



SCHOOL OF COMPUTER SCIENCE AND APPLICATIONS

HANDBOOK

for

**Bachelor of Science in Computer Science with specialization in
Multimedia and Animation**

2021-24

Rukmini Knowledge Park,

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Chancellor's Message

"Education is the most powerful weapon which you can use to change the world."

- Nelson Mandela.

There was a time when survival depended on just the realization of physiological needs. We are indeed privileged to exist in a time when 'intellectual gratification' has become indispensable. Information is easily attainable for the soul that is curious enough to go look for it. Technological boons enable information availability anywhere anytime. The difference, however, lies between those who look for information and those who look for knowledge.

It is deemed virtuous to serve seekers of knowledge and as educators it is in the ethos at REVA University to empower every learner who chooses to enter our portals. Driven by our founding philosophy of 'Knowledge is power', we believe in building a community of perpetual learners by enabling them to look beyond their abilities and achieve what they assumed impossible.

India has always been beheld as a brewing pot of unbelievable talent, acute intellect and immense potential. All it takes to turn those qualities into power is a spark of opportunity. Being at a University is an exciting and rewarding experience with opportunities to nurture abilities, challenge cognizance and gain competence.

For any University, the structure of excellence lies in the transitional abilities of its faculty and its facility. I'm always in awe of the efforts that our academic board puts in to develop the team of subject matter experts at REVA. My faculty colleagues understand our core vision of empowering our future generation to be ethically, morally and intellectually elite. They practice the art of teaching with a student-centered and transformational approach. The excellent infrastructure at the University, both educational and extra-curricular, magnificently demonstrates the importance of ambience in facilitating focused learning for our students.

A famous British politician and author from the 19th century - Benjamin Disraeli, once said 'A University should be a place of light, of liberty and of learning'. Centuries later this dictum still inspires me and I believe, it takes team-work to build successful institutions. I welcome you to REVA University to join hands in laying the foundation of your future with values, wisdom and knowledge.



Dr. P. Shyama Raju

The Founder and Hon'ble Chancellor, REVA University

Vice-Chancellor's Message

The last two decades have seen a remarkable growth in higher education in India and across the globe. The move towards inter-disciplinary studies and interactive learning have opened up several options as well as created multiple challenges. India is at a juncture where a huge population of young crowd is opting for higher education. With the tremendous growth of privatization of education in India, the major focus is on creating a platform for quality in knowledge enhancement and bridging the gap between academia and industry.

A strong believer and practitioner of the dictum “Knowledge is Power”, REVA University has been on the path of delivering quality education by developing the young human resources on the foundation of ethical and moral values, while boosting their leadership qualities, research culture and innovative skills. Built on a sprawling 45 acres of green campus, this ‘temple of learning’ has excellent and state-of-the-art infrastructure facilities conducive to higher teaching-learning environment and research. The main objective of the University is to provide higher education of global standards and hence, all the programs are designed to meet international standards. Highly experienced and qualified faculty members, continuously engaged in the maintenance and enhancement of student-centric learning environment through innovative pedagogy, form the backbone of the University.

All the programs offered by REVA University follow the Choice Based Credit System (CBCS) with Outcome Based Approach. The flexibility in the curriculum has been designed with industry-specific goals in mind and the educator enjoys complete freedom to appropriate the syllabus by incorporating the latest knowledge and stimulating the creative minds of the students. Bench marked with the course of studies of various institutions of repute, our curriculum is extremely contemporary and is a culmination of efforts of great think-tanks - a large number of faculty members, experts from industries and research level organizations. The evaluation mechanism employs continuous assessment with grade point averages. We believe sincerely that it will meet the aspirations of all stakeholders – students, parents and the employers of the graduates and postgraduates of Reva University.

At REVA University, research, consultancy and innovation are regarded as our pillars of success. Most of the faculty members of the University are involved in research by attracting funded projects from various research level organizations like DST, VGST, DBT, DRDO, AICTE and industries. The outcome of the research is passed on to students through live projects from industries. The entrepreneurial zeal of the students is encouraged and nurtured through EDPs and EACs.

REVA University has entered into collaboration with many prominent industries to bridge the gap between industry and University. Regular visits to industries and mandatory internship with industries have helped our students become skilled with relevant to industry requirements. Structured training programs on soft-skills and preparatory training for competitive exams are offered here to make students more employable. 100% placement of eligible students speaks the effectiveness of these programs. The entrepreneurship development activities and establishment of “Technology Incubation Centers” in the University extend full support to the budding entrepreneurs to nurture their ideas and establish an enterprise.

With firm faith in the saying, “Intelligence plus character –that is the goal of education” (Martin Luther King, Jr.), I strongly believe REVA University is marching ahead in the right direction, providing a holistic education to the future generation and playing a positive role in nation building. We reiterate our endeavor to provide premium quality education accessible to all and an environment for the growth of over-all personality development leading to generating “GLOBAL PROFESSIONALS”.

Welcome to the portals of REVA University!

Dr. M. Dhananjaya
Vice-Chancellor, Reva University

Director –Message

Welcome note to students

It's my pleasure to welcome you to the School of Computer Science and Applications. Computer, being considered as most significant and revolutionary invention of mankind has metamorphosed the planet earth completely. Predominantly School of Computer Science and Applications have acquired the control of the modern life in a myriad way.

The B.Sc in Computer Science with specialization with Multimedia and Animation program is designed keeping in view the current situation and possible future developments, both at national and global levels. This program is designed to give greater emphasis on the current trends of Visual Effects, Graphics and Animation.. The program deals with important topics like UI/UX, 2D and 3D animation along with VFX and introduction to Gaming.

The aim of the program is to create motivated, innovative, creative thinking graduates to fill in the roles of the Animation industry who can play an important role in helping the most happening industry of the current era digital media. The program is designed to develop human resources to meet the challenges of ever-growing technologically advanced IT industry and digital revolution.

A variety of activities such as mini projects, seminars, interaction with industries, cultural activities and social activities are in place to shape the all-round development of students.

The benefits of choosing Multimedia and Animation program are:

- Flexibility to choose Animation, VFX , Game design and development or UI/UX as career upon graduation.
- Opportunity to work on live problems.
- Opportunity to work on current trending related technologies that meet industry.

Students after successful completion of Multimedia and Animation program:

- Can start-up their career in either large film making studios, Media and Entertainment industries or as a freelancer as there are ample employment opportunities in these sectors.
- Students will be skilled in Multimedia and Animation with higher order critical, design, creative problem solving and transferable skills;
- Will acquire ability to think rigorously and independently to meet higher level expectations of ICT industry, academics, research establishments or take up entrepreneurial route.
- Can seek placements in diversified fields like Media, Information and Entertainment and such others.

I am sure the students choosing Multimedia and Animation in REVA University will enjoy the curriculum, teaching and learning environment, the vast infrastructure and the experienced teachers involvement and

guidance from both university and industry. We will strive to provide all needed comfort and congenial environment for their studies. I wish all students pleasant stay in REVA and grand success in their career.

Dr. S. Senthil

Director – School of Computer Science and Applications

RUKMINI EDUCATIONAL CHARITABLE TRUST

It was the dream of late Smt. Rukmini Shyama Raju to impart education to millions of underprivileged children as she knew the importance of education in the contemporary society. The dream of Smt. Rukmini Shyama Raju came true with the establishment of Rukmini Educational Charitable Trust (RECT), in the year 2002. **Rukmini Educational Charitable Trust** (RECT) is a Public Charitable Trust, set up in 2002 with the objective of promoting, establishing and conducting academic activities in the fields of Arts, Architecture, Commerce, Education, Engineering, Environmental Science, Legal Studies, Management and Science & Technology, among others. In furtherance of these objectives, the Trust has set up the REVA Group of Educational Institutions comprising of REVA Institute of Technology & Management (RITM), REVA Institute of Science and Management (RISM), REVA Institute of Management Studies (RIMS), REVA Institute of Education (RIE), REVA First Grade College (RFGC), REVA Independent PU College at Kattigenahalli, Ganganagar and Sanjaynagar and now REVA University. Through these institutions, the Trust seeks to fulfill its vision of providing world class education and create abundant opportunities for the youth of this nation to excel in the areas of Arts, Architecture, Commerce, Education, Engineering, Environmental Science, Legal Studies, Management and Science & Technology.

Every great human enterprise is powered by the vision of one or more extraordinary individuals and is sustained by the people who derive their motivation from the founders. The Chairman of the Trust is Dr. P. Shyama Raju, a developer and builder of repute, a captain of the industry in his own right and the Chairman and Managing Director of the DivyaSree Group of companies. The idea of creating these top notched educational institutions was born of the philanthropic instincts of Dr. P. Shyama Raju to do public good, quite in keeping with his support to other socially relevant charities such as maintaining the Richmond road park, building and donating a police station, gifting assets to organizations providing accident and trauma care, to name a few. The Rukmini Educational Charitable Trust drives with the main aim to help students who are in pursuit of quality education for life. REVA is today a family of ten institutions providing education from PU to Post Graduation and Research leading to PhD degrees. REVA has well qualified experienced teaching faculty of whom majority are doctorates. The faculty is supported by committed administrative and technical staff. Over 13,000 students study various courses across REVA's three campuses equipped with exemplary state-of-the-art infrastructure and conducive environment for the knowledge driven community.

ABOUT REVA UNIVERSITY

REVA University has been established under the REVA University Act, 2012 of Government of Karnataka and notified in Karnataka State Gazette No. 80 dated 27th February, 2013. The University is empowered by UGC to award degrees any branch of knowledge under Sec.22 of the UGC Act. The University is a Member of Association of Indian Universities, New Delhi. The main objective of the University is to prepare students with knowledge, wisdom and patriotism to face the global challenges and become the top leaders of the country and the globe in different fields.

REVA University located in between Kempegowda International Airport and Bangalore city, has a sprawling green campus spread over 45 acres of land and equipped with state-of-the-art infrastructure that provide conducive environment for higher learning and research. The REVA campus has well equipped laboratories, custom-built teaching facilities, fully air-conditioned library and central computer center, the well-planned sports facility with cricket ground, running track & variety of indoor and outdoor sports activities, facilities for cultural programs. The unique feature of REVA campus is the largest residential facility for students, faculty members and supportive staff.

The University is presently offering 23 Post Graduate Degree programs, 20 Degree and PG Degree programs in various branches of studies and has 12000+ students studying in various branches of knowledge at graduate and post graduate level and 302 Scholars pursuing research leading to PhD in 18 disciplines. It has 800+ well qualified, experienced and committed faculty members of whom majority are doctorates in their respective areas and most of them are guiding students pursuing research leading to PhD.

The programs being offered by the REVA University are well planned and designed after detailed study with emphasis with knowledge assimilation, applications, global job market and their social relevance. Highly qualified, experienced faculty and scholars from reputed universities / institutions, experts from industries and business sectors have contributed in preparing the scheme of instruction and detailed curricula for this program. Greater emphasis on practice in respective areas and skill development to suit to respective job environment has been given while designing the curricula. The Choice Based Credit System and Continuous Assessment Graded Pattern (CBCS – CAGP) of education has been introduced in all programs to facilitate students to opt for subjects of their choice in addition to the core subjects of the study and prepare them with needed skills. The system also allows students to move forward under the fast track for those who have the capabilities to surpass others. These programs are taught by well experienced qualified faculty supported by the experts from industries, business sectors and such other organizations. REVA University has also initiated many supportive measures such as bridge courses, special coaching, remedial classes, etc., for slow learners to give them the needed input and build in them confidence and courage to move forward and accomplish success in their career. The University has also entered MOUs with many industries, business firms and other institutions seeking their help in imparting quality education through practice, internship and also assisting students' placements.

REVA University recognizing the fact that research, development, and innovation are the important functions of any university has established an independent Research and Innovation division headed by a senior professor as Dean of Research and Innovation. This division facilitates all faculty members and research scholars to undertake innovative research projects in engineering, science & technology, and other areas of study. The interdisciplinary-multidisciplinary research is given the topmost priority. The division continuously liaisons between various funding agencies, R&D Institutions, Industries, and faculty members of REVA University to facilitate undertaking innovative projects. It encourages student research projects by forming different research groups under the guidance of senior faculty members. Some of the core areas of research wherein our young faculty members are working include Data Mining, Cloud Computing, Image Processing, Network Security, VLSI and Embedded Systems, Wireless Sensor Networks, Computer Networks, IOT, MEMS, Nano- Electronics, Wireless Communications, Bio-fuels, Nano-technology for coatings, Composites, Vibration Energies, Electric Vehicles, Multilevel Inverter Application, Battery Management System, LED Lightings, Renewable Energy Sources and Active Filter, Innovative Concrete Reinforcement, Electro Chemical Synthesis, Energy Conversion Devices, Nano-structural Materials, Photo-electrochemical Hydrogen generation, Pesticide Residue Analysis, Nano materials, Photonics, Nano Tribology, Fuel Mechanics, Operation Research, Graph theory, Strategic Leadership and Innovative Entrepreneurship, Functional Development Management, Resource Management and Sustainable Development, Cyber Security, General Studies, Feminism, Computer Assisted Language Teaching, Culture Studies etc.

The REVA University has also given utmost importance to develop the much-required skills through variety of training programs, industrial practice, case studies and such other activities that induce the said skills among all students. A full-fledged Career Development and Placement (CDC) department with world class infrastructure, headed by a dynamic experienced Professor & Dean, and supported by well experienced Trainers, Counselors and Placement Officers.

The University also has University-Industry Interaction and Skill Development Centre headed by a Senior Professor & Director facilitating skill related training to REVA students and other unemployed students. The University has been recognized as a Centre of Skill Development and Training by NSDC (National Skill Development Corporation) under Pradhan Mantri Kaushal Vikas Yojana. The Centre conducts several add-on courses in challenging areas of development. It is always active in facilitating student's variety of Skill Development Training programs.

The University has collaborations with Industries, universities abroad, research institutions, corporate training organizations, and Government agencies such as Florida International University, Oklahoma State University, Western Connecticut University, University of Alabama, Huntsville, Oracle India Ltd, Texas Instruments, Nokia University Relations, EMC², VMware, SAP, Apollo etc, to facilitate student exchange and teacher-scholar exchange programs and conduct training programs. These collaborations with foreign universities also facilitate students to study some of the programs partly in REVA University and partly in foreign university, viz, M.S in Computer Science one year in REVA University and the next year in the University of Alabama, Huntsville, USA.

The University has also given greater importance to quality in education, research, administration, and all activities of the university. Therefore, it has established an independent Internal Quality division headed by a senior professor as Dean of Internal Quality. The division works on planning, designing and developing different quality tools, implementing them and monitoring the implementation of these quality tools. It concentrates on training entire faculty to adopt the new tools and implement their use. The division further works on introducing various examination and administrative reforms.

To motivate the youth and transform them to become innovative entrepreneurs, successful leaders of tomorrow and committed citizens of the country, REVA organizes interaction between students and successful industrialists, entrepreneurs, scientists and such others from time to time. As a part of this exercise great personalities such as Bharat Ratna Prof. C. N. R. Rao, a renowned Scientist, Dr. N R Narayana Murthy, Founder and Chairman and Mentor of Infosys, Dr. K Kasturirangan, Former Chairman ISRO, Member of Planning Commission, Government of India, Dr. Balaram, Former Director IISc., and noted Scientist, Dr. V S Ramamurthy, Former Secretary, DST, Government of India, Dr. V K Aatre, noted Scientist and former head of the DRDO and Scientific Advisor to the Ministry of Defense Dr. Sathish Reddy, Scientific Advisor, Ministry of Defense, New Delhi and many others have accepted our invitation and blessed our students and faculty members by their inspiring addresses and interaction.

As a part of our effort in motivating and inspiring youth of today, REVA University also has instituted awards and prizes to recognize the services of teachers, researchers, scientists, entrepreneurs, social workers and such others who have contributed richly for the development of the society and progress of the country. One of such award instituted by REVA University is 'Life Time Achievement Award' to be awarded to successful personalities who have made mark in their field of work. This award is presented on occasion of the "Founders' Day Celebration" of REVA University in presence of dignitaries, faculty members and students gathering and the first "REVA Life Time Achievement Award" for the year 2015 has been awarded to Shri. Kiran Kumar, Chairman ISRO on the occasion of Founder's Day Celebration, 6th January, 2016 and the second "REVA Life Time Achievement Award" for the year 2016 has been awarded to Shri. Shekhar Gupta, Renowned Journalist on the occasion of Founder's Day Celebration, 6th January, 2017.

REVA organizes various cultural programs to promote culture, tradition, ethical and moral values to our students. During such cultural events the students are given opportunities to unfold their hidden talents and motivate them to contribute innovative ideas for the progress of the society. One of such cultural events is REVOTSVA conducted every year. The event not only gives opportunities to students of REVA but also students of other Universities and Colleges. During three days of this mega event students participate in debates, Quizzes, Group discussion, Seminars, exhibitions and variety of cultural events. Another important event is Graduation Day for the final year students of all the programs, wherein, the outgoing students are felicitated and are addressed by eminent personalities to take their future career in a right spirit, to be the good citizens and dedicate themselves to serve the society and make a mark in their respective spheres of activities. Convocation marks the end of the students journey at REVA, which is celebrated with much pomp and

splendor. During this occasion, the students who have achieved top ranks in academic are felicitated. The founders have also instituted medals and prizes for sports achievers every year. The physical education department conducts regular yoga classes every day to students, faculty members, administrative staff and their family members and organizes yoga camps for villagers around.

Recognizing the fast growth of the university and its quality in imparting higher education, the BERG (Business Excellence and Research Group), Singapore has awarded BERG Education Award 2015 to REVA University under Private Universities category. The University has also been honored with many more such honors and recognitions.

REVA University Vision

“REVA University aspires to become an innovative university by developing excellent human resources with leadership qualities, ethical and moral values, research culture and innovative skills through higher education of global standards”.

Mission

- To create excellent infrastructure facilities and state-of-the-art laboratories and incubation centers
- To provide student-centric learning environment through innovative pedagogy and education reforms
- To encourage research and entrepreneurship through collaborations and extension activities
- To promote industry-institute partnerships and share knowledge for innovation and development
- To organize society development programs for knowledge enhancement in thrust areas
- To enhance leadership qualities among the youth and enrich personality traits, promote patriotism and moral values.

Objectives

- Creation, preservation and dissemination of knowledge and attainment of excellence in different disciplines
- Smooth transition from teacher - centric focus to learner - centric processes and activities
- Performing all the functions of interest to its major constituents like faculty, staff, students and the society to reach leadership position
- Developing a sense of ethics in the University and Community, making it conscious of its obligations to the society and the nation
- Accepting the challenges of globalization to offer high quality education and other services in a competitive manner

SCHOOL OF COMPUTER SCIENCE AND APPLICATIONS

The School of Computer Science and Applications is shouldered by well qualified, experienced and highly committed faculty. The state-of-the-art infrastructure digital classrooms, well equipped advanced computer laboratory, conference rooms and the serene academic atmosphere at REVA University will enhance the transfer as well as creation of knowledge. The School offers BCA, B. Sc. (Honors) in Computer Science with specialization in Cloud Computing and Big Data, Bachelor of Science in Computer Science with Specialization in Cyber Security, Bachelor of Science in Computer Science with Specialization in Multimedia and Animation, MCA and MSc (Data Science) programs. The school also has research program leading to doctoral degree. The curriculum of both graduate and post graduate degree programs have been designed to bridge the gap between industry – academia and hence they are industry oriented. These programs provide ample scope to enter into a wide range of business opportunities, entrepreneurship ventures and as well as job opportunities in different sectors. This is reflected in various core subjects / courses offered within the program. Further the school provides an interactive, collaborative peer tutoring environment that encourages students to break down complex problems and develop strategies for finding solutions across a variety of situations and disciplines. The school aims to develop a learning community of critical thinkers who serve as models of innovative problems solving in the university environment to enrich their academic and professional careers.

