Academic Regulations

for

4 Years Undergraduate Programme

Centurion UNIVERSITY

Shaping Lives...
Empowering Communities...

School of Undergraduate Studies

Centurion University of Technology and Management

India's First and Best Skill University

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Constituent Campuses

Bhubaneswar | Paralakhemundi | Rayagada | Bolangir | Chattarpur | Balasore

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Applicability of this regulation

These regulations will be applicable to the students taking admission to the B.Sc. / BBA / B.Com. programmes offered in various disciplines from the academic session 2023-2024.

Salient Features

- This framework is formulated with a student centric approach and provides maximum flexibility in terms of choice of disciplines of study and it allow to move from one discipline of study to another.
- This framework has the options for developing various academic pathways by a creative combination of disciplines of study.
- The students are getting a chance to determine his/her own semester-wise academic load and will be allowed to learn at his/her pace, to the extent possible.
- Increase in the number of choices of courses available to students and the students are getting an opportunity to choose the courses of their interest from all disciplines.
- This framework provides multidisciplinary and holistic education with emphasizes on research, skill development and higher order thinking,
- The framework promotes innovation and employability of the student.
- The framework offers flexibility for the students to move from one institution to another as per their choice.
- The framework offers the flexibility to switch to alternative modes of learning (offline, ODL and online learning and hybrid modes of learning).

Academic Regulations for 4 Years Undergraduate Programme
School of Undergraduate Studies
Centurion University of Technology and Management
2023

1. Introduction

This Programme provides flexibility to students to choose a single discipline or a combination of disciplines/ streams as an academic career path. The Programme envisages a competency-based, multi-disciplinary, holistic academic programme with a creative combination of disciplines/ skills/ Domain/ Research of study with multiple entry and exit options.

The curriculum emphasizes a flexible combination of a wide range of courses with a focus on analytical and critical thinking, computational skills, use of cutting-edge technology, innovation, creativity, experiential learning including the development of a competency-based skilling ecosystem and holistic development of students leading to specific career prospects.

The university follows a dynamic curriculum development approach. Hence, it reserves the rights to revise / modify the syllabus, structure, credits etc. as deemed fit.

2. Objective

- To provide students with a comprehensive understanding of the fundamental principles, theories and practices in their chosen major and minor disciplines.
- To develop students' critical thinking skills, enabling them to analyze complex problems and formulate effective solutions within their fields of study.
- To enhance students' communication abilities, both written and oral, to effectively convey technical and complex information to various audiences.
- To equip students with research and inquiry skills, enabling them to gather, analyze and interpret data, fostering a culture of evidence-based decision-making.
- To encourage interdisciplinary thinking, allowing students to integrate knowledge and principles from multiple disciplines, promoting innovative approaches to problem-solving.
- To inculcate ethical values and a sense of social responsibility in students, emphasizing the importance of ethical conduct and community engagement in their future careers.
- To cultivate leadership and teamwork abilities, preparing students to work effectively as both leaders and team members in diverse professional settings.

- To foster innovation and entrepreneurship skills, enabling students to identify opportunities, drive positive change and contribute to the growth of their respective fields.
- To prepare students to adapt to evolving technologies and methodologies, emphasizing the importance of continuous learning and professional development.
- To promote cultural competence among students, encouraging them to respect and value diverse perspectives and work effectively in multicultural environments.
- To develop a global perspective in students, helping them understand the global context of their disciplines and encouraging them to address global challenges through local actions.
- To raise environmental awareness and promote sustainability principles among students, encouraging them to consider sustainability in their decision-making processes and actions.

3. Outcomes

3.1 Programme Outcomes (POs)

Programme Outcomes give a description of the qualities, skills, abilities and understandings, that the students should develop as a consequence of the learning they engage with the programme of study in that institution. POs indicate what students are expected to know and be able to do by the time they graduate from the institution. POs are not directly connected to any specific academic disciplines.

