# Consortium for Educational Communication

(An Inter University Centre of University Grants Commission on Electronic Media)
IUAC Campus, Aruna Asaf Ali Marg, New Delhi-110067

## Information on MOOC developed by CEC

| S.No. | Courses title uploaded on the SWAYAM | PI/CC Name and Institution | Host University/ Institute | No of Modules completed in 4 Quadrants | Start date of next run | End date of next run | Course Objective |
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| 1. | Making of Modern India | Prof. Bhaskar Chakraborty, Centenary Professor of History and IR | St. Xavier's College, (Autonomous), Kolkata. | 50 | 7th Aug. 2017 | 31st Oct. 2017 | • The course will ensure a thorough grounding to the emergence of modern Indian politics and society. Students completing the course will be able to appreciate the nuances of the historical process through which modern Indian politics and society has emerged.<br>• The course seeks to equip the students with the analytical skill to relate contemporary developments to their historical antecedents.<br>• The course will encourage the students to develop skills in historical thinking and analysis, with particular reference to modern India. The skill to think like a historian will enable the students to use it with profit in their chosen professions and careers. |
| 2. | Penning for Frames | Subha Das Mollick, Media Techer and Filmmaker | St. Xavier's College, (Autonomous), Kolkata. | 33 | 24th July 2017 | 20th Nov. 2017 | • The Penning for Frames course will orient the students to the aesthetic requirements of effective audiovisual communication.<br>• After completing this course, students will have the ability to visualize fiction and non-fiction films, develop their structures, write the treatments and develop screenplays for fiction films and audiovisual scripts for non-fiction films.<br>• The course will equip the students to meet the industry demands for scriptwriters.<br>• The final test for a scriptwriter is in the making of a film. Behind every good film, there is a good script. Those students who take the initiative to convert their scripts into films, will be eligible for a Certificate of Excellence |

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| 3. | Organic Chemistry-1 | Dr. Ravi Bhushan(Professor), | IIT Roorkee | 25 | 24th Oct. 2017 | 19th Dec. 2017 | After successfully completing this course, students will be able to understand and comprehend:<br>• Fundamentals of Organic Chemistry<br>• Stereochemistry of organic compounds<br>• Chemistry of Aliphatic Hydrocarbons such as Alkanes, Alkenes, Alkynes in terms of their preparation, physical properties and chemical reactions.<br>• This course will also be beneficial for those students who have completed their BSc and are preparing for certain competitive examinations. The advantage of the course may be taken by those students also who are pursuing Master's degree in Chemistry and intend to brush up their basics. |
| 4. | Atomic structure and chemical bonding-an introductory course | Dr. Sanjiv Kumar | IGNOU, New Delhi | 21 | 5th Sept. 2017 | 14th Oct. 2017 | Expected learning outcomes. After going through the video lectures, the supplementary learning materials, participating in discussions and solving assignments, the learner should be able to<br>• Outline the basic premise of Classical mechanics, and demonstrate its inadequacy to deal with microscopic systems,<br>• Argue for the need of a new theory that explains the experimental observations on experiments with microscopic systems,<br>• Explain the concept of quantization and its success<br>• Describe Bohr's model of atom and discuss its merits and inadequacies,<br>• State and explain the concept of wave-particle duality and Heisenberg's Uncertainty Principle, |
| 5. | Indian Culture and Art | Dr. Saroj Chaman, Prof (retd.) | Punjabi University, Patiala | 20 | 3rd Oct. 2017 | 5th Dec. 2017 | • To acquaint the students with the sources of Indian History and its relevance to Culture and Art.<br>• To throw light on the major Religious and Sufi Movements.<br>• To trace the contribution of different rulers in the development of Indian Arts.<br>• To discuss the features of different Art Forms. |
| 6. | Data Structure And File Processing | Dr. Gurpreet Singh Lehal, Professor | Punjabi University, Patiala | 23 | 3rd Oct. 2017 | 5th Dec. 2017 | • This course will help the viewer in understanding the basics of Data structure.<br>• The topics dealt upon in this course would be stacks, queues, Sorting algorithms, Searching, Linked Lists and trees. |
| 7. | Environmental Studies -I | Dr. Tushar Banerjee, Assistant Professor | DAVV, Indore | 38 | 24th July 2017 | 10th Oct. 2017 | The objective of this course is to provide knowledge about multidisciplinary nature of environment, various sources of natural energy, ecosystem etc. Students will be evaluated upon achievement in terms of academic excellence. Students will also be able to understand about the various environmental issues and problem. |
| 8. | Genetics | Dr. M. A. Shah, Associate Professor | University of Kashmir | 44 | 15th July 2017 | 8th Oct. 2017 | The objectives of this course are to give the target students/audience an understanding of:<br>• Fundamentals of the genetic basis of life and importance of DNA as the ideal genetic material<br>• Genetic inheritance and gene interactions in Mendelian and post-Mendelian perspective<br>• Organization and functioning of the extra-nuclear genome and extrachromosomal inheritance |