VISION

To transform students into responsible citizens with high morale, leadership qualities and competent professionals of global standards emphasizing on Research and Innovation in the domain of Computer Science and Applications.

MISSION

- To impart quality education to meet the needs of profession and society, and achieve excellence in teaching-learning and research in the area of Computer Applications;
- To attract and develop talented and committed human resource, and provide an environment conducive to innovation, creativity, team-spirit and entrepreneurial leadership in Computing field;
- To facilitate effective interactions among faculty and students of the School of Computer Applications, and foster networking with alumni, industries, institutions and other stake-holders; and
- To practice and promote high standards of professional ethics, transparency and accountability.

OBJECTIVES

- To impart programs at graduate, post-graduate and doctoral levels in the field of computer applications;
- To adopt innovative methods of teaching and promote student centric learning process;

- To create infrastructure of international standard and facilitate and create conducive environment for teaching, learning and research;
- To promote faculty development and encourage faculty members and students to organize and participate in national and international level conferences, seminars, symposia and such others;
- To encourage teachers and students to take-up interdisciplinary studies and research;
- To promote students participation in co-curricular and extension activities and develop their personality traits and team spirit

ADVISORY BOARD

SL. No	Name and Affiliation
1	Dr. B.S.Anami Principal, KLE Institute of Technology, Hubli.
2	Dr.M N Birje Professor &Head, Department of Computer Applications, VTU, Belagvi.
3	Dr.Sathish Babu Professor & Head, Department of Computer Science, SIT,Tumkur.
4	Dr.P Nagabhusan Director, IIT Allahabad.
5	Dr.Pethuru Raj Chief Architect & Vice President, Site Reliability Engineering (SRE), Division,Reliance Jio Infocomm Limited.
6	Mr.Raja Krishnamoorthy Director, SAP, Cognizant Technology Pvt.Ltd, Bengaluru.
7	Dr.Madan Kumar Srinivasan Associate Vice President, AI Innovation Centre, Accenture, Bengaluru.

Programme Overview

Animation, VFX, Game is one of the fastest growing and high paying career options in the world today. The demand for digital animation and media arts has increased multi-fold due to fast-paced developments in the sectors like advertisements, entertainment industry, gaming etc. this programme aims in providing a complete exposure to Animation, Gaming, Multimedia, VFX which is lucrative in today's scenario.

It provides an opportunity to bring out the creativity of the student to spotlight. Animation industry has a growth of 18% annually. There is a proportional increase in demand for professionals skilled in animation.

On completing this course student will develop strong creative and technical abilities in Graphic design, web design, Animation, VFX & Game design.

Right from the fundamentals to the most advanced techniques, the program provides an in-depth understanding of the latest software and tools. This course is designed to make students a fully-equipped as Graphic & web design, Animation, VFX & Game design professional.

The student has multiple exit/entry options where he will earn a certificate in Graphics and Web Design development.

He will earn a Diploma at the end of second year and a degree at the end of 3rd year

The First year is a comprehensive program that trains the student in all aspects of graphic designing and web designing. The curriculum uses industry-endorsed techniques to make the student an in demand new media creative professional with skills in rich multimedia content, visually appealing websites, logos for advertisements, concepts of digital graphics, image editing for print & publishing, UI/UX, and SEO.

At the end of Second Year, the student will be trained in key aspects: Creative Visualization that includes design basics, concepts, sketching and storyboards; 2D animation concepts, graphics and editing; web designing and UI/UX; 3D animation concepts, tools and techniques; audio Video editing and digital compositing

Career Opportunities

The growth rate of the Gaming industry has an annual growth of 40% and digital media being 26%, there are huge demand for skilled multimedia professionals. The various Job roles may be Graphic designer, Web developer, UI/UX designer, 3D modeler, Game Designer etc.

Eligibility

Pass in PUC/10+2 with at least 45% marks (40% in case of candidate belonging to SC/ST category) from any recognized Board/Council or any other qualification recognized as equivalent there to.

Course Duration: 6 Semesters (3 years)

Program Educational Objectives (PEO's)

The Programme acts as a Foundation Degree that helps to develop Creative Skills, Critical Skills, Analytical Skills and Problem Solving Skills. The Foundation Degree makes the Graduates employable, in Information Media and Entertainment Industries, to assume Administrative Positions in various Organisations. With further acquisition of higher-level degrees, the graduates would become eligible to pursue a Career in Academics or Scientific organisations as a Researcher.

The Programme Educational Objectives are to prepare the students to:

PEO-1	Explore the fundamentals and underlying theories of Multimedia and Animation to Design and Develop 2D/3D Animations, Film-Making, Visual Effects for the Creative Media.
PEO-2	To Innovate Best Practices for elements of Design, Virtual Reality, Gaming and Demonstrate Creative Digital Assets with Social Responsibility.
PEO-3	To provide sustainable solution in Media Industry for the betterment of the Society and contribute to the economic growth of the World by building UI/UX Specialized Digital Environments that meet the Industry Standard in User Interface and User Experience.

PROGRAM OUTCOMES FOR B.Sc (HONS) in MULTIMEDIA AND ANIMATION

After undergoing this Programme, a student will be able to:

- **PO 1: Disciplinary knowledge:** Demonstrate Comprehensive Knowledge and understanding of Sketching, Charter Design, Animation, Graphics, VFX and Gaming.
- **PO 2: Scientific reasoning:** Able to Analyze, and understand concepts in Designs, Principles, and Technique, critically Evaluate Ideas, develop Logical Reasoning and experiences in Ads or Film Making.
- **PO 3: Problem solving:** be capable to extrapolate and apply competencies to solve different kinds of non-familiar problems, such as new Charter Design based on the script, typical User Interface and Experience, specific to the environment of the business.,ability to solve logical and meaningful solutions that make the game near to reality.
- **PO 4: Environment and Sustainability:** Understand the issues of environmental contexts, build Creative Art in both Graphics and Gaming. Such scenarios that help the viewer or gamers in understanding the environmental factors.
- **PO 5: Research-related skills:** Recognize the impact of the Visuals/Graphics created, in the context of the given Scenario, Define Problems, Formulate Best Possible Outcomes, by analyzing and interpreting, draw conclusions of the best and most effective outcomes of a Graphic, Film or a Game that is fast and entertaining.

- **PO 6: Ethics:** Conduct as a Responsible Citizen by recognizing different Value Systems and understand the **moral dimensions** of decisions and **accept responsibility** for them.
- **PO 7: Cooperation/Team Work:** Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.
- **PO 8: Communication Skills:** Ability to express thoughts and ideas effectively in writing and in oral; Communicate with others using appropriate media; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups
- **PO 9: Self-directed and Life-long Learning:** Acquire the ability to engage in independent and **life-long learning** in the broadest context socio-technological changes.

PROGRAMME SPECIFIC OUTCOMES:

After the successful completion of the Programme, the graduates will be able to:

1. Design a Character, build Dynamics of Movement, and to Animate a Character, along with creating the Environment of the Scene and provide Visual Effects (VFX).
2. Design and Develop Games through Graphics, VFX, Apply Logical Reasoning that can be entertaining to the Gamers. Training with Industry Relevant and Employment Oriented Competency through trailblazing tools in the industry.
3. Creation of World Class Digital Assets using Modern and Advanced Techniques in 2D and 3D animation, VFX, Digital Image Processing, Digital Film Making, Web Graphics, UI-UX, VR/AR, Audio Production , Broadcasting and Gaming.

Mapping of PEOS with Respect POs

Course Code	POS/ COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
B21AHK102	CO1	L	L	L	L	M	M	H	H	H	M	H	L
	CO2	L	L	L	L	L	M	H	M	H	L	H	L
	CO3	L	L	L	L	M	H	H	H	M	L	H	L
	CO4	L	L	L	L	L	H	H	H	H	L	H	L
B21AHH102	CO1	L	L	L	L	M	H	M	M	H	M	H	L
	CO2	L	L	L	L	M	M	H	M	H	L	H	L
	CO3	L	L	L	L	H	H	H	H	M	L	H	L
	CO4	L	L	L	L	H	M	H	H	M	L	H	L
B21AHA101	CO1	L	L	L	L	L	L	L	L	M	L	H	L
	CO2	L	L	L	L	L	L	L	H	M	H	L	H
	CO3	L	L	L	L	L	L	L	M	H	L	H	L
	CO4	L	L	L	L	L	L	L	H	H	H	L	H
B21AHE101	CO1	L	L	L	H	L	L	M	H	L	H	M	H
	CO2	L	L	L	L	L	L	M	H	L	H	M	H
	CO3	L	L	L	L	L	L	M	H	L	H	M	H
	CO4	L	L	L	L	L	L	M	H	L	H	M	H
B21DD0101	CO1	H	M	L	M	L	L	L	M	L	H	L	M
	CO2	H	H	L	M	M	L	M	H	H	H	H	M
	CO3	H	M	L	M	M	L	M	H	M	H	M	H
	CO4	H	M	H	H	L	L	M	M	H	L	M	H
B21DD0102	CO1	M	H	L	L	L	L	M	M	M	L	L	M
	CO2	L	M	M	M	M	L	H	H	H	L	M	H
	CO3	L	M	H	M	H	L	H	M	H	L	M	M

	CO4	L	H	M	M	L	L	M	H	M	L	L	M
B21DD0103	CO1	H	H	M	L	L	L	L	L	L	M	M	L
	CO2	L	H	H	L	M	L	L	L	L	M	H	L
	CO3	M	H	H	L	M	L	L	L	L	L	H	L
	CO4	H	H	H	L	L	L	L	L	L	M	M	L
B21DD0104	CO1	L	H	M	H	M	M	H	H	H	L	M	H
	CO2	M	L	H	H	H	L	H	H	M	L	M	M
	CO3	L	M	L	L	M	L	H	H	H	L	L	H
	CO4	L	M	M	H	M	L	H	M	H	L	H	H
B21DD0105	CO1	L	M	L	M	M	L	H	M	H	L	M	H
	CO2	L	M	H	H	L	L	M	H	H	L	L	M
	CO3	L	L	L	M	M	L	M	L	M	L	L	M
	CO4	H	M	L	M	L	L	H	M	M	L	L	L
B21DD0106	CO1	M	H	H	L	M	L	L	L	L	L	H	L
	CO2	H	H	H	L	L	L	L	L	L	M	M	L
	CO3	H	M	M	L	L	L	L	L	L	M	H	M
	CO4	M	M	H	L	L	L	L	L	L	H	H	M
B21AHK202	CO1	L	L	L	L	L	L	L	L	M	L	H	L
	CO2	L	L	L	L	L	L	L	H	M	H	L	H
	CO3	L	L	L	L	L	L	L	M	H	L	H	L
	CO4	L	L	L	L	L	L	L	H	H	H	L	H
B21AHH202	CO1	L	L	L	H	L	L	M	H	L	H	M	H
	CO2	L	L	L	L	L	L	M	H	L	H	M	H
	CO3	L	L	L	L	L	L	M	H	L	H	M	H
	CO4	L	L	L	L	L	L	M	H	L	H	M	H
B21AHA201	CO1	H	H	M	L	H	L	H	H	H	H	H	M

	CO2	H	M	M	L	H	L	H	H	H	M	H	M
	CO3	H	M	M	L	H	L	H	H	H	M	H	M
	CO4	H	L	L	L	H	L	H	H	H	M	M	H
B21AHE201	CO1	M	M	H	L	M	L	L	L	H	H	M	M
	CO2	H	H	L	H	M	L	L	L	H	H	H	H
	CO3	H	M	H	H	M	L	L	L	H	H	H	H
	CO4	H	H	H	M	M	M	L	L	H	H	H	H
B21DD0201	CO1	H	M	L	M	L	L	L	M	L	H	L	M
	CO2	H	H	L	M	M	L	M	H	H	H	H	M
	CO3	H	M	L	M	M	L	M	H	M	H	M	H
	CO4	H	M	H	H	L	L	M	M	H	L	M	H
B21DD0202	CO1	H	M	M	L	L	L	L	L	L	M	M	L
	CO2	L	M	H	L	L	L	L	L	L	L	H	L
	CO3	M	M	H	L	M	L	L	L	L	L	H	L
	CO4	H	M	H	L	L	L	L	L	L	M	H	L
B21DD0203	CO1	H	H	H	M	L	L	M	H	H	L	L	H
	CO2	M	M	H	M	H	M	L	M	M	L	M	M
	CO3	L	M	M	L	H	L	H	H	M	L	M	M
	CO4	L	H	L	H	M	L	H	M	H	L	L	M
B21DD0204	CO1	H	L	M	L	M	L	L	L	H	L	L	M
	CO2	L	L	H	L	M	L	M	M	H	L	M	H
	CO3	H	L	L	L	M	L	L	M	H	L	L	M
	CO4	M	M	L	M	M	L	M	H	H	L	L	L
B21DD0205	CO1	M	L	H	L	M	L	L	L	L	L	H	M
	CO2	H	M	H	L	L	L	L	L	L	L	M	L

	CO3	H	M	M	L	L	L	L	L	L	M	H	M
	CO4	M	M	H	L	L	L	L	L	L	H	M	M
B21DD0206	CO1	L	H	H	L	H	H	H	H	H	L	M	M
	CO2	L	H	L	H	H	M	M	H	M	L	L	L
	CO3	L	H	H	H	H	M	M	M	H	L	M	L
	CO4	M	H	M	H	H	M	M	M	M	L	M	M

Mapping of PEOS with Respect POs and PSO's

	PO1	PO2	PO3	PO4	PO5	PO6	P7	PO8	PO9	PSO1	PSO2	PSO3
PEO1	H	H	H	M	H	M	M	L	L	H	H	H
PEO2	H	H	H	L	M	L	M	M	M	H	M	M
PEO3	M	M	M	L	H	L	M	M	M	M	H	H
PEO4	M	M	M	H	L	H	H	H	H	M	H	M

School of Computer Science and Applications

Scheme 2021-2024

Bachelor of Science in Computer Science with specialization in Multimedia and Animation

FIRST SEMESTER

SL. NO	Code	Title	HC/ SC/ FC	Credit Pattern			Credits	Working Hrs.
				L	T	P		
1	B21AHK102	Language –I Kannada	FC	1	1	0	2	3
	B21AHH102	Language –I Hindi	FC					
	B21AHA101	Language –I Additional English	FC					
2	B21AHE101	Communicative English- I	FC	1	1	0	2	3
3	B21DD0101	Art & 2D Animation-I	HC	2	0	2	4	6
4	B21DD0102	Graphic Design Fundamentals	HC	2	0	0	2	2
5	B21DD0103	Introduction to Python Programming	HC	2	0	0	2	2
6	B21DD0104	UI/UX-I	HC	2	0	1	3	4
Practical Courses								
7	B21DD0105	Graphic Design Fundamentals Lab	HC	0	0	2	2	4
8	B21DD0106	Python Programming lab	HC	0	0	2	2	4
*Mandatory - (Non Creditable Courses)								
9	B21ASM101	Environmental Studies	-	0	0	0	0	2
10	B21DDM102	Skill Development Program						
Total Credits				10	2	7	19	30

SECOND SEMESTER

SL. NO	Code	Title	HC/ SC / FC	Credit Pattern			Credits	Workin g Hrs.
				L	T	P		
1	B21AHK202	Language –II Kannada	FC	1	1	0	2	3
	B21AHH202	Language –II Hindi	FC					
	B21AHA201	Language –II Additional English	FC					
2	B21AHE201	Communicative English-II	FC	1	1	0	2	3
3	B21DD0201	Art & 2D Animation-II	HC	2	0	2	4	6
4	B21DD0202	Web Designing	HC	2	0	0	2	2
5	B21DD0203	UI/UX-II	HC	2	0	0	2	2
6	B21DD0204	SEO & Analytics	HC	2	0	0	2	2
Practical Courses								
7	B21DD0205	Web Designing Lab	HC	0	0	2	2	4
8	B21DD0206	UI/UX-II lab	HC	0	0	2	2	4
9	B21DD0207	Mini Project-I	HC	0	0	4	4	8
*Mandatory - (Non Creditable Courses)								
9	B21LSM201	Constitution of India & Professional Ethics	-	0	0	0	0	2
10	B21DDM202	Skill Development Program						
Total Credits				10	2	10	22	36

THIRD SEMESTER

SL. NO	Code	Title	HC/ SC /FC	Credit Pattern			Credits	Working Hrs
				L	T	P		
1	B21AHK302	Language –III Kannada	FC	1	1	0	2	3
	B21AHH302	Language –III Hindi	FC					
	B21AHA301	Language –III Additional English	FC					
2	B21DD0301	Digital Modeling	HC	2	0	0	2	2
3	B21DD0302	Texturing and Rendering	HC	2	0	2	4	6
4	B21DD0303	Character Rigging	HC	2	0	2	4	6
5	B21DD0304	Audio Video Editing	HC	2	0	0	2	2
6	B21DD0305	Virtual Reality & Augmented Reality	HC	2	0	0	2	2
Practical Courses								
7	B21DD0306	Digital Modeling Lab	HC	0	0	2	2	4
8	B21DD0307	Audio Video Editing Lab	HC	0	0	2	2	4
*Mandatory - (Non Creditable Courses)								
9	B21DDM301/ B21PTM301	Soft skills	-	0	0	0	0	2
10	B21DDM302	Skill Development Program						
Total Credits				11	1	8	20	31

FOURTH SEMESTER

SL. NO	Code	Title	HC /SC /FC	Credit Pattern			Credits	Working Hrs
				L	T	P		
1	B21AHK402	Language –III Kannada	FC	1	1	0	2	3
	B21AHH402	Language –III Hindi	FC					
	B21AHA401	Language –III Additional English	FC					
2	B21DD0401	3D Animation	HC	2	0	0	2	2
3	B21DD0402	VFX - I	HC	2	0	0	2	2
4	B21DD0403	Game Design -I	HC	2	0	2	4	6
5	B21DDS411	Advanced Rendering	SC	1	1	1	3	5
	B21DDS412	Advanced Modeling						
6	B21DDS421	Programing in C#	SC	2	0	1	3	4
	B21DDS422	Programing in C++						
Practical courses								
7	B21DD0404	3D Animation Lab	HC	0	0	2	2	4
8	B21DD0405	VFX -I Lab	HC	0	0	2	2	4
9	B21DD0406	Mini Project-II	HC	0	0	4	4	8
*Mandatory - (Non Creditable Courses)								
9	B21DDM401/ B21PTM401	Soft skills	-	0	0	0	0	2
10	B21DDM402	Skill Development Program						
Total Credits				10	2	12	24	40

FIFTH SEMESTER

S.N O	Code	Title	HC/ SC/ FC	Credit Pattern			Credit s	Work ing Hrs
				L	T	P		
1	B21DD0501	VFX - II	HC	2	0	0	2	4
2	B21 DD0502	Rotoscopy	HC	1	1	1	3	5
3	B21 DD0503	Game Design- II	HC	2	0	0	2	2
4		Open Elective	OE	3	0	0	3	3
5	B21DDS511	Movie Pre- Visualization	SC	2	0	1	3	4
	B21DDS512	Crowd Simulation						
6	B21 DD0521	Animation – Match Moving and Camera Tracking	SC	2	0	1	3	4
	B21 DD0522	VFX – Dynamics and Simulation						
Practical Courses								
7	B21 DD0504	VFX -II Lab	HC	0	0	2	2	4
8	B21 DD0505	Game design -II Lab	HC	0	0	2	2	4
*Mandatory - (Non-Creditable Courses)								
9	B21DDM501/ B21PTM501	Soft skills						
10	B21DDM502	Skill Development Programme						
Total Credits				12	1	07	20	30

Open Elective Courses offered to other Schools

Sl. No	Code	Title	HC/SC / OE	Credit Pattern			Credit s	Work ing Hrs
				L	T	P		
1	B21DDO501	Audio - Video Editing & VFX	OE	2	0	1	3	4

