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Curricular Framework and Credit System for the Four-Year Undergraduate Programme

1.0. Introduction

The National Education Policy (NEP) 2020 (hereafter referred to as NEP or Policy) recognises that higher education plays an extremely important role in promoting human as well as societal well- being and in developing India as envisioned in its Constitution - a democratic, just, socially conscious, cultured, and humane nation upholding liberty, equality, fraternity, and justice for all. It notes that "given the 21st century requirements, quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals" and enable an individual to study one or more specialised areas of interest at a deep level, and also develop capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as professional, technical, and vocational subjects.

The NEP 2020 envisages the revision of the Choice Based Credit System (CBCS) for instilling innovation and flexibility. It also envisages setting up of facilitative norms for issues, such as credit transfer, equivalence, etc., and moving towards a criterion-based grading system that assesses student achievement based on the learning goals for each programme, and moving away from high-stakes examinations towards more continuous and comprehensive evaluation. The policy supports the establishment of an Academic Bank of Credit (ABC) which would digitally store the academic credits earned from various recognized HEIs so that the degrees from an HEI can be awarded taking into account the credits earned.

2.0. Anchors to the National Education Policy 2020

2.1. NEP principles that have a bearing on the curricular thrusts at different stages of higher education

The NEP highlights certain fundamental principles that would guide both the education system at large, as well as the individual educational institutions. The principles that have a direct bearing on the curricula for different levels of higher education include:

- Recognizing, identifying, and fostering the unique capabilities of each student to promote her/his holistic development;
- Flexibility, so that learners have the ability to choose their learning trajectories and programmes, and thereby choose their own paths in life according to their talents and interests;
- No hard separations between 'arts' and 'sciences', between 'curricular' and 'extra-curricular' activities, between 'vocational' and 'academic streams', etc.
- Multidisciplinarity and a holistic education across the sciences, social sciences, arts, humanities, and sports for a multidisciplinary world;
- Emphasis on conceptual understanding rather than rote learning and learning-for-exams; creativity and critical thinking to encourage logical decision-making and innovation; ethics and human & constitutional values, and life skills such as communication, cooperation, teamwork, and resilience;

- Extensive use of technology in teaching and learning, removing language barriers, increasing access for *Divyang* students, and educational planning and management;
- Respect for diversity and respect for the local context in all curricula, pedagogy, and policy;
- Full equity and inclusion as the cornerstone of all educational decisions to ensure that all students are able to thrive in the education system and ensuring that the institutional environment is responsive to differences to ensure that high-quality education is available for all.
- A rootedness and pride in India, and its rich, diverse, ancient, and modern culture and knowledge systems and traditions.

2.2. Transformative initiatives that have a bearing on the four-year undergraduate programme

The NEP envisages several transformative initiatives in higher education. These include:

- Introducing holistic and multidisciplinary undergraduate education that would help develop all capacities of human beings - intellectual, aesthetic, social, physical, emotional, ethical and moral - in an integrated manner; soft skills, such as complex problem solving, critical thinking, creative thinking, communication skills; and rigorous specialization in a chosen field (s) of learning.

- Adoption of flexible curricular structures in order to enable creative combinations of disciplinary areas for study in multidisciplinary contexts that would also allow flexibility in course options that would be on offer to students, in addition to rigorous specialisation in a subject or subject.

- Undergraduate degree programes of either 3 or 4-year duration, with multiple entry and exit points and reentry options within this period, with appropriate certifications such as:
    - a certificate after completing 1 year (2 semesters) of study in the chosen fields of study,
    - a diploma after 2 years (4 semesters) of study,
    - a bachelor's degree after a 3-year (6 semesters) programme of study,
    - a bachelor's degree with honours after a 4-year (eight semesters) programe of study or a bachelor's degree with research after a 4-year (eight semesters) programe of study if the student completes a rigorous research project in their major area(s) of study.
    - The 4-year multidisciplinary bachelor's degree programme is considered a preferred option since it would allow the opportunity to experience the full range of holistic and multidisciplinary education in addition to a focus on the chosen major and minors as per the choices of the student.

- Flexibility in the designs and lengths/duration of master's degree programmes ---
    - A 2-year master's degree programme with the second year devoted entirely to research for those who have completed the 3-year bachelor's degree programme;

    - a 1-year master's degree programme for students who have completed a 4-year Bachelor's degree programme with research.
    - Undertaking a doctoral programme of study is expected to require either a master's degree or a 4-year bachelor's degree with Research.

- Master's and doctoral programmes, while providing rigorous research-based specialization, also to provide opportunities for multidisciplinary work, including in academia, government, research institutions, and industry.

- Inclusion in the curricula of credit-based courses and projects in the areas of community engagement and service, environmental education, and value-based education.
    - Environment education to include areas such as climate change, pollution, waste management, sanitation, conservation of biological diversity, management of biological resources and biodiversity, forest and wildlife conservation, and sustainable development and living.
    - Value-based education to include the development of humanistic, ethical, Constitutional, and universal human values of truth, righteous conduct, peace, love, nonviolence, scientific temper, citizenship values, and life-skills.
    - Lessons in service and participation in community service programmes to be an integral part of the holistic education.

- Global Citizenship Education and education for sustainable development to form an integral part of the curriculum to empower learners to become aware of and understand global and sustainable development issues and to become active promoters of more peaceful, tolerant, inclusive, secure, and sustainable societies.

- Students to be provided with opportunities for internships with local industry, businesses, artists, crafts persons, etc., as well as research internships with faculty and researchers at their own or other HEIs/research institutions, so that students may actively engage with the practical side of their learning and, as a by-product, further improve their employability.

- Reorienting teaching programmes to ensure the development of capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as vocational subjects. This would involve offering programmes/courses of study relating to Languages, Literature, Music, Philosophy, Art, Dance, Theatre, Statistics, Pure and Applied Sciences, Sports etc., and other such subjects needed for a multidisciplinary and stimulating learning environment.

  Preparing professionals in cutting-edge areas that are fast gaining prominence, such as Artificial Intelligence (AI), 3-D machining, big data analysis, and machine learning, in addition to genomic studies, biotechnology, nanotechnology, neuroscience, with important applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth".

3.0. Academic credit framework

The workload relating to a course is measured in terms of credit hours. A credit is a unit by which the course work is measured. It determines the number of hours of instruction required per week for the duration of a semester (15-16 weeks). One credit is equivalent to 15 hour of teaching (lecture or tutorial) or 30 hours of practical or field work or community engagement and service per semester. Credit is awarded to a learner in recognition of the verified achievement of the defined learning outcomes. One credit involves 30 hours of out-of-class activities such as preparation for classes/lessons, completing assignments which form a part of the course work, and independent reading and study per semester and 15 hours of out-of-class activities per semester for practicum.

3.1. Main features of the Credit System (CS):

The Credit System will have the following features:

- Flexibility to move from one disciplinary area of study to another within the duration of study by securing the required credits in the chosen disciplinary/interdisciplinary area(s) of study;
- Opportunity for learners to choose the subject/learning area of interest;
- Facilitating multiple entry and exit options with certificate/ diploma/ or degree depending upon the number of credits secured;
- Flexibility for learners to move from one institution to another to enable them to have a multi and/or interdisciplinary learning;
- Facilitating switching to alternative modes of learning (face-to-face, ODL and On-line learning, and hybrid modes of learning).

Regulations for Academic Bank of Credit (ABC) and Multiple Entry and Exit are already in place to facilitate implementation of the credit system. The focus of the Credit System will be on introducing flexibility in choosing courses and programmes of study.

3.2. Semester/Credits:

- A semester consists of 90 working days and an academic year is divided into two semesters. Each working week will have 40 hours of instructional time.

- A summer term is for eight weeks, and summer term courses may be offered on a fast-track mode to enable students to complete arrears courses, do a 0-99 or 100-199 level courses. The HEI can decide on the kind of courses to be offered in the summer term.

- Internship / apprenticeship can be carried out during the summer term, especially for student who exit after two semesters or four semesters of study.

3.3. Credit-hours for different types of courses

The following types of courses/activities constitute the programmes of study. Each of them will require specific number of hours of teaching/guidance and laboratory/studio/workshop activities, field-based learning/projects, and internships, and community engagement and service.