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| | | | | | | | • Linkage, crossing over and chromosome mapping |
| 9. | Physical Geography-ii (climatology & oceanography) | Dr. S Arun Das Assistant | University of Mysore | 31 | 7th Aug. 2017 | 16th Oct. 2017 | Define the overall objectives of the complete course including the expected learning outcome of the course. |
| 10. | Physical Geography-i (elements of geomorphology | Prof. B Chandrashekara | University of Mysore | 24 | 7th Aug. 2017 | 2nd Oct. 2017 | To have better understanding about an over view of physical Geography and elements of Geomorphology. |
| 11. | Archeological Anthropology | Dr P. Binodini Devi, Associate Professor | Manipur University Imphal | 50 | 10th July 2017 | 7th Oct. 2017 | After studying this course, the students/learners are able to:<br>• Explain what archaeological anthropology is.<br>• Understand how it relates with other disciplines. Describe the various methods of studying archaeological anthropology. |
| 12. | Glimpses Of Indian Social Legislation And Social Welfare- | Dr. B. Geetha, Assistant Professor, | Madurai Kamaraj University | 27 | 2nd Aug. 2017 | 6th Oct. 2017 | • To create awareness on the Constitution of India and its social legislation<br>• To have better understanding about the society in the backdrop of Indian Constitution and social legislation and thus help the individual to be a good citizen to the society.<br>• This course will provide the opportunity to know New Approaches in social legislation in the context of environment, education; human rights etc. are dealt which are current issues in the societal scenario.<br>• The course also throws open the social welfare schemes available for the vulnerable sector of the society. |
| 13. | Population Studies | Dr. B. Geetha, Assistant Professor, | Madurai Kamaraj University | 23 | 2nd Aug. 2017 | 6th Oct. 2017 | • Basic idea on the population is provided to understand the society and the relationship between population growth and the development of the country.<br>• Population studies, one of the specializations of sociology, being a multidisciplinary course attracts the interest of all the social sciences and sometimes-biological sciences too and thus overview knowledge on it helps the student in furthering their specialization.<br>• To offer the basis of population studies and covers the issues like sources of population data, composition of population data, theories on population, determinants of population, population policy and need for population education. |
| 14. | PETROLOGY | Dr. Harel Thomas, Associate Professor | Dr. Harisingh Gaur Vishwavidyala , Sagar | 50 | 24th July 2017 | 25th Nov. 2017 | This course is a basic to advance introduction for the undergraduate students in metamorphic petrology. Course deals with the naturally occurring rocks in field as well as laboratory analysis data that provide sufficient information how they occur in the nature. It gives idea of modern petrological theories, which are widely accepted for their origin. The course emphasis the metamorphic petrology which cover the classification of metamorphic rocks, textures and structures, naming of metamorphic rocks, recognition of metamorphic facies and zones. Ploting and importance of different diagram like ACF, AKF and other graphical representation for metamorphic mineral assemblages including facies of low, medium and high pressure metamorphism along with migmatite and metasomatism are also covered. |
| 15. | Modern British Literature | Prof. Sumita Roy, Head | EFLU, Hydrabad | 51 | 2nd Aug. 2017 | 6th Oct. 2017 | Following are the main objectives of the course: The course is useful for students in Undergraduate and Postgraduate |