SIXTH SEMESTER

S.NO	Code	Title	HC/ SC /FC	Credit Pattern			Credits	Working Hrs
				L	T	P		
1	B21DD0601	Game Design-III	HC	2	0	0	2	2
2	B21DDS611	Game Testing	SC	2	0	1	3	4
	B21DDS612	Game Development						
Practical Courses								
3	B21DD0602	Game Design-III Lab	HC	0	0	2	2	4
4	B21DD0603	Major Project	HC	0	0	8	8	16
*Mandatory - (Non Creditable Courses)								
4	B21DDM601/ B21PTM601	Soft skills -	0	0	0	0	0	2
5	B21DDM602	Skill Development Program						
Total Credits				4	0	11	15	28

CREDIT SUMMARY

S.NO	SEMESTER DETAILS	CREDIT TOTALS
1	SEMESTER-I	19
2	SEMESTER-II	22
3	SEMESTER-III	20
4	SEMESTER-IV	24
5	SEMESTER-V	20
6	SEMESTER-VI	15
	TOTAL CREDITS	120

CREDIT DISTRIBUTION

Semester	Hard Core (HC)	Fundamental Core (FC)	Soft Core (SC)	Open Elective (OE)	Mini/Major Project (HC)	Total Credits
I	15	04	--	--	--	19
II	14	04	--	--	04	22
III	18	02	--	--	--	20
IV	12	02	06	--	04	24
V	11	--	06	03	--	20
VI	04	--	03	--	8	15
Total	74	12	15	03	16	120

**** Note:** Non _Creditable course: -> Skill Development Programme in all semesters

Detailed Syllabus

FIRST SEMESTER

SL. NO	Code	Title	HC/ SC/ FC	Credit Pattern			Credits	Working Hrs.
				L	T	P		
1	B21AHK102	Language –I Kannada	FC	1	1	0	2	3
	B21AHH102	Language –I Hindi	FC					
	B21AHA101	Language –I Additional English	FC					
2	B21AHE101	Communicative English- I	FC	1	1	0	2	3
3	B21DD0101	Art & 2D Animation-I	HC	2	0	2	4	6
4	B21DD0102	Graphic Design Fundamentals	HC	2	0	0	2	2
5	B21DD0103	Introduction to Python Programming	HC	2	0	0	2	2
6	B21DD0104	UI/UX-I	HC	2	0	1	3	4
Practical Courses								
7	B21DD0105	Graphic Design Fundamentals Lab	HC	0	0	2	2	4
8	B21DD0106	Python Programming lab	HC	0	0	2	2	4
*Mandatory - (Non Creditable Courses)								
9	B21ASM101	Environmental Studies	-	0	0	0	0	2
10	B21DDM102	Skill Development Program						
Total Credits				10	2	7	19	30

First Semester

[illegible]

dÉÀŸÀzÀ, ŸÁæaÃÉÀ, ºÀÀzsÀðPÁ°ÃÉÀzÀ ««zsÀ ŸÀæPÁgÀzÀ PÁªÀUÀ¼ÀÀ, °ÉÆ,ÀUÀÉÀßqÀzÀ ,ÀtÚPÀxÉUÀ¼ÀÀ °ÁUÀÀ ÉÁIPÀ ,Á»vÀå PÁ°PÉAiÀÀ ºÀÀÆ®PÀ PÁ®zÀ ¹ÜvÀåAvÀgÀUÀ¼ÀÉÀÀß CzÀgÀ M¼ÀÉÉÆÀIUÀ¼ÀÉÀÀß ºÉ¼É,ÀÀvÀÛzÉ. • ,ÁªAiÁfPÀ, gÁdQÃAiÀÀ, zsÁ«ÀðPÀ, ,ÁA,ÀÌøwPÀ, ŸÀj,ÀgÀ °ÁUÀÆ °AUÀ,ÀA§Açü «ZÁgÀUÀ¼ÉqÉ UÀªÀÆÉÀ °Àj,ÀÀªÀÀzÀgÉÆAçUÉ «zÁÿðUÀ¼À°è ZÀZÁð ºÀÀÉÉÆÀ ºªªª ºÉ¼ÉAiÀÀvÀÛzÉ. • fÁªÉÀzÀ°è §gÀÀªÀ C©üŸÁæAiÀÀ ºÉÀzsÀUÀ¼ÀÀ, ,ÁªÀ,ÉåUÀ¼ÀÉÀÀß DzÀÀªPÀ ,ÀAzÀ ºÀðzÀ°è ºAiÁÉÀ«ÀAiÀÀvÉAiÉÆAçUÉ ºªÀð»,ÀÀªÀAvÉ ŸÉæÀgÉÀ',ÀÀvÀÛzÉ. • GvÀÛªÀ ,Àªª°ÀÉÀ PÀ ºÉAiÀÀÉÀÀß ºÉ¼É,Àªª GzÉÝÀ±ÀªÉÀÀß FqÉÀj,ÀÀvÀÛzÉ. • ,ÀA±ÉÆÀzÀÉÀ ºÀÀÉÉÆÀ ºªªª ºÀÀvÀÛÛ ,ÀzsÀðvÀðPÀ ŸÀjÀPÉèUÀ½UÉ «zÁÿðUÀ¼ÀÉÀÀß ,ÀdÀÓUÉÆ¼,ÀÀvÀÛzÉ.			
COURSE CONTENTS			
UNIT I			7 HOURS
1. dÉÀŸÀzÀ: PÉgÉUÉ °ÁgÀ 2. ŸÀAŸÀ: ,ÁªAiÁÉÀªªÉÀ §UÉAiÉÀ ºªªvÉÌÀ±ÀŸª±À ŸÀæŸÀAZÀA? 3. dÉÀß: ŸÉÆ®èªÉAiÉÀ ºÉÀ,ÀÀ ÉÀ®ègÀ ºÉÀAiÉÆª¼i			
UNIT II			7 HOURS
1. ÉÁUÀZÀAzÀæ: ÉÀ¼ÀPÀÆ§gÀÉÀ ŸÀæ,ÀAUÀ 2. ÐAiÀÀÝ ºÀZÀÉÀUÀ¼ÀÀ 3. °Àj°ÀgÀ: E¼ÉAiÀiÁAqÀ UÀÀrªAiÁgÀÉÀ gÀUÀ¼É			
UNIT III			6 HOURS
1. ºgÀAdÉÀ: PÉÆÉÉAiÀÀ VgÁQ 2. ºÉ,ÀUÀgÀ°À¼i gªªÀÀtÚ: ŸÀæªŸªª ºªªvÀé ºªªvÀÛÛ ºªªÆgÀ ºªªAUÀUÀ¼ÀÀ 3. «dAiÀÀ °ÀÆUÁgÀ: ºÉAzÀPÀ¼ÀÆgÀÀ			
UNIT IV			6 HOURS
1. d®UÁgÀ : PÀªªÉAŸÀÀ			
TEXT BOOKS			
1. ºÀÀAUÀ½ gÀA.ªÀ., PÀÉÀßqÀ ,Á»vÀå ZÀjvÉæ, ŸÀæPÁ±ÀPÀgÀÀ VÃvÁ §ÀPì °É, ºÉÀÈ,ÀÆgÀÀ. 2014 2. ,ÀAUÀæª. ÉÁUÉÀUÈqÀ JZi.Ji., ZÁjwæPÀ dÉÀŸÀzÀ PÀxÀÉÀ PÁªÀUÀ¼ÀÀ, ŸÀæPÁ±ÀPÀgÀÀ PÀÉÀðIPÀ eÉÉÀŸÀzÀ ŸÀjµvÀÀÛ, ºÉAUÀ¼ÀÆgÀÀ. 2008 3. ¹ªªiÁwÃvÀ PÀÉÀßqÀ ,Á»vÀå ZÀjvÉæ ,ÀAŸÀÀl 1,2,3,4,5 ºªªvÀÀÛ 6, PÀªªÉAŸÀ PÀÉÀßqÀ CzsÀAiÀÀÉÀ ,ÀA,ÉÛ, ºÉÀÈ,ÀÆgÀÀ «±Àé«zÁª®AiÀÀ, ºÉÀÈ,ÀÆgÀÀ. 2014 4. ,ÀAUÀæª. ÉÁUÉÀUÈqÀ JZi.Ji., PÀÉÀßqÀ dÉÀŸÀzÀ PÀxÀÉÀ PÁªÀUÀ¼ÀÀ, ŸÀæPÁ±ÀPÀgÀÀ PÀÉÀðIPÀ eÉÉÀŸÀzÀ ŸÀjµvÀÀÛ, ºÉAUÀ¼ÀÆgÀÀ. 2007 5. ÉÁgÁAiÀÀt .i., ZÀAŸÀÆ PÀ«UÀ¼ÀÀ, ŸÀæPÁ±ÀPÀgÀÀ ,ÀéŸÀß §ÀPì °É, ºÉAUÀ¼ÀÆgÀÀ. 2010			

6.	PÁ¼ÉÄUËqÀ ÉÁUÀ³ÁgÀ, wæ¥À¢, gÀUÀ¼É ºÄvÀÄÛ eÁÉÀ¥ÀzÀ ,Á»vÀâ, ¥ÀæPÁ±ÀPÀgÀÄ ,Àé¥Àß §ÄPî °Ë,î. ´ÉAUÀ¼ÀÆgÀÄ. 2010
7.	,ÁA. ´ÉÉÀUÀ¯î gÁªÄ gÁªî ºÄvÀÄÛ ¥ÁÉÀâA ,ÀÄzÀgÀ ±Á¹ÛÇÃ, ¥ÀÄgÁt ÉÁªÄ ZÀÆqÁªÄtÀ, ¥ÀæPÁ±ÀPÀgÀÄ ¥Àæ,ÁgÁAUÀ, ºÉÄË,ÀÆgÀÄ «±Áé«zÀâ®AiÄÄ. 2010
8.	qÁ. azÁÉÀAzÀ ºÄÄÆwð, ºÄZÀÉÀ ,Á»vÀâ, ¥ÀæPÁ±ÀPÀgÀÄ ,Àé¥Àß §ÄPî °Ë,î. ´ÉAUÀ¼ÀÆgÀÄ. 2013
9.	,ÁA ºÄÄgÀÄ¼À¹zÀÝ¥Àà PÉ, ÉÁUÀgÁd Q.gÁA. ºÄZÀÉÀ PÀªÄÄl, ¥ÀæPÁ±ÀPÀgÀÄ ,Àé¥Àß §ÄPî °Ë,î. ´ÉAUÀ¼ÀÆgÀÄ. 2016
10.	ºÄÄgÀÄ¼À¹zÀÝ¥Àà PÉ, µÀlà¢ ,Á»vÀâ, ¥ÀæPÁ±ÀPÀgÀÄ ,Àé¥Àß §ÄPî °Ë,î. ´ÉAUÀ¼ÀÆgÀÄ. 2010
11.	,ÁA. ,ÉÄvÀÄgÁªÄ gÁªî C.gÁ., ²æÄ ®QëöäÄ±ÀÉÀ eÉË«Ä ºsÁgÀvÀ(ªÄÆ®-vÁvÀàAiÄÄð-,ÀavÀæ), ¥ÀæPÁ±ÀPÀgÀÄ PÁªÄzsÉÄÉÄÄ ¥ÀÄ,ÀÛPÀ ºsÁªÉÄ, ´ÉAUÀ¼ÀÆgÀÄ. 2010
12.	,ÁA. ,ÉÄvÀÄgÁªÄ gÁªî C.gÁ., ²ªÄÉÁ¼À ±Äj¥sÁgÀ ÉÀÆgÁgÀ vÁvÀé¥ÀzÀUÀ¼ÄÄ, ¥ÀæPÁ±ÀPÀgÀÄ PÁªÄzsÉÄÉÄÄ ¥ÀÄ,ÀÛPÀ ºsÁªÉÄ, ´ÉAUÀ¼ÀÆgÀÄ. 2007
13.	,ÁA. f.J.î.´SÄmî., PÄªªiÁgÀªÄ,ÀÉÀ PÄUÄðl ºsÁgÀvÀ PÄxªªÄAdj ¥ÀæªÉ±À, ¥ÀæPÁ±ÀPÀgÀÄ CPÄëgÀ ¥ÀæPÁ±ÀÉÀ, °ÉUÉÆÎÄqÄÄ, ÁUÀgÀ. 2006
14.	gÀAeÁÉî zÀUÄð, ±ÀgÀtgÀ ,ªÄÄUÀæ PÁæAw, ¥ÀæPÁ±ÀPÀgÀÄ. ´ÉÆÄ»AiÄiÁ ¥ÀæPÁ±ÀÉÀ, §¼Áî. 2015
15.	QÄvÀðÉÁxÀ PÄÄvÀðPÉÆÄn, PÀÉÀßqÀ ,Á»vÀâ ,ÁAUÁw, ¥ÀæPÁ±ÀPÀgÀÄ PÄÄvÀðPÉÆÄn ºÉÄªÆÄjAiÄÄ¯î læ,îÖ, zsÁgªªqÀ. 2009
16.	±ªªÄgÁAiÄÄ vÀ.,ÄÄ., PÀÉÀßqÀ ,Á»vÀâ ZÄjvÉæ, ¥ÀæPÁ±ÀPÀgÀÄ vÀ¼ÄÄQÉÀ ºÉAPÀtÚAiÄÄª ,ÄgÀPÀ UÀæAxªªiÁ´É, ºÉÄË,ÀÆgÀÄ -2014
17.	ªÄgÀÄzÀæ¥Àà f.J.î. PÀÉÀßqÀ ,Á»vÀâ ,À«ÄPÉË, ¥ÀæPÁ±ÀPÀgÀÄ ,Àé¥Àß §ÄPî °Ë,î. ´ÉAUÀ¼ÀÆgÀÄ. 2013
18.	,ÁA.f.J.î.CªÄÄÆgÀ, PÀÉÀßqÀ ,ÀtÚ PÄxÉUÀ¼ÄÄ, ÉÁµÀÉÀ¯î §ÄPî læ,îÖ, ÉªªzÉº, 2000
19.	,ÁA. qÁ. ´ÉËgÀªÄAUÀ® gÁªÉÄÄUËqÀ, ºÄvÀðªiÁÉÉzÀ PÄxÉUÀ¼ÄÄ, PÀÉÀßqÀ ,Á»vÀâ ¥ÀjµÄvÀÄÛ, ´ÉAUÀ¼ÀÆgÀÄ 2011
20.	,ÁA. qÁ. gÁªªºAUÀ¥Àà n. ´ÉÄUÀÆgÀÄ, ºÄvÀðªiÁÉÉzÀ PÄxÉUÀ¼ÄÄ, PÀtÉ ¥ÀæPÁ±ÀÉÀ, ´ÉAUÀ¼ÀÆgÀÄ, 2013

SUBJECT_CODE	Language I: Hindi	L	T	P	C
B21AHH102		1	1	0	2

Course Description

यह पाठ्यक्रम नौसिखिया भाषा अपनी ,की क्षमता का विकास करने हेतु तथा विभिन्न साहित्यिक प्रक्रियाओं द्वारा

समाज है अभिकल्पित हेतु समझने को मूल्यों के जीवन एवं संस्कृति ,

Prerequisites:

- अध्येता, पी.यु.सी के स्तर पर द्वितीय भाषा के रूप में हिन्दी का अध्ययन करना चाहिए ।
- हिन्दी साहित्य के इतिहास का संक्षिप्त ज्ञान की आवश्यकता है ।
- हिन्दी व्याकरण का अवबोधन आवश्यक है ।
- अंग्रेज़ी – हिन्दी अनुवाद से संबंधित जानकारी जरूरी है ।

Course Objectives:

1. संदर्भानुसार उचित भाषा का प्रयोग करने की दक्षता को छात्रों में उत्पन्न करना ।
2. साहित्य के माध्यम से समाज एवं मानवीय मूल्यों को समझाकर, उन मूल्यों की रक्षा हेतु प्रेरित करना
3. छात्रों में पुस्तक पठन एवं लेखन की अकृतिम प्रवृत्ति स्थापित करना ।
4. अध्येताओं में साहित्य के माध्यम से प्रभावी एवं कुशल संचार का विकास करना

Course Outcomes:

अध्ययन की समाप्ति पर अध्येता –

- सामाजिक मूल्य एवं नैतिक जवाबदेही को स्वीकार कर सकता है ।
- साहित्य की प्रासंगिकता को जीवन में समझने की दक्षता रखता है ।
- समाज में अंतर्निहित पद्धतियाँ एवं विचारधाराओं का व्याख्यान करने में सक्षम बन सकता है ।
- साहित्य के माध्यम से प्रभावी एवं कुशल संचार का विकास करसकता है ।

Course Content:

UNIT I

7 Hours

- 1 कहानी – तावान – प्रेमचंद
- 2 कहानी – उसकी रोटी – मोहन राकेश
- 3 व्यंग्य रचना – वैष्णव की फिसलन – हरीशंकर परसाई

UNIT II

7 Hours

1. कहानी – वापसी - उषा प्रियंवदा
2. कहानी – नाम के बेटी तीसरी - सुधा अरोड़ा
3. निबंध – अच्छी हिन्दी – रवीन्द्रनाथ त्यागी

UNIT III**6 Hours**

1. कहानी – जल्लाद – पांडेय बेचन शर्मा ‘उग्र’
2. रेखाचित्र – बुधिया कब आएगा – ज्ञानचंद मर्मज्ञ
3. एकांकी – अंधेर नगरी – भारतेन्दु हरिश्चंद्र

UNIT IV**6 Hours**

अनुवाद अनुच्छेद (में हिन्दी से अंग्रेजी)

संक्षेपण

सूचना : प्रत्येक इकाई 25 अंक के लिए निर्धारित है।**Text books:**

1. हिन्दी पाठ्य पुस्तक – रेवा विश्वविद्यालय।

References:

1. सुबोध व्यवहारिक हिन्दी – डॉ. कुलदीप गुप्त
2. अभिनव व्यवहारिक हिन्दी – डॉ. परमानन्द गुप्त
3. हिन्दी साहित्य का इतिहास - डॉ. नागेन्द्र
4. आधुनिक हिन्दी साहित्य का इतिहास - डॉ. बच्चन सिंह
5. हिन्दी साहित्य का नवीन इतिहास - डॉ. लाल साहब सिंह
6. शुद्ध हिन्दी कैसे बोले कैसे लिखे- पृथ्वीनाथ पाण्डे
7. कार्यालय अनुवाद निदेशिका
8. संक्षेपण और पल्लवन - के.सी.भाटिया&तुमन सिंग
9. हिन्दी निबंध लेखन – प्रो. विराज
10. निबंध माला – योगेशचंद्र जैन

SUBJECT_CODE	Language I: Additional English	L	T	P	C
B21AHA101		1	1	0	2

Course Description

This is a 2-credit course designed to help the learner gain competency in language through the introduction of various genres of literature. The course aims to inculcate a critical view among learners while sensitizing them to the contemporary issues around. It facilitates creative learning and helps to appreciate, assimilate and research on the various dimensions of society, culture and life.

Prerequisites:

The student must possess fundamentals of language skills and be aware of social issues.

Course Objectives:

The objectives of this course are:

- To develop linguistic prowess of the students.
- To appraise different genres of literature.
- To illustrate the fundamentals of creative language.
- To enhance consistent reading habits.

Course Outcomes:

On completion of the course, learners will be able to:

- Demonstrate a thorough understanding of sensitive and critical social issues
- Develop reading skills and a wide range of vocabulary
- Critically analyze a piece of prose or poetry.
- Explain their opinion in a coherent and communicable manner.

Course Content:

UNIT I

7 Hours

Values & Ethics

Literature: Rabindranath Tagore - Where the Mind is Without Fear

Saki – The Lumber-room

William Shakespeare – Extract from Julius Caesar (Mark Antony's Speech)

Language: Vocabulary Building.