- ***Taught courses:*** Courses involving lectures relating to a field or discipline by an expert or qualified personnel in a field of learning, work/vocation or professional practice. A minimum of 15 hours of teaching per credit in a semester along with 30 hours of out-of-class activities such as preparation for classes/lessons, completing assignments which form a part of the course work, and independent reading and study. The total learner engaged time for a one credit taught course would be 45 hours. The out-of- class activities may not be measured and quantified for purposes of grading of the credit.
- ***Seminar:*** A course requiring students to participate in structured discussion/conversation or debate focused on assigned tasks/readings, current or historical events, or shared experiences guided or led by an expert or qualified personnel in a field of learning, work/vocation or professional practice. A minimum of 15 hours of participation in seminar activity per credit in a semester along with 30 hours of out-of-class activities such as preparation for the seminar, completing assignments, and independent reading and study.
- ***Practicum:*** A course requiring students to participate in an approved project or practical activity that applies previously learned/studied principles/theory related to the chosen field of learning, work/vocation or professional practice under the supervision of an expert or qualified individual in the field of learning, work/vocation or professional practice
- ***Internship:*** A course requiring students to participate in professional employment-related activity or work experience, or cooperative education activity with an entity external to the education institution, normally under the supervision of an employee of the given external entity. A key aspect of the internship is induction into actual work situations**.** Internships involves working with local industry, businesses, artists, crafts persons, etc.. and opportunities for students to actively engage with the practical side of their learning.
- ***Laboratory work/activity:*** A course requiring students to discover/practice application of a scientific or technical principles/theories. The course may require scientific, or research focused experiential work where students observe, test, conduct experiment(s) or practice application of principles/theories relating to field of learning, work/vocation or professional practice. 30 hours in the laboratory activities per credit in a semester along with 15 hours of out-of-class activities such as preparation for the practicum, completing assignments which form a part of the course work, and independent reading and study. The total learner engaged time for a one credit laboratory work/activity would be 45 hours.
- ***Studio activities:*** Studio activities involve engagement of students in creative or artistic activities. Every student is engaged in performing a creative activity to obtain a specific outcome. Studio-based activities involve visual- or aesthetic-focused experiential work. 30 hours in the studio activities per credit in a semester along with 15 hours of out-of-class activities such as preparation for the studio activity, completing assignments, and independent reading and study. The total learner engaged time for a one credit-hour studio activity would be 45 hours.
- ***Workshop-based activities:*** Courses involving workshop-based activities requiring engagement of students in hands-on activities related to work/vocation or professional practice. Every student is engaged in performing a skill-based activity related to specific learning outcome(s). 30 hours of workshop-based activities per credit in a semester along with 15 hours of out-of-class activities such as preparation for the

workshop activity, completing assignments, and independent reading and study. The total learner engaged time for a one credit-hour workshop activity would be 45 hours.

- ***Field practice/projects*:** Courses requiring students to participate in field-based learning/project generally under the supervision of an employee of the given external entity. 30 hours per credit in a semester along with 15 hours of activities such as preparation for the field projects, data analysis, preparation of reports etc., and independent reading and study.
- ***Community engagement and service*:** Courses requiring students to participate in field-based learning/project generally under the supervision of an employee of the given external entity. The curricular component of 'community engagement and service' will involve activities that would expose students to the socio-economic issues in society so that the theoretical learnings can be supplemented by actual life experiences to generate solutions to real-life problems. 30 hours of contact time per credit in a semester along with 15 hours of activities such as preparation for the community engagement and service, preparation of reports etc., and independent reading and study.
- ***Hybrid courses involving a mix of taught courses and practicum:*** A 4-credit course involving 75% of face–to– face teaching and 25% field-based learning/project or lab work, or workshop activities will have a total of 75 hours of instructional time during a semester, and 105 hours of out-of-class activities such as preparation for the courses of study, completing assignments and independent reading and study. Thus, the total learner engaged time would be 180 hours for a 4-credit course.
- ***Learner engaged time for a 4-credit course involving 50% practicum:*** A 4-credit course involving 50% face–to– face teaching and 50% field-based learning/project or lab work, or workshop activities will have a total of 90 hours of instructional time during a semester, and 90 hours of out-of-class activities such as preparation for the courses of study and practicum, completing assignments and independent reading and study. Thus, the total learner engaged time would be 180 hours for a 4-credit course.

4.0. Outcomes-based approach to higher education

The University Grants Commission (UGC) envisages a learning outcomes-based curricular framework for all programmes of study. This necessitates: i) an increased focus on the attainment by the students of the expected graduate attributes, Programme Learning Outcomes (PLOs) which lead to the attainment of the graduate attributes, and Course Learning Outcomes (CLOs) which lead to the achievement of the Programme Learning Outcomes ; ii) designing teaching-learning experience that enable students to achieve the expected graduate attributes and defined PLOs/CLOs; and iii) designing learning assessment methods/procedures that help assess progress towards achievement by the students of the expected CLOs/PLOs and graduate attributes.

The key outcomes that underpin the design of the programmes of study relating to different programmes of study being offered by the HEIs may include the following:

4.1. Expected attributes of graduates of the 4-year undergraduate programme

The curricular interventions relating to the 4-year undergraduate programme envisages that learners on completion of the prescribed learning activities/experiences

must acquire and demonstrate the expected graduate attributes. The graduate attributes are attained through learning experiences made available to the students, the total experience within the educational institutions, and a process of critical and reflective thinking. The Learner attributes include: i) learning outcomes that are specific to the disciplinary areas related to the chosen programme of study within a broad multidisciplinary context, and ii) generic learning outcomes that students of all undergraduate programmes of study should acquire and demonstrate.

<table>
<tr><th colspan="2">Expected attributes of graduates of the four-year undergraduate programme</th></tr>
<tr><th>Type of learning outcomes</th><th>Expected Learning Outcomes</th></tr>
<tr><td>Learning outcomes that are specific to the chosen disciplinary or interdisciplinary areas of learning.</td><td>Graduates should be able to demonstrate the acquisition of:
a comprehensive knowledge and coherent understanding of the different disciplinary/interdisciplinary areas/themes of learning in a broad multidisciplinary context, their different learning areas, their linkages with related areas/fields of learning, and current and emerging developments associated with the chosen disciplinary areas of learning and other courses of study.
Practical, professional and procedural knowledge required for performing and accomplishing professional tasks associated with the chosen disciplinary/interdisciplinary areas of learning.
skills in areas related to the chosen disciplinary/interdisciplinary majors/minors in a broad multidisciplinary context, including wide-ranging practical and technical skills required to perform and accomplish the assigned tasks effectively.
capacity to apply the acquired competencies to generate solutions to specific problems relating to the chosen disciplinary/interdisciplinary majors/minors and other courses of study and tackle issues associated with the chosen field(s) of study.</td></tr>
<tr><td rowspan="5">Generic learning outcomes</td><td>Graduates should be able to demonstrate the acquisition of:</td></tr>
<tr><td>Problem-solving skills: Capability to:
solve problems in familiar and non-familiar contexts and apply one’s learning to real-life situations.</td></tr>
<tr><td>Critical thinking: Capability to:
apply analytic thought to a body of knowledge, including the analysis and evaluation of policies and practices, as well as evidence, arguments, claims, beliefs and the reliability and relevance of evidence,
identify relevant assumptions or implications; and formulate coherent arguments;
identify logical flaws in the arguments of others,
analyse and synthesise data/information related to global issues from a variety of sources and draw valid conclusions and support them with evidence and examples.</td></tr>
<tr><td>Creative thinking: Ability to:
create or think in different and diverse ways about same issues or scenarios,
deal with problems and situations that do not have simple solutions,
view a problem or a situation from multiple perspectives,
think ‘out of the box’ and generate solutions to complex problems in unfamiliar contexts.
Adopt innovative, imaginative, lateral thinking, interpersonal skills and emotional intelligence</td></tr>
<tr><td>Communication Skills: Skills that enable a person to:
listen carefully, read texts and research papers analytically and present complex information in a clear and concise manner to different groups/audiences,
express thoughts and ideas effectively in writing and orally and communicate with others using appropriate media;
confidently share one’s views and express herself/himself;
construct logical arguments using correct technical language related to a theme of learning relating to teacher education,
convey ideas, thoughts and arguments using language that is respectful and sensitive to gender and social groups.</td></tr>
<tr><td>Coordinating/collaborating with others: Ability to:
work effectively and respectfully with diverse teams,
facilitate cooperative or coordinated effort on the part of a group,
act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.</td></tr>
</table>

	Leadership readiness/qualities: Capability for: • mapping out the tasks of a team or an organisation and setting direction,

	• formulating a vision and building a team that can help achieve the vision, • motivating and inspiring team members to engage with that vision, • using skills to guide people to the right destination.
	'Learning how to learn' skills: *A*bility to: • acquire new knowledge and skills, that are necessary for pursuing learning activities throughout life, including through self-paced and self-directed learning, aimed at personal development, meeting economic, social, and cultural objectives, and • adapt to changing national and global issues and demands, • acquire organizational skills and time management to set self-defined goals and targets with timelines, • demonstrate a healthy attitude to be a lifelong learner.
	Multicultural competence. Demonstrate***:*** • the acquisition of knowledge of the values and beliefs of multiple cultures and a global perspective to honour diversity, • the capability to effectively engage in a multicultural group/society and interact respectfully with diverse groups, • capability to lead a diverse team to accomplish common group tasks and goals, • gender sensitivity and adopt gender-neutral approach, as also empathy to the less advantaged and the differently-abled including those with learning disabilities.
	Value inculcation: Demonstrate the ability to: • embrace and practice constitutional, humanistic, ethical, and moral values in conducting one's life, including universal human values and citizenship values, • practice responsible global citizenship required for responding to contemporary global challenges, for enabling learners to become aware of and understand global issues and to become active promoters of more peaceful, tolerant, inclusive, secure, and sustainable societies, • formulate a position/argument about an ethical issue from multiple perspectives and use ethical practices in all aspects of one's work; identify ethical issues related to one's work, • recognise environmental and sustainability issues, and participate in actions to promote sustainable development, • adopt objective, unbiased, and truthful actions in all aspects of work, • instill integrity and identify ethical issues related to work, and follow ethical practices.
	Empathy: Ability to: • identify with or understand the perspective, experiences, or points of view of another individual or groups, • identify and understand other people's emotions.
	Environmental awareness and action: Demonstrate the: • Acquisition and ability to apply the knowledge, skills, attitudes, and values required to take appropriate actions for mitigating the effects of environmental degradation, climate change and pollution, effective waste management, conservation of biological diversity, management of biological resources, forest and wildlife conservation, and sustainable development and living
	Skills to apply digital and technological solutions: Demonstrate the ability for: • judiciously using and deploying information and communication tools and technologies to improve teaching-learning process and provide enriched learning experiences to students to enable them to achieve enhanced learning outcomes.
	Autonomy and responsibility: Ability to: • apply knowledge, understanding and/or skills with an appropriate degree of independence relevant to the level of the qualification, • work independently, identify appropriate resources required for a project, and manage a project through to completion, • exercise responsibility and demonstrate accountability in applying knowledge and/or skills in work and/or learning contexts appropriate for the level of the qualification, including ensuring safety and security at workplaces.
	Community engagement and service: Ability to participate in: • activities/services that are undertaken in collaboration with community members for promoting the wellbeing of the society, including participation in National Services Scheme (NSS), National Cadet Corps (NCC), adult literacy/education programmes, mentoring school students etc.

4.2. Programme/Course Learning Outcomes

The graduate attributes described above will be attained by students through learning acquired on completion of a chosen programme of study. The term ‘programme’ refers to the entire scheme of study followed by students leading to the award of

qualification after successfully completing a programme of study. Each programme of study will have defined learning outcomes which must be achieved for the award of the certificate/diploma/degree. Programme learning outcomes (PLOs) include learning outcomes that are specific to the disciplinary/interdisciplinary areas of learning associated with the chosen proramme of study. They would also include generic learning outcomes, including transferable skills and competencies, that graduates of all programmes of study should acquire and be able to demonstrate for the award of the certificate/diploma/degree. The programme learning outcomes would also would include the knowledge and skills that prepare students for further study.

Course Learning Outcomes (CLOs): The programme learning outcomes are attained by learners through the essential learnings acquired on completion of certain courses of study within a programme of study. The term 'course' is used to mean the individual courses that make up the scheme of study for a programme. Course learning outcomes (CLOs) are specific to a course within a programme of study. Some courses of study are highly structured, with a closely laid down progression of courses to be taken at different phases of a 4-year undergraduate programme.

4.2.1. Programme learning outcomes (to be achieved by students on completion of the programme of study leading to the award of an undergraduate certificate)

Programme learning outcomes (To be achieved by students on completion of the programme of study leading to the award of an undergraduate certificate)	
Elements of the learning outcomes	**Expected Learning Outcomes**
Knowledge and understanding	The graduates should be able to demonstrate the acquisition of: • knowledge of facts, concepts, principles, theories, and processes in broad multidisciplinary learning contexts within the chosen fields of learning in a broad multidisciplinary learning, • understanding of the linkages between the learning areas within and across the chosen fields of study, • procedural knowledge required for performing skilled or paraprofessional tasks associated with the chosen fields of learning.
General, technical and professional Skills required to perform and accomplish tasks	The graduates should be able to demonstrate the acquisition of: • a range of cognitive and technical skills required for accomplishing assigned tasks relating to the chosen fields of learning in the context of broad multidisciplinary contexts. • cognitive skills required to identify, analyse and synthesize information from a range of sources. • cognitive and technical skills required for selecting and using relevant methods, tools, and materials to assess the appropriateness of approaches to solving problems associated with the chosen fields of learning.
Application of knowledge and skills	The graduates should be able to demonstrate the ability to: • apply the acquired operational or technical and theoretical knowledge, and a range of cognitive and practical skills to select and use basic methods, tools, materials, and information to generate solutions to specific problems relating to the chosen fields of learning.
Generic learning outcomes	***Communication skills:*** The graduates should be able to demonstrate the ability to: The graduates should be able to demonstrate the ability to: • listen carefully, read texts related to the chosen fields of study analytically and present information in a clear and concise manner to different groups/audiences • express thoughts and ideas effectively in writing and orally and present the results/findings of the experiments carried out in a clear and concise manner to different groups. …… ***Learning how to learn:*** The graduates should be able to demonstrate the ability to: • meet one's own learning needs relating to the chosen fields of learning.

	• pursue self-directed and self-managed learning to upgrade knowledge and skills required for higher level of education and training. …… ***Critical thinking:*** The graduates should be able to: • gather and interpret relevant quantitative and qualitative data to identify problems, • critically evaluate principles and theories associated with the chosen fields of learning. …… ***Judgement and decision making:*** The graduates should be able to: make judgement and take decision, based on analysis of data and evidence, for formulating responses to issues/problems associated with the chosen fields of learning, requiring the exercise of some personal responsibility for action and outputs/outcomes.
Constitutional, humanistic, ethical, and moral values:	The graduates should be able to demonstrate the willingness to: • practice constitutional, humanistic, ethical, and moral values in one's life, and practice these values in real-life situations, • put forward convincing arguments to respond to the ethical and moral issues associated with the chosen fields of learning.
Employability and job-ready skills, and entrepreneurship skills and capabilities/qualities and mindset	The graduates should be able to demonstrate the acquisition of: • knowledge and a basket of essential skills, required to perform effectively in a defined job relating to the chosen fields of study, • ability to exercise responsibility for the completion of assigned tasks and for the outputs of own work, and to take some responsibility for group work and output as a member of the group.

4.2.2. Expected learning outcomes (to be achieved by students on completion of the programme of study leading to the award of an undergraduate diploma)

Learning outcomes (To be achieved by students on completion of the programme of study leading to the award of an undergraduate diploma)	
Elements of the learning outcomes	**Expected Learning Outcomes**
Knowledge and understanding	The graduates should be able to demonstrate the acquisition of: • theoretical and technical knowledge in broad multidisciplinary contexts within the chosen fields of learning, • deeper knowledge and understanding of one of the learning areas and its underlying principles and theories, • procedural knowledge required for performing skill pea preprofessional tasks associated with the chosen fields of learning.
General, technical and professional Skills required to perform and accomplish tasks	The graduates should be able to demonstrate the acquisition of cognitive and technical skills required to: • perform and accomplish complex tasks relating to the chosen fields of learning, • analyse and synthesize ideas and information from a range of sources and act on information to generate solutions to specific problems associated with the chosen fields of learning.
Application of knowledge and skills	The graduates should be able to demonstrate the ability to: • apply the acquired specialized or theoretical knowledge, and a range of cognitive and practical skills to gather quantitative and qualitative data, • select and apply basic methods, tools, materials, and information to formulate solutions to