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| | | | | | | | Colleges of India. It covers the canonical writers whose works are frequently prescribed on the syllabuses of these classes. The lessons are designed to form an independent unit by themselves in a manner that is easy and accessible.<br>The lessons aim to introduce some major writers to the learners with the ultimate goal of stimulating interest so as to reach a critical mass that will lead them to an independent appreciation of literature. The lessons provide material to pass the examinations but are also designed to make the learners go further beyond the mere syllabus. |
| 16. | Health Psychology | Dr. P. Swathi, Assistant Professor | EFLU Hydrabad | 51 | 10th Aug. 2017 | 10th Nov. 2017 | Following are the main objectives of the course:<br>• Develops an understanding and appreciation of the complex interplay between one's physical a variety of biological, psychological, and social factors.<br>• Helps students to learn how psychological research methods, theories, and principles can be applied to enhance biomedical approaches for promoting health and treating illness.<br>• Helps students learn the nature of the stress response and its impact in the etiology and course of many health problems.<br>• Develop skills for designing programs to improve one's own and others' personal health habits and lifestyles.<br>• Determine how psychological and medical methods for relieving pain differ and are often combined to enhance treatment effectiveness.<br>• Become aware of the impact that disabling or life-threatening illnesses have on patients and their families. |
| 17. | Retail management | Dr. Ravi Ahuja<br>Assistant Professor | S P Pune University | 29 | 20th Oct. 2017 | 19th Dec. 2017 | • To acquaint concept of Retail.<br>• To acquaint various functions in Retail sector.<br>• To introduce to new technologies in Retail sector.<br>• To introduce scope of Retail sector. |
| 18. | Foundation of Mathematical Statistics | Dr.Aneesh Kumar.K, (Asso. Prof.) | University of Calicut | 27 | 25th July 2017 | 21st Oct. 2017 | To develop a strong foundation for the concepts coming under Mathematical Statistics.<br>Expected Learning Outcomes:<br>Students,<br>1. Familiarize with the concept of data and its various representations.<br>2. Learn various characteristics of data<br>3. Learn the concepts of correlation and regression<br>4. Study the analysis of the relation between two dependent variables<br>5. Understand the concept of probability and able to solve problems<br>6. Study the concept of random variables<br>7. Study some important probability distributions and able to solve related real life problems. |
| 19. | Cell Biology | Dr. R.J. Verma Prof. & Head, | Gujarat University, Ahmedabad | 31 | 17th July 2017 | 7th Oct. 2017 | The students will gain overall knowledge of:<br>(A) Structure and function of Cell;<br>(B) Coordination between different cell- cell, cell matrix interactions;<br>(C) Understanding of Pathology of various disease conditions and<br>(D) Understanding the effectiveness of the treatment modalities |

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| 20. | Environmental Studies -2 | Dr. Tushar Banerjee, Assistant Professor | DAVV, Indore | 38 | 3rd Oct. 2017 | 5th Dec. 2017 | The objective of this course is to provide knowledge about the social issues and the environment. Students will be evaluated upon achievement in terms of academic excellence. Students will also be able to understand about the various problems associated with the human population and the environment. |
| 21. | Developmental Biology | Dr. N.K.Jain, Professor Head, Dept.of Life Science | Gujarat University, Ahmedabad | 23 | 17th July 2017 | 2nd Sept. 2017 | The structure of the present core course on developmental biology has been designed with the perspective of achieving following major objectives:<br>• To provide a glimpse of scope and historical background of developmental biology to the students.<br>• To impart knowledge regarding basic concepts of differentiation and growth, differential gene expression as well as cytoplasmic determinants to the students.<br>• To develop detailed understanding of essential events of developmental biology through proper explanation of gametogenesis fertilization, blastula formation, gastrulation as well as embryologics induction as part of early embryonic development.<br>• To adequate the students with concepts of late embryonic developmental events of fate map, germ layers development, extra-embryonic membranes, embryo implantation and significance of placental formation.<br>• To give adequate information to the students regarding postembryonic development especially morphosis, regeneration and ageing processes.<br>• To make the students aware about modern implications of developmental biology by impartment of knowledge regarding teratogenesis, In-vitro fertilization, Stem cells and Amniocentesis techniques. |
| 22. | Digital Electronics and Micro Processor | Dr.V.JEYALAKSHMI, Professor, | Anna University, Chennai | 25 | 3rd Oct. 2017 | 5th Dec. 2017 | • The main objective of this course is to cover the basics of digital logic circuits and design.<br>• Through the basic understanding of Boolean Algebra and Number systems<br>• The main objective of this course is to basic functions and need of microprocessor<br>• Through they get basic understanding of interfacing and programming<br>• Knowledge and application of the fundamentals of Assembly language<br>• It introduces the student to mini projects based on microprocessor applications<br>• They can calculate the program execution time and design any delay program |
| 23. | Operating System | Dr. A. Kannan Professor at Anna University<br>1. Dr. L. Sairamesh, Teaching Assistant ,Contact no. 9941424345 email id : sairamesh.ist@gmail.com | Anna University, Chennai | 26 | 3rd Oct. 2017 | 5th Dec. 2017 | To learn the Operating System Basics. To Study the process management of Operating system. To gain knowledge in storage management and I/O systems of Operating Systems. To Explore the case studies with various OS |
| 24. | Data Structure | | Anna University, Chennai | 40 | 3rd Oct. 2017 | 26th Dec. 2017 | This course will help the viewer in understanding the basics of Data structure.<br>The topics dealt upon in this course would be stacks, queues, Sorting algorithms, Searching, Linked Lists and trees. |

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| 25. | Software Engineering | 2. Mr.V.Pandiyaraj, Teaching Assistant, contact no. : 09894536368 email id : vpandiyarajan@gmail.com | Anna University, Chennai | 25 | 3rd Oct. 2017 | 5th Dec. 2017 | to provide information about wider engineering issues that form the background to develop complex. Evolving systems. To Plan a SE Process to account for quality issues and non-functional requirements. To Imploy a selection of concepts and techniques to complete a small scale analysis and design in mini projects. To impart knowledge to translate requirement specifications into a design and then realize that design practically all using an appropriate software engineering methodology. To provide basic knowledge about software project management. |
| 26. | Database Management System | | Anna University, Chennai | 40 | 3rd Oct. 2017 | 26th Dec. 2017 | To learn the fundamentals of Data Model and To conceptualize and depict a database system using ER diagram.<br>To make a study of SQL and relational database design.<br>To understand the internet. |
| 27. | Hindi Bhasha Sanrachna | Dr. Shobha Chaturvedi, Assistant Professor | DAVV, Indore | 45 | 24th July 2017 | 4th Oct. 2017 | मातृभाशा के माध्यम से अध्ययन निर्विवाद रूप से श्रेयस्कर एवं लाभदायी है, इसे सभी षिक्षाविदों ने माना है। इससे विद्यार्थियों की सृजनषीलता को प्रोत्साहन तो मिलता ही है, साथ ही ज्ञान के गहन गंभीर विचारों को समझने में आसानी होती है। इस पाठ्य सामग्री से गुजरते हुए विद्यार्थी अनायास ही हिन्दी भाशा और उसके सम्प्रेशण कौषल को स्वायत्त कर सकेगा और अपने समाज, इतिहास, संस्कृति और प्रकृति आदि के प्रति भी स्वस्थ एवं रागात्मक दृश्टि विकसित करने की दिषा में प्रवृत्त हो सकेगा। |
| 28. | Prachin Hindi Kavya | Dr. Surendra Yadav, Retired Professor | DAVV, Indore | 46 | 24th July 2017 | 11th Oct. 2017 | इस पाठ्य विशय के माध्यम से विद्यार्थी प्राचीन हिन्दी काव्य के प्रमुख कवियों जैसे– सूर, तुलसी, कबीर, जायसी, मीराबाई, बिहारी, घनानंद, विद्यापति, देव आदि कवियों के जीवन परिचय को जान सकेगा एवं उनकी प्रमुख रचनाओं की व्याख्यात्मक एवं आलोचनात्मक समीक्षा कर सकेगा। |
| 29. | Basics Of Photography | Lalit Ingle, Lecturer EMRC, DAVV, | DAVV, Indore | 35 | 24th July 2017 | 10th Oct. 2017 | The objective of this course is to pursue basic knowledge of photographic process, including the use and roles of professional services. The recognition of strong image composition, technical operation, content and the essential knowledge for completion of a final image portfolio will also serve as primary objectives, along with the ability to convey critical knowledge of the photographic processes. Students will be evaluated upon achievement of technical and aesthetic excellence. Individual creativity, visual problem solving and precise craftsmanship will be emphasized. Students will also be able to demonstrate an awareness of contemporary aesthetic and ethical considerations in digital photography. |
| 30. | Trends and development in Modern Educational Practices | Dr. A. Hameed | University of Calicut | 50 | 17th July 2017 | 5th Nov. 2017 | • To develop awareness among student-teachers regarding the importance and need for incorporating modern trends and developments in the educational practice. |
| 31. | Mulberry and silkworm crop protection | Dr. R.S. Umakanth Assistant Professor | University of Mysore | 40 | 1st Aug. 2017 | 23rd Oct. 2017 | Define the overall objectives of the complete course including the expected learning outcome of the course. |

# Information on MOOC under development by CEC

| S.No. | Courses title uploaded on the SWAYAM | PI/CC Name and Institution | Host University/ Institute | No of Modules completed in 4 Quadrants | Start date of next run | End date of next run | Course Objective |
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| 1. | Macroeconomic Theory | Dr. P P Prajapati | University of Gujrat | 28 | 24th July 2017 | 23th Oct. 2017 | The students will gain overall knowledge of:<br>• Aggregate demand and supply<br>• Economic growth<br>• Inflation and Unemployment.<br>• Exchange rates and trade balance. |
| 2. | Microeconomic Theory | Dr. P P Prajapati | University of Gujrat | 22 | 26th July 2017 | 23th Oct. 2017 | The students will gain overall knowledge of:<br>• How demand and supply analysis determine the prices and quantities of goods and services.<br>• How consumers make consumption decisions.How markets for factor inputs, such as labor and raw materials operate.<br>• How markets generate efficient outcomes and why they fail and thus require government intervention. |
| 3. | Cyber Security/Information Security - Cryptography | Dr Rakesh K. Bawa | Punjabi University, Patiala | 40 | 7th Aug. 2017 | 31st Oct. 2017 | a) Provide the basic understanding of Cryptography and its historical development.<br>b) Give in-depth understanding of types of cryptography.<br>c) Familiarize the learner with the protection of sensitive information by using different encryption methods.<br>d) Enable the learner in understanding the application of cryptography in network and information security applications. |
| 4. | Cyber Security/Information Security - Cyber Law | Dr Vishal Goyal | Punjabi University, Patiala | 31 | 7th Aug. 2017 | 3rd Oct. 2017 | a) Enable the learner to critically understand what Cyber law is!.<br>b) Make the learner conversant with the social, economical and intellectual property issues emerging from Cyberspace.<br>c) Give learners an in-depth knowledge of IT Acts and other legal frameworks.<br>d) Develop abilities for dealing with the Cyber-crimes.<br>e) Familiarize the learner with the relationship between commerce and cyberspace. |
| 5. | Cyber Security/Information Security - Information Security | Dr Vishal Goyal | Punjabi University, Patiala | 40 | 7th Aug. 2017 | 3rd Oct. 2017 | a) Acquaint the learner with the concept of Information and Cyber security.<br>b) Provide the learner with the understanding of current trends in Information Security.<br>c) Give in-depth knowledge to the learners about the vulnerabilities, threats and risks and their management.<br>d) Enable him to develop core competencies in the field of network and computer security. |

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| 6. | Principles of Ecology | Miss. Flora Shah | University of Gujrat | 30 | 25th July 2017 | 23th Oct. 2017 | The structure of the present core course on Principles of Ecology has been specially designed with the perspective of achieving following key objectives:<br>• To provide a brief outline of Historical background, Scope, Precipitation Patterns, Types of Soil, Vegetation as the essential aspects of Principles of Ecology to the students.<br>• To provide comprehensive understanding of key concepts of Population Ecology comprising of Population Characteristics, Growth and Regulation along with detailed explanation of Biotic Interactions.<br>• To impart knowledge regarding Community Ecology through proper explanation of Biotic Community Characteristics, Ecological Succession, Biomes and Climax Community Theories to the students.<br>• To develop understanding in the students regarding concepts of Ecosystem Organization, Ecological Pyramids, Productivity, Ecological Efficiencies, Food Chains, Food Web, Energy Flow in Ecosystem, Biogeochemical Cycles, Aquatic Ecosystems, Terrestrial Ecosystem and Human Modified Ecosystem as essential components of the Ecosystem Ecology.<br>• To provide glimpse of Applied Ecology by imparting adequate information about Wildlife Conservation and Management as well as Principles of Adaptations in Organisms. |
| 7. | Art and science of teaching english language | Dr. Mridula.K | University of Calicut | 36 | 3rd Oct. 2017 | 5th Dec. 2017 | The major objectives of the course are to prepare better English teachers by integrating content and technology so as to equipe them to face the challenges of present day classrooms.<br>The course will enable the student teacher to<br>1. Understand the nature of language as a dynamic entity<br>2. Understand why English language learning is important in school education<br>3. Develop an insight into the language learners and the learning process<br>4. Familiarize themselves with the relevant approaches and methods in English language teaching<br>5. Perceive learning as a generative process<br>6. Experiment with various learning strategies considering the demands of the context and the needs of each individual learner<br>7. Blend technology, pedagogy and content to realize the learning objectives<br>8. Develop awareness on modern assessment strategies and design assessment techniques relevent to language learning<br>9. Identify and practice micro skills in teaching language<br>10. Effectively introduce different genres of literature and to develop the sense of aesthetic appreciation in learners<br>11. Explore avenues available for own professional development |

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| 8. | Curriculum & pedagogy of teaching physical science | Dr. V. P. JOSHITH | University of Calicut | 36 | 7th Aug. 2017 | 3rd Oct. 2017 | The major objective of the course is to prepare better science teachers by integrating content and technology so as to equip them to face the challenges of present day classrooms.<br>Learning Outcomes<br>The course will enable the student teachers to<br>1. Acquaint with the meaning and nature of physical science<br>2. Comprehend why science is important in school education<br>3. Familiarize the various methods and strategies of teaching science<br>4. Develop science process skills for lifelong professional competency<br>5. Perceive child as a creative learner and device learning goals individually for our children<br>6. Design specific instructional strategies for learners accounting their individuality<br>7. Explore different ways of creating learning situations considering needs of the learner and the context<br>8. Integrate the knowledge in science to devise appropriate assessment techniques<br>9. Understand the importance of learning as a generative process<br>10. Integrate technology, pedagogy and content for the realization of objectives<br>11. Examine the different pedagogical issues in the context of learner and society and to suggest ways for resolving it<br>12. Facilitate development of scientific attitudes among learners |
| 9. | Probability and statistics | Dr.Aneesh Kumar.K | University of Calicut | 32 | 30th July 2017 | 7th Oct. 2017 | 1. Familiarize with the various approaches to probability<br>2. Learn the concept of random variable<br>3. Understanding mathematical expectation, moments, mgf etc<br>4. Study to deal with two dimensional random variables<br>5. Understanding conditional distributions, conditional mean etc<br>6. Study various discrete probability distributions<br>7. Study various continuous probability distributions<br>8. Learn to solve problems using the probability distributions studied. |
| 10. | Art of c programming | Dr. Lajish V L | University of Calicut | 39 | 7th Aug. 2017 | 31st Oct. 2017 | • To develop a strong foundation for the fundamental principles of Problem Solving using computers<br>• To learn the concept of programming<br>• To study C Programming language<br>• To equip the students to write programs for solving simple computing problems using C language as a tool. |
| 11. | Avertising and Public Relations | Dr.K. Kusuma | JMI, New Delhi | 44 | 4th Aug. 2017 | 15th Dec. 2017 | • Students will be introduced to the concepts of Advertising and Public Relations<br>• Students will be taught creating an adverting campaign and other relevant creative tools<br>• Students will be given exposure to the various issues of advertising related to society<br>• Students will be introduced to the tools and strategies of Public Relations |

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| | | | | | | | • Students will be given exposure to the role of PR in various organizations |
| 12. | Mass Communication- Introduction to Audio- Visual Media | Dr.K. Kusuma | JMI, New Delhi | 32 | 4th Aug. 2017 | 15th Dec. 2017 | • The Introduction to Audio-Visual Media course will orient the students to the aesthetic requirements of effective audio-visual communication.<br>• After completing this course, students will have the ability to understand visual media from critical point of view.<br>• Students will be introduced to the basic equipment as well as terminology of various stages of audio-visual production.<br>• The course will equip the students to meet know the audio-visual production techniques |
| 13. | Communication and Business Correspondence | Dr.Ravi.S.Ahuja | Savitribai Phule Pune University | 35 | 8th Aug. 2017 | 18th Dec. 2017 | This course is designed to develop communication skills. Communication is vital for the success and growth of any individual and business organization, as it is the process of transferring meanings. Effective communication is essential to move ahead in modern business world which consists of tremendous use of IT, computer business structures, human relations management, public relations etc.<br>The objective of the course is to teach necessary oral as well as written skills.<br>In the era of globalization one must enhance his/her presentation skills, people skills, listening skills, body language skills, electronic communication skills, negotiation skills etc. |
| 14. | Information Technology | Dr.Ravi.S.Ahuja | Savitribai Phule Pune University | 33 | 8th Aug. 2017 | 18th Dec. 2017 | 1) To understand the basics of Computer.<br>2) To make students know the Networking basics, its protocols and its benefits. Thus, helping them to understand Internet and its uses.<br>3) To understand the back-end Database and front-end applications like MS-Word, Ms-PowerPoint.<br>4) To make the students know the working of a 'System' and make them ready to deliver high quality systems.<br>5) To keep students updated about the new technology like Cloud Computing. |
| 15. | INTRODUCTION TO MICROBIOLOGY AND MICROBIAL DIVERSITY | Dr. Arup Kr. Mitra | University of Kolkata | 30 | 17th July 2017 | 16th Oct. 2017 | • This course will orient the students with the basics of microbiology and its associated subjects.<br>• On successful completion of the course, the student will be able to understand the diversity of microbes and their application.<br>• This course will enable them to apply the acquired knowledge in the fields of other biological science.<br>• It will enable them to write a review on allied field and that may be suitable for publication. |
| 16. | Origin, Biodiversity of life forms and Biomolecules | Dr. Sudeshna Shyamchowdhury | University of Kolkata | 29 | 17th July 2017 | 16th Oct. 2017 | • This course will orient the students with the basics of Biochemistry associated with their allied subjects.<br>• On successful completion of this course, the student will be able to understand basic biochemistry related to microbiology, specially the bioenergetics, kinetics, thermodynamics and structure, functions, metabolic reactions associated with biomolecules. |