UNIT II

6 Hours

Natural & Supernatural

Literature: John Keats – La Belle Dame Sans Merci

Charles Dickens – The Signal Man

Hans Christian Anderson - The Fir Tree

Language: Collective Nouns

UNIT III

7 Hours

Travel & Adventure

Literature: R.L. Stevenson – Travel

H.G. Wells – The Magic Shop

Jonathan Swift – Excerpt from Gulliver's Travels Book – I

Writing Skills: Travelogue

UNIT IV

6 Hours

Success Stories

Literature: Emily Dickinson – Success is Counted Sweetest

Dr. Martin Luther King - I Have a Dream

Helen Keller – Excerpt from The Story of My Life

Writing Skills: Brochure & Leaflet

Reference Books:

1. Tagore, Rabindranath. Gitanjali. Rupa Publications, 2002.
2. Wordsworth, William. The Complete Works of William Wordsworth. Andesite Press, 2017.
3. Munro, Hector Hugh. The Complete Works of Saki. Rupa Publications, 2000.
4. Shakespeare, William. The Complete Works of William Shakespeare. Sagwan Press, 2015.
5. Chindhade, Shirish. Five Indian English Poets: Nissim Ezekiel, A.K. Ramanujan, Arun Kolatkar, Dilip Chitre, R. Parthasarathy. Atlantic Publications, 2011
6. Dickens, Charles. The Signalman and Other Horrors: The Best Victorian Ghost Stories of Charles Dickens: Volume 2. Createspace Independent Publications, 2015.
7. Anderson, Hans Christian. The Fir Tree. Dreamland Publications, 2011.
8. Colvin, Sidney (ed). The Works of R. L. Stevenson. (Edinburgh Edition). British Library, Historical Prints Edition, 2011.
9. Bishop, Elizabeth. Poems. Farrar, Straus and Giroux, 2011.
10. Swift, Jonathan. Gulliver's Travels. Penguin, 2003.
11. Dickinson, Emily. The Complete Poems of Emily Dickinson. Createspace Independent Publications, 2016.
12. Brooke, Rupert. The Complete Poems of Rupert Brooke. Andesite Press, 2017.
13. King, Martin Luther Jr. & James M. Washington. I Have a Dream: Writings And Speeches That Changed The World. Harper Collins, 1992.
14. Keller, Helen. The Story of My Life. Fingerprint Publishing, 2016.
15. Green, David. Contemporary English Grammar Structures and Composition. New Delhi: MacMillan Publishers, 2010.
16. Thorpe, Edgar and Showick Thorpe. Basic Vocabulary. Pearson Education India, 2012.
17. Leech, Geoffrey and Jan Svartvik. A Communicative Grammar of English. Longman, 2003.

18. Murphy, Raymond. Murphy's English Grammar with CD. Cambridge University Press, 2004.

SUBJECT_CODE	Communicative English – I	L	T	P	C
B21AHE101		1	1	0	2

Course Description

This 2-credit course focuses on improving the spoken and written communication of the learners. The course develops personal, inter-personal and group skills among learners. It also addresses the functional aspects of language usage while providing specific linguistic tools through professional language learning software. The widespread reach of this course makes it highly practical and applicable.

Prerequisites:

The student must have knowledge of intermediate English Grammar and LSRW skills.

Course Objectives:

The objectives of this course are to:

- To enhance functional communication skills.
- To develop functional use of language in professional contexts.
- To utilize oral presentations in multiple contexts.
- To apply effective written skills in formal communication.

Course Outcomes:

After the completion of the course, students will be able to:

- Identify pressing issues relating to society, environment and media.
- Develop a process-oriented approach to writing.
- Apply the grammatical skills developed during the course aptly.
- Demonstrate a good command over language usage and refined interpersonal skills.

Course Contents:

UNIT I**7 Hours****Functional English**

Remedial Grammar: Past Simple; Past Continuous; Irregular Verbs

Writing Skills: Paragraph Writing

Activities: Conversations; Leaving Phone Messages

Literature: Chief Seattle – The End of Leaving and Beginning of Survival

UNIT II**6 Hours****Interpersonal Skills**

Remedial Grammar: Past Simple; Past Continuous; Irregular Verbs

Writing Skills: Paragraph Writing

Activities: Conversations; Leaving Phone Messages

Literature: Chief Seattle – The End of Leaving and Beginning of Survival

UNIT III**7 Hours****Multitasking Skills**

Remedial Grammar: Present Perfect; For, Since & How Long; -ed & -ing adjectives; Prefix & Opposites of Adjectives

Writing Skills: Note Making

Activities: Agreeing & Disagreeing with Opinions

Literature: Jesse Owens - My Greatest Olympic Prize

UNIT IV**6 Hours****Communication Skills**

Remedial Grammar: Collocations; Prepositions

Writing Skills: Precise Writing

Activities: Offers, Suggestions & Requests

Literature: Avijit Pathak – Onscreen Magic

Reference Books:

1. Green, David. *Contemporary English Grammar Structures and Composition*. New Delhi: MacMillan Publishers, 2010.
2. Thorpe, Edgar and Showick Thorpe. *Basic Vocabulary*. Pearson Education India, 2012.

3. Leech, Geoffrey and Jan Svartvik. *A Communicative Grammar of English*. Longman, 2003.
4. Murphy, Raymond. *Murphy's English Grammar with CD*. Cambridge University Press, 2004.
5. Rizvi, M. Ashraf. *Effective Technical Communication*. New Delhi: Tata McGraw-Hill, 2005
6. Riordan, Daniel. *Technical Communication*. New Delhi: Cengage Publications, 2011.
7. Sen et al. *Communication and Language Skills*. Cambridge University Press, 2015.

SUBJECT_CODE	Art & 2D Animation-1	L	T	P	C
B21DD0101		2	0	2	4

Course Description

Drawing's part of the process of planning. With modern technology, communicating with a visual representation has been made possible, and **art** is the backbone to this fact. The course starts with basic drawing and then moves to Perspective drawings. It introduces color wheel and color concepts. Then moves to History of animation and explain how Animations are widely used in the art industry in the creation of modern games, movies and also advertisements. Also explain principles behind animation.

Prerequisites:

Should have interest towards drawing & creativity.

Course Objectives:

The objectives of this course are:

- To explain the elements and composition of drawing.
- To show how colors are organized on a color wheel.
- Discuss the history and need for animation and 12 Principles of animation.

Course Outcomes:

Upon Completion of the course, the students will be able to:

- Demonstrate an understanding of perspective drawing and identify different types of art
- Develop observational skills, learn the proper tools to use, apply different techniques to drawing in a professional method.
- Relate how light & shadow color choices affect the entire mood, tone and composition of design
- Understand various animation techniques and discover the three stages of developing an animation.

Course Content:

UNIT I

13 Hours

Drawing: Introduction, Elements of Drawing, using basic shapes, Creating Drawings, Types of Drawing, Drawing Composition, understanding linear perspective, one-point Perspective, two-point Perspective, three-point Perspective, Horizons and vanishing points, arches and roofs, working from reference materials.

UNIT II

13 Hours

Color Theory: Introduction to Color Wheel, Color Concepts, color schemes, Hue, Saturation, Value, Transparent and Opaque Colors, Color Models, Indexed Color, True Color.

UNIT III

13 Hours

Animation: Introduction to Animation, History of Animation, Need for Animation, Animation Techniques. Animation Production Stages, Traditional Animation Process.

UNIT IV

13 Hours

Principles of Animation: Introduction, Stretch and Squash, Timing and Spacing, Ease in and Ease Out, Arcs, Follow Through and Overlapping, Staging, Anticipation, Exaggeration, Straight Ahead and Pose to Pose, Solid Drawing, Appeal, Secondary Action

Text Books:

1. Mark Willenbrink , Drawing for the Absolute Beginner: A Clear & Easy Guide to Successful Drawing (Art for the Absolute Beginner) Paperback – Illustrated, 2 November 2006.
2. Hannes Rall, Animation: From Concept to Production, Dec 21, 2017.
3. Patti Mollica , Color Theory: An essential guide to color-from basic principles to practical applications (Artist's Library) Paperback – 1 January 2013

Reference Books

1. Rita Tekippe , Introduction to Art- Design, Context, and Meaning , 2016.
2. Gilles Beloeil, Andrei Riabovitchev, Roberto F Castro, Art Fundamentals: Color, Light, Composition, Anatomy, Perspective, and Depth, 3dtotal Publishing, September 3, 2013.

3. Robin Williams, The Non-Designer's Design Book, 4th Edition, Peachpit Press, Nov 29, 2014.

SUBJECT CODE	Graphic Design Fundamentals	L	T	P	C
B21DD0102		2	0	0	2

Course Description

Graphic design is a craft where professionals create visual content to communicate messages. **Designers** use typography and pictures to meet users' specific needs. The course starts with the basic concepts of graphic designing. Then it focuses on designing a logo, designing a brochure, image editing, digital painting and creating graphics for print and web media using the industry standard software tools.

Prerequisites:

Should have a basic knowledge of using Computer and should have interest towards drawing & creativity.

Course Objectives:

The objectives of this course are to:

- To show exporting, creating, and printing Web graphics.
- To discuss the fundamentals of canvas and brushes of a standard image editing software.
- List the various tools and techniques of painting styles.

Course Outcomes:

Upon Completion of the course, the students will be able to:

- Illustrate graphic design skills by learning paint tools and different effects available in a standard digital illustration software.
- Learn to combine text and graphics to create digital graphics, illustrations, logo design and typography for all kinds of media.

- Recognize the relevance of choosing and mixing the right color for print and digital media.
- Identify the Key Points behind print media and create a Visiting Card, a brochure, a print hoarding etc.

Course Contents:

UNIT I

7 Hours

Becoming a Graphic Designer: Organizational Structure in an Ad Agency, Vector, Raster, CMYK, RGB, Use of Vectors in Creative Services, Illustrator Window, Working with Documents, Creating New Documents, Using Artwork Space, Tools, Swatches Panel, Correcting Mistakes, Saving Documents.

UNIT II

6 Hours

Creating Art works: Designing logos, creating vector illustrations, turning photographs into vector artwork, Vectorizing and colorizing traced hand drawings, preparing graphics for web and print, designing infographics, Working with type in creative ways.

UNIT III

7 Hours

Interface & Features of standard Image editing software, Tools used, relevance of a standard software in advertising – Print and Digital Media, working with the tools, layers & images, Typography and its relevance in advertising, create typographies using type tools, relevance of choosing the right font and color.

UNIT IV

7 Hours

Digital Painting and Masking: Different types of brushes used for digital painting, steps to create and save custom brushes for digital painting, Recognize the relevance of choosing and mixing the right color for print and digital media, importance of vector and layer masks, steps to create a vector and layer masks for print and digital media designs..

Text Books:

1. Joel Lardner, Digital Art Techniques for Illustrators & Artists: The Essential Guide to Creating Digital Illustration and Artworks Using Photoshop, Illustrator, and Other Software, Barrons Educational Series Inc, Apr 1, 2012.
2. Andrew Faulkner, Conrad Chavez, Adobe Photoshop CC Classroom in a Book, First edition, Pearson Education, 15 June 2018.

Reference Books:

1. Joel Lardner, Paul Roberts, Digital Art Technique Manual for Illustrators and Artists: The Essential Guide to Creating Digital Illustration and Artworks Using Photoshop, Illustrator, and Other Software, Barrons Educational Series Inc, March 1, 2012.
2. Carlyn Beccia, The Digital Renaissance: Classic Painting Techniques in Photoshop and Painter, Edition 1, Focal Press, Apr 18, 2014.

SUBJECT_CODE	Introduction to Python Programming	L	T	P	C
B21DD0103		2	0	0	2

Course Description:

This course is intended to introduce the basics and features of Python Language and functions, classes and objects . The Students are suggested to install Python and also install any of the IDEs-Anaconda ,a Scientific environment for Python. Students are get acquainted with the syntax of the various constructs in Python.

Course Prerequisites:

NIL

Course Objectives:

- To imbibe the Basics of Python Language Constructs
- To inculcate Modular Programming approach in python
- Solve the given problem using the syntactical structures of python language.

Course Outcomes:

On completion of this course the student will be able to:

- Understand the Basic Terminologies used in python programming.
- Comprehend Branching and Looping statements in Python Programming.
- Apply the concept of Functions in Problem solving.

- Implement the concepts of Classes, Objects & Inheritance

Course Contents:

UNIT I

7 Hours

Introduction to Python:: Python in real world, Why Python, Python 2 vs Python 3, Installing and Running Python, Python Ingredients:Numbers, Strings and Variables: Variables, names and objects, Numbers – Integers, Precedence, Bases, Type conversions, Floats, Math functions, Strings.

UNIT II

6 Hours

Lists, Tuples, Dictionaries and Sets: Lists and Tuples: Lists, Tuples, Dictionaries, Sets, Code Structures: comment with #, Continue line with \, Compare with if, elif, else, Repeat with while, Iterate with for.

UNIT III

7 Hours

Functions, Modules, and Packages: Functions, Specify Default Parameter values, Inner functions, Anonymous functions, name spaces and scope, Standalone Programs, Command-Line Arguments, Modules and the import statement, packages.

UNIT IV

6 Hours

Objects and Classes: Define a class with class, Inheritance, Override a method, Add a method, In Self defense, Get and Set attribute values with properties, Name mangling for privacy, Method types, Special methods and composition.

Text books:

1. Bill Lubanovic, “Introducing Python”, O’reilly Publications, 1st Edition, (chapters 1-6).
M.G.Venkateshmurthy, “Introduction To Unix & Shell Programming”, First Edition, Pearson Education, 2004.
2. Richard Petersen, “The Complete Reference Linux “ Sixth Edition Petersen, Tata Mcgraw Hill [Chapter 1].
3. Kernighan B W & Robert B, “The Unix Programming Environment”.

Reference Books:

1. Michael Dawson, “Python Programming for absolute beginners”, Course Technology-A part of CENGAGE Learning, 3rd Edition.
2. Michael Dawson ,Python Programming, 3rd Edition, Course technology PTR, 2010.
3. Robert Galanakis, Practical Maya Programming With Python, Shroff Publishers & Distributors, 2014.

SUBJECT_CODE	UI/ UX - I	L	T	P	C
B21DD0104		2	0	1	3

Course Descriptions:

User Interface (UI) - User experience (UX) design is the process to create products that provide meaningful and relevant experiences to users. This involves the design of the entire process of acquiring and integrating the product, including aspects of branding, design, usability and function. This course starts with the introduction to UX, explain the difference between good & poor design and the cognitive aspects of the design. Further, it explains understanding and conceptualizing the interaction, creating design strategy, creating profiles & Persona, different methods of data gathering, Tasks & scenarios.

Course Prerequisites:

Should have interest towards designing & creativity.

Course Objectives:

The objectives of this course are to:

- To explain the history & value of UX.
- To discuss the Importance of human centered design.
- To Explain what cognition is and why it is important for interaction design.

Course Outcomes:

Upon Completion of the course, the students will be able to:

- Understand the definition and principles of UI/UX Design in order to design with intention.
- Identify the users who will use the product, what they will use it for, and under what conditions they will use it.
- Understand how the cognitive and physical capabilities of users inform the design of interactive products.
- Analyze the difference between good and poor design.

Course Contents:

UNIT I Introduction

10 Hours

Introduction, good and poor design, The User experience, UX Goals, Design principles, Applying Design principles in practice.

UNIT II Cognitive Aspects

10 Hours

Introduction, Cognitive Aspects- Vision, Intellect, Memory, Mortar. Cognitive frame works, information processing.

Hick-Hyman Law, fits' law in design.

UNIT III Understanding and conceptualizing Interaction

10 Hours

Introduction, understanding the problem, conceptual models, Interface Metaphors, Interaction types, Design strategy.

UNIT IV Data Gathering

9 Hours

Introduction, identifying participants, creating profiles and personas, Data recording, Interviews, Questionnaires, observation, choosing a combining technique, qualitative and quantitative data, summarizing the findings, task description – scenarios and use cases.

Text Books:

1. Helen Sharp, Jennifer Preece , Yvonne Rogers ,Interaction Design: Beyond Human-Computer Interaction – 10 May 2019.

Reference Books:

1. Steve Krug , Don't Make Me Think, Revisited A Common-Sense Approach to Web Usability
2. John Pruitt and Tamara Adlin, The Persona Lifecycle: A Field Guide for Interaction Designers
3. Jakob Nielsen and Robert L. Mack , Usability Inspection Methods
4. Hugh Beyer and Karen Holtzblatt ,Contextual Design: Defining Customer-Centered Systems

Websites:

1. <https://www.interaction-design.org/courses/human-computer-interaction>
2. <https://www.interaction-design.org/literature>

SUBJECT_CODE	Graphic Design Fundamentals Lab	L	T	P	C
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B21DD0105		0	0	2	2
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Course Descriptions:

Graphic design is all around us, both on screen and in print, yet it is always made up of images and words to create a communication goal. This course sequence exposes students to the fundamental skills required to make sophisticated graphic design process and communication through image-making and typography. The skills gained during this course are: Branding, Brochure design, Typography, Creativity, Color Theory, Adobe Illustrator, Image editing, Adobe Photoshop.

Course Prerequisites:

Basic Knowledge of computer and interest towards creativity.

Course Objectives:

The objectives of this course are to:

1. To Illustrate graphic skills by learning paint tools and different effects available in a standard digital illustration software.
2. Learn how to make, manipulate and arrange images to create compositions.
3. To discuss the fundamentals of canvas and brushes of a standard digital painting software.

Course Outcomes:

Upon Completion of the course, the students will be able to:

1. learn how to explore and investigate visual representation through a range of image-making techniques.
2. Understand basic principles of working with shape, color and pattern and apply the principles of composition and visual contrast.
3. Communicate through image-making and typography.
4. Gain the fundamental skills needed to be a graphic designer.

LAB PROGRAMS

PART-A

1. Artboards in Adobe Illustrator, Tools- Selection & Direct selection tool, shape tool, grouped vectors, compounding vector shapes & using the shape builder tool
2. Drawing with the Pen tool / Brush tool / Pencil tool, Blob brush tool & Eraser tool
3. Setting up a document. Placing in a drawing / Sketch and Tracing a hand drawn sketch & converting to vector artwork. Coloring a vector drawing in Adobe Illustrator
4. Type tools. Adding type to a poster design in Adobe Illustrator
5. Photoshop workspace. Tools & Layers- Use the selection tools on an existing photo. Select, cut, copy, paste, transform to create a new picture.
6. Use various retouching tools to an old torn photograph image and repair it
7. Type tools. Use appropriate type and colors for given words
8. Apply Smart Filters to a complete object, to a selected section of an object, and to a regular layer. Apply Smart Filters to a complete object, to a selected section of an object, and to a regular layer.

PART-B

1. Design a Logo for a Design studio
2. Take a photograph of any person to create the Vector Portrait of it. Use Illustrator software to create the portrait
3. Design a Visiting card for an interior design studio
4. Create Digital painting in Adobe photoshop using brush tool
5. Design Magazine Cover page
6. Apply Masking techniques to merge two images in such a way that the objects in both the images should appear beside each other in one image.
7. Create Sign In/ Sign Up screen of app.
8. Design Home page Interior design studio website.

SUBJECT_CODE	Python Programing lab	L	T	P	C
B21DD0106		0	0	2	2

Course Description:

This course focuses on developing programming skills to step into the intricacies of world of programming with an aim to develop simple games by the students.

Prerequisites:

To start with Python programming one should have a basic understanding of Computer. Programming terminologies and some knowledge about programming languages.

Course Objectives:

The objective of this course are to

- Provide students with understanding of python code organization and functional hierarchical decomposition.
- To inculcate the Object oriented programming concepts.

Course Outcomes:

On completion of the course, learners will be able to:

- Write, Test and Debug Python Programs
- Implement concept of object oriented programming , Conditionals statements and Loops
- Apply the concept of Functions and Files in Problem solving.
- Implement games in python.