PO-01	Knowledge Acquisition	Graduates will demonstrate a deep and comprehensive understanding of the fundamental concepts, theories and practices in their respective major and minor disciplines.
PO-02	Critical Thinking and Problem Solving	Graduates will be proficient in critical thinking and problem-solving, capable of applying analytical skills to address complex challenges within their fields.
PO-03	Effective Communication	Graduates will communicate effectively, both in written and oral forms, enabling them to convey complex information clearly and persuasively.
PO-04	Research and Inquiry Skills	Graduates will possess research and inquiry skills, including the ability to gather, analyze and interpret data to make informed decisions and contribute to knowledge advancement.

PO-05	Interdisciplinary Integration	Graduates will demonstrate the ability to integrate knowledge and principles from multiple disciplines, fostering a multidisciplinary perspective in their work.
PO-06	Ethical and Social Responsibility	Graduates will uphold ethical principles and exhibit social responsibility in their professional conduct, considering the impact of their actions on society and the environment.
PO-07	Leadership and Teamwork	Graduates will be effective leaders and team members, capable of collaborating and leading diverse teams to achieve common goals.
PO-08	Innovation and Entrepreneurship	Graduates will exhibit innovation and entrepreneurship skills, enabling them to identify opportunities and drive positive change in their respective fields.
PO-09	Adaptability and Lifelong Learning	Graduates will be adaptable to evolving technologies and methodologies and exhibit a commitment to lifelong learning and professional development.
PO-10	Cultural Competence and Global Perspective	Graduates will demonstrate cultural competence, respecting and valuing diverse perspectives and working effectively in multicultural settings to address global challenges through local actions.
PO-11	Digital and Technological Skills	Graduates will be able to access, evaluate and use appropriate Integrated Communication Technologies as per the requirement.
PO-12	Sustainability Consciousness	Graduates will be environmentally conscious and consider sustainability principles in their decision-making processes and actions.
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3.2 Programme Specific Outcomes (PSOs)

These are the broad statements that describe the career and professional accomplishments that the programme is preparing the graduates to achieve what students are able to perform after the completion of the programme.

PSO-1	Major Discipline Mastery	Graduates will demonstrate advanced expertise and a profound understanding of their chosen major discipline, allowing them to excel in specialized roles and contribute significantly to their field.
PSO-2	Minor Discipline Proficiency	Graduates will exhibit proficiency in their chosen minor discipline, harnessing this additional expertise to enhance problem-solving capabilities and broaden their career opportunities.
PSO-3	Innovation and Applied Skills	Graduates will demonstrate the ability to innovate and apply knowledge from their major and minor disciplines, fostering creative solutions to real-world challenges within their field of study.
PSO-4	Research Proficiency	For programmes with a research component, graduates will possess a high level of research proficiency, encompassing skills in project design, data analysis and academic communication, enabling them to contribute meaningfully to their major discipline's body of knowledge.

3.3 Graduate Attributes (GAs)

The graduate attributes reflect the particular quality and feature or characteristics of an individual, including the knowledge, skills, attitudes and values that are expected to be acquired by a graduate through studies.

The graduate attributes define the characteristics of a student’s university degree programme(s) and describe a set of characteristics/competencies that are transferable beyond study of a particular subject area and programme contexts in which they have been developed. Graduate attributes are fostered through meaningful learning experiences made available through the curriculum, the total university experiences and a process of critical and reflective thinking.

GA-1	Holistic Thinkers	Graduates will think holistically, considering the broader implications of their decisions and actions on society, the environment and the global community.
GA-2	Effective Communicators	Graduates will be effective communicators, capable of articulating complex ideas to diverse audiences and fostering constructive dialogues.
GA-3	Innovative Problem Solvers	Graduates will be innovative problem solvers, capable of applying creativity and critical thinking to tackle emerging challenges in their fields.
GA-4	Ethical Professionals	Graduates will be ethical professionals, upholding the highest standards of integrity and social responsibility in their careers.
GA-5	Lifelong Learners	Graduates will be committed to lifelong learning, continuously updating their knowledge and skills to adapt to a rapidly changing world.
GA-6	Global Citizens	Graduates will be global citizens, understanding the interconnectedness of the world and actively participating in addressing global issues.
GA-7	Leaders and Collaborators	Graduates will be effective leaders and collaborators, capable of both leading and working effectively within diverse teams.
GA-8	Environmental Stewards	Graduates will be environmentally conscious and contribute to sustainability efforts in their workplaces and communities.
GA-9	Culturally Competent Professionals	Graduates will be culturally competent professionals, respecting and valuing diverse perspectives in their interactions and decision-making.