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| | | | | | | | • This course will enable the students to apply the acquired knowledge of "Biochemistry" in the fields of other biological science and research purposes. When a research scholar starts their concerned project they must have the knowledge of simple biochemistry as pH, Buffer of the solutions in which they are supposed to perform their experiments.<br>• It will enable the concerned students to write a review on allied field associated with applied biochemistry on microbes and that may be suitable for publication. |
| 17. | Growth, Metabolism and Reproduction in Bacteria | Dr. Madhumita Maitra | University of Kolkata | 27 | 17th July 2017 | 16th Oct. 2017 | • The structural organization of Bacterial cell and its components.<br>• The development of bacterial phylogeny and systematics.<br>• The various Bacteriological techniques<br>• Bacterial growth kinetics and nutrition along with the types of reproduction in bacteria.<br>• The microscopic techniques and principles along with the practical demonstration of various staining techniques<br>• The concept of viruses, their classification and morphology,<br>• The bacteriophage and the assay methods to detect the viruses.<br>• The different types of viral diseases and the application of virology.<br>• This course will enable them to apply the acquired knowledge in the fields of other biological science.<br>• It will enable them to write a review on allied field and that may be suitable for publication. |
| 18. | Sanskrit Composition & Communication | Dr. Harish Chandra Tiwari | Uttarakhand Sanskrit University, Haridwar | 56 | 29th Jan. 2017 | 7th May 2018 | पाठ्यक्रमस्य सफलसमाप्तेरनन्तरं छात्राः लघुसिद्धान्तकौमुद्यादयनुसारं वाक्यादिसंरचनां तत्सम्बद्धान्यविषयांश्च सम्यग् ज्ञातुं प्रयोक्तुं च समर्थाः भविष्यन्ति ।<br>अयं पाठ्यक्रमः स्नातकक्षायां पठतां छात्राणां कृते तु वर्तत एव, स्नातककक्षां समुत्तीर्णानाम् अन्यप्रतियोगिपरीक्षायाः सन्नद्धतां कुर्वाणानां जिज्ञासूनां छात्राणां च कृतेऽपि उपयोगी भविष्यति । |
| 19. | Molecular Biology and Human Genetics | Prof. Bashir A. Ganai | EMMRC, Srinagar University of Kashmir | 35 | 24th July 2017 | 16th Oct. 2017 | The objectives of this course are to give the target students/audience an understanding of:<br>• Nucleic Acids convey Genetic Information<br>• The Structures of DNA and RNA / Genetic Material<br>• Genome Structure, Chromatin and the Nucleosome<br>• The Replication of DNA (Prokaryotes and Eukaryotes)<br>• The Mutability and Repair of DNA<br>• Mechanism of Transcription<br>• RNA Modifications<br>• Translation (Prokaryotes and Eukaryote)<br>• Transcription Regulation in Prokaryotes<br>• Transcription Regulation in Eukaryotes<br>• Regulatory RNAs<br>• Techniques for Genomics and Mapping strategies<br>• Identification of Genetic Basis of Disease<br>• Clinical Genetics<br>• Implications of Genome Research |

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| 20. | Cytogenetics | Dr. Md. Niamat Ali | EMMRC, Srinagar University of Kashmir | 40 | 24th July 2017 | 16th Oct. 2017 | The objectives of this course are to give the target students/audience an understanding of:<br>• Introduction to cytogenetics: Chromosomes and heredity<br>• An overview of cells<br>• Cell wall, the extracellular matrix and cell interactions<br>• Genetic approach to biology: Mendelian genetics and its extension<br>• Genome structure, chromatin and the nucleosome<br>• Cell division, cell cycle and control of cell number<br>• Cellular Adaptations, cell injury, cell death and cell renewal<br>• Linkage, crossing over and chromosomal mapping<br>• Chromosomal Mutations<br>• Sex Determination<br>• Extrachromosomal inheritance<br>• Structure, properties and functions of the immune cells and organs:<br>• Patterns of inheritance for monogenic traits<br>• Human cytogenetics techniques<br>• Developmental genetics and model system<br>• Tools and techniques of cell biology |
| 21. | Criminal Law and Criminology | Prof. S. M Afzal Qadri, | EMMRC, Srinagar University of Kashmir | 40 | 24th July 2017 | 16th Oct. 2017 | The objectives of this course are to give the target students/audience an understanding of:<br>• Application of Indian Penal Code as a substantive Criminal law<br>• Extent, application and fundamental principle of law of crimes.<br>• To understand the offences against person, property, reputation, religion and state<br>• Crimes against women are on increase, therefore a special emphasis is given to explain these offences<br>• To understand subject of criminology including the Schools of criminology<br>• To study rights of accused, prison system and rights of prisoners.<br>• To understand and discuss juvenile delinquency, extent, causes and control<br>• To study the menace of drug addiction, its control, white color crime, corruption, causes and control |
| 22. | Advertising | Dr. Lalit Engle | DAVV, Indore | 38 | 24th July 2017 | 19th Oct. 2017 | The objective of this course is to develop basic understanding about Advertising by the means of topics like Fundamentals of Advertising, Advertising Campaign Planning, Organizing for Advertising, Creative Strategy and Advertisement development for different media. The course intend to inculcate a basic practice of important advertising functions in the highly competitive cotemporary market amongst the learner. |
| 23. | Financial Accounting | Dr. Manish Sitlani | DAVV, Indore | 34 | 25th July 2017 | 20th Oct. 2017 | The basic objective behind this course is to provide a conceptual understanding of double-entry system accounting process to the target learners. This course will facilitate understanding of key concept associated with finance and accounting and will also help the learners to understand the double-entry accounting process. Simultaneously the course will also offer a hands on to the learners through structured |