LAB PROGRAMS

PART A

1. Demonstrate runtime reading of Strings.
 - i) Illustrate the concept of String Slicing.
 - ii) Also demonstrate a minimum of 5 functions defined on Strings.
2. Write a program to find the biggest of three numbers
3. Write a program to generate Fibonacci sequence
4. Write a program to draw graphical primitives (line, circle, ellipse, arc) using library functions
5. Demonstrate the usage of math and cmath module to find the roots of a Quadratic Equation)
6. Program to do different operations on Lists, Tuples and Dictionaries

7. Define a class polygon which has members such as sides and have member functions such as getsides() , display() and calculatearea(). (to read sides, display polygon and calculate the area of the polygon). Derive a class Rectangle from polygon and create an object of Rectangle class to find the area of the rectangle.
8. Illustrate the usage of files with the help of different functions defined on Files(such as write, read(demonstrate all four forms), open, and close(use both the forms of closing a file)
9. Design a menu driven program to draw the following graphical objects using library functions
 - i) triangle
 - ii) Hexagon
 - iii) Concentric circles
10. Write a program to find the factorial of a number using user defined functions

PART B

1. Design Jumble Game. Enjoy Playing it.
2. Design Guess My Number Game. Check if you are able to guess the correct Number

SUBJECT_CODE	Environmental Studies	L	T	P	C
B21ASM101					

Course Descriptions:

Environmental Studies covers a broad scale of earth's environmental issues . It seeks to understand the connection between the environment and human society. Its primary objective is to imbibe the concerns of all environmental aspects in order to create awareness among students.

Course Prerequisites:

Nil

Course Objectives:

The objectives of this course are to:

- To familiarize students with environmental issues as how to conserve, preserve and protect our Environment.

Course Outcomes:

Upon Completion of the course, the students will be able to:

- Analyze the environmental conditions and protect it.
- Observe the role of individual, government and NGO in environmental protection.
- Search for new renewable energy resources with high efficiency through active research.
- Analyze the ecological imbalances and protect it.
- List the causes of environmental pollution & find ways to overcome them.
- Design pollution controlled products.

Course Contents:

UNIT I Introduction

10 Hours

Multidisciplinary nature of environmental studies – Definition -Scope and importance-Need for public awareness.

UNIT II Natural Resources

10 Hours

Renewable and non-renewable -Problems associated - Forest resources-Water resources-Mineral resources-Food resources-Energy resources-Land resources and their conservation.

UNIT III Environmental Pollution

10 Hours

Definition- Causes - Effects and control measures of air - Water-Soil-Marine-Noise-Thermal -Nuclear pollutions -Solid waste management-Prevention of pollution.

UNIT IV Social Issues and the Environment

9 Hours

Unsustainable to sustainable development, Environmental ethics, Climate changes, global warming, Wildlife protection act, Public awareness,- Human Population and the Environment- Population growth - Population explosion - Human rights - Value education - Role of information technology in environment and human health - HIV/Aids -Women and child welfare.

Reference Books:

1. Desai R.G, “Environmental studies”, Himalaya Pub. House.
2. Agarwal, K.C, “Environmental Biology”, Nidi Publ. Ltd. Bikaner, 2001.

- ## Second Semester

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	• “sÁµÉ, „Á»vÀâ, Ew°Á,À ªÄvÀÄÛ „AA,ÀìøwUÀ¼ÀÉÄÄß PÀÉÄßqÀ, PÀÉÄðIPÀPÉÌ „AAŞAçü¹zÀAvÉ ¥ÀjZÀ-À,À-ÁUÀÄvÀÛzÉ. • «zÁäyðUÀ¼À „ÀÄðvÉÆÄªÄÄÄR “É¼ÀªÀtÁUÉUÉ CÉÄÄªUÀÄªAvÉ °ÁUÀÆ CªÁgÀ°è ªAiÁÉÀªÀ „AAŞAzsÀUÀ¼À ŞUÉİ UËgÀªÀ, „ÀªiÁÉÄvÉ ªÄÄÆr¹, “É¼É,ÀªªÀ ñŒÖÉÀ°è ¥ÀoÀâUÀ¼À DAIÉÄİAiAiÁVzÉ. • CªÁgÀ°è „ÈdÉÄ²À®vÉ, ±ÄÄzÀß “sÁµÉ, GvÀÛªÄ «ªÄ±Áð UÄÄt, çgÀUÀð¼À „AA“sÁµÀuÉ, “sÁµÀt PÀ-É °ÁUÀÆ şgÀ°À PË±À®âUÀ¼ÀÉÄÄß “É¼É,ÀªªÄzÀ UÄÄjAiAiÁVzÉ • „ÄzsÁðvÀâPÀ ¥ÀjÄPÉëUÀ½UÉ CÉÄÄPÀÆ®ªUÀÄªAvÀ°À «µÀAiÀÄUÀ¼ÀÉÄÄß UÀªÄÉzÀ°èèlÄÖPÉÆAqÀÄ „ÆPÀÛ ¥ÀoÀâUÀ¼ÀÉÄÄß DAIÉÄİ ªAiArPÉÆ¼Äİ-ÁVzÉ.		
	COURSE OUTCOMES		
	ªÄÄzsÀâPÀ°ÄÉÄzÀ ««zsÀ ¥ÄæPÁgÄzÀ PªªÀUÀ¼ÄÄ, “ÉÄREÀUÀ¼ÄÄ ªÄvÀÄÛ „AAQÄtð şgÀ°À „Á»vÀâ PÀ°PÉAiÄª ªÄÄÆ®PÀ Pª®zÀ ¹ÜvÀâAvÄgÀUÀ¼ÀÉÄÄß CzÀgÀ M¼ÀÉÉÆÄİUÀ¼ÀÉÄÄß “É¼É,ÀÄvÀÛzÉ. • „ªªiÁfPÀ, gÁdQÄAiÄÄ, zsÁ«ÄðPÀ, „AA,ÀìøwPÀ, ¥Àj,ÀgÀ °ÁUÀÆ °AUÀ, „AAŞAçü «ZÁgÀUÀ¼ÉqÉ UªªÄÉÀ °Aj,ÀªªÄzÀgÉÆAçUÉ «zÁäyðUÀ¼À°è ZAZÄð ªÄÉÉÆÄ“sÁªªÄ “É¼ÉAiÄÄvÀÛzÉ. • fÄªÉÄzÀ°è şgÄªªÀ C®ü¥ÄæAiÄÄ “ÉÄzsÀUÀ¼ÄÄ, „ªªÄ,ÉâUÀ¼ÀÉÄÄß DzSÄÄ®PÀ „AzÀ“sÄðzÀ°è ªAiÁÉÀ«ÄAiÄÄvÉAiÉÆAçUÉ ºªÄð»,ÀªªAvÉ ¥ÉæÄgÉÄ,ÀÄvÀÛzÉ. • GvÀÛªÄ „AAªªÉÀ PÀ-ÉAiÄÉÄÄß “É¼É,ÀªªÀ GzÉÝÄ±ªªÉÄÄß FqÉÄj,ÀÄvÀÛzÉ. • „AA±ÉÆÄzÀÉª ªÄÉÉÆÄ“sÁª ªÄvÀÄÛ „ÄzsÁðvÀâPÀ ¥ÀjÄPÉëUÀ½UÉ «zÁäyðUÀ¼ÀÉÄÄß „AdÄÓUÉÆ¼,ÀÄvÀÛzÉ.		
	COURSE CONTENTS		
UNIT I			7 HOURS
	1. gÁWÀªAAPÀ: UÁÉÀgÁtÄAiÄÄgÀ „AAªzÀ 2. PÄªªiÁgÀªÀ: ¹qÀ® ¥ÉÆİÖt PÄnÖ „ÄRªÀ PÉÆqÄªªgÉ 3. „ÀÄðÖÉÀ ªAZÄÉÀUÀ¼ÄÄ		
UNIT II			7 HOURS
	1. ¥ÄÄgAAzÀgÄzÀ,À: V½AiÄÄÄ ¥ÄAdgÄzÉÆ½®è 2. PÀÉÄPÄzÀ,À: J-ÁègÄÄ ªAiÁqÄÄªzÄÄ 3. ²±ÄÄÉÄ¼Ä ±ÄjÄ¥sÀ: J®ègAAvÀªÉÄ®è ÉÄÉÀUÀAqÀ		
UNIT III			6 HOURS
	1. J,¹eÉ.CŞÄÝ-İ PÄ-ÁA: ¥ÉÉ¥ÉÆÄnUÉ „ÆÄÓUÄÄwÛgÄªªª zÉÄ±Ä 2. ©J.²æÄzsÀgÀ: “¥ÄÄ aAvÀÉÉ 3. zÉÄªÉÄÆgÄª ªÄªªzÉÄª: “sÁgAvÀ „AA«zsÁÉÁPÉİ “sÄÆvÀ’ ZÉÄµÉÖ		
UNIT IV			6 HOURS
	1. ¥ÄÆtðZÄAzÄæ vÉÄd¹é: „ÀÄd PÄÈ¶ (DAiÄÄÝ “sÁUÀ)		

	REFERENCE BOOKS
	¥ÀgÁªÄÄ±Àð£À UÀæAxÀUÀ¼ÄÄ :
	1. ªÄÄÄUÀ½ gÀA.ªæÄ., PÀ£ÀßqÀ ‚Á»vÀâ ZÀjvÉæ, ¥ÀæPÁ±ÀPÀgÀÄ VÃvÁ §ÄPi °Ë,ï, ªÉÄÊ,ÀÆgÀÄ. 2014 2. ‚ÀAUÀæªÀ. £ÁUÉÄUËqÀ JZi.J¬i., ZÀjwæPÀ d£À¥ÄzÀ PÀxÀ£À PÁªÀâUÀ¼ÄÄ, ¥ÀæPÁ±ÀPÀgÀÄ PÀ£ÀðIPÀ eÁ£À¥ÄzÀ ¥ÄjuÀvÀÄÜ, ´ÉAUÀ¼ÄÆgÀÄ. 2008 3. ¹ªªÀiÁwÀvÀ PÀ£ÀßqÀ ‚Á»vÀâ ZÀjvÉæ ‚À¥ÄÄ1,2,3,4,5 ªÄÄvÀÄÜ 6, PÀªªÁ¥ÄÄ PÀ£ÀßqÀ CzsÀªÀiÀÄ£À ‚ÀA,ÉÜ, ªÉÄÊ,ÀÆgÀÄ «±Àé«zÀâ®ÀiÀÄ, ªÉÄÊ,ÀÆgÀÄ. 2014 4. ‚ÀAUÀæªÀ. £ÁUÉÄUËqÀ JZi.J¬i., PÀ£ÀßqÀ d£À¥ÄzÀ PÀxÀ£À PÁªÀâUÀ¼ÄÄ, ¥ÀæPÁ±ÀPÀgÀÄ PÀ£ÀðIPÀ eÁ£À¥ÄzÀ ¥ÄjuÀvÀÄÜ, ´ÉAUÀ¼ÄÆgÀÄ. 2007 5. £ÁgÁAiÀÄt ‚«», ZÀA¥ÄÆ PÀ«UÀ¼ÄÄ, ¥ÀæPÁ±ÀPÀgÀÄ ‚Àé¥Àß §ÄPi °Ë,ï, ´ÉAUÀ¼ÄÆgÀÄ. 2010 6. PÁ¼ÉÄUËqÀ £ÁUªÀÁgÀ, wæ¥À¢, gÀUÀ¼É ªÄÄvÀÄÜ eÁ£À¥ÄzÀ ‚Á»vÀâ, ¥ÀæPÁ±ÀPÀgÀÄ ‚Àé¥Àß §ÄPi °Ë,ï, ´ÉAUÀ¼ÄÆgÀÄ. 2010 7. ‚ÀA. ´££ÀUÀ¬i gªªÀ gªªi ªÄÄvÀÄÜ ¥Á£ÀªA ‚ÄAzÀgÀ ±Á¹ÜçÄ, ¥ÀÄgÁt £ªªÀ ZÀÆqªªÀÄtÄ, ¥ÀæPÁ±ÀPÀgÀÄ ¥Àæ,ÁgÁAUÀ, ªÉÄÊ,ÀÆgÀÄ «±Àé«zÀâ®ÀiÀÄ. 2010 8. qÀ. azÁ£ÀAzÀ ªÄÄÆwð, ªZÀ£À ‚Á»vÀâ, ¥ÀæPÁ±ÀPÀgÀÄ ‚Àé¥Àß §ÄPi °Ë,ï, ´ÉAUÀ¼ÄÆgÀÄ. 2013 9. ‚À ªÄÄgÀÄ¼À¹zÀÝ¥Àà PÉ, £ÁUÀgÁd Q.gÀA. ªZÀ£À PªªÀÄl, ¥ÀæPÁ±ÀPÀgÀÄ ‚Àé¥Àß §ÄPi °Ë,ï, ´ÉAUÀ¼ÄÆgÀÄ. 2016 10. ªÄÄgÀÄ¼À¹zÀÝ¥Àà PÉ, µÀlà¢ ‚Á»vÀâ, ¥ÀæPÁ±ÀPÀgÀÄ ‚Àé¥Àß §ÄPi °Ë,ï, ´ÉAUÀ¼ÄÆgÀÄ. 2010 11. ‚ÀA. ´ÉÄvÀÄgªªÀ gªªi C.gÀ., ªæÄ ®QëöäÄ±À£À eÉÊ«Àª ´sÁgÀvÀ(ªÄÄÆ®-vÁvÀªÀiÀÄð-,ÀavÀæ), ¥ÀæPÁ±ÀPÀgÀÄ PªªÀÄzsÉ££Ä ¥ÄÄ,ÀÜPÀ ´sªª£À, ´ÉAUÀ¼ÄÆgÀÄ. 2010 12. ‚ÀA. ´ÉÄvÀÄgªªÀ gªªi C.gÀ., ªª£À¼À ±ÄjÃ¥sÀgÀ £ÀÆgÁgÀÄ vÀvÀé¥ÄzÀUÀ¼ÄÄ, ¥ÀæPÁ±ÀPÀgÀÄ PªªÀÄzsÉ££Ä ¥ÄÄ,ÀÜPÀ ´sªª£À, ´ÉAUÀ¼ÄÆgÀÄ. 2007 13. ‚ÀA. f.J,ï.´sÀmi., PªªªÀiÁgªªÀ,À£À PÀuÁðl ´sÁgÀvÀ PÀxªªÀÄAdj ¥ÀæªÉ±À, ¥ÀæPÁ±ÀPÀgÀÄ CPÀëgÀ ¥ÀæPÁ±À£À, °ÉUÉÆIÄqÀÄ, ÁUÀgÀ. 2006 14. gÀAeÁfi zÀUÁð, ±ÀgÀtgÀ ‚ªªUÀæ PªæAw, ¥ÀæPÁ±ÀPÀgÀÄ. ´ÉÆÄ»AiÀiÁ ¥ÀæPÁ±À£À, §¼Äij. 2015 15. QÄvÀð£ÁxÀ PÄÄvÀðPÉÆÄn, PÀ£ÀßqÀ ‚Á»vÀâ ‚ÀAUÁw, ¥ÀæPÁ±ÀPÀgÀÄ PÄÄvÀðPÉÆÄn ªÉªªÉÆÄjAiÀÄ¬i læ iÖ, zsÁgªªÀqÀ. 2009 16. ±ªªÀÄgÁAiÀÄ vÀ, ÄÄ., PÀ£ÀßqÀ ‚Á»vÀâ ZÀjvÉæ, ¥ÀæPÁ±ÀPÀgÀÄ vÀ¼ÄÄQ£À ªÉAPÀtÚAiÀÄª, ÁægÀPÀ UÀæAxªªÀiÁ´É, ªÉÄÊ,ÀÆgÀÄ -2014 17. ²ªgÀÄzÀæ¥Àà f.J,ï. PÀ£ÀßqÀ ‚Á»vÀâ ‚À«ÄPÉë, ¥ÀæPÁ±ÀPÀgÀÄ ‚Àé¥Àß §ÄPi °Ë,ï, ´ÉAUÀ¼ÄÆgÀÄ. 2013

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B21AHH202	Language II: Hindi	1	1	0	2
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Course Descriptions:

यह पाठ्यक्रम नौसिखिया, समाज द्वारा प्रक्रियाओं साहित्यिक विभिन्न तथा हेतु करने विकास का क्षमता की भाषा अपनी, के जीवन एवं संस्कृतिमूल्यों को समझने हेतु अभिकल्पित है।

Course Prerequisites:

- अध्येता, पी.यु.सी के स्तर पर द्वितीय भाषा के रूप में हिन्दी का अध्ययन करना चाहिए।
- हिन्दी साहित्य के इतिहास का संक्षिप्त ज्ञान की आवश्यकता है।
- हिन्दी व्याकरण का अवबोधन आवश्यक है।
- अंग्रेज़ी – हिन्दी अनुवाद से संबंधित जानकारी जरूरी है

Course Objectives:

1. संदर्भानुसार उचित भाषा का प्रयोग करने की दक्षता को छात्रों में उत्पन्न करना।
2. साहित्य के माध्यम से समाज एवं मानवीय मूल्यों को समझाकर, उन मूल्यों की रक्षा हेतु प्रेरित करना।
3. छात्रों में पुस्तक पठन एवं लेखन की अकृतिम प्रवृत्ति स्थापित करना।
4. अध्येताओं में साहित्य के माध्यम से प्रभावी एवं कुशल संचार का विकास करना।

Course Outcomes:

अध्ययन की समाप्ति पर अध्येता –

1. सामाजिक मूल्य एवं नैतिक जवाबदेही को स्वीकार कर सकता है।
2. साहित्य की प्रासंगिकता को जीवन में समझने की दक्षता रखता है।
3. समाज में अंतर्निहित पद्धतियाँ एवं विचारधाराओं का व्याख्यान करने में सक्षम बन सकता है।
4. साहित्य के माध्यम से प्रभावी एवं कुशल संचार का विकास कर सकता है।

Course Contents:

UNIT I

7 Hours

- 1 कबीरदास के दोहे – कबीरदास
- 2 कविता – प्रतिज्ञा की अर्जुन - मैथिलीशरण गुप्त
- 3 कविता – वीरों का कैसा हो बसंत – सुभद्रकुमारी चौहान

UNIT II

6 Hours

- 1 तुलसीदास के पद –तुलसीदास
- 2 कविता – संध्या सुंदरी – सूर्यकांत त्रिपाठी 'निराला'
- 3 कविता – करमवीर – अयोध्या सिंह उपाध्याय 'हरिऔध'

UNIT III

7 Hours

- 1 मीराबाई के पद – मीराबाई
- 2 कविता – मधुशाला – हरिवंशराय बच्चन
- 3 कविता – हम झुक नहीं सकते – अतलबिहारी बाजपाई

UNIT IV

6 Hours

अनुवाद अनुच्छेद (अंग्रेजी से हिन्दी)

सृजनात्मक व्यक्तित्व

अ महादेवी वर्मा, प्रेमचंद

आ महात्मा गांधी, अब्दुल कलाम

सूचना : प्रत्येक इकाई 25 अंक के लिए निर्धारित है ।

Text Books:

हिन्दी पाठ्य पुस्तक – रेवा विश्वविद्यालय ।

Reference Books:

1. सुबोध व्यवहारिक हिन्दी – डॉ. कुलदीप गुप्त
2. अभिनव व्यवहारिक हिन्दी – डॉ.परमानन्द गुप्त
3. हिन्दी साहित्य का इतिहास - डॉ. नागेन्द्र
4. आधुनिक हिन्दी साहित्य का इतिहास - डॉ. बच्चन सिंह
5. हिन्दी साहित्य का नवीन इतिहास - डॉ. लाल साहब सिंह
6. शुद्ध हिन्दी कैसे बोले कैसे लिखे- पृथ्वीनाथ पाण्डे
7. कार्यालय अनुवाद निदेशिका
8. संक्षेपण और पल्लवन - के.सी.भाटिया&तुमन सिंग

SUBJECT_CODE	Language II: Additional English	L	T	P	C
B21AHA201		1	1	0	2

Course Descriptions:

This is a two credit course designed to help the learner gain competency in language through an exploration to the various genres of literature. The syllabus is designed to encourage critical ability of the learner to guide them towards career opportunities. This course is intended to develop the capacity to appreciate and assess the various dimensions of society, culture and life.