4. Eligibility

A student who has passed the Higher Secondary (12^{th} grade) or its equivalent examination is eligible to take admission to the 1^{st} year of the undergraduate programmes.

The admission or eligibility criteria is fixed by the university from time to time.

5. Multiple entries

- **1st year:** Senior Secondary School Leaving Certificate or Higher Secondary (Class 12) Certificate obtained after successful completion of Grade 12 or equivalent stage of education and/or Admission test conducted by College/University/National Level Testing Agency/State Level Testing Agency.
- **2nd year:** A certificate obtained after successful completion of 1 year (2 semesters) of the undergraduate programme. These students are to take admission in the 2nd year within a period of three years from obtaining the UG certificate from CUTM or any other University/institution recognized by CUTM.
- **3rd year:** A diploma obtained after successful completion of 2 years (4 semesters) of the undergraduate programme. These students are to take admission in the 3rd year UG programme within a period of three years from obtaining the UG diploma from CUTM or any other University/institution recognized by CUTM.
- **4th Year (Honours):** A Bachelor's degree after successful completion of three years (6 semesters) of the Undergraduate programme obtained from CUTM or any other University/institution recognized by CUTM. These students are to complete the degree within the stipulated maximum period of seven years.
- **4th Year (Honours with Research):** A three year Bachelor Degree with a minimum of 75% marks. The minimum entry requirement for 4th year (Honours/Research) UG programme within a period of three years from obtaining 3 year Bachelor Degree from CUTM or any other University/institution recognized by CUTM. These students are to complete the degree within the stipulated maximum period of seven years.

6. Programme duration and multiple exits

The 4 years programme at CUTM is designed to offer two types of Bachelor's Degrees to the students at the end of the successful completion of the programme — (i) Bachelor's Degree in a Stream and (ii) Bachelor's Degree in a Discipline. The word stream here refers to Arts, Science, Commerce and Business Administration. In case of a degree in a stream, the student studies a multitude of different subjects, usually mixing different disciplines, which leads to a truly multidisciplinary degree. While in case of a degree in a discipline, the student is confined to a certain set of disciplines. However, in both cases, the student earns equal number of credit points.

UG Certificate: Students who opt to exit after completion of the first year and have secured 40 credits will be awarded a UG certificate if, in addition, they complete one vocational course of 4 credits during the summer vacation of the first year. These students are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.

UG Diploma: Students who opt to exit after completion of the second year and have secured 80 credits will be awarded the UG diploma if, in addition, they complete one vocational course of 4 credits during the summer vacation of the second year. These students are allowed to re-enter within a period of three years and complete the degree programme within the maximum period of seven years.

3-years UG Degree: Students who wish to undergo a 3-years UG programme will be awarded UG Degree in the Major discipline after successful completion of three years, securing 120 credits and satisfying the minimum credit requirement as given in the semester wise credit breakup (section-9).

4-years UG Degree (Honours): A four-years UG Honours degree in the major discipline will be awarded to those who complete a four-year degree programme with 160 credits and have satisfied the credit requirements as given in the semester wise credit breakup (section-9).

4-years UG Degree (Honours with Research): Students who secure 75% marks and above in the first six semesters and wish to undertake research at the undergraduate level can choose a research stream in the fourth year. They should do a research project or dissertation under the guidance of a faculty member of the University. The research project/dissertation will be in the major discipline. The students who secure 160 credits, including 12 credits from a research project/dissertation, are awarded UG Degree (Honours with Research).

UG Degree Programmes with Single Major: A student has to secure a minimum of 50% credits from the major discipline for the 3-years/4-years UG degree to be awarded a single major. For example, in a 3-year UG programme, if the total number of credits to be earned is 120, a student of Physics with a minimum of 60 credits will be awarded a B.Sc. in Physics with a single major. Similarly, in a 4-years UG programme, if the total number of credits to be earned is 160, a student of Physics with a minimum of 80 credits will be awarded a B.Sc. (Hons./Hon. With Research) in Physics in a 4-years UG programme with single major.

UG Degree Programmes with Double Major: A student has to secure a minimum of 40% credits from the second major discipline for the 3-years/4-years UG degree to be awarded a double major. For example, in a 3-years UG programme, if the total number of credits to be earned is 120, a student of Physics with a minimum of 48 credits will be awarded a B.Sc. in Physics with a double major. Similarly, in a 4-years UG programme, if the total number of credits to be earned is 160, a student of Physics with a minimum of 64 credits will be awarded a B.Sc. (Hons./Hon. With Research) in Physics in a 4-years UG programme with double major.

Interdisciplinary UG Programmes: The credits for core courses shall be distributed among the constituent disciplines/subjects so as to get core competence in the interdisciplinary programme. For example, a degree in Econometrics requires courses in economics, statistics and mathematics. The total credits to core courses shall be distributed so that the student gets full competence in Econometrics upon completion of the programme. The degree for such students will be awarded as B.Sc. in Econometrics for a 3-years UG programme or B.Sc. (Honours) / B.Sc. (Honours with Research) in Econometrics for a 4-years UG programme.

Multidisciplinary UG Programmes: In the case of students pursuing a multidisciplinary programme of study, the credits to core courses will be distributed among the broad disciplines such as Life sciences, Physical Sciences, Mathematical and Computer Sciences, Data Analysis, Social Sciences, Humanities, etc., For example, a student who opts for a UG programme in Life sciences will have the total credits to core courses distributed across Botany, Zoology and Human biology disciplines. The degree will be awarded as B.Sc. in Life Sciences for a 3-years programme and B.Sc. (Honours) in Life Sciences or B.Sc. (Honours with Research) for a 4-years programme without or with a research component respectively.

7. Micro-credentials

Remote/blended learning modes: Options are 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% of the total credits required for the award of Degree.

Apart from this, students are also allowed to bring relevant credits from other recognized institutions as well as from distance mode of learning.

8. Programme structure

Basket	Type of Course	Minimum Credit Requirement			
		4 years UG		3 years UG	
		Credit	Approx. Weightage	Credit	Approx. Weightage
I	Major (Core) Courses	84	53%	72	55%
II	Minor (Domain), Multi-Disciplinary and Skill Courses	44	28%	38	29%
III	Ability Enhancement Courses	6	4%	6	5%
IV	Value Added Courses	10	6%	10	8%
V	Summer Internship / Community Engagement	4	3%	4	3%
VI	Research Project / Dissertation / Production Action Learning	12	8%	0	0
TOTAL		**160**	**100%**	**130**	**100%**

9. Types of courses

9.1 Major (Core) courses

Major (Core) Courses are the foundational and specialized courses directly related to a student's chosen major discipline. These courses form the core of the academic programme and provide in-depth knowledge and skills in the chosen field of study.

Major (Core) Courses aim to build a strong theoretical and practical foundation in the chosen major discipline. They equip students with the specialized knowledge and expertise required to excel in their field of study and future careers.

Following are the major (core) disciplines available for the academic year 2023-24.

Sl. No.	Major (Core) Disciplines
1	Botany
2	Business Administration
3	Chemistry
4	Commerce
5	Computer Applications
6	Information Technology
7	Mathematics
8	Physics
9	Zoology

Please refer to Annexure-1 for courses offered in each major (core) discipline.

9.2 Domain (Minor), Multi-Disciplinary and Skill Courses

Minor (Domain) Courses: These are courses from a chosen minor discipline, providing students with a secondary area of expertise. There are several domains offered by the university for the academic year 2023-24. Please refer to Annexure-2 for courses offered under this basket.

Skill Courses: These courses focus on developing practical skills and competencies that are valuable in various professional contexts. Please refer to Annexure-3 for courses offered under this basket.

Multi-Disciplinary Courses: These are courses that broaden a student's knowledge beyond their major and minor disciplines. Students can opt for any discipline other than their selected major discipline under this basket or category.

These courses aim to provide students with a well-rounded education. Minor courses enhance their knowledge in a secondary area, domain courses encourage multidisciplinary thinking and skill enhancement courses equip them with practical skills relevant to their field of study.

9.3 Ability Enhancement courