministry of Human Resource Development (HRD) is already spearheading the concept through platforms like e-PG Pathshala, SWAYAM among others. With e-PG Pathshala running courses in 68 disciplines and providing free of cost high-quality content for post-graduate level students.

Oliver and Trigwell (2005) believe that blended learning requires two or more different kinds of things that can be mixed. On the other hand, Driscoll (2002) considers that an amalgamation of various technology tools, pedagogical approaches, instructional technologies, and actual job tasks. Some scholars refer to such learning processes as 'hybrid learning' as it prominently uses technology-driven tools to complement the traditional classroom set up. Sloan Consortium defines hybrid courses as those that 'integrate online with traditional face-to-face class activities in a planned, pedagogical valuable manner.'

The focus of Blended learning is upon balancing the offline (face-to-face, traditional) and online learning so that the education process becomes more student-centric rather than one method replacing the other. The method provides flexibility to the students to approach, understand and learn the pre-decided curriculum according to his

or her own pace, speed, timings and in varied physical settings. Thus, making education a more 'personalized experience' rather than being a mass-based product.

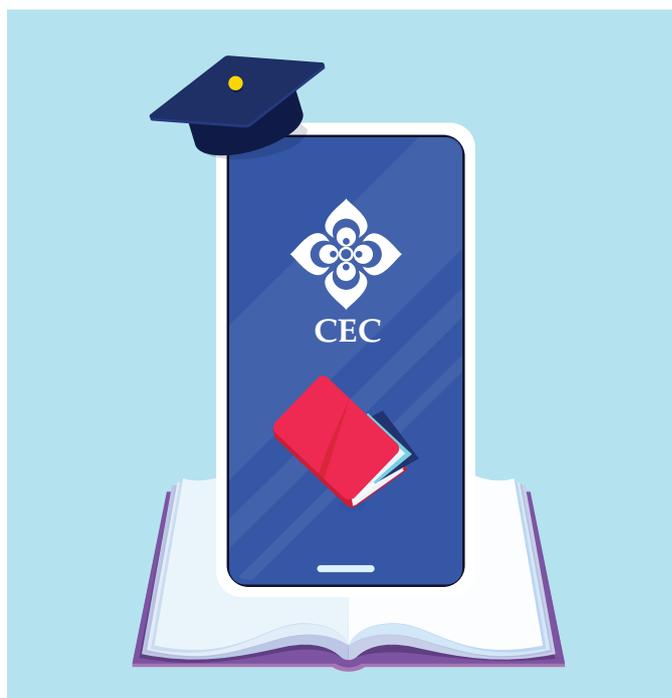
According to a study conducted by KPMG and Google titled 'Online Education in India: 2021', India's online education market users are set to touch 9.6 million users by the year 2021. This would be a big jump from the users in 1.6 million users in the year 2016. The estimated market size would be 9.6 billion USD in the year 2021 which showcases marked improvement from the market size of USD 247 billion USD in 2016. These numbers showcase the potential and scope of Blended learning in India and the increasing comfort levels of the youth population of the country with the online mediums or online study channels in gathering information and knowledge.

Some of the important factors for increased youth engagement with online educational options are the perceived convenience of these mediums within the student community, the flexibility of dates to start the learning process, variety of material available on the net and the idea of continuous learning. Whereas increased Internet penetration, smartphone user base, reduced cost of data plans and the low cost of online education are contributing factors to the online adoption among the youth segment of the Indian population.

According to a report by the Internet and Mobile Association of India (IAMAI) released in September 2019, India has 451 million active internet users monthly, which is second only to China. The internet penetration in India was estimated to be 36 percent in the report. It also states that nearly 2/3rd of the Internet population in India were daily users. 9 out of 10 users' in urban accessed the Internet at least once a week with young users, aged between 16-29 years are being the most frequent users. However, the report also points out the differences in penetration as well as usage patterns between Urban India and Rural India which could be a hindrance to the organic growth of online education in India.

The closely linked idea to Blended Learning is that is the idea of 'Flipped Classroom'. In such a learning environment, a student is introduced to the material before the class. The student browses and develops an understanding of the topic concerned before coming to the classroom. The teacher and students in a classroom set up then engage in critical thinking, raising questions, clarifying doubts, problem-solving or discuss out of the box solutions. Thus, developing a multi-dimensional understanding of the topic and deriving out solutions that could be utilized in real-life situations. Thus, the Flipped Classroom approach reverses the banking model in education and aims to impart education through deliberation and discussions. It enables students where she/he is open to debate, deliberate and discuss new ideas and propose innovative solutions. It transforms classrooms into incubation centres where ideas could be conceived, tested and validated or discarded.

The Banking Model of Education was proposed by Paulo Freire in his book 'Pedagogy of the Oppressed' in 1968. The model is a critique of the traditional classroom teaching where students store information delivered to them in a lecture mode. In this model students are expected to recall the informa-



tion that is imparted to them thus, leaving little space and time to develop critical thinking and development of their mental faculties. It does not consider teaching and learning as a two-way medium where both student and teacher contribute to the process. Nor, it is a proponent of the skill-based approach to learning. Thus, it reduces the space for the free flow of information exchange.