Course Prerequisites:

The student must possess fair knowledge of language and literature.

Course Objectives:

The objectives of this course are to:

- To assess ecological and environmental concerns through literature.
- To identify the unequal structures of power in society.
- To compare and relate the position of men and women in society.
- To interpret the representation of society in popular culture.

Course Outcomes:

Upon Completion of the course, the students will be able to:

- Demonstrate a thorough understanding of sensitive and critical ecological and environmental issues.
- Analyze the rigid structure of center and margin in our society.
- Criticize the subordinate position of women in society.
- Justify the depiction of society in popular culture.

Course Contents:

UNIT I Ecology & Environment

7 Hours

Literature: Toru Dutt - Casuarina Tree

Gordon J.L. Ramen – Daffodils No More

C.V. Raman – Water – The Elixir of Life

Language: Degrees of Comparison

UNIT II Voices from the Margin

6 Hours

Literature: Tadeusz Rozewicz – Pigtail

Jyoti Lanjewar – Mother

Harriet Jacobs – Excerpt from Incidents in the Life of a Slave Girl

Language: Prefix and Suffix

UNIT III Women & Society

7 Hours

Literature: Kamala Das – An Introduction

Rabindranath Tagore – The Exercise Book

Jamaica Kincaid – Girl

Writing Skills: Dialogue Writing

UNIT IV Popular Culture

6 Hours

Literature: Rudyard Kipling – The Absent-minded Beggar

Sir Arthur Conan Doyle – The Adventure of Lion's Mane

Aldous Huxley – The Beauty Industry

Writing Skills: Story Writing

Reference Books:

1. Agrawal, K.A. *Toru Dutt the Pioneer Spirit of Indian English Poetry - A Critical Study*. Atlantic Publications, 2009.
2. Latham, Edward Connery (ed). *The Poetry of Robert Frost*. Holt Paperbacks, 2002.
3. Gale, Cengage Learning. *A Study Guide for Tomas Rivera's The Harvest*. Gale, Study Guides, 2017.
4. Basu, Tejan Kumar. *The Life and Times of C.V. Raman*. Prabhat Prakashan, 2016.
5. Rozewicz, Tadeusz. *New Poems*. Archipelago, 2007.
6. Manohar, Murli. *Critical Essays on Dalit Literature*. Atlantic Publishers, 2013.
7. Hansda, Sowvendra Shekhar. *The Adivasi Will Not Dance: Stories*. Speaking Tiger Publishing Private Limited, 2017.
8. Jacobs, Harriet. *Incidents in the Life of a Slave Girl*. Createspace Independent Publication, 2014.
9. Das, Kamala. *Selected Poems*. Penguin Books India, 2014.
10. Tagore, Rabindranath. *Selected Short Stories of Rabindranath Tagore*. Maple Press, 2012.
11. Gale, Cengage Learning. *A Study Guide for Jamaica Kincaid's Girl*. Gale, Study Guides, 2017.
12. Kipling, Rudyard. *The Absent-Minded Beggar*. Hardpress Publishing, 2013.
13. Doyle, Arthur Conan. *The Hound of the Baskervilles*. General Press, 2017.

14. Dixon, Robert J. *Everyday Dialogues in English*. Prentice Hall India Pvt Ltd., 1988.
15. Turton, Nigel D. *ABC of Common Errors*. Mac Millan Publishers, 1995.
16. Samson, T. (ed.) *Innovate with English*. Cambridge University Press, 2010.
17. Kumar, E Suresh, J. Savitri and P Sreehari (ed). *Effective English*. Pearson Education, 2009.

SUBJECT_CODE	Communicative English – II	L	T	P	C
B21AHE201		1	1	0	2

Course Descriptions:

This two credit course focuses on enhancing written proficiency required for professional enhancement. It also polishes the spoken skills of the learners to make them effective and confident presenters. It also addresses the functional aspects of language usage while providing specific linguistic tools through professional language learning software. The practical components discussed in this course enable a fruitful transition from academia to the industry of their choice.

Course Prerequisites:

The student must possess functional knowledge of LSRW skills.

Course Objectives:

The objectives of this course are to:

- To build skills essential for corporate communication.
- To enhance context specific language skills.
- To discover the creative linguistic potential through language and literature.
- To develop communication skills necessary for employability.

Course Outcomes:

Upon Completion of the course, the students will be able to:

- Apply acquired skills to communicate effectively in a corporate scenario.
- Demonstrate command over rhetoric of language.
- Develop critical and creative thinking through assimilated language skills.
- Utilize the communication skills learnt to match industry standards.

Course Contents:

UNIT I Language Acquisition**7 Hours**

Remedial Grammar: Questions & Negatives; Questions Tags

Writing Skills: Email Writing

Activities: Group Discussions

Literature: Alphonse Daudet - The Last Lesson

UNIT II Persuasive Skills**6 Hours**

Remedial Grammar: Past Simple & Past Perfect

Writing Skills: Report Writing

Activities: Book & Movie Reviews

Literature: Lord Alfred Tennyson – Ulysses

UNIT III Cognitive Skills**7 Hours**

Remedial Grammar: Present & Past Passive; Conditionals

Writing Skills: Creative Writing

Activities: Role Plays

Literature: O. Henry – The Gift of the Magi

UNIT IV Employability Skills**6 Hours**

Remedial Grammar: Reported Speech; Idioms

Writing Skills: Cover Letter & CV

Activities: Exchanging Information

Literature: Saki – The Open Window

Reference Books:

1. Bansal, R.K. and J.B. Harrison. *Spoken English*. Orient Blackswan, 2013.
2. Raman, Meenakshi and Sangeeta Sharma. *Technical Communication*. Oxford University Press, 2015.
3. Thorpe, Edgar and Showick Thorpe. *Objective English*. Pearson Education, 2013.
4. Dixon, Robert J. *Everyday Dialogues in English*. Prentice Hall India Pvt Ltd., 1988.
5. Turton, Nigel D. *ABC of Common Errors*. Mac Millan Publishers, 1995.
6. Samson, T. (ed.) *Innovate with English*. Cambridge University Press, 2010.
7. Kumar, E Suresh, J. Savitri and P Sreehari (ed). *Effective English*. Pearson Education, 2009.
8. Goodale, Malcolm. *Professional Presentation*. Cambridge University Press, 2013.

SUBJECT_CODE	Art & 2D Animation-II	L	T	P	C
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B21DD0201		2	0	2	4
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COURSE DESCRIPTION

The subject teaches character designing, storyboarding, 2D animation which play a very important role in multimedia & animation. The course starts with **character designing**. Character sketching enables plan out the character. How to design using physical characteristics- anatomy, eye color, hair color and non-physical characteristics such as personality, likes/dislikes and background or history for the character. **Storyboard** is a detailed visual elucidation of the content of a story or a script. It explains the benefits of storyboard, how to draw thumbnails, camera angles, perspectives, cleanups, numbering and Animatics. It then moves to Concepts of **2D Animation**, stop-motion Animation and computer animation concepts.

PRE REQUISITES

- Basic drawing skills which are learned in Sem-1

Course Objectives:

1. Learn Human body Proportions and create basic Pose, the line of action, twisting and balance.
2. Discuss techniques and rules of storyboarding, model sheet and character development in films.
3. Discuss the transition from traditional animation processes to computer animation processes.

Course Outcomes:

Upon Completion of the course, the students will be able to:

1. Acquire the skill to draw anatomy defined by the function of a pose.
2. Understanding concepts like scripting, storyboarding, character and production design, illuminate the pre-production process.
3. Apply concepts of classic and modern literature for animation in different techniques.
4. Identify the production process applied to different animation techniques like 2D animation, 3D computer animation and stop motion.

COURSE CONTENTS:

UNIT I Character Design

13 Hours

Role of a character designer, Designing Characters, Artistic approach, 1creating character drawings, characters based on age, Character design with intention (with ref of character information, reason for design), creating model sheet.

Ex- Game Character, full turnaround sheet (5 views of character)

UNIT II Storyboard

13 Hours

Introduction to storyboard, advantages of storyboard, using arrows in storyboard, Benefits of storyboard in Animation, production & VFX, drawing quick thumbnail storyboards, importance of camera angles & perspectives, Directing shots, cleanup, Numbering.

UNIT III Animatics

13 Hours

Introduction to Animatics, Importance of Animatics, Advantages of Enhancing Storyboards, Application Areas of Animatics.

UNIT IV 2D Animation

13 Hours

Stop- motion Animation, Computer Animation, Computer Animation Process.

TEXT BOOKS:

1. James Fogle (Author), Comps, Storyboards, Animatics, January 1, 1950
2. Hannes Rall, Animation: From Concept to Production, Dec 5, 2017

REFERENCE BOOKS:

1. Richard Williams, The Animator's Survival Kit: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Internet Animators, Sep 25, 2012
2. Sergio Paez and Anson Jew, Professional Storyboarding: Rules of Thumb, Oct 15, 2012

SUBJECT_CODE	Web Designing	L	T	P	C
B21DD0202		2	0	0	2

Course Description:

With the rapid expansion of the Internet, the demand for skilled web designers is on the upswing and this number is only set to rise in the coming years. This course teaches with all aspects of website designing. It

starts with basic HTML coding. Then proceeds with formatting the text and other elements using CSS. Further, it moves to JavaScript, which adds interactivity, Bootstrap, for responsive design and AngularJS for a single page web application.

Prerequisites:

Should have a basic knowledge of using Computer and internet.

Course Objectives:

The objective of this course are to

- To Explain the page structure used by HTML
- Understand elements of design with regard to the web and discuss the importance of responsive website design
- To Describe what is Angular JS

Course Outcomes:

On completion of the course, learners will be able to:

1. Understand the principles of creating an effective web page, including an in-depth consideration of information architecture
2. Demonstrate the function of JavaScript as a dynamic webpage creating tool
3. Apply bootstrap to create responsive website
4. Implement single page applications in Angular and explain form validation with Angular JS

Course Contents:

UNIT I Building Web Sites

7 Hours

Introduction, Doctype, basic tags, formatting text using tags, background and foreground colors, background images, hyperlinks, cascading style sheet 3, types of style sheets, selectors, formatting using stylesheets.

UNIT II JavaScript

7 Hours

Introduction, <script > tag, variables in JavaScript, methods, events, operators and their types, regular expression, decision making statements, loops and arrays, functions, objects, document object model

UNIT III Bootstrap

7 Hours

Introduction, benefits, setting up bootstrap, bootstrap with CSS and JavaScript, templates in bootstrap, components in bootstrap, layout components, programming in bootstrap, demo on bootstrap functionality.

UNIT IV Angular JS

6 Hours

Introduction, Angular JS lifecycle, controllers, expressions, sharing data, directives, filters , scope, services, form validation.

Text Books:

1. Thomas Powell, HTML & CSS: The Complete Reference, Fifth Edition Paperback – 1 July 2017.
2. Sandeep Kumar Patel ,Responsive Web Design with AngularJS Paperback – Import, 17 December 2014.

Reference Books:

- 1 Sergey Akopkokhyants and Stephen Radford , Web Development with Bootstrap 4 and Angular 2 -: Bring responsiveness to your Angular web application with Bootstrap | 30 November 2016.

SUBJECT_CODE	UI/ UX-II	L	T	P	C
B21DD0203		2	0	0	2

Course Description:

User Interface (UI) design and User Experience (UX) design are high-demand fields in the media and entertainment industry. The subject starts with Interaction design and the process of interaction design. It then goes to conceptual design, proto-typing, wireframes. Further explains the need for Usability testing, different types & methods of Usability testing.

Prerequisites:

Should have interest towards designing & creativity.

Course Objectives:

- To Explain the User interaction and navigation methods
- To list and discuss different methods of usability testing
- To Explain mockups- Paper prototyping, wireframes.

Course Outcomes:

After the completion of the course, students will be able to:

- Demonstrate skills for low-fidelity prototyping and describe the strengths and weaknesses of a variety of prototyping methods
- Understand the differences between usability and user experience
- Apply Human-computer interface standards and guidelines specific to each platform and design wireframes for interfaces and websites
- Conduct usability tests on web and mobile.

Course Contents:

UNIT I Interaction Design

7 Hours

Introduction, components of interaction design, Difference between ID and HCI, people involved in ID, Interaction design consultants, the process of interaction design, ID and UX, user-centered design approach, four approaches to interaction design, a simple lifecycle model for interaction design.

UNIT II Design, Prototyping and Construction

7 Hours

Introduction, prototyping, conceptual design, concrete design, using scenarios, introduction to prototypes, construction.

UNIT III Prototyping

7 Hours

Screen Elements consistency, standardized design, Navigation, Design templates, to come up with templates, Low fidelity wireframes, High fidelity wireframes, Strengths & Limitations.

UNIT IV Usability Testing

7 Hours

Purpose & benefits of UT, Define UT, types of Usability Test, difference between formative testing & Summative testing, difference between qualitative & quantitative testing, Designing a UT, Pilot test, Early prototype testing, Advanced Prototype testing, Analysis & reporting, Remote Testing, A-B Testing, 10-point checklist.

Text Books:

1. Helen Sharp, Jennifer Preece, Yvonne Rogers , Interaction Design: Beyond Human-Computer Interaction.
2. Ben Shneiderman and colleagues , Designing the User Interface: Strategies for Effective Human-Computer Interaction.

Reference Books:

1. Jon Yablonski , Laws of UX: Using Psychology to Design Better Products & Services.
2. Mark Boulton , Designing for the Web.

3. Joseph Dumas and Beth Loring , Moderating Usability Tests: Principles & Practice for Interacting.

SUBJECT_CODE	SEO & Analytics	L	T	P	C
B21DD0204		2	0	0	2

Course Description:

The Internet and all of its evolving technologies have touched almost every person in his daily life. People are spending more and more time online to learn something new, to communicate with each other, and for entertainment. The increase in content has led to rising demand for digital content creators and designers. the course starts from the basics of digital marketing & Search Engine Optimization. It teaches optimizing techniques, how to perform keyword research, create quality content. Then it will proceed with techniques to optimize display ad campaigns, study the performance of Ad campaigns from the metrics available in google analytics..

Prerequisites:

Should have a basic knowledge of using Computer and internet

Course Objectives:

The objectives of this course are to:

- To Explain the importance of SEO
- To show how to set an account in Google analytics
- To discuss the factors that impact SEO and how to use Google Analytics to find and fix issues

Course Outcomes:

Upon completion of this course, students should be able to:

1. Understand the concept of search engines and identify the importance of design and development of an engine friendly site
2. Apply how to perform Keyword Research and understand Off-Page Optimization and implementation method
3. Identify tools for conducting Web analytics.
4. Detail the different aspects of reports and examine the performance of AdWords Campaigns.

Course Contents:

UNIT I Introduction to SEO**10 Hours**

Introduction search engine, Crawling & Indexing, Search techniques & strategies- key words, excluding words, exact phrases, including words, wild card search; On-page optimization, off-page optimization, submitting webpage to search engine.

UNIT II Optimizing techniques**10 Hours**

On-page optimizing- title tags, meta tags, SEO friendly URL structures, creating anchor texts, creating meta data & snippets, sitemap, Robotics.txt.

Off-page optimization- Link building strategies, inbound & outbound links, Directory submission, article submission, A blog, benefits of infographics as SEO Tool, Social media marketing.

UNIT III Keywords & Content**10 Hours**

How to perform keyword research & analysis, keyword research tools, optimize images and videos, create quality content, importance of UX.

UNIT IV Google Ads & Google Analytics**10 Hours**

What is SEM, difference between SEO & SEM, PPC, Google Ads, Introduction to analytics, google analytics, basic terminology used in Analytics, Reports- Audience reports, acquisition Reports, performance of Adwords campaign, performance of web site through organic search.

Text Books:

- Peter Kent , SEO For Dummies Paperback – Import, 10 February 2020.

Reference Books:

1. Eric Enge , The Art of SEO: Mastering Search Engine Optimization
2. Avinash Kaushik Web Analytics: An Hour a Day

Websites Links:

<https://analytics.google.com/analytics/academy/>

SUBJECT_CODE	Web Designing Lab	L	T	P	C
B21DD0205		0	0	2	2

Course Description:

Web Design is a profession involving planning, building out, and maintaining websites. This course covers how to write syntactically correct HTML5 and CSS3, and how to create interactive web experiences with JavaScript. Mastering this range of technologies will allow to develop high quality web sites that, work seamlessly on mobile, tablet, and large screen browsers accessible. During this course, student will develop a professional-quality web portfolio. The tools and skills gained are: HTML, CSS, JavaScript, Bootstrap(front-end framework), AngularJS, responsive web design, Single page web application.

Prerequisites:

Basic knowledge of computer and internet.

Course Objectives:

To explain HTML5 semantic tags and layouts

- To explain the functions of CSS3
- Understand the uses of AngularJS.

Course Outcomes:

On successful completion of this course, the student is expected to be able to:

- Design, code and develop websites and web pages.
- Understand the use of JavaScript in making web pages more dynamic and functional.
- Apply Bootstrap to achieve responsiveness to web pages
- Learn and develop a simple AngularJS application.

LAB PROGRAMS

PART A

1. Create a layout of the basic structure of the body of the website
2. Mathew wants to develop a web page on his biblical findings. For writing quotes of the Bible verses, he wants a blue bordered text box with red colored text that is vertically center aligned. Use the CSS code to create this web page.
3. Jason works for an advertising agency named ‘Creative Designers’ which is located atParis. He is very fond of learning about the latest technologies that are coming up in the market. He wants to create an HTML5 website for his Ad agency. The website should display the list of products for sale, such as books, computers, vehicles, cameras, laptops, and musical instruments. Only registered users can purchase products from the site. Help him to develop the web site.
4. Write a program to display the text, “THIS IS MY FIRST JAVASCRIPT PAGE” and link it to <https://reva.edu.in/>

5. A shopkeeper offers a discount of 10% on a total purchase of Rs. 5000 and above. Write a program to display the net amount of the goods purchased.
6. Write a program that accepts more than one argument and displays it along with the data type of each argument. Make use of functions to achieve the desired result.
7. Write a program that displays the following parameters. Users should be able to enter data for the specified parameters in the respective text boxes.
 - Name
 - Roll Number
 - Age
 - Marks obtained in all three subjects
8. Develop a simple AngularJS application that flashes the text message entered by the user in the provided textbox.

PART B

Create a website for a greeting card company named 'cards 4 you' The website should have the following details:

1. Home, About Us, Sample Cards, Contact Us
2. Insert required graphics and do the sizing and padding
3. Add a figure element and hover effect to images
4. Create CSS3 transition on mouse hover
5. Link all four web pages to each other using hyperlinks on all four pages

Amdox is a Web design company based in Jamaika, known for developing web pages using Bootstrap, and wants to implement responsive pages using bootstrap. Assuming that you are the person assigned with the task of developing these pages in Bootstrap, prepare a Proof of Concept(POC) for the client, implementing:

6. Achieving responsiveness in Bootstrap
7. Creation of simple responsiveness pages in Bootstrap
8. Develop an AngularJS application that animates and hides a box upon the click of a button

SUBJECT_CODE	UI/UX-II Lab	L	T	P	C
B21DD0206		0	0	2	2

Course Descriptions:

User interface and user experience design is a high-demand field, but the skills and knowledge learned in this Specialization are applicable to a wide variety of careers, from marketing to web design to human-computer interaction.