	problems related to the chosen field(s) of learning.
Generic learning outcomes	***Communication skills:*** The graduates should be able to demonstrate the ability to: • listen carefully, read texts related to the chosen fields of learning analytically and present complex information in a clear and concise manner to different groups/audiences, • communicate in writing and orally the information, arguments, and results of the experiments and studies conducted accurately and effectively to specialist and non-specialist audience. …….. ***'Learning how to learn':*** The graduates should be able to demonstrate the ability to: • meet one's own learning needs relating to the chosen field(s) of learning, work/vocation, and an area of professional practice, • pursue self-paced and self-directed learning to upgrade knowledge and skills required for pursuing higher level of education and training. …… Critical thinking: The graduates should be able to demonstrate the ability to: • critically evaluate the essential theories, policies, and practices by following scientific approach to knowledge development. …… Judgment and decision making: The graduate should be able to: • make judgement and take decision, based on the analysis and evaluation of information, for determining solutions to a variety of unpredictable problems associated with the chosen fields of learning, taking responsibility for the nature and quality of outputs. …… ***Learning how to learn:*** The graduates should be able to demonstrate the ability to: • meet one's own learning needs relating to the chosen fields of learning. • pursue self-directed and self-managed learning to upgrade knowledge and skills required for higher level of education and training. …… ***Critical thinking:*** The graduates should be able to: • gather and interpret relevant quantitative and qualitative data to identify problems, • critically evaluate principles and theories associated with the chosen fields of learning. …… ***Judgement and decision making:*** The graduates should be able to: make judgement and take decision, based on analysis of data and evidence, for formulating responses to issues/problems associated with the chosen fields of learning, requiring the exercise of some personal responsibility for action and outputs/outcomes.
Constitutional, humanistic, ethical, and moral values	***Value inculcation:*** The graduates should demonstrate the willingness and ability to: • embrace the constitutional, humanistic, ethical, and moral values, and practice these values in life, and take a position regarding these values, • formulate arguments in support of actions to address issues relating the ethical and moral issues relating to the chosen fields of learning, including environmental and sustainable development issues, from multiple perspectives.
Employability and job-ready skills, And Entrepreneurship Skills and capabilities/qualities and mindset	***Employment-ready and entrepreneurship skills and mindset:*** The graduates should be able to demonstrate the acquisition of knowledge and essential skills set that are necessary to: • take up job/employment relating to the chosen fields of study or professional practice requiring the exercise of full personal responsibility for the completion of tasks and for the outputs of own work, and full responsibility for the group task/work as a member of the group/team. • exercise self- management within the guidelines of study and work contexts. • supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities.

4.2.3. Expected learning outcomes (to be achieved by students on completion of the programme of study leading to the award of a bachelor's degree

Expected learning outcomes (To be achieved by students on completion of the programme of study leading to the award of a bachelor's degree	
Elements of the learning outcomes	**Expected Learning Outcomes**
Knowledge and understanding	The graduates should be able to demonstrate the acquisition of: • comprehensive, factual, theoretical, and specialized knowledge in broad multidisciplinary contexts with depth in the underlying principles and theories relating to one or more fields of learning. • knowledge of the current and emerging issues and developments within the chosen field(s) of learning. • procedural knowledge required for performing and accomplishing professional tasks associated with the chosen fields of learning.
General, technical and professional Skills required to perform and accomplish tasks	The graduates should be able to demonstrate the acquisition of cognitive and technical skills required to: • perform and accomplish complex tasks relating to the chosen fields of learning. • evaluate and analyse complex ideas relating to the chosen field(s) of learning; • generate solutions to specific problems associated with the chosen fields of learning.
Application of knowledge and skills	The graduates should be able to demonstrate the ability to: • apply the acquired specialized technical or theoretical knowledge, and cognitive and practical skills to gather and analyse quantitative/qualitative data to assess the appropriateness of different approaches to solving problems, • employ the right approach to generate solutions to problems related to the chosen fields of learning.
Generic learning outcomes	***Communication skills:*** The graduates should be able to demonstrate the ability to: • listen carefully, to read text related to the chosen fields of learning analytically and present complex information in a clear and concise manner to different groups/audiences. • communicate in writing and orally the constructs and methodologies adopted for the studies undertaken relating to the chosen fields of learning, • make coherent arguments to support the findings/results of the study undertaken to specialist and non-specialist audience. …….. 'Learning how to learn': The graduates should be able to demonstrate the ability to: • meet one's own learning needs relating to the chosen field(s) of learning, • pursue self-paced and self-directed learning to upgrade knowledge and skills that will help adapt to changing demands of workplace and pursue higher level of education and training. …… Critical thinking: The graduates should be able to demonstrate the ability to: • critically evaluate evidence for taking actions to generate solutions to specific problems associated with the chosen fields of learning based on empirical evidence.

	…… Judgment and decision making: The graduate should be able to: • make judgement and take decisions based on the analysis and evaluation of information for formulating responses to problems, including real-life problems, • exercise judgement across a broad range of functions based on empirical evidence, for determining personal and/or group actions to generate solutions to specific problems associated with the chosen fields of learning. …… ***Learning how to learn:*** The graduates should be able to demonstrate the ability to: • meet one's own learning needs relating to the chosen field(s) of learning, • pursue self-paced and self-directed learning to upgrade knowledge and skills that will help adapt to changing demands of workplace and pursue higher level of education and training. …… ***Critical thinking:*** The graduates should be able to: • critically evaluate evidence for taking actions to generate solutions to specific problems associated with the chosen fields of learning based on empirical evidence. …… ***Judgement and decision making:*** The graduates should be able to: • make judgement and take decisions based on the analysis and evaluation of information for formulating responses to problems, including real-life problems, • exercise judgement across a broad range of functions based on empirical evidence, for determining personal and/or group actions to generate solutions to specific problems associated with the chosen fields of learning.
Constitutional, humanistic, ethical, and moral values:	The graduates should be able to demonstrate the willingness and ability to: • embrace the constitutional, humanistic, ethical, and moral values, and practice these values in life. • identify ethical issues related to the chosen fields of study, • formulate coherent arguments about ethical and moral issues, including environmental and sustainable development issues, from multiple perspectives. • follow ethical practices in all aspects of research and development, including avoiding unethical practices such as fabrication, falsification or misrepresentation of data or committing plagiarism.
Employability and job-ready skills, And Entrepreneurship Skills and capabilities/qualities and mindset	The graduates should be able to demonstrate the acquisition of: • knowledge and essential skills set and competence that are necessary to take up a professional job relating to the chosen field of learning and professional practice, • entrepreneurship skills and mindset required for setting up and running an economic enterprise or pursuing self-employment requiring the exercise of full personal responsibility for the outputs of own work, and full responsibility for output of group, • the ability to exercise management and supervision in the contexts of work or study activities involving unpredictable work processes and working environment.

4.2.4. Programme learning outcomes (to be achieved by students on completion of the programme of study leading to the award of a bachelor's degree (Honours/Research)

Programme learning outcomes (To be achieved by students on completion of the programme of study leading to the award of a bachelor's degree (Honours/Research)	
Elements of the learning outcomes	**Expected Learning Outcomes**
Knowledge and understanding	The graduates should be able to demonstrate the acquisition of: • advanced knowledge about a specialized field of enquiry, with depth in one or more fields of learning within a broad multidisciplinary/ interdisciplinary context. • a coherent understanding of the established methods and techniques of research and enquiry applicable to the chosen fields of learning. • an awareness and knowledge of the emerging developments and issues in the chosen fields of learning, • procedural knowledge required for performing and accomplishing professional tasks associated with the chosen fields of learning.
General, technical and professional Skills required to perform and accomplish tasks	The graduates should be able to demonstrate the acquisition of cognitive and technical skills required to: • perform and accomplish complex tasks relating to the chosen fields of learning, • use the established research methods and techniques, • evaluate complex ideas and undertake research and investigations to generate solutions to real-life problems, • generate solutions to complex problems independently, requiring the exercise of full personal judgement, responsibility, and accountability for the output of the initiatives taken as a practitioner.
Application of knowledge and skills	The graduates should be able to demonstrate the ability to: • apply the acquired advanced technical and/or theoretical knowledge and a range of cognitive and practical skills to analyse the quantitative and qualitative data gathered drawing on a wide range of sources for identifying problems and issues relating to the chosen fields of learning, • apply advanced knowledge relating to research methods to carryout research and investigations to formulate evidence-based solutions to complex and unpredictable problems.
Generic learning outcomes	***Communication skills:*** The graduates should be able to demonstrate the ability to: • listen carefully, read texts and research papers analytically and present complex information in a clear and concise manner to different groups/ audiences, • communicate technical information and explanations, and the findings/ results of the research studies relating to specialized fields of learning, • present in a concise manner one's views on the relevance and applications of the findings of research and evaluation studies in the context of emerging developments and issues. …… 'Learning how to learn': The graduates should be able to demonstrate the ability to: • meet own learning needs relating to the chosen fields of learning, pursue self-paced and self-directed learning to upgrade knowledge and skills that will help accomplish complex tasks and pursue higher level of education and research. …… ***Learning how to learn:*** The graduates should be able to demonstrate the ability to: • meet own learning needs relating to the chosen fields of learning, • pursue self-paced and self-directed learning to upgrade knowledge and skills that will help accomplish complex tasks and pursue higher level of education and research. …….. ***Research-related competencies:*** The graduates should be able to demonstrate: • a keen sense of observation, enquiry, and capability for asking relevant/ appropriate questions, • the ability to problematize, synthesise and articulate issues and design research proposals,