Whereas Blended Learning processes allows the learning process to continue much beyond the timings and set up an educational institution. Thus, the education process becomes much more customized and adaptable to the needs of the learner rather than one-size fits all approach. But the core focus of the Blended Learning process remains that it needs to harness the best of both worlds –online and offline rather than one challenging the other or status quo.

The online education environment indeed provides adaptability and flexibility but it could also be used for collaborative set up with the use of tools like Google Classroom, Moodle among others. Blended Learning creates an enabling environment for the student and is aimed at making the student self-dependent rather than being dependent upon one source, format or medium to understand a topic concerned. The multi-media technologies used in education create a seamless understanding of the static topics whereas dynamic topics are discussed in the classroom environment.

But, each approach has its limitations and constraints thus, even Blended Learning with online tools should not be hailed as the ‘digital only is the future’. The significance and the importance of the teacher in directing the learning process could not be undermined in the entire learning process. In Blended learning, teaching and technology have to be harmonized for better learning outcomes. Content has to be created suitable for different multimedia formats keeping in mind the format and essential feature of the format where it would be uploaded for the students. Content has to be made dynamic

enough with the scope of evoking interest and curiosity in the minds of the learners that could be utilized to enrich the classroom deliberations.

Different methodologies and ways are being experimented across the world for using the Blended Learning process. In most cases, the teachers are using some system of course management system applications for streamlined access to materials, videos, podcasts, PowerPoint presentations, and worksheets. Such Content Management systems also enable teachers to track assignments, gauging students’ understanding and interest, creating groups for discussions or raising concerns and connect with other professors. It provides an opportunity for students to do understand the subject in a multimedia coursework format. The discussion forums created through the Content Management Applications are used by both students and teachers to motivate students, raise doubts and an enabling and safe environment for the free exchange of information.

Blended Learning brings a responsibility to the educators as they have to create, curate and organize the content to be delivered to the learners in a sequential and timely manner as per the needs of the predesigned curriculum. Thus content curation allows faculty to collaborate to create high-quality engaging content for the learners. It would also create possibilities of using the already existing open-source material available on the internet and use it for students’ advantage. It would also allow students to access material and learning resources used in other universities and institutions. Such refurbishing of the material already existing would save up the time and financial resources of the faculties thus, they could end up more time to provide enriching supplementary or support materials for more in-depth knowledge. Blended Learning also provides an opportunity for interdisciplinary courses and forge partnerships between different institutions.

An important challenge with Blended Learning is to create the correct balance between classroom teaching and online tools. Thus, it is important to decipher how much of face-to-face instruction

would take place and how many portions of the predesigned syllabus is to be taught through multimedia platforms. The balance has to be derived through understanding the needs of the students, difficulty level of the topic and dynamism of the topic under consideration. Thus, experts believe that Blended Learning should not be treated as a ready-made solution to the gaps in the traditional setup. Rather it requires precise planning in terms of timing, delivery of content, quality, length and format of the content alongside testing techniques.

According to the World Economic Forum's Future of Jobs 2018 report, more than one-half of India's workforce will need to be reskilled by 2022 to meet the demands of the Fourth Industrial Revolution. A significant proportion of the Indian youth section is employed by the IT sector which is embracing newer technologies such as Artificial Intelligence, Machine Learning, Cloud computing, robotics, Internet of things among others. Thus, there exists a significant gap in the set of skills required to meet the challenges that one will encounter at the workplace. The crucial question that now glares in the face is that whether online education with thrust upon MOOCs courses and certification from government agencies would be able to fill the gap through Blended Learning.

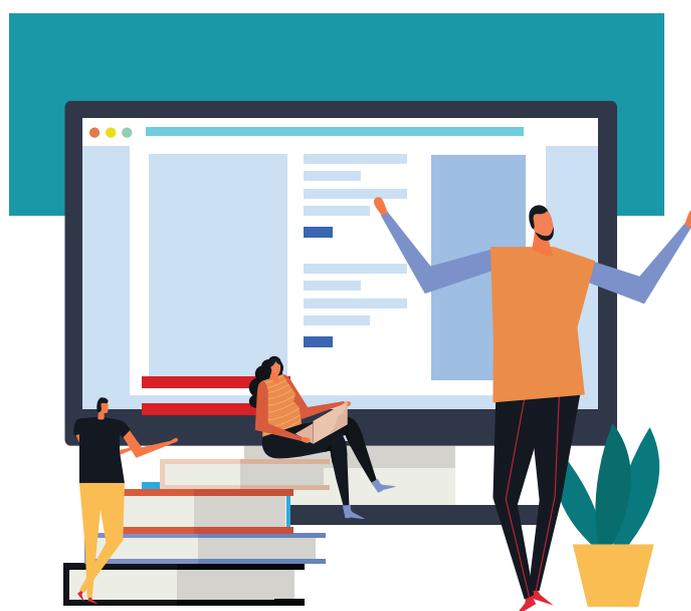
India's reskilling challenge is undoubtedly huge with more than half of its population in the working-age bracket. And it requires a massive effort from both the government and private players to address the challenge in the job market. The lack of talent pool with the requisite skills can have direct consequences on the GDP (Gross Domestic Product) growth, productivity and efficiency, investment climate and could endanger the future growth of the country.