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| | | | | | | | numerical problems, there by meeting the basic objective of a clear understanding of financing and double-entry accounting. |
| 24. | Computer Fundamentals | Dr. Sanjay Tanwani | DAVV, Indore | 65 | 26th July 2017 | 21st Oct. 2017 | This course deals with fundamentals of computer. Which includes generations of computer, evolution and development of microprocessor, input and output devices, primary and secondary storage devices, programming languages etc. It also deals with the hardware and software aspects of the computer like operating system, application software and system software. It provides an overview of functions and working of central processing unit, motherboard and other peripherals. |
| 25. | Computer Networks | Mr. Anand More | DAVV, Indore | 30 | 27th July 2017 | 22nd Oct. 2017 | At the end of the course, the students will be able to build an understanding of the fundamental concepts of computer &computer networks, advanced networking concepts, network standards & protocols, mobile phone networks and network security etc. |
| 26. | Biochemistry and Cell Biology | Dr. Anjana Jajoo | DAVV, Indore | 37 | 28th July 2017 | 23rd Oct. 2017 | The objectives of this course are:<br>i. To improve the learner's understanding about carbohydrates, lipids & vitamins.<br>ii. To help learners in discerning the functioning of proteins nucleic acids & enzymes.<br>iii. To increase the comprehension of learners about cell structure.<br>iv. To enhance the knowledge of learners about cell organelles and cell division.<br>v. To enable learners to distinguish between the various instruments and technologies used in studying the cell. |
| 27. | Environmental Biology, Genetics and Evolution | Ms. Shivani Bhagwat | DAVV, Indore | 38 | 29th July 2017 | 24th Oct. 2017 | The objectives of this course are:<br>i. To improve the learner's understanding about the ecosystem<br>ii. To increase the comprehension of learners about air and water pollutants<br>iii. To help learners in discerning about genetics<br>iv. To enable learners to distinguish between various chromosomal aberrations and mutations<br>v. To enhance the knowledge of learners about evolution |
| 28. | Morphology, Developmental Biology and Physiology of Angiosperms | Dr. K.N. Guruprasad | DAVV, Indore | 36 | 30th July 2017 | 25th Oct. 2017 | The objectives of this course are:<br>i. To improve the learner's understanding about the vegetative morphology of angiosperms<br>ii. To help learners in discerning the varied floral morphology of angiosperms<br>iii. To increase the comprehension of learners about water metabolism and photosynthesis in angiosperms<br>iv. To enhance the knowledge of learners about respiration and nitrogen metabolism in angiosperms<br>v. To enable learners to distinguish between the effects of various growth hormones on the growth of angiosperms |

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| 29. | Morphology, developmental biology and Physiology of Mammals | Dr. Sultana Razia | DAVV, Indore | 35 | 31st July 2017 | 26th Oct. 2017 | The objectives of this course are:<br>i. To improve the learner's understanding about the digestive and excretory systems of mammals<br>ii. To enhance the knowledge of learners about the respiratory and circulatory systems in mammals<br>iii. To help learners in discerning the functioning of the muscular and nervous systems of mammals<br>iv. To enable learners to distinguish between the functioning of various parts of the endocrine system of mammals<br>v. To increase the comprehension of learners about embryology in mammals |
| 30. | Microbiology, Immunology and Animal cell culture | Dr. Sheetal Bhasin | DAVV, Indore | 44 | 31st July 2017 | 27th Oct. 2017 | This paper includes titles related to Microbiology, Immunology and Animal Cell Culture. The student will be able to understand the:<br>i. Basics of microbial cell structure, classes and cultivation<br>ii. Bacterial genetics<br>iii. Application of microorganisms for production of useful products at industrial level<br>iv. Basics of Immunology<br>v. Vaccinology<br>vi. Clinical Immunology<br>vii. Basics of Animal Cell Culture<br>viii. Application of Animal Cell Culture for production of health care products |

- **CEC has submitted a proposal of developing 500 MOOCs by 2018.**