	• the ability to define problems, formulate appropriate and relevant research questions, formulate hypotheses, test hypotheses using quantitative and qualitative data, establish hypotheses, make inference based on the analysis and interpretation of data, and predict cause-and-effect relationships, • the capacity to develop appropriate tools for data collection, • the ability to plan, execute and report the results of an experiment or investigation, • the ability to acquire the understanding of basic research ethics and skills in practicing/doing ethics in the field/ in own research work, regardless of the funding authority or field of study, • examine and assess the implications and consequences of emerging developments and issues relating to the chosen fields of study based on empirical evidence. …… ***Judgement and decision making:*** The graduates should be able to: • make judgement in a range of situations by critically reviewing and consolidating evidences, • exercise judgement based on evaluation of evidence from a range of sources to generate solutions to complex problems, including real-life problems, associated with the chosen field(s) of learning requiring the exercise of full personal responsibility and accountability for the initiatives undertaken and the outputs/outcomes of own work as well as of the group as a team member.
Constitutional, humanistic, ethical, and moral values	The graduates should be able to demonstrate the willingness and ability to: • Embrace and practice constitutional, humanistic, ethical, and moral values in life. • adopt objective, unbiased, and truthful actions in all aspects of work related to the chosen field(s) of learning and professional practice. • present coherent arguments in support of relevant ethical and moral issues. • participate in actions to address environmental and sustainable development issues. • follow ethical practices in all aspects of research and development, including avoiding unethical practices such as fabrication, falsification or misrepresentation of data or committing plagiarism.
Employability and job-ready skills, and entrepreneurship skills and capabilities/qualities and mindset	The graduates should be able to demonstrate the acquisition of knowledge and skills required for: • adapting to the future of work and to the demands of the fast pace of technological developments and innovations that drive shift in employers 'demands for skills, particularly with respect to transition towards more technology-assisted work involving the creation of new forms of work and rapidly changing work and production processes. • managing complex technical or professional activities or projects, requiring the exercise of full personal responsibility for output of own work as well as for the outputs of the group as a member of the group/team. • exercising supervision in the context of work having unpredictable changes.

4.2.5. Entry and Credit Requirements at Various Levels of Programme of Study

Level of Programme	Requirements of the Programme	
Level 5: Undergraduate Certificate	Entry requirements	• Certificate obtained after successful completion of Grade 12 or equivalent stage of education. • Admission to the first year of the undergraduate programme will be open to those who have met the entrance requirements, including specified levels of attainment, in the programme admission regulations. Admission will be based on the evaluation of documentary evidence (including the academic record and/or evidence relating to the assessment and validation of prior learning

		outcomes) of the applicant's ability to pursue an undergraduate programme of study.
	Credit requirements for a bachelor's degree	• The successful completion of the first year (first two semesters) of the undergraduate programme involving credit-hours ranging between 40-44 hours followed by an exit 10-credit skills-enhancement course, including at least 6-credit job-specific internship/apprenticeship that would help the graduates acquire job-ready competencies required to enter the workforce.
Level 6: Undergraduate Diploma	Entry requirements	• Continuation of study or lateral entry in the second year of the undergraduate proramme will be possible for those who have met the entrance requirements, including specified levels of attainment, specified in the programme regulations. The continuation of study will be based on the evaluation of documentary evidence (including the academic record and/or evidence relating to the assessment and certification of prior learning) of the applicant's ability to pursue an undergraduate programme of study. • Lateral entry into the programme of study leading to the Undergraduate Diploma will be based on the validation of prior learning outcomes achieved, including those achieved outside of • formal learning or through learning and training in the workplace or in the community, or through continuing professional development activities, or through independent/self-directed learning activities
	Credit requirements for a bachelor's degree	• The successful completion of the first two years (four semesters) of the undergraduate programme involving credit-hours ranging between 80-88 hours followed by an exit 10-credit skills-enhancement course, including at least 6-credit job-specific internship/apprenticeship that would help the graduates acquire job-ready competencies required to enter the workforce.
	•	
Level 7: Bachelor's Degree	Entry requirements	• Continuation of study or lateral entry in the third year (fifth semester) of the undergraduate proramme will be possible for those who have met the entrance requirements, including specified levels of attainment, specified in the programme regulations. The continuation of study will be based on the evaluation of documentary evidence (including the

		academic record and/or evidence relating to the assessment and certification of prior learning) of the applicant's ability to pursue an undergraduate programme of study. • Lateral entry into the programme of study in the fifth semester of the undergraduate programme will be based on the validation of prior learning outcomes achieved, including those achieved outside of formal learning or through learning and training in the workplace or in the community, or through continuing professional development activities, or through independent/self-directed learning activities.
	Credit requirements for a bachelor's degree	• The successful completion of the first three years (six semesters) of the undergraduate programme involving at least a range of 120 -132 credit-hours.
Level 8: Bachelor's Degree with Hons./Research	Entry requirements	• An individual seeking admission to the bachelor's degree (Honours/ Research) in a specified field of learning would normally have completed all requirements of the relevant 3-year Bachelor's degree. (After completing requirements of a 3-year bachelor's degree, candidates who meet a minimum CGPA of 7.5* will be allowed to continue studies in the fourth year of the undergraduate programme leading to the bachelor's degree (Research). • Continuation of undergraduate programme leading to the bachelor's degree (Honours/Research) will be open to those who have met the entrance requirements, including specified levels of attainment, in the programme admission regulations. Continuation of the programme of study will be based on the evaluation of documentary evidence (including the academic record and/or evidence relating to the assessment and certification of prior learning) of the applicant's ability to pursue study during the fourth year (semesters 7 & 8) of the 4-year Bachelor's degree (Honours/Research) programme. Lateral entry into the programme of study at NHEQF level 8 will be based on the validation of prior learning outcomes, including those achieved outside of formal learning or through learning and training in the workplace through continuing professional development activities, or through independent/self-directed/self-managed learning activities.

	Credit requirements for a bachelor's degree	• Successful completion of the 4-year (eight semesters) undergraduate programme involving the range of 160-176 credits, with 40-44 credits at level 5, 40-44 credits at level 6, 40-44 credits at level 7, and 40-44 credits at level 8 on the NHEQF.
Level 9: Masters' Degree/Diploma	Entry requirements	• A Bachelor's degree (Honours/Research) for the 1-year/2-semester Master's programme. • A Bachelor's degree for the 2-year/4-semester Master's degree programme. • A 4-year Bachelor's Degree for the 1-year/2-semester master's programmme • Admission to a programme of study leading to the Master's degree is open to those who have met the entrance requirements, including specified levels of attainment, specified in the programme admission regulations. Admission will be based on the evaluation of documentary evidence (including the academic record and/or evidence relating to the assessment and certification of prior learning) indicating the applicant's ability to pursue postgraduate study. • A 1-year/2-semester Post-Graduate Diploma programme requires 3-year/6-semester bachelor's degree
	Credit requirements for a bachelor's degree	• A 1-year/2-semester master's programme builds on a bachelor's degree with Honours/Research and requires total credits in the range of 40-44 credits for individuals who have completed a Bachelor's degree (Honours/Research). • The 2-year/4-semester Master's programme builds on a 3-year/6-semester bachelor's degree and requires a total credits in the range of 80-88 credits from the first and second years of the programme, with 40-44 credits in the first year and 40-44 credits in the second year of the programme at level 9 on the NHEQF. • A 1-year/2-semester Post-Graduate Diploma programme builds on a 3-year/6-semester bachelor's degree and requires 40-44 credits for individuals who have completed a Bachelor's programme.
Level 10: Doctorate Degree	Entry requirements	• A graduate of a 1-year/2-semester Master's degree programme, ora 2-year/4-semester Master's degree programme, or a 4-year/8-semester Bachelor's degree (Research) with course work, dissertationand published work based on the

		research/investigation. • Admission to a programme of study leading to the doctoral degree is open to those who have met the entrance requirements, including specified levels of attainment, in the programme admission regulations. Admission will be based on the evaluation of documentary evidence (including the academic record and/or evidence relating to the assessment and certification of prior learning) of the applicant's ability to pursue study for a doctoral degree relating to a specialised field of enquiry.
	Credit requirements	• The major feature of all doctorate degrees is original research. The body of work that leads to the award of a doctorate degree will include course work and a thesis with published work and/or creativework (for example, in the case of visual or performing arts). • Credits for course workand, a thesis and published work

5.0. Structure of the four-year undergraduate programme

The FYUGP seeks to equip students with the capacities in fields across the arts, humanities, languages, natural sciences, social sciences; an ethic of social engagement; soft skills such as complex problem solving, critical thinking, creative thinking, communication skills, along with rigorous specialisation in a chosen disciplinary or interdisciplinary major and minor(s).