To close the skills gap within the different sectors of the economy, MOOCs could act as a game-changer having the capacity to bridge the gaps as well as provide authenticated online certifications from reputed universities in the country. With the help of the private sector virtu-

al classrooms could be set up within the organizational structure and courses could be conducted in a time-bound manner. There could be different formats for conducting such courses with online classes as well as assignment based tasks or even occasional visits by the faculty to address the problems faced and critical engagement.

This challenge also brings a golden opportunity to create partnerships with corporate India to design and cater courses according to their needs and demands. This would be a beneficial exercise for both the industry and academia and would help the professors to design and develop courses in the future that would be more accustomed to the needs of the industry and real settings. Blended Learning provides an excellent opportunity to reskill India's workforce and hand holding the young workforce towards making India a hub of the fourth Industrial Revolution. It would also be contributing to fulfilling the dream of India becoming the five trillion dollar economy by 2024-25.

At the conclusion, it is often said that technology is a great enabler and empowers citizens, however, George Couros, author of the book *The Innovator's Mindset* said: "Technology will never replace great teachers, but technology in the hands of great teachers is transformational."



Hello, Anita! The classes have been suspended due to COVID-19 outbreak. We can't go to the library now.

Oh no! But we still have to study for our project. How will we do that now?

Oh, don't worry, I have an idea!

What's that?

The idea is - let's go back home!!

Home?! Please get serious about this, Ravi. I don't want to fail.

We won't fail. We go home and tune in to CEC's Massive Open Online Courses and watch online lectures on CEC UGC YouTube channel and CEC's II SWAYAM Prabha DTH channels.

Oh what a great idea!! That way we won't miss out on our studies and still get all our work done. Let's go home and start working!!

## PROTECT yourself from CORONAVIRUS



Cover your sneeze and cough with tissue



Wear a medical mask



Wash your hand often

## ई.एम.आर.सी., ई.एफ.एल.यू. द्वारा " मूक्स डिजाइनिंग और निर्माण" पर कार्यशाला @ ए.एस.डी. गवर्नमेंट डिग्री कॉलेज फॉर विमेन, आंध्र प्रदेश

सुश्री एस. सुप्रिया, निर्माता और मूक्स समन्वयक, शैक्षिक मीडिया अनुसंधान केंद्र (ई.एम.आर.सी.), अंग्रेजी और विदेशी भाषा विश्वविद्यालय (ई.एफ.एल.यू.), हैदराबाद ने 7 फरवरी 2020 को ए.एस.डी. गवर्नमेंट डिग्री कॉलेज फॉर विमेन, काकीनाडा, आंध्र प्रदेश में व्याख्याताओं के लिए "मूक्स डिजाइनिंग और निर्माण" पर एक दिवसीय उन्मुखीकरण-सह-प्रशिक्षण कार्यक्रम का सञ्चालन किया।

कार्यक्रम दो सत्रों में आयोजित किया गया था। पहले सत्र में, सुश्री सुप्रिया ने प्रतिभागियों को मूक्स की अवधारणा से अवगत कराया। उन्होंने मैसिव ओपन ऑनलाइन कोर्सेज (मूक्स) की आवश्यकता और महत्व, स्वयं का परिचय, मूक्स के निधिकरण और मूक्स के राष्ट्रीय समन्वयकों इत्यादि के बारे में बताया। दूसरे सत्र में, सुश्री सुप्रिया ने मूक्स के निर्माण, मूक्स की संरचना, मूक्स अपलोड करने, परीक्षा प्रक्रिया और अंतिम परिणामों में शामिल विभिन्न प्रक्रियाओं में ई.एम.आर.सी. की भूमिका से अवगत कराया। कार्यशाला में काकीनाडा और राजमुंदरी, आंध्र प्रदेश के विभिन्न कॉलेजों के लगभग 40 व्याख्याताओं ने भाग लिया था।

## Workshop on "Designing & Creation of MOOCs" by EMRC, EFLU @ ASDGDCW, Andhra Pradesh

Ms. S. Supriya Producer & MOOCs coordinator, Educational Media Research Centre (EMRC), English and Foreign Languages University (EFLU), Hyderabad conducted a one-day orientation-cum-training programme on creation of MOOCs for the lecturers of the ASD Government Degree College for Women, Kakinada, Andhra Pradesh on 7th February 2020.

The programme was organized in two sessions. In the first session, Ms. Supriya introduced the participants with the concept of MOOCs. She talked about the need and importance of Massive Open Online Courses (MOOCs), introduction to SWAYAM, funding for MOOCs and National Coordinators of MOOCs. In the second session, Ms. Supriya explained the role of the EMRC in various processes involved in creation of MOOCs, the structure of MOOC, uploading of MOOCs, examination process and end results. About 40 lecturers from different colleges in Kakinada and Rajahmundry, Andhra Pradesh participated in the workshop.

### Workshop on "Designing & Creation of MOOCs" by EMRC, EFLU @ ASDGDCW, Andhra Pradesh

ई.एम.आर.सी., ई.एफ.एल.यू. द्वारा " मूक्स डिजाइनिंग और निर्माण" पर कार्यशाला @ ए.एस.डी. गवर्नमेंट डिग्री कॉलेज फॉर विमेन, आंध्र प्रदेश



## ई.एम.आर.सी., जोधपुर के प्रबंधक मंडल की 12 वीं बैठक

11 फरवरी, 2020 को फैकल्टी ऑफ इंजीनियरिंग, जे.एन.वी. यूनिवर्सिटी, जोधपुर, राजस्थान में ई.एम.आर.सी., जोधपुर के प्रबंधक मंडल की 12 वीं बैठक हुई। बैठक की अध्यक्षता विश्वविद्यालय के माननीय कुलपति प्रो. (डॉ.) प्रवीण चंद्र त्रिवेदी ने की। बैठक में उपस्थित गणमान्य व्यक्ति थे प्रो. जगत भूषण नड्डा, निदेशक, सी.ई.सी., प्रो. रवि भूषण, प्रोफेसर, रसायन विज्ञान विभाग, आई.आई.टी. रुड़की, प्रो. प्रकाश चंद चंदेल, वाणिज्य विभाग, हिमाचल प्रदेश विश्वविद्यालय और प्रो. सी.आर. चौधरी, निदेशक, ई.एम.आर.सी., जोधपुर और सदस्य सचिव। श्री के.एस. महाजन, सलाहकार (वित्त और प्रशासन), सी.ई.सी., सुश्री चंचल वर्मा, रजिस्ट्रार, जे.एन.वी. विश्वविद्यालय और श्री अभिमन्यु, नियंत्रक (वित्त), जे.एन.वी. विश्वविद्यालय विशेष अतिथि के रूप में बैठक में शामिल हुए।

बोर्ड ने ई.एम.आर.सी., जोधपुर द्वारा की गई प्रगति की सराहना की। सी.ई.सी. के निदेशक प्रो. जगत भूषण नड्डा ने सुझाव दिया कि राजस्थान के विश्वविद्यालयों और कॉलेजों के शिक्षाविदों के लिए "मूक्स विकास" पर कार्यशालाओं के निधिकरण के लिए सी.ई.सी. को प्रस्ताव भेजे जाएं। इसके अलावा, प्रो. नड्डा ने सुझाव दिया कि शिक्षकों और छात्रों के बीच व्यापक प्रचार के लिए, प्रचार सामग्री को बैनर, पोस्टर, मैसिव ओपन ऑनलाइन कोर्सेज (मूक्स) और सामाजिक और व्यवहारिक विज्ञान पर स्वयं प्रभा डी.टी.एच. चैनल 03 "प्रबोध" से संबंधित परिचयात्मक फिल्म के रूप में तैयार किया जाए। बैठक के दौरान, यह भी सुझाव दिया गया कि ई.एम.आर.सी. के लिए धनार्जन करने के लिए ई.एम.आर.सी., जोधपुर स्व-वित्तपोषित पाठ्यक्रम चलाने में जय नारायण व्यास विश्वविद्यालय को समर्थन देगी। अंततः, बोर्ड ने यू.जी.सी. को प्रस्तुत किया गए वर्ष 2020-2021 के बजट अनुमान को मंजूरी दे दी, जो कि ई.एम.आर.सी., जोधपुर के लिए स्टूडियो के नवीनीकरण / विस्तार के लिए आवश्यक है।

## 12th Meeting of Board of Management of EMRC, Jodhpur

The 12th meeting of Board of Management of Educational Media Research Centre (EMRC), Jodhpur was held on 11th February, 2020 at Faculty of Engineering, JNV University, Jodhpur, Rajasthan. The meeting was chaired by Hon'ble Vice-Chancellor of the University Prof. (Dr.) Pravin Chandra Trivedi. The dignitaries present in the meeting were Prof. Jagat Bhushan Nadda, Director, CEC, Prof. Ravi Bhushan, Professor, Department of Chemistry, IIT Roorkee, Prof. Parkash Chand Chandel, Department of Commerce, Himachal Pradesh University and Prof. C.R. Choudhary, Director, EMRC, Jodhpur & Member Secretary. Mr. K.S. Mahajan, Consultant (Finance & Administration), CEC, New Delhi, Ms. Chanchal Verma, Registrar, JNV University and Mr. Abhimanyu, Comptroller (Finance), JNV University attended the meeting as guest invitees.

The Board appreciated the progress made by EMRC, Jodhpur. Prof. Jagat Bhushan Nadda, Director, CEC suggested that proposals be sent to CEC for funding workshops on "MOOCs Development" for academicians of universities and colleges all over Rajasthan. Further, Prof. Nadda suggested that for wide publicity among teachers and students, publicity material be prepared in the form of Banners, Posters, introductory film related to Massive Open Online Courses (MOOCs) and SWAYAM PRABHA DTH Channel 03 "PRABODH" Social and Behavioural Science. During the meeting, it was also suggested that EMRC, Jodhpur will support Jai Narain Vyas University in running self-financed courses to generate funds for EMRC, Jodhpur. The Board approved the budget estimate for the year 2020-2021 submitted to UGC for renovation/extension of the studio for EMRC, Jodhpur.