The course has a practical component that takes you step-by-step through the workflow of a professional app/web designer. From user flow diagrams to wireframing to mockups and prototypes. Create mobile app designs from scratch, Create wireframe designs for any digital project, Create mockups using Sketch and other tools, Start a new career as a UI/UX designer.

Prerequisites:

Should have interest towards design and creativity.

Course Objectives:

The objectives of this course are to:

- To explain site flow and user flow
- To demonstrate an understanding of information architecture
- To discuss the do's and don'ts of prototyping in detail

Course Outcomes:

On completion of this course the students will be able to:

- Identify what information the users need and when they need it and map out the user flow of an application.
- Learn how to create wireframes & prototypes.
- Validate a prototype or a fully-fledged solution with users.
- Understand the basic principles of human-centered design.

LAB PROGRAMS

PART A

1. Document the User-Flow for Gmail in detail.
2. Build a user flow for buying a laptop online. Document primary & secondary navigation from start to end.
3. Compare the information architecture of the following
 1. LinkedIn
 2. Facebook
 3. Wikipedia
4. Sketch a concept for a social media webpage for marathon runners

5. Design a page to collect information from the user who is looking for a job in a job portal.
6. Conduct a web design Heuristic evaluation of any website of your choice or pick from below>

Purpose: start identifying aspects of designs that fit into the four points of design-Navigation, Presentation, Content, and Interaction. Use the Heuristic checklist table.

- www.kmart.com
- [www,cnn,com](http://www.cnn.com)
- www.coctco.com

7. Usability Test- amazon.com

Task1: Your parents asked to look for a gift in urbanladder.com for a housewarming gift for relatives. Can you find a home decor for around Rs 3000

Task 2: Alternatively, you might give them an urban ladder gift card for Rs 3000. How can you order a gift card/voucher?

Rating: 2=Pass, 1=Difficulty, 0=Fail

8. Write Task scenarios

- Go to an e-commerce site of your choice.
- Identify 2 user activities that might be key to the site's success.
- Complete those activities yourself. Note your steps and any issues in the design
- Write test tasks or scenarios for these activities

PART B

1. Build a prototype for booking air-tickets, where:
 1. User can login in or sign up
 2. Search for flights on a given route on a given date
 3. Make a booking
 4. Modify/ Cancel a booking
 5. Check status of booking
2. Build a wireframe for a library management system website
3. Build a prototype for a mobile application for booking hotels, where:
 1. User can login or register
 2. Search for rooms with certain features such as number of people, air-conditioning, and so on for a given date
 3. Make booking

4. Modify/cancel booking
5. Check status of booking
4. Analyze the user experience for the following sites for non-English speaking with UX honeycomb tool:
Myntra,Zomato,UIDAI – Aadhar website
5. Reverse Card Sort
6. Early prototype test for assignment-3

SUBJECT CODE	Constitution of India & Professional Ethics	L	T	P	C
B21LSM201					

Course Description:

The aim of this course is to Create awareness about constitution of India and instill high discipline among students by inculcating Fundamental rights , Duties and ethics social responsibilities.

Prerequisites:

NIL

Course Objectives:

This Course will enable students to

1. To impart knowledge on Constitution of India.
2. To facilitate the understanding of Fundamental Rights, Duties and other Rights which is been given by our law.
3. To facilitate the understanding of Constitution perspective and make them face the world as a bonafide citizen.
4. To attain knowledge about ethics and also know about professional ethics.
5. Explore ethical standards followed by different companies.

Course Outcomes:

Upon completion of the course, the student should be able to:

1. Explain the Indian constitutional provisions and follow them.
2. Demonstrate the fundamental rights and human rights.
3. Explain the duties and more importantly practice them in a right way.
4. Adopt the habit of raising their voice against a unconstitutionality of any laws and upon any legal discrimination as we have session of debates on Constitutional validity.
5. Demonstrate professional ethics and know about etiquettes about it.

Course Contents:

UNIT I

10 Hours

Constitution of India: Making of Indian Constitution, features of Indian Constitution, Preamble to the Constitution of India, Fundamental Rights under Part III, Rights to Equality, Right to Freedom, Right against Exploitation, Rights to Freedom of Religion, Cultural and Educational Rights, Constitutional Remedies. Fundamental Duties of the Citizen, Significance and Characteristics. Elements of National Significance, National Flag, National Anthem, National Emblem.

UNIT II

10 Hours

Legislature and Executive: Organs of the Government; Legislature, Executive and Judiciary. Union and State Executives: President, Vice President, Prime Minister, Cabinet, Governor, Council of Ministers, Electoral process, Election Commission.

UNIT II

10 Hours

Supreme Court of Indian, High Court, Right to Information Act 2005, Consumer Protection- Consumer Rights- Caveat Emptor and Caveat Venditor.

UNIT IV

10 Hours

Professional Ethics: Definition Scope and need of Ethics for professional, Personal Ethics and Business Ethics, Ethical Standards, Duties of Employers and Employees. Due Care theory, Environmental Ethics, Ethical Code of Conduct in ethics. Best Ethical Companies in India and Abroad; Corporate Social Responsibilities, Code of Conduct and Ethical Excellence.

Text Books:

1. M V Pylee, An introduction to Constitution of India
2. M Govindarajan, S Natarajan, V S Senthil Kumar, Engineering Ethics.
3. Dr.Durga Das Basu, Introduction to constitution of India

CAREER DEVELOPMENT AND PLACEMENT

Having a degree will open doors to the world of opportunities for you. But Employers are looking for much more than just a degree. They want graduates who stand out from the crowd and exhibit real life skills that can be applied to their organizations. Examples of such popular skills employers look for include:

1. Willingness to learn
2. Self motivation
3. Team work
4. Communication skills and application of these skills to real scenarios
5. Requirement of gathering, design and analysis, development and testing skills
6. Analytical and Technical skills
7. Computer skills
8. Internet searching skills
9. Information consolidation and presentation skills
10. Role play
11. Group discussion, and so on

REVA University therefore, has given utmost importance to develop these skills through variety of training programs and such other activities that induce the said skills among all students. A full-fledged Career Counseling and Placement division, namely Career Development Center (CDC) headed by well experienced senior Professor and Dean and supported by dynamic trainers, counselors and placement officers and other efficient supportive team does handle all aspects of Internships and placements for the students of REVA University. The prime objective of the CDC is to liaison between REVA graduating students and industries by providing a common platform where the prospective employer companies can identify suitable candidates for placement in their respective organization. The CDC organizes pre-placement training by professionals and also arranges expert talks to our students. It facilitates students to career guidance and improves their employability. In addition, CDC forms teams to perform mock interviews. It makes you to enjoy working with such teams and learn many things apart from working together in a team. It also makes you to participate in various student clubs which helps in developing team culture, variety of job skills and overall personality.

The need of the hour in the field of Computer Science is not only knowledge in the subject, but also the skill to do the job proficiently, team spirit and a flavour of innovation. This kept in focus, the CDC has designed the training process, which will commence from second semester along with the curriculum. Special coaching in personality development, career building, English proficiency, reasoning, puzzles, and communication skills to every student of REVA University is given with utmost care. The process involves continuous training and monitoring the students to develop their soft skills including interpersonal skills that will fetch them a job of repute in the area of his / her interest and March forward to make better career. The School of Computer Science and Applications also has emphasised subject based skill training through lab practice, internship, project work, industry interaction and many such skilling techniques. The students during their day to day studies are made to practice these skill techniques as these are inbuilt in the course curriculum. Concerned teachers also continuously guide and monitor the progress of students.

The University has also established University-Industry Interaction and Skill Development Centre headed by a Senior Professor & Director to facilitate skill related training to REVA students and other unemployed students around REVA campus. The center conducts variety of skill development programs to students to suite to their career opportunities. Through this skill development centre the students shall compulsorily complete at least two skill / certification based programs before the completion of their degree. The University has collaborations with Industries, Corporate training organizations, research institutions and Government agencies like NSDC (National Skill Development Corporation) to conduct certification programs. REVA University has been recognised as a Centre of Skill Development and Training by NSDC (National Skill Development Corporation) under Pradhan Mantri Kaushal Vikas Yojana.

The University has also signed MOU's with Multi-National Companies, research institutions, and universities abroad to facilitate greater opportunities of employability, students' exchange programs for higher learning and for conducting certification programs.

Programme Regulations

(Framed as per the provisions under Section 35 (ii), Section 7 (x) and Section 8 (xvi) & (xxi) of the REVA University Act, 2012)

1. Title and Commencement:

1.1 These Regulations shall be called **“REVA University Academic Regulations – Bachelor Degree Programs 2020-21 Batch subject to amendments from time to time by the Academic Council on recommendation of respective Board of Studies and approval of Board of Management**

1.2 These Regulations shall come into force from the date of assent of the Chancellor.

2. The Programs:

These regulations cover the following Bachelor Degree Programs of REVA University offered during 2020-21:

B Com (Industry Integrated)
B Com (Honors)
BBA (Industry Integrated)
BBA (Honors)
BBA (Entrepreneurship)
BA - Journalism, English, Psychology
BA - Tourism, History & Journalism
BA - Political Science, Economics & Journalism
BA - Performing Arts, English Psychology
BCA
BSc (Honours) Cloud Computing & Big Data
BSc in Physics, Chemistry, Maths
BSc in Maths, Statistics, Comp Sci.
BSc in Bioinformatics Biology, Maths, Computer Science
BSc in Biotechnology, Biochemistry, Genetics
BSc in Medical Lab Technology
BSc in Physics, Maths, Computer Science

3. Duration and Medium of Instructions:

3.1 **Duration:** The Bachelor Degree program is of 6 Semesters duration. A candidate can avail a maximum of 12 semesters - 6 years as per double duration norm, in one stretch to complete the Bachelor Degree, including blank semesters, if any. Whenever a candidate opts for blank semester, s/he has to study the prevailing courses offered by the School when s/he resumes his/her studies.

3.2 The medium of instruction shall be English.

4. Definitions:

4.1 **Course:** “Course” means a subject, either theory or practical or both, listed under a program; Example: “Business Research Methodology” in BBA (Honors) program, “Auditing and Corporate Governance” in B Com (Industry Integrated) program are examples of courses to be studied under respective programs.

Every course offered will have three components associated with the teaching-learning process of the course, namely:

L	Lecture
T	Tutorial
P	Practice

Where:

L stands for **Lecture** session consisting of classroom instruction.

T stands for **Tutorial** session consisting participatory discussion / self-study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes.

P stands for **Practice** session and it consists of Hands on Experience / Laboratory Experiments / Field Studies / Case Studies / Project Based Learning or Course end Project/Self Study/ Online courses from listed portals that equip students to acquire the much required skill component.

4.2 Classification of Courses

Courses offered are classified as: Foundation Courses, Core Courses, Hard Core Courses, Soft Core Courses, Open Elective Courses, Project work/Dissertation

4.2.1 **Foundation Course:** The foundation Course is a mandatory course which should be completed successfully as a part of graduate degree program irrespective of the program of study

4.2.2 **Core Course:** A course which should compulsorily be studied by a candidate choosing a particular program of study

4.2.3 **Hard Core Course (HC) simply core course:** The **Hard Core Course** is a Core Course in the main branch of study and related branch(es) of study, if any, that the candidates have to complete compulsorily

4.2.4 **Soft Core Course (SC) (also known as Professional Elective Course)**

A Core course may be a **Soft Core** if there is a choice or an option for the candidate to choose a course from a pool of courses from the main branch of study or from a sister/related branch of study which supports the main branch of study

4.2.5 **Open Elective Course (OE):**

An elective course chosen generally from other discipline / subject, with an intention to seek exposure to the basics of subjects other than the main discipline the student is studying is called an **Open Elective Course**

4.2.6 Project Work / Dissertation:

School can offer project work/dissertation as a course. Depending on the duration required for completing the project/dissertation work, credits can be assigned. Normally 26 hours of practical work/project work/dissertation work is considered to be equivalent to a credit. School can classify project as a minor or a major project depending on the credits allotted. Normally, a minor project carries 4-6 credits and a major project carries double the number of credits of a minor project.

4.2.7 “Program” means the academic program leading to a Degree, Post Graduate Degree, Post Graduate Diploma or such other degrees instituted and introduced in REVA University.

5. Eligibility for Admission:

5.1. The eligibility criteria for admission to **Three Years Bachelor Degree** Programs (6 Semesters) is given below:

Sl. No	Program	Duration	Eligibility
1	Bachelor of Commerce (Industry Integrated)	6 Semesters (3 years)	Pass in PUC/10+2 with minimum 50% marks of any recognized Board / Council or any other qualification recognized as equivalent there to.
2	Bachelor of Commerce (Honours)		Pass in PUC/10+2 with minimum 75% marks of any recognized Board / Council or any other qualification recognized as equivalent there to.

3	Bachelor of Business Administration (Industry Integrated)	6 Semesters (3 years)	Pass in PUC/10+2 with minimum 50% marks of any recognized Board / Council or any other qualification recognized as equivalent there to.
4	Bachelor of Business Administration (Honours)	6 Semesters (3 years)	Pass in PUC/10+2 with minimum 75% marks of any recognized Board / Council or any other qualification recognized as equivalent there to.
5	Bachelor of Business Administration (Entrepreneurship)	6 Semesters (3 years)	
6	Bachelor of Arts in a) Journalism, English & Psychology (JEP) b) Political Science, Economics, Journalism (PEJ) c) Tourism, Journalism & History (TJH)	6 Semesters (3 years)	Pass in PUC /10+2 of any recognized Board / Council or any other qualification recognized as equivalent there to.
7	Bachelor of Arts in Performing Arts, English & Psychology	6 Semesters (3 years)	
8	Bachelor of Computer Applications	6 Semesters (3 years)	Pass in PUC/10+2 with at least 45% marks (40% in case of candidate belonging to SC/ST category) of any recognized Board/Council of any other qualification recognized as equivalent there to.
9	Bachelor of Science (Hons.) in Computer Science (with specialization in Cloud Computing & Big Data)	6 Semesters (3 years)	Pass in PUC/10+2 examination with Mathematics / Computer Science / Statistics as compulsory subject along with other subjects and obtained minimum 45% marks (40% in case of candidates belonging to SC/ST category) in the above subjects taken together from any Board recognized by the respective State Government /Central Government/Union Territories or any other qualification recognized as equivalent thereto.
10	B Sc in a) Physics, Chemistry and Mathematics (PCM) b) Mathematics, Statistics and Computer Science (MStCs) c) Physics, Mathematics and Computer Science (PMCs)	6 Semesters (3 years)	Pass in PUC/10+2 with Mathematics as compulsory subjects and at least 45% marks (40% in case of candidate belonging to SC/ST category) of any recognized Board/Council or any other qualification recognized as equivalent there to.
11	B Sc in a) Bioinformatics – Biology, Computer Science & Mathematics (BCsM) b) Biotechnology, Biochemistry, Genetics	6 Semesters (3 years)	Pass in PUC/10+2 with Biology as compulsory subject and at least 45% marks (40% in case of candidate belonging to SC/ST category) of any recognized Board/Council or any other qualification recognized as equivalent there to.

	c) Medical Laboratory Technology (BMLT)		
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5.2 Provided further that the eligibility criteria are subject to revision by the Government Statutory Bodies, University from time to time.

6. Courses of Study and Credits

6.1 Each course of study is assigned with certain credit value

6.2 Each semester is for a total duration of 20 weeks out of which 16 weeks dedicated for teaching and learning and the remaining 4 weeks for IAs and final examination, evaluation and announcement of results.

6.3 The credit hours defined as below

In terms of credits, every one hour session of L amounts to 1 credit per Semester and a minimum of two hour session of T or P amounts to 1 credit per Semester or a three hour session of T / P amounts to 2 credits over a period of one Semester of 16 weeks for teaching-learning process.

1 credit = 13 credit hours spread over 16 weeks or spread over the semester

The total duration of a semester is 20 weeks inclusive of semester-end examination.

For Example: The following table describes credit pattern

Table -2: Credit Pattern					
Lectures (L)	Tutorials (T)	Practice (P)	Credits (L:T:P)	Total Credits	Total Contact
4	2	0	4:1:0	5	6
3	2	0	3:1:0	4	5
3	0	2	3:0:1	4	5
2	2	2	2:1:1	4	6
0	0	6	0:0:3	3	6
4	0	0	4:0:0	4	4
2	0	0	2:0:0	2	2

a. The concerned BoS will choose the convenient Credit Pattern for every course based on size and nature of the course

7. Different Courses of Study:

Different **Courses of Study** are labeled as follows:

- a. Foundation Course (FC)
- b. Core Course (CC)
- c. Hard Core Course (HC)
- d. Soft Core Course (SC)
- e. Open Elective Course (OE)
- f. Project Work / Dissertation: School can offer project work/dissertation as a course. Depending on the duration required for completing the project/dissertation work, credits can be assigned. Normally 26 hours of practical work/project work/dissertation work is considered to be equivalent to a credit. School can classify project as a minor or a major project depending on the credits allotted. Normally, a minor project carries 4-6 credits and a major project carries double the number of credits of a minor project.

These are defined under Section 4 of these regulations.

8. Credits and Credit Distribution

Registered candidates are required to earn the credits stated in the below table for the award of degree in the respective program:

Credits	Programs
120	B.Com (Industry Integrated) degree, BBA (Industry Integrated) degree, and BCA
140	B.Com (Honors), BBA (Honors), BBA (Entrepreneurship) and B Sc (Honors)
144	BA - Journalism, English, Psychology, BA - Tourism, History & Journalism, BA - Political Science, Economics & Journalism, BA - Performing Arts, English Psychology, BSc in Physics, Chemistry, Maths, BSc in Maths, Statistics, Comp Sci., BSc in Bioinformatics Biology, Maths, Computer Science, BSc in Biotechnology, Biochemistry, Genetics, BSc in Medical Lab Technology, and BSc in Physics, Maths, Computer Science

The following courses are foundation courses and they are mandatory courses. Students registering for any of the programs mentioned in the table above are required to successfully complete the courses for the award of the degree.

1. Communicative English
2. Languages K / H / Additional English
3. Indian Constitution

4. Human Rights

- 8.2. The concerned BoS shall prescribe the credits to various types of courses and shall assign title to every course including project work, practical work, field work, self-study elective and classify the courses as **Foundation Course (FC), Hard Core (HC), Soft Core (SC) and Open Elective (OE)**.
- 8.3. The concerned BoS shall specify the desired Program Educational Objectives, Program Outcomes, Program Specific Outcomes and Course Outcomes while preparing the curriculum of a particular program.
- 8.4. A candidate can enrol during each semester for credits as prescribed in the scheme of the program.
- 8.5. Only such full time candidates who register for a minimum prescribed number of credits in each semester from I semester to VI semester and complete successfully prescribed number of credits for the award of the degree for three year program in 6 successive semesters shall be considered for declaration of Ranks, Medals, Prizes and are eligible to apply for Student Fellowship, Scholarship, Free ships, and such other rewards / advantages which could be applicable for all full time students and for hostel facilities.
- 8.6 Add on Proficiency Diploma / Minor degree/ Honor Degree:**
To acquire Add on Proficiency Diploma/ Minor degree/ Honor Degree:, a candidate can opt to complete a minimum of 18-20 extra credits either in the same discipline /subject or in different discipline / subject in excess to prescribed number of credits for the award of 3 year degree in the registered program.
The Add on Proficiency Certification / Diploma/ Minor degree/ Honor Degree: so issued to the candidate contains the courses studied and grades earned.

9 Assessment and Evaluation

- 9.1 The Scheme of Assessment will have two parts, namely;
- i. Internal Assessment (IA); and
 - ii. Semester End Examination (SEE)
- 9.2 Assessment and Evaluation of each Course shall be for 100 marks. The Internal Assessment (IA) and Semester End Examination (SEE) of for 3 year programs shall carry 50:50 marks respectively (i.e., 50 marks internal assessment; 50 marks semester end examination).

9.3 The 50 marks of internal assessment shall comprise:

Internal Test	30 marks
Assignments / Seminars / Quizzes / Presentations / Case Studies etc.	20 marks

9.4 There shall be **two Internal Tests** conducted as per the schedule announced below. **The Students' shall attend both the Tests compulsorily.**

- 1st test is conducted for 15 marks during **8th week** of the Semester;
- 2nd test is conducted for 15 marks during **16th week** of the of the Semester;
- Suitable number of Assignments/quizzes/presentations are set to assess the remaining 20 marks of IA at appropriate times during the semester

9.5 The coverage of syllabus for the said tests shall be as under:

- Question paper of the **1st test should be based on first 50% of the total syllabus;**
- Question paper of the **2nd test should be based on second 50% of the total syllabus;**

9.6 The Semester End Examination for 50 marks shall be held in the 18th and 19th week of the beginning of the semester and the syllabus for the semester end examination shall be entire syllabus.

9.7 A test paper is set for a maximum of 30 marks to be answered as per the pre-set time duration (1 hr / 1 hr 15 minutes / 1 hr 30 minutes). Test paper must be designed with School faculty members agreed pattern and students are assessed as per the instructions provided in the question paper. Questions must be set using Bloom's verbs. The questions must be set to assess the students outcomes described in the course document.

9.8 The question papers for internal test shall be set by the internal teachers who have taught the course. If the course is taught by more than one teacher all the teachers together shall devise a common question paper(s). However, these question papers shall be scrutinized by School specific Question Paper Scrutiny Committee formed by the respective School Head /Director to bring in the uniformity in the question paper pattern and as well to maintain the necessary standards.

9.9 The evaluation of the answer scripts shall be done by the internal teachers who have taught the course and set the test paper.

9.10 Assignment/seminar/Project based learning/simulation based problem solving/field work should be set in such a way, students be able to apply the concepts learnt to a real life situation and students

should be able to do some amount self-study and creative thinking. While setting assignment care should be taken such that the students will not be able to plagiarise the answer from web or any other resources. An assignment / Quiz or combination thereof can be set for a maximum of 20 marks. Course instructor at his/her discretion can design the questions as a small group exercise or individual exercise. This should encourage collaborative learning and team learning and also self-study.

- 9.11 Internal assessment marks must be decided well before the commencement of Semester End examinations
- 9.12 Semester End Examination: The Semester End Examination is for 50 marks shall be held in the 18th and 19th week of the semester and the entire course syllabus must be covered while setting the question paper.
- 9.13 Semester End Examination paper is set for a maximum of 100 marks to be answered in 3 hours duration. Each main question be set for a maximum of 25 marks, main questions can have 3-4 sub questions. A total of 8 questions are set so that students will have a choice. Each question is set using Bloom's verbs. The questions must be set to assess the students outcomes described in the course document. (Please note question papers have to be set to test the course outcomes)
- 9.14 There shall be three sets of question papers for the semester end examination of which one set along with scheme of examination shall be set by the external examiners and two sets along with scheme of examination shall be set by the internal examiners. All the three sets shall be scrutinized by the Board of Examiners. It shall be responsibility of the Board of Examiners particularly Chairman of the BOE to maintain the quality and standard of the question papers and as well the coverage of the entire syllabus of the course.
- 9.15 There shall be single evaluation by the internal teachers who have taught the subject. However, there shall be moderation by the external examiner. In such cases where sufficient number of external examiners are not available to serve as moderators internal senior faculty member shall be appointed as moderators.
- 9.16 Board of Examiners, question paper setters and any member of the staff connected with the examination are required to maintain integrity of the examination system and the quality of the question papers.
- 9.17 There shall also be an **Program Assessment Committee (PAC)** comprising at-least 3 faculty members having subject expertise who shall after completion of examination process and declaration of results review the results sheets, assess the performance level of the students, measure the attainment of course outcomes, program outcomes and assess whether the program educational objectives are achieved and report to the Director of the School. **Program Assessment Committee (PAC)** shall also review the question papers of both Internal Tests as well Semester End Examinations and submit reports to the Director of the respective School about the scope of the curriculum covered and quality of the questions.
- 9.18 The report provided by the **Program Assessment Committee (PAC)** shall be the input to the Board of Studies to review and revise the scheme of instruction and curriculum of respective program

- 9.19 During unforeseen situation like the Covid-19, the tests and examination schedules, pattern of question papers and weightage distribution may be designed as per the convenience and suggestions of the board of examiners in consultation with COE and VC
- 9.20 University may decide to use available modern technologies for writing the tests and SEE by the students instead of traditional pen and paper
- 9.21 Any deviations required to the above guidelines can be made with the written consent of the Vice Chancellor
- 9.22 Online courses may be offered as per BACHELOR norms.
For online course assessment guidelines would be as follows:
1. If the assessment is done by the course provider, then the School can accept the marks awarded by the course provider and assign the grade as per REVA University norms.
 2. If the assessment is not done by the course provider then the assessment is organized by the concerned school and the procedure explained in the regulation will apply
 3. In case a student fails in an online course, s/he may be allowed to repeat the course and earn the required credits
- IAs for online courses could be avoided and will remain at the discretion of the School.
- 9.23 The online platforms identified could be SWAYAM, NPTEL, Coursera, Edx.org, Udemy, Udacity and any other internationally recognized platforms like MIT online, Harvard online etc.
- 9.24 Utilization of one or two credit online courses would be:
- 4 week online course – 1 credit – 15 hours
8 week online course / MOOC – 2 credits – 30 hours
12 week online course / MOOC – 3 credits – 45 hours
- 9.25 **Summary of Internal Assessment, Semester End Examination and Evaluation** Schedule is provided in the table given below.

Summary of Internal Assessment and Evaluation Schedule

S. No	Type of Assessment	when	Syllabus Covered	Max Marks	Reduced to	Date by which the process must be completed
1	Test-1	During 8 th week	First 50%	30	15	8 th week

2	Assignment / quiz / presentation / any other assessment method as decided by the School	On or before 8 th week (10 marks)				
3	Test -2	During 16 th Week	Second 50%	30	15	16 th Week
4	Assignment / quiz / presentation / any other assessment method as decided by the School	On or before 16 th Week (10 marks)				
5	SEE	19/20 th Week	100%	100	50	20 th Week

- Note:** 1. Examination and Evaluation shall take place concurrently and Final Grades shall be announced as per the notification from COE.
2. Practical examination wherever applicable shall be conducted after 2nd test and before semester end examination. The calendar of practical examination shall be decided by the respective School Boards and communicated well in advance to the Controller of Examination who will notify the same immediately

10 Assessment of Students Performance in Practical Courses

The performance in the practice tasks / experiments shall be assessed on the basis of:

- Knowledge of relevant processes;
- Skills and operations involved;
- Results / products including calculation and reporting.

- 10.1 The 50 marks meant for Internal Assessment (IA) of the performance in carrying out Practical shall further be allocated as under:

i	Conduction of regular practical / experiments throughout the semester	20 marks
ii	Maintenance of lab records	10 marks
iii	Performance of mid-term test (to be conducted while conducting second test for theory courses); the performance assessments of the mid-term test includes performance in the conduction of experiment and write up about the experiment.	20 marks
	Total	50 marks

- 10.2 The 50 marks meant for Semester End Examination (SEE), shall be allocated as under:

i	Conducting of semester end practical examination	30 marks
ii	Write up about the experiment / practical conducted	10 marks

iii	Viva Voce	10 marks
	Total	50 marks

The duration for semester-end practical examination shall be decided by the concerned School Board.

10.3 For MOOC and Online Courses assessment shall be decided by the BOS of the School.

11. Evaluation of Minor Project / Major Project / Dissertation:

Right from the initial stage of defining the problem, the candidate has to submit the progress reports periodically and also present his/her progress in the form of seminars in addition to the regular discussion with the supervisor. At the end of the semester, the candidate has to submit final report of the project / dissertation, as the case may be, for final evaluation. The components of evaluation are as follows:

Component – I	Periodic Progress and Progress Reports (25%)
Component – II	Demonstration and Presentation of work (25%)
Component – III	Evaluation of Report (50%)

All assessments must be done by the respective Schools as per the guidelines issued by the Controller of Examinations. However, the responsibility of announcing final examination results and issuing official transcripts to the students lies with the office of the Controller of Examinations.

12. Requirements to Pass a Course:

A candidate's performance from IA and SEE will be in terms of scores, and the sum of IA and SEE scores will be for a maximum of 100 marks (IA = 50 , SEE = 50) and have to secure a minimum of 40% to declare pass in the course. However, a candidate has to secure a minimum of 25% (13 marks) in Semester End Examination (SEE) which is compulsory.

The Grade and the Grade Point: The Grade and the Grade Point earned by the candidate in the subject will be as given below:

Marks, P	Grade, G	Grade Point (GP=V x G)	Letter Grade
90-100	10	$v*10$	O
80-89	9	$v*9$	A+
70-79	8	$v*8$	A
60-69	7	$v*7$	B+

55-59	6	v*6	B
50-54	5.5	v*5.5	C+
40-49	5	v*5	C
0-39	0	v*0	F
ABSENT			AB

O - Outstanding; A+-Excellent; A-Very Good; B+-Good; B-Above Average; C+-Average; C-Satisfactory; F – Unsatisfactory.

Here, P is the percentage of marks ($P=[IA + SEE]$) secured by a candidate in a course which is **rounded to nearest integer**. V is the credit value of course. G is the grade and GP is the grade point.

a. Computation of SGPA and CGPA

The Following examples describe computation of Semester Grade Point Average (SGPA).

The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student in a given semester, i.e : **SGPA (Si) = $\sum(C_i \times G_i) / \sum C_i$** where C_i is the number of credits of the i th course and G_i is the grade point scored by the student in the i th course.

Examples on how SGPA and CGPA are computed

Example No. 1

Course	Credit	Grade Letter	Grade Point	Credit Point (Credit x Grade)
Course 1	3	A+	9	3X9=27
Course 2	3	A	8	3X8=24
Course 3	3	B+	7	3X7=21
Course 4	4	O	10	4X10=40
Course 5	1	C	5	1X5=5
Course 6	2	B	6	2X6=12
	16			129

Thus, **SGPA = $129 \div 16 = 8.06$**

Example No. 2

Course	Credit	Grade letter	Grade Point	Credit Point (Credit x Grade point)
Course 1	4	A	8	4X8=32
Course 2	4	B+	7	4X7=28
Course 3	3	A+	9	3X9=27
Course 4	3	B+	7	3X7=21

Course 5	3	B	6	3X6=18
Course 6	3	C	5	3X5=15
	20			141

Thus, **SGPA = 141 ÷ 20 = 7.05**

b. Cumulative Grade Point Average (CGPA):

Overall Cumulative Grade Point Average (CGPA) of a candidate after successful completion of the required number of credits for the respective programs are calculated taking into account all the courses undergone by a student over all the semesters of a program, i. e : **CGPA = $\sum(C_i \times S_i) / \sum C_i$**

Where S_i is the SGPA of the i th semester and C_i is the total number of credits in that semester.

Example:

CGPA after Final Semester

Semester (i th)	No. of Credits (C_i)	SGPA (S_i)	Credits x SGPA ($C_i \times S_i$)
1	20	6.83	20 x 6.83 = 136.6
2	19	7.29	19 x 7.29 = 138.51
3	21	8.11	21 x 8.11 = 170.31
4	20	7.40	20 x 7.40 = 148.00
5	22	8.29	22 x 8.29 = 182.38
6	18	8.58	18 x 8.58 = 154.44
Cumulative	120		930.24

Thus, **CGPA = 930.24/120 = 7.75**

c. Conversion of grades into percentage:

Conversion formula for the conversion of CGPA into Percentage is:

Percentage of marks scored = CGPA Earned x 10

Example: CGPA Earned 7.75 x 10=77.5

d. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

13. Classification of Results

The final grade point (FGP) to be awarded to the student is based on CGPA secured by the candidate and is given as follows.

CGPA	Grade (Numerical Index)	Letter Grade	Performance	FGP
	G			Qualitative Index
9 >= CGPA 10	10	O	Outstanding	Distinction
8 >= CGPA < 9	9	A+	Excellent	
7 >= CGPA < 8	8	A	Very Good	First Class
6 >= CGPA < 7	7	B+	Good	
5.5 > = CGPA < 6	6	B	Above average	Second Class
> 5 CGPA < 5.5	5.5	C+	Average	
> 4 CGPA < 5	5	C	Satisfactory	Pass
< 4 CGPA	0	F	Unsatisfactory	Unsuccessful

Overall percentage=10*CGPA

- a. **Provisional Grade Card:** The tentative / provisional grade card will be issued by the Controller of Examinations at the end of every semester indicating the courses completed successfully. The provisional grade card provides **Semester Grade Point Average (SGPA)**.
- b. **Final Grade Card:** Upon successful completion of three year Degree a Final Grade card consisting of grades of all courses successfully completed by the candidate will be issued by the Controller of Examinations.

14. Attendance Requirement:

- 14.1 All students must attend every lecture, tutorial and practical classes.
- 14.2 In case a student is on approved leave of absence (e g:- representing the University in sports, games or athletics, placement activities, NCC, NSS activities and such others) and / or any other such contingencies like medical emergencies, the attendance requirement shall be minimum of 75% of the classes taught.
- 14.3 Any student with less than 75% of attendance in aggregate of all the courses including practical courses / field visits etc., during a semester shall not be permitted to appear to the end semester examination and such student shall seek re-admission

15. Re-Registration and Re-Admission:

- 15.1 In case a candidate's class attendance in aggregate of all courses in a semester is less than 75% or as stipulated by the University, such a candidate is considered as dropped the semester and is not allowed

to appear for semester end examination and S/he shall have to seek re-admission to that semester during subsequent semester / year within a stipulated period.

- 15.2 In such case where in a candidate drops all the courses in a semester due to personal reasons, it is considered that the candidate has dropped the semester and s/he shall seek re-admission to such dropped semester.

16. Absence during Internal Test:

In case a student has been absent from an internal tests due to the illness or other contingencies s/he may give a request along with necessary supporting documents and certification from the concerned class teacher / authorized personnel to the concerned Director of the School, for conducting a separate internal test. The Director of the School may consider such request depending on the merit of the case and after consultation with course instructor and class teacher, and arrange to conduct a special internal test for such candidate(s) well in advance before the Semester End Examination of that respective semester. Under no circumstances internal tests shall be held / assignments are accepted after Semester End Examination.

17. Provision for Appeal

If a candidate is not satisfied with the evaluation of Internal Assessment components (Internal Tests and Assignments), s/he can approach the Grievance Cell with the written submission together with all facts, the assignments, and test papers, which were evaluated. S/he can do so before the commencement of respective semester-end examination. The Grievance Cell is empowered to revise the marks if the case is genuine and is also empowered to levy penalty as prescribed by the University on the candidate if his/her submission is found to be baseless and unduly motivated. This Cell may recommend for taking disciplinary/corrective action on an evaluator if s/he is found guilty. The decision taken by the Grievance committee is final.

18. Grievance Committee:

In case of students having any grievances regarding the conduct of examination, evaluation and announcement of results, such students can approach Grievance Committee for redressal of grievances. Grievance committees will be formed by CoE in consultation with VC.

For every program there will be one grievance committee. The composition of the grievance committee is as follows:-

- The Controller of Examinations - Ex-officio Chairman / Convener
- One Senior Faculty Member (other than those concerned with the evaluation of the course concerned) drawn from the school / department/discipline and/or from the sister schools / departments/sister disciplines – Member.
- One Senior Faculty Members / Subject Experts drawn from outside the University school / department – Member.

19. Eligibility to Appear for Semester End Examination (SEE)

Only those students who fulfil a minimum of 75% attendance in aggregate of all the courses including practical courses / field visits etc., as part of the program shall be eligible to appear for Semester End Examination

20. Provision for Supplementary Examination

In case a candidate fails to secure a minimum of 25% (13 marks) in Semester End Examination (SEE) and a minimum of 40% marks together with IA and SEE to declare pass in the course, such candidate shall seek supplementary examination of only such course(s) wherein his / her performance is declared unsuccessful. The supplementary examinations are conducted after the announcement of even semester examination results. The candidate who is unsuccessful in a given course(s) shall appear for supplementary examination of odd and even semester course(s) to seek for improvement of the performance.

21. Provision to Carry Forward the Failed Subjects / Courses:

A student who has failed in a given number of courses in odd and even semesters shall move to next semester of immediate succeeding year and final year of the study. However, s/he shall have to clear all courses of all semesters within the double duration, i.e., with six years of admission of the first semester failing which the student has to re-register to the entire program.

22. Challenge Valuation:

- a. A student who desires to apply for challenge valuation shall obtain a photo copy of the answer script(s) of semester end examination by paying the prescribed fee within 10 days after the announcement of the results. S/he can challenge the grade awarded to him/her by surrendering the grade card and by submitting an application along with the prescribed fee to the Controller of Examinations within 10 days after the announcement of the results. This challenge valuation is only for semester end examination.
- b. The answer scripts (in whatever form) for which challenge valuation is sought for shall be evaluated by the external examiner who has not involved in the first evaluation. The higher of two marks from first valuation and challenge valuation shall be the final.

23. With regard to any specific case of ambiguity and unsolved problem, the decision of the Vice-Chancellor shall be final.

School of Computer Science and Applications

Faculty list 2021 - 2022

Sl. No	Name	Designation
1	Dr. Senthil	Professor & Director
2	Dr. M Vinayaka Murthy	Professor
3	Dr. Anand Kumar	Professor
4	K. Vijaya Lakshmi	Assoc. Professor
5	Dr. Rajeev Ranjan	Assoc. Professor
6	Dr. Anand R	Assoc. Professor
7	Dr. Hemanth K S	Assoc. Professor
8	Dr. Sasikala G	Assoc. Professor
9	Dr. Ambili P S	Assoc. Professor
10	Dr. Vijayalakshmi A Lepakshi	Assoc. Professor
11	Dr. Devi A	Asst. Professor
12	Dr. G Kadiravan	Asst. Professor
13	Dr. N Thrimoorthy	Asst. Professor
14	Dr. Thontadari	Asst. Professor
15	Prof. Lokesh C K	Asst. Professor
16	Prof. Ravi Dandu	Asst. Professor
17	Prof. R Pinaka Pani	Asst. Professor
18	Prof. Vijaya Kumar H	Asst. Professor
19	Prof. Vijayalaxmi. P. Chiniwar	Asst. Professor
20	Prof. Deepa B G	Asst. Professor
21	Prof. Vidya S	Asst. Professor
22	Prof. Krishnamurthy R	Asst. Professor

23	Prof. Md Abdul Khader Jailani	Asst. Professor
24	Prof. Shobhana Saxena	Asst. Professor
25	Prof. P Sree Lakshmi	Asst. Professor
26	Prof. Shreetha Bhat	Asst. Professor
27	Prof. Sneha N	Asst. Professor
28	Prof. Vinay G	Asst. Professor
29	Prof. A P Bhuvaneswari	Asst. Professor
30	Prof. Abhay Kumar Srivastav	Asst. Professor
31	Prof. Aryamol	Asst. Professor
32	Prof. Kusha K R	Asst. Professor
33	Prof. Aditya V	Asst. Professor
34	Manju B	Asst. Professor
35	Prof. Pallavi M O	Asst. Professor
36	Prof. Jesla	Asst. Professor
37	Prof. Komala	Asst. Professor
38	Prof. Anushree Raj	Asst. Professor
39	Prof. Pradeepa D	Asst. Professor
40	Prof. P Sathish	Asst. Professor
41	Prof. Pradeep Udupa	Asst. Professor
42	Prof. Apoorva M C	Asst. Professor
43	Prof. Nagaraj S	Asst. Professor