- ***Semesters 1, 2 & 3:*** The FYUGP seeks to develop an understanding and an appreciation among students of all major areas of learning such as the Natural Sciences, the Social Sciences, the Humanities, Mathematical and computational thinking and analysis, creative expressions, and vocational education each of which represents a different perspective on human knowledge and learning. The courses relating to these areas of learning aim at instilling an understanding and an appreciation of all main areas of learning. Though students are not required to master all areas in detail, they are expected to develop a coherent view of essential concepts, structures, and intellectual methods that characterise each of these areas of learning. The graduates of the FYUGP are required to demonstrate a general understanding of the natural sciences, social sciences, humanities, interdisciplinary studies, and vocational education as well as in-depth study of at least one subject area. The courses will be broad in scope, and introductory in nature. These courses would provide a broad intellectual experience, which forms an essential part of a holistic education. The courses would also represent the prerequisites to a disciplinary/interdisciplinary major and minor to be pursued from the fourth to eighth semesters of the FYUGP. All courses will include substantial components of practicum and hands-on experiments.

Semesters 4, 5 & 6: At the end of the third semester, each student will choose a disciplinary or an interdisciplinary area of learning for specialization ("Major") according to his/her academic interest. Both the academic interest of the student and his/her performance in the first three semesters will be considered for allocating the disciplinary/interdisciplinary major. In addition to the disciplinary/interdisciplinary Major, a student may also choose a

disciplinary/interdisciplinary "Minor". In each of these semesters, the students will take sufficient number of courses in the chosen ‘Major’ and ‘Minor’ disciplinary/interdisciplinary areas of study.

- ***Semesters 7 & 8:*** At the beginning of the seventh semester each student will take up a research project along with advanced disciplinary/interdisciplinary courses and research methodology courses. The final semester will be devoted exclusively to the research project. The project should be related to a topic in the chosen ‘Major’ disciplinary programme of study or an interdisciplinary topic that has a substantial overlap with the major disciplinary/interdisciplinary programmes of study.

Normally, students are expected to complete the four-year undergraduate programme in eight semesters. However, in special circumstances, a student will be permitted an extension, so as to enable her/him to complete all requirements for the degree. The four-year undergraduate programme allows exit and re-entry options for students. It would allow credit accumulation through the facility created by the Academic Bank of Credit (ABC) scheme. The validity of credits earned and kept in the Academic Credit Account would be seven years. After seven years, reentry into a programme of study will be based on the validation of prior learning outcomes.

5.1. Curricular components of the four-year undergraduate programme

Common Courses: The course work during the first three semesters of the 4-year undergraduate programme will consist of a set of courses such as language education (two languages – Regional language and English language), understanding India, Environmental Science/Education, Digital and technological solutions, Mathematical and Computational Thinking and Analysis, Heath & wellness, Yoga education, and sports and fitness, that are common for all students. The coursework during the first three semesters will also include courses within disciplinary areas such as Natural Sciences, Social Sciences and Humanities; interdisciplinary learning areas, and vocational education courses that are required for a broad and well-rounded learning experience. At the end of the third semester, each student will be required to opt for one disciplinary/interdisciplinary major based on her/his preferences and the required Cumulative Grade Point Average (CGPA). While a student will opt for a major relating to a disciplinary or interdisciplinary

area of study pursued during the first three semesters, she/he would also be required to choose two minors relating to a disciplinary or interdisciplinary area of study, including a vocational education programme.

- ***Language education (12 credits): (6-credit-hours courses relating to a Modern Indian Language (MIL) & English language focused on language and communication skills).*** Students are required to achieve competency in the use of a Modern Indian Language and the English language with special emphasis on language and communication skills. The courses aim at enabling the students to acquire and demonstrate the core linguistic skills, including critical reading and expository and academic writing skills, that help students articulate their arguments and present their thinking clearly and coherently and recognise the importance of language as a mediator of knowledge and identity. They would also enable students to acquaint with the cultural and intellectual heritage of the chosen MIL and English language, as well as to provide reflective understanding of the structure and complexity of the language/literature related to both the MIL and English language. The courses will also emphasise the development and enhancement of skills such as communication, ability to participate/conduct discussion and debate.

- ***Understanding India (3 credit-hours):*** The course aims at enabling the students to acquire and demonstrate the knowledge and understanding of contemporary India with its historical perspective, the basic framework of the goals and policies of national development, and the constitutional obligations with special emphasis on constitutional values and fundamental rights and duties. The course would also focus on developing an understanding among student-teachers of the Indian knowledge systems, Indian education system and the roles and obligations of teachers to the nation in general and to the school/community/society. The course will attempt to deepen knowledge about and understanding of India's freedom struggle and of the values and ideals that it represented, and to develop an appreciation of the contributions made by people of all sections and regions of the country, and help learners understand and cherish the values enshrined in the Indian Constitution and to prepare them for their roles and responsibilities as effective citizens of a democratic society.

- ***Environmental science/education (3-credit course):*** The course seeks to equip students with the ability to apply the acquired knowledge, skills, attitudes, and values required to take appropriate actions for mitigating the effects of environmental degradation, climate change and pollution, effective waste management, conservation of biological diversity, management of biological resources, forest and wildlife conservation, and sustainable development and living. The course will also deepen the knowledge and understanding of India's environment in its totality, their interactive processes, and effects on the future quality of people's lives.

- ***Digital and technological solutions (4-credit course)***: Courses in cutting-edge areas that are fast gaining prominence, such as Artificial Intelligence (AI), 3-D machining, big data analysis, and machine learning with important applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth.

- ***Mathematical and Computational Thinking and Analysis (3-credit course):*** Courses relating to Mathematical and Computational Thinking and Analysis would focus primarily on the mathematical and statistical tools used to support the study of natural and social sciences, including subject areas such as astronomy, biology, chemistry, economics, the environment, geological sciences, physics, and sociology etc. These courses would focus on the methodology used to analyse quantitative information to make decisions, judgments, and predictions, including defining a problem by means of numerical or geometrical representations of real-world phenomena, determining how to solve it, deducing inferences, formulating alternatives, and predicting cause and effect relationships. Students are required to take one or two courses from an approved list that focus on the methodology of quantitative analysis. The goal is to ensure that students achieve a level of proficiency in using and analyzing quantitative information.

- ***Health & wellness, Yoga education, sports and fitness (2 credits):*** Course components relating to health and wellness seek to promote an optimal state of physical, emotional, intellectual, social, spiritual and environmental wellbeing of a person. Sports and fitness activities will be organised outside the regular institutional working hours. Yoga education would focus on preparing the students physically and mentally for the integration of their physical, mental, and spiritual faculties, and equipping oneself with basic knowledge about one's personality, to maintain self-discipline and self-control, to learn to handle oneself well in all life situations. The focus of sports and fitness components of the courses will be on the improvement of physical fitness including the improvement of various components of physical and skills related fitness like strength, speed, coordination, endurance and flexibility; acquisition of sports skills including motor skills as well as basic movement skills relevant to a particular sport; improvement of tactical abilities; and improvement of mental abilities.

Introductory courses relating to disciplinary areas of Natural Sciences, Social Sciences, Humanities, Vocational Education, and interdisciplinary studies: All students of the FYUGP are required to complete courses leading to the completion of 24-credits which would provide broad intellectual experience and form part of a liberal arts education. Students are required to complete nine credits in each of the following three areas:

- ***Natural Sciences (9 credit-hours):*** (Courses chosen from a basket of courses that would include courses relating to Natural Science, for example, Astronomy and Astrophysics, Biology, Biochemistry, Chemistry, Computer Science, Data Science, Earth and Environmental Sciences, Mathematics, Physics, Statistics etc. The courses relating to Natural Sciences will focus on the development of an understanding of the natural world through application of the scientific method characterised by observation, experimentation, and the formulation, testing and establishment of hypotheses about natural phenomena.

- ***Social Sciences (9 credit-hours):*** Three 3-credit courses chosen from a basket of courses that would include courses relating to Social Sciences, for example, Anthropology, Communication and Media, Economics, History, Linguistics, Political Science, Psychology, Social Work, Sociology, etc. Social Sciences-related courses would focus on the study of the social behavior of individuals, groups, societies,

nations, and states. Students will be introduced to the use of qualitative methods, such as ethnography, oral history, and descriptive analysis of archival materials and artifacts. They will also be introduced to the use of quantitative tools to collect and analyze data associated with social phenomena, and formulation of testable hypotheses about social phenomena. They will provide opportunities to students to examine relationships among individuals, as well as relationships between people and their societies.

- ***Humanities (9 credits):*** Three 3-credit courses chosen from a basket of courses that would include, for example, Archeology, Comparative Literature, Arts & Creative expressions, Creative Writing and Literature, language(s), Philosophy, etc. and interdisciplinary courses relating to humanities. Students will be introduced to analytical approach to solving problems. Humanities-related courses will focus on understanding the human experience through the visual and performing art, literature, language(s), and cultures across India and the world. The arts & creative expressions course will aim at enabling the students to acquire and demonstrate the knowledge and understanding required to engage with activities required to promote the development of skills in creative thinking and expression among school students, promoting aesthetic development of students, and an understanding of expressive works of art relating to different arts disciplines (the drama, dance and music), creative writing, and the visual arts, including photography. Creative expression courses will include hands-on activities that allow students to express their creativity through a wide range of arts, including through playing a musical instrument, composing music, or arranging music and using many different mediums, including ceramics, metalworking, paper and textiles, woodworking, and glass.

- ***Interdisciplinary courses***: Interdisciplinary courses may form part of the basket of courses to be taken during the first three semesters. These may include, for example, courses relating to Cognitive Science, Environmental Science, Gender Studies, Global Environment & Health, International Relations, Political Economy and Development, Sustainable Development, Urban Women's and Gender Studies, etc. Interdisciplinary courses would combine the approaches within two or three of the disciplinary areas such as Natural Science, Social Sciences and Humanities that would help students recognise the differences and similarities between disciplines and identify different ways of organising knowledge. Interdisciplinary courses will equip students with the capabilities to identify connections between areas of knowledge and the method of inquiry. The main thrust of interdisciplinary courses will be to promote critical thinking, team-based intellectual activities, and the analytic skills that characterise different disciplinary areas of study.

Disciplinary/interdisciplinary major (48 credit-hours): The major would provide the option for a student to pursue an in-depth study of a particular subject or discipline. Course requirements of majors offered would be 48 credits. A student needs to declare the major only at the end of the third semester, giving her/him sufficient time to explore various courses and decide on the major. The FYUGP provides opportunities to pursue rigorous specialisation through a chosen major. The disciplinary/interdisciplinary major would provide students the opportunity to acquire in-depth knowledge in one academic or interdisciplinary area of study. The major may be chosen from a basket of courses such as, for example, Astronomy and Astrophysics, Biology, Biochemistry, Chemistry,

Computer Science, Data Science, Earth and Environmental Sciences, Mathematics, Physics, Statistics Anthropology, Communication and Media, Economics, History, Linguistics, Political Science, Psychology, Social Work, Sociology, Archeology, Comparative Literature, Arts & Creative expressions, Creative Writing and Literature, language(s), Philosophy, etc..

Disciplinary/interdisciplinary minors (32 credit-hours). Students will have the option to choose two disciplinary/interdisciplinary minors of 16 credit-hours each, including skills-based courses relating to a chosen vocational education programme. While a student would specialise in a major discipline, or an interdisciplinary area of study, she/he will have opportunity to also broaden her/his knowledge and skills by taking courses in other disciplines or interdisciplinary areas of study. Students who take a sufficient number of courses in a discipline or an interdisciplinary area of study other than the chosen major will qualify for a minor in that discipline or in the chosen interdisciplinary area of study. Students who declare and complete an approved minor will receive a notation on their student transcript but not on their degree. A student needs to declare the minors only at the end of the third semester, giving her/him sufficient time to explore various courses and decide on the minor.

Vocational Studies/Education: Vocational Studies/Education will form an integral part of the undergraduate programme. A total of 16 credits will be allotted to the 'Minor' relating to Vocational Studies/Education.

Field-based learning/project (4 credit-hours): The field-based learning/project will attempt to provide opportunities for students to understand the different socio-economic contexts. It will aim at giving students exposure to development-related issues in rural and urban settings. It will provide opportunities for students to observe situation in rural and urban contexts, and to observe and study actual field situations regarding issues related to socio-economic development. Students will be given opportunities to gain a first-hand understanding of the policies, regulations, organizational structures, processes, and programmes that guide the development process. They would have opportunity to gain an understanding of the complex socio-economic problems in the community, and innovative practices required to generate solutions to the identified problems.

Skills-based internship: A key aspect of the FYUGP is induction into actual work situations**.** Students will be provided with opportunities for internships with local industry, businesses, artists, crafts persons, etc.. so that students may actively engage with the practical side of their learning and, as a by-product, further improve their employability. Students who would exit after the first two semesters will undergo 4-credit skill-based courses and 6-credit work-based learning/internship to enhance their employability. Similarly, students who exit after the first four semesters will undergo 4-credit skill-based courses and 6- credit work-based learning, and students who exit after the first six semesters will also undergo 4-credit skill-based courses and 6- credit work-based learning. All students will undergo research-based internships with faculty and researchers at their own or other HEIs/research institutions during the eighth semester.

Advanced disciplinary/interdisciplinary courses required to support/undertake research, including research methodology courses, and a research project (20 credit-hours): At the beginning of the seventh semester each student will take up a

research project along with advanced courses and research methodology courses. The final semester will be devoted exclusively to a research project. The project would be related to a topic in the chosen major disciplinary programme of study or an interdisciplinary topic that has a substantial overlap with the major disciplinary/interdisciplinary programmes of study.

Research-oriented courses & internship, and research project (18 credits): All students pursuing a 4-Year Bachelor's degree with Honours/Research will be required to take up research-oriented advanced courses, research methodology courses and a research project. A total of 18 credits shall be allotted for the research project. The students are expected to complete activities relating to the Research Project involving eight credit hours in the seventh semester. These activities will include writing of project/research proposal, review of related literature or studies and collection of the required data. The remaining ten credits of the research project will be earmarked for research-related activities during the eighth semester. These activities will include completing the writing of the report of the research project. The report of the research report is expected to be submitted to the concerned authority at least one week before commencement of the end-semester examination. All students pursuing the 4-Year Bachelor's degree with Honours/Research will also undergo 4-credit internships with faculty and researchers at their own or other HEIs/research institutions during the eighth semester.

Community engagement and service (4 credits): The curricular component of 'community engagement and service' seeks to expose students to the socio-economic issues in society so that the theoretical learnings can be supplemented by actual life experiences to generate solutions to real-life problems. This component will include participation in activities related to National Service Scheme (NCC), National Cadet Corps (NCC), adult education/literacy initiatives and mentoring school students.

5.2. Levels of Courses:

Courses shall be coded based on the learning outcomes, level of difficulty and academic rigor. The coding structure are as follows:

- **0-99: *Pre-requisite courses*** required to undertake an introductory course which will be a pass or fail courses with no credits. It will replace the existing informal way of offering bridge courses that are conducted in some of the colleges/ universities.

- **100-199: *Foundation or introductory courses*** that are intended for students to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be pre-requisites for courses in the majoring subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking in order to provide a broad basis for taking up more advanced courses. These courses seek to equip students with the general education needed for advanced study, to expose students to the breadth of different fields of study; provide a foundation for specialized higher-level coursework; acquaint students with the breadth of (inter) disciplinary fields in the arts, humanities, social sciences, and natural sciences, and to

the historical and contemporary assumptions and practices of vocational or professional fields; and to lay the foundation for higher-level coursework.

- **200-299:** ***Intermediate-level courses*** including subject specific courses intended to meet the credit requirements for minor or major area of learning. These courses can be part of major and can be pre-requisite courses for advanced level major courses.

- **300-399:** ***Higher-level courses*** which are required for majoring in a disciplinary/interdisciplinary area of study for award of degree.

- **400-499:** ***Advanced courses*** which would include taught courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship / apprenticeship projects at the under-graduate level or First year Post-graduate theoretical and practical courses.

- **500-599:** Courses at first-year Master's degree level for 2-year Master's degree programme

- **600-699:** Courses for 2nd year of 2-years Master's or 1-year Master's degree programme

- **700 -799 & above:** Courses limited to doctoral students.

5.3. Programme/curricular components

The programme/curricular components and credit apportionment for courses within the four-year undergraduate programme is indicated in the Table

Programme/curricular components and credit apportionment for courses within the four-year undergraduate programme		
Programme/curricular component	**Course/activity**	**Credit-hour**
Common courses, including relevant practicum (24 credit hours)	Language and communication skills (Modern Indian language)	6
	Language and communication skills (English language)	6
	Understanding India	3
	Environmental science/education	3
	Health and wellness, yoga and sports	2
	Digital and technological solutions, including Artificial Intelligence, 3-D machining, big data analysis, and machine learning with emphasis on their applications to education, health and sustainable living.	4
Introductory courses relating to Natural Sciences, Humanities, and Social Sciences) (18 credit-hours) (Interdisciplinary courses may form part of the basket of courses to be taken during the first three semesters. These may include, for example, courses relating to	***Introductory courses relating to Natural Science:*** Three introductory courses (one each in semester 1, 2 & 3) within Natural Science (to be chosen from a basket of courses that would include courses such as Astronomy and Astrophysics, Biology, Biochemistry, Chemistry, Computer Science, Data Science, Earth and Environmental Sciences, Mathematical and	6

Cognitive Science, Environmental Science, Gender Studies, Global Environment & Health, International Relations, Political Economy and Development, Sustainable Development, Urban Studies, Women's and Gender Studies, etc.)	computational thinking and analysis, Physics, Statistics etc.)	
	Introductory courses relating to Social Sciences: (Courses chosen from a basket of courses that would include, for example, courses such as Anthropology, Communication and Media, Economics, History, Linguistics, Political Science, Psychology, Sociology, Social Work, etc.)	6
	Introductory courses relating to Humanities: (courses chosen from a basket of courses that would include, for example, Archeology, Arts & Creative expressions, Comparative Literature, Creative Writing and Literature, Philosophy, etc.)	6
Introductory courses relating to vocational studies (6 credit-hours)	Courses chosen from a basket of courses that may include, for example, Agriculture (Organic Farming, Protected Cultivation, Production of Horticulture Crops, Floriculture, etc; Banking, Financial Services and Insurance; Construction; Health Care; Food Industry; IT-ITeS; Media & Entertainment; Tourism and Hospitality etc.	6
Disciplinary/interdisciplinary Major (chosen from a learning area relating to one of the introductory courses pursued during the first three semesters) (48 credit-hours)	One disciplinary/interdisciplinary major (Course chosen from a learning area relating to Natural Sciences, Social Sciences, Humanities, and interdisciplinary courses pursued during the first three semesters)	48
Disciplinary/interdisciplinary Minor (36 credit-hours)	Two minors, one 'minor' relating to a disciplinary/interdisciplinary area and the other relating to vocational studies/education (Course chosen from a learning area relating to Natural Sciences, Social Sciences, Humanities, interdisciplinary courses, and courses relating to vocational studies pursued during the first three semesters)	36
Advanced courses required for taking up research, research methodology courses , research internship, and a research project in the chosen 'major' area of study (18 credits)	Research methodology courses	6
	Development of project/research proposal, review of related literature or studies and collection of the required data.	4
	Research internship	4
	Preparation of report of the research project.	4
Field immersion (3 credit hours)	Field-based learning/project to develop innovative practices required to solve real-life problems relating to chosen fields of learning, work or vocation.	3
Internships with local industry, businesses, artists, crafts persons, etc. during the sixth semester (4 credit-hours)	Internships with local industry, businesses, artists, crafts persons, etc.	4
Community engagement and service (3 credit hours)	Community-engaged activities, including participation in National Service Scheme, National Cadet Corps (NCC), adult literacy/education programmes, and student mentoring.	3

Learning activities required to promote value-based education, Indian knowledge systems, global citizenship education, inclusive education, gender equity etc. and the

achievement of generic learning outcomes will be integrated into relevant curricular components and courses.

Remote/blended learning modes: Options will be available for students to earn credit by completing quality-assured remote learning modes, including online programmes offered on the Study Webs of Active Learning for Young Aspiring Minds (SWAYAM: www.swayam.gov.in) or other online educational platform approved by the competent body from time to time. Students may opt to earn credits from such courses up to 40 per cent of the total credits required for the award of a certificate/Diploma/Degree.

6.0. Pedagogical approaches

The *Learning Outcomes-Based Approach* to curriculum planning and transaction requires that the pedagogical approaches are oriented towards enabling students to attain the defined learning outcomes relating to the courses within a programme. The outcome-based approach, particularly in the context of undergraduate studies, requires a significant shift from teacher-centric to learner-centric pedagogies, and from passive to active/participatory pedagogies. Every programme of study lends itself to well-structured and sequenced acquisition of knowledge and skills. Practical skills, including an appreciation of the link between theory and practice, will constitute an important aspect of the teaching-learning process. Teaching methods, guided by such a framework, may include lectures supported by group tutorial work; practicum and field-based learning; the use of prescribed textbooks and e-learning resources and other self-study materials; field-based learning/project, open-ended project work, some of which may be team-based; activities designed to promote the development of generic/transferable and subject- specific skills; and internship and visits to field sites, and industrial or other research facilities etc.

7.0. Learning assessment

A variety of assessment methods that are appropriate to a given disciplinary/subject area and a programme of study will be used to assess progress towards the course/programme learning outcomes. Priority will be accorded to formative assessment. Evaluation will be based on continuous assessment, in which sessional work and the terminal examination will contribute to the final grade. Sessional work will consist of class tests, mid-semester examination(s), home- work assignments etc., as determined by the faculty in charge of the courses of study. Progress towards achievement of learning outcomes will be assessed using the following: time-constrained examinations; closed- book and open-book tests; problem-based assignments; practical assignment laboratory reports; observation of practical skills; individual project reports (case-study reports); team project reports; oral presentations, including seminar presentation; viva voce interviews; computerised adaptive assessment, examination on demand, modular certifications etc.

7.1. Letter Grades and Grade Points

The Grade Point Average (GPA) is computed from the grades as a measure of the student's performance. The GPA is based on the grades of the current term, while the Cumulative GPA (CGPA) is based on the grades in all courses taken after joining the programme of study. The contribution of each course to the GPA is the product of the

number of credits and the grade point corresponding to the grade obtained. For instance, if it is a 3-credit course, and the student gets a B grade (which corresponds to 6 grade points, then the contribution of the course to the total grade points is equal to 3 x 7, or 21. To get the GPA for a semester, one adds the grade point contributions of all the courses taken in the semester, and divides this total by the number of credits. The CGPA is similarly calculated, the only difference being that one considers the grade point contributions of all the courses taken in all the terms. The GPA and CGPA are rounded off to the first decimal place.

Letter Grade	Grade Point
O (outstanding)	10
A+ (Excellent)	9
A (Very good)	8
B+ (Good)	7
B (Above average)	6
C (Average)	5
P (Pass)	4
F (Fail)	0
Ab (Absent)	0

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7.2. Computation of SGPA and CGPA

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

i. 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, i.e

SGPA (Si) = ∑(Ci x Gi) / ∑Ci

where Ci is the number of credits of the ith course and Gi is the grade point scored by the student in the ith course.

ii. The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

CGPA = ∑(Ci x Si) / ∑ Ci

where Si is the SGPA of the ith semester and Ci is the total number of credits in that semester.

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

7.3. Computation of SGPA and CGPA and Format for Transcripts

i. Computation of SGPA and CGPA

Illustration for **SGPA**

Course	**Credit**	**Grade letter**	**Grade point**	**Credit Point** (Credit x Grade
Course 1	3	A	8	3 X 8 = 24
Course 2	4	B+	7	4 X 7 = 28
Course 3	3	B	6	3 X 6 = 18
Course 4	3	O	10	3 X 10 = 30
Course 5	3	C	5	3 X 5 = 15
Course 6	4	B	6	4 X 6 = 24
	20			139

Thus, **SGPA =139/20 =6.95**

Illustration for **CGPA**

Semester 1	**Semester 2**	**Semester 3**	**Semester 4**
Credit : 20 SGPA:6.9	Credit : 22 SGPA:7.8	Credit : 25 SGPA: 5.6	Credit : 26 SGPA:6.0

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Semester 5	**Semester 6**		
Credit : 26 SGPA:6.3	Credit : 25 SGPA: 8.0		

Thus, **CGPA =** $\frac{20 \times 6.9 + 22 \times 7.8 + 25 \times 5.6 + 26 \times 6.0 + 26 \times 6.3 + 25 \times 8.0}{144}$ = **6.73**

ii. Transcript (Format): Based on the above recommendations on Letter grades, grade points and SGPA and CCPA, the HEIs may issue the transcript for each semester and a consolidated transcript indicating the performance in all semesters.