### 12th Meeting of Board of Management of EMRC, Jodhpur

ई.एम.आर.सी., जोधपुर के प्रबंधक मंडल की 12 वीं बैठक



## ई.एम.आर.सी., जोधपुर वेबसाइट का शुभारंभ

11 फरवरी, 2020 को प्रबंधक मंडल की बैठक के पश्चात् माननीय कुलपति और प्रबंधक मंडल के अध्यक्ष, प्रो. प्रवीण चंद्र त्रिवेदी, प्रो. जगत भूषण नड्डा, निदेशक, सी.ई.सी., प्रो. सी.आर. चौधरी, निदेशक, ई.एम.आर.सी. और सदस्य सचिव एवं अन्य सदस्यों ने बैठक के बाद ई.एम.आर.सी., जोधपुर की वेबसाइट [emmrcjodhpur.edu.in](http://emmrcjodhpur.edu.in) का उद्घाटन किया। राजस्थान के शिक्षार्थियों के लिए डिजिटल शिक्षा के महत्व को समझते हुए, राजस्थान के माननीय राज्यपाल और जे.एन.वी. विश्वविद्यालय के कुलाधिपति, श्री कालराज मिश्र ने इस अवसर पर प्रसन्नता व्यक्त की और ऑनलाइन शिक्षा के लिए शिक्षार्थियों को एक मंच प्रदान करने के लिए ई.एम.आर.सी., जोधपुर की प्रशंसा की।

इस वेबसाइट पर ऑनलाइन शिक्षा के लिए स्वयं पोर्टल पर ई.एम.आर.सी., जोधपुर द्वारा विकसित और अपलोड किए गए विभिन्न मैसिव ओपन ऑनलाइन कोर्सेज (मूक्स) शामिल हैं जैसे की: व्यापार के सिद्धान्त, निगमित लेखांकन, खुदरा व्यापार प्रबंधन, लागत लेखांकन, व्यापार संचार, लेखांकन का वैचारिक ढांचा, उद्यमिता, वित्तीय प्रबंधन और विज्ञापन के बुनियादी ढांचे। ई.एम.आर.सी., जोधपुर द्वारा स्वयं प्रभा डीटीएच चैनल 03 “प्रबोध” के सामाजिक और व्यवहार विज्ञान के लिए निर्मित शैक्षिक वीडियो कार्यक्रमों को भी इस वेबसाइट से जोड़ा गया है। इसके अलावा, समाजशास्त्र, नृविज्ञान, सामाजिक कार्य, राजनीति विज्ञान, लोक प्रशासन, मनोविज्ञान, जनसंख्या अध्ययन और महिला अध्ययन के विषय श्रेणी में कार्यक्रम भी इस नई वेबसाइट के माध्यम से उपलब्ध कराए गए हैं। ई.एम.आर.सी., जोधपुर की यह पहल कहीं भी और कभी भी उच्च शिक्षा प्राप्त करने वाले छात्रों के लिए एक मील का पत्थर साबित होगी।

## Inauguration of EMRC, Jodhpur Website

After the meeting of BoM, Hon'ble Vice Chancellor & Chairman BoM, Prof. Pravin Chandra Trivedi, Prof. Jagat Bhushan Nadda, Director, CEC, Prof. C.R. Choudhary, Director, EMRC & Member Secretary and other members and invitees of BoM inaugurated the website of EMRC, Jodhpur: [emmrcjodhpur.edu.in](http://emmrcjodhpur.edu.in) on 11th February, 2020. Recognizing the importance of Digital Education for the learners of Rajasthan, the Hon'ble Governor of Rajasthan and Chancellor of JNV University, Shri Kalraj Mishra expressed his pleasure on the occasion and praised EMRC, Jodhpur for providing the learners with a platform for online education.

The website contains various Massive Open Online Courses (MOOCs) developed and uploaded by EMRC Jodhpur on the SWAYAM Portal for online education which include: Principles of Marketing, Corporate Accounting, Retail Business Management, Cost Accounting, Business Communication, Conceptual Framework of Accounting, Entrepreneurship, Fundamentals of Financial Management and Advertising. Educational video programmes produced by EMRC, Jodhpur for the SWAYAM PRABHA DTH Channel 03 “PRABODH” Social and Behavioural Science have also been linked to this website. Further, programmes in the subject category of Sociology, Anthropology, Social Work, Political Science, Public Administration, Psychology, Population Studies and Women Studies have also been made available through the new website. This initiative by EMRC, Jodhpur will prove to be a milestone for the students seeking higher education “Anytime Anywhere”.

Hon'ble Vice Chancellor & Chairman BoM, Prof. Pravin Chandra Trivedi, Prof. Jagat Bhushan Nadda, Director, CEC, Prof. C.R. Choudhary, Director, EMRC & Member Secretary and invitees of BoM inaugurating the website of EMRC Jodhpur: [emmrcjodhpur.edu.in](http://emmrcjodhpur.edu.in)

माननीय कुलपति और प्रबंधक मंडल के अध्यक्ष, प्रो. प्रवीण चंद्र त्रिवेदी, प्रो. जगत भूषण नड्डा, निदेशक, सी.ई.सी., प्रो. सी.आर. चौधरी, निदेशक, ई.एम.आर.सी. और सदस्य सचिव एवं अन्य सदस्य ई.एम.आर.सी., जोधपुर की वेबसाइट [emmrcjodhpur.edu.in](http://emmrcjodhpur.edu.in) का उद्घाटन करते हुए



## ई.एम.आर.सी., श्रीनगर द्वारा निर्मित फिल्मों ने कोच्चि में दो पुरस्कार जीते

शैक्षिक मीडिया अनुसंधान केंद्र (ई.एम.आर.सी.), श्रीनगर ने 22 वें 24 फरवरी से 24 फरवरी तक केरल के कोच्चि में आयोजित अखिल भारतीय बच्चों के शैक्षिक ऑडियो-वीडियो महोत्सव और आई.सी.टी. मेला 2020 के दौरान दो श्रेणियों में दो पुरस्कार प्राप्त किए हैं। यह त्यौहार सी.आई.ई.टी. - एन.सी.ई.आर.टी. (सेंट्रल इंस्टीट्यूट ऑफ एजुकेशनल टेक्नोलॉजी-नेशनल काउंसिल ऑफ एजुकेशनल रिसर्च एंड ट्रेनिंग) द्वारा एस.आई.ई.टी. (स्टेट इंस्टीट्यूट ऑफ एजुकेशनल सोसायटी), केरल और सी.यू.एस.ए.टी. (कोचीन यूनिवर्सिटी ऑफ साइंस एंड टेक्नोलॉजी) के सहयोग से आयोजित किया गया था।

महोत्सव के दौरान निम्नलिखित फिल्मों को सम्मानित किया: "एस.ई.सी.एम.ओ.एल.: द स्कूल फॉर नॉरफेल" को "बेस्ट सिनेमैटोग्राफी" के लिए पुरस्कृत किया गया, जिसे प्रो. शाहिद रसूल और शफाकत हबीब ने संयुक्त रूप से निर्मित और निर्देशित किया; और "अनट्रीटेड वेस्ट - इनविटेशन टू डिजास्टर" को "बेस्ट वॉइसओवर" के लिए पुरस्कृत किया गया, जिसे ई.एम.आर.सी., श्रीनगर के ई.आर. अब्दुल रशीद भट ने निर्मित और निर्देशित किया है। "एस.ई.सी.एम.ओ.एल.: द स्कूल फॉर नॉरफेल" के लिए कैमरा वर्क शफाकत हबीब और गुलजार अहमद ने किया था, जबकि "अनट्रीटेड वेस्ट - इनविटेशन टू डिजास्टर" के लिए वॉइस-ओवर मोहम्मद फहीम उल इस्लाम ने किया है। प्रो. शाहिद रसूल, निर्देशक, ई.एम.आर.सी., श्रीनगर ने ई.एम.आर.सी. में एक समारोह में पुरस्कार विजेताओं के बीच प्रमाण पत्र और ट्राफियां वितरित की और टीम को बधाई दी।

## Films produced by EMRC, Srinagar bag two awards at Kochi

The Educational Media Research Centre (EMRC), Srinagar has bagged two awards in two categories during the 24th All India Children's Educational Audio-Video Festival & ICT Mela 2020 held from 22nd- 24th February at Kochi, Kerala. The festival was organized by CIET-NCERT (Central Institute of Educational Technology-National Council of Educational Research and Training) in collaboration with SIET (State Institute of Educational Society), Kerala & CUSAT (Cochin University of Science and Technology).

The films that were awarded during the festival include: SECMOL: The School for Norphel for "best cinematography", jointly produced and directed by Prof. Shahid Rasool and Shafqut Habib; and Untreated Waste - Invitation to Disaster for "best voice-over", produced and directed by Er Abdul Rashid Bhat of EMRC, Srinagar. The camera work for SECMOL: The School for Norphel was done by Shafqut Habib and Gulzar Ahmad, while the voice-over for Untreated Waste - Invitation to Disaster was done by Mohammad Faheem Ul Islam. Director EMRC, Srinagar, Prof. Shahid Rasool distributed certificates and trophies among the awardees at a function at the EMRC and congratulated the team.



Films produced by EMRC, Srinagar bag two awards at Kochi  
ई.एम.आर.सी., श्रीनगर द्वारा निर्मित फिल्मों ने कोच्चि में दो पुरस्कार जीते



**Resource Person:**  
Dr Kanta Bhatia

**Affiliation:**

Principal,  
Bharati college, University of Delhi

## Panchang in Jyotish

**About the Expert:**

Dr. Kanta Bhatia is the Officiating principal in Bharati college, University of Delhi, Coordinator of NCWEB and presently Vice Chairperson, Delhi Sanskrit Academy. She has 45 years of teaching experience and was awarded the Best Lecturer Award by the Government of Delhi. She has published 13 books on grammar, Jyotish and literature for UG and PG courses. She has also presented and published papers in National and International journals and Proceedings. Apart from this, she has organised international and National Conferences and Seminars.

**Excerpt of the Lecture:**

Jyotish, relies more on the sidereal positions of the planets, just as one sees them in the sky, against the positions assigned to few relatively fixed Stars. This ancient system of Indian Vedic Astrology is thus scientific in nature and employs many complex mathematical calculations to arrive an astute astrology predictions and prophecies.

Vedic astrology is an ancient Indian science which explains planetary motions and positions with respect to time and their effects on humans and other entities on Earth. Vedic astrology can be traced thousands of years back. Early vedic astrology was only based on the movement of planets with respect to stars, but later on it's started including zodiac signs as well. By its very name the basics of Indian astrology stems from the study of planets during our birth chart.

To place the planets in the rashis it is very important to have the detailed knowledge of panchang ie the five basic elements of panchang and calculating their position in the *khagole*. These five elements are *tithi* or lunar phase, *Var* or weekday, *Nakshatra* or the star constellation in which moon is placed, *Yoga* or the auspicious or inauspicious period prevalent and *karana* which is half phase of *Tithi*.

**Learning Objectives:**

- Astrology is not a mere fiction but is based on calculations of the position of heavenly bodies
- Position of the moon and the sun in the Rashis and nakshatras decides the dates Months and seasons .
- Position of the planets have good or bad impact on huan life

# #Birthdays@APRIL2020

## ARIES



Trivendra Singh  
Computer Programmer



L.Raju Singh  
DEO



Mahroj Alam  
Technical Assistant



Pawan  
Technical Assistant



Mrs. Ritu Chawla  
Comp. Prog. Assistant



Mr. S.K. Bharti  
Section Officer



An Aries always  
Likes to be ahead of  
things and is never the  
one who lags behind.



## TAURUS



Mr. Vinod Kumar  
Cameraman



Manas Kr. Jha  
DEO



Ritu Rani  
Project Associate

Taurus are  
generally tough  
to figure out  
because they  
answer every  
question with  
a question.



CEC wishes you all a very  
Happy Birthday!!

# TWEETS ON DIGITAL EDUCATION

**Ministry of HRD** @HRDMinistry · 23h  
 Union HRD Minister @DrRPNishank ji met the Vice Chancellors of Rashtriya Sanskrit Sansthan & SLBS Rashtriya Sanskrit Vidyapeetha at Shastri Bhawan yesterday.

He congratulated them on passing of the Central #Sanskrit University Bill & wished them luck for their future endeavours.

6 21 179

**Ministry of HRD** @HRDMinistry · 3h  
 #HarEkKaamDeshKeNaam

@IITDelhi aims to tackle the issue of social isolation faced by elderly with its new #innovation 'Sahayak' - a smart stick equipped with a gripping and grabbing mechanism to prevent slipping with additional features of object reminder and SOS buttons.

2 16 80

**Ministry of HRD** @HRDMinistry · Mar 15  
 #HarEkKaamDeshKeNaam  
 #STRIDE's component II promotes #research projects that are socially relevant/locally need-based/nationally important/globally significant. This component mainly targets young/mid-career faculty.

2 8 63

Ministry of E & IT Retweeted

**UMANG App India** @UmangOfficial\_ · Feb 27  
 नेशनल डिजिटल लाइब्रेरी ऑफ इंडिया एक ऑन-डिजिटल लाइब्रेरी है जो विभिन्न डिजिटल पढ़न सामग्री जैसे पुस्तकों, लेखों, वीडियो, ऑडियो, श्रेड इत्यादि के बारे में जानकारी संग्रहीत करती है। #UMANGApp के माध्यम से आज ही आसानी से नेशनल डिजिटल लाइब्रेरी ऑफ इंडिया (NDLI) का उपयोग करें। #UMANG

4 48 93

UGC INDIA Retweeted

**Ministry of HRD** @HRDMinistry · Feb 3  
 Congratulations to the professors of @cup\_bathinda! bit.ly/HRD-MOOC

Check out these courses on #SWAYAM Portal now!

5 11 56

Show this thread

UGC INDIA Retweeted

**Ministry of HRD** @HRDMinistry · Feb 3  
 2 online courses offered through #SWAYAM have landed spots in the world's top 10 Massive Open Online Courses (MOOC)!

- 1 Solid & Hazardous Waste Management by Prof. VK Garg
- 2 Biostatistics & Mathematical Biology by Prof. Felix Bast

5 47 192

**Ministry of E & IT** @GoI\_MeitY · Mar 4  
 Inviting suggestions on Strategy for National Open Digital Ecosystems (NODE) consultation whitepaper - an open and secure digital delivery platforms by @GoI\_MeitY and other departments of Government of India (GoI).

Send your suggestions at -

Inviting suggestions on Strategy for National Open Digital Ecosystem...  
 The Ministry of Electronics and Information Technology (MeitY), with other departments of the Government of India (GoI), is working on ...  
 mygov.in

5 70 88





## CEC's Bouquet of 11 DTH Channels on SWAYAM Prabha

CEC is the National Coordinator for Non-Technology UG and PG Programmes for 11 SWAYAM Prabha – MHRD's DTH bouquet of educational channels that telecast high quality educational programmes 24x7. Each channel has fresh educational content for 8 hours to be telecast 3 times a day. The channels are free-to-air and can be viewed on DD Free Dish and DishTV. CEC's exclusive 24x7 CEC-UGC Higher Education channel – Vyas transmission is available on CEC's website: <http://cec.nic.in> and on <http://webcast.gov.in> web portal of the Government of India.

Each programme offers a comprehensive understanding of the fundamentals of the subjects enabling the students to choose a convenient time and ensure recapitulation. Curriculum based programmes meet the needs of lifelong learners.

### Channel Name – वागीश | Vageesh

Channel Scope – Language & Literature  
Channel No. – CEC-UGC - 01

Subjects: Hindi Literature, Hindi Language, English Language, English Literature, Sanskrit, Urdu, Foreign Language Courses: German, Japanese, Chinese, Spanish, French, Russian, Linguistics

### Channel Name – संस्कृति | Sanskriti

Channel Scope – History, Culture & Philosophy  
Channel No. – CEC-UGC - 02

Subjects: History, Philosophy, Performing Arts, Rabindra Sangeet, Hindustani Classical Music, Karnataki Sangeet, Fine Arts, Manuscriptology, Painting Applied Art Sculpture, Theatre Arts, Film Studies, Painting Applied Multimedia, Vocational Studies, Buddhist Studies, Comparative Studies of Religion, Jyotish Ganit, Visual Arts, Indian Culture

### Channel Name – प्रबोध | Prabodh

Channel Scope – Social & Behavioral Sciences  
Channel No. – CEC-UGC - 03

Subjects: Sociology, Anthropology, Social Work Administration, Social Work, Political Science, Public Administration, Psychology, Population Studies, Women Studies

### Channel Name – सारस्वत | Saaraswat

Channel Scope – Education and Home Science  
Channel No. – CEC-UGC - 04

Subjects: B.A. Education, B. Ed., B. Ed. English, Special Education for Visually Impaired, Elementary Education, Environmental Science, Home Science, Adult Education, Physical Education, Sports & Health Education

### Channel Name – प्रबंधन | Prabandhan

Channel Scope – Information, Communication and Management Studies  
Channel No. – CEC-UGC - 05

Subjects: Business Management, Human Resources Management, Management & Marketing of Insurance, Marketing Management & Retail Business, Bachelor of Business Studies, Office Administration & Secretarial Practice, Tourism, Hindi Journalism, Communication & Journalism, Multimedia Communication, Vocational Studies – Mass Communication, Video Production, Advertising, Library Information Science Management



**Channel Name – विधिक | Vidhik**

Channel Scope – Law and Legal Studies  
Channel No. – CEC-UGC - 06

Subjects: LLB, Criminology, Forensic Science, Human Rights & Duties

**Channel Name – कौटिल्य | Kautilya**

Channel Scope – Economics and Commerce  
Channel No. – CEC-UGC - 07

Subjects: Economics, Business Economics, Commerce, Financial Accounting

**Channel Name – आर्यभट्ट | Aryabhatt**

Channel Scope – Physical and Earth Sciences  
Channel No. – CEC-UGC - 08

Subjects: Mathematics, Statistics, Physics, Geography, Geology, Chemistry

**Channel Name – स्पंदन | Spandan**

Channel Scope – Life Sciences  
Channel No. – CEC-UGC - 09

Subjects: Botany, Zoology, Life Sciences, Microbiology, Bio-Medical Sciences, Bio-Chemistry, Bio-Informatics

**Channel Name – दक्ष | Daksh**

Channel Scope – Applied Sciences  
Channel No. – CEC-UGC - 10

Subjects: Applied Life Science - Sericulture, Applied Physical Sciences - Electronics, Industrial Chemistry, Computer Science, Computer and Networking, Cyber Security/Information Security, Environmental Science, Analytical Chemistry/Instrumentation, Pharmacy, Agriculture, Architecture, Biophysics, Food & Nutrition, Food Technology, Polymer Science

**Channel Name - व्यास | Uyas**  
Channel No. - CEC-UGC - 33

• **Art/Culture/Literature/Language Band - I**

English Language, Linguistics, Hindi & other Languages, English Literature, Literature of other Languages, Culture, Architecture, Plastic Arts & Sculpture, Drawing & Decorating Arts, Painting & Fine Arts, Music, Recreational & Performing Arts, Public Performance, Film Appreciation, Dance & Drama, Religion, Customs, Folklore

• **Social Science Band - II**

History, Geography, Biography, Genealogy, Insignia (Awards), Archaeology, Museology, Manuscripts & Rare Books, Philosophy, Psychology, Religion, Social Sciences/ Sociology, Anthropology, Political Science, Economics, Public Administration

• **Management and Other professional Courses Band - III**

Management, Marketing, Commerce, Communications, Telecommunication, Tourism, Advertising & Public Relations, New Media Journalism, Publishing, Photography & Photographs, Graphic Arts, Printmaking & Prints, Library & Information Science, Education, Sports/Physical Education, Women Education, Law, Environment Studies/Management, Home Economics & Family Living

• **Natural and Applied Science Band - IV**

Forensic Science & Criminology, Mathematics, Astronomy & Allied Sciences, Physics, Chemistry, Earth Science, Geology, Hydrology, Meteorology, Paleontology/Fossils, Life Science, Biology/Ecology, Genetics/Biotechnology, Microbiology, Botany, Zoology, Medical Science, Health & Nutrition, Diseases, Engineering, Electrical/Mechanical Engineering, Mining & Related Operations, Military & Nautical Engineering, Civil Engineering, Manufacturing Technology, Agriculture, Horticulture, Animal Husbandry/Veterinary Sciences, Sericulture, Aquaculture, Chemical Engineering/Biotechnology, Manufacturing for Specific Uses, Computer Sciences

# Research Department - CEC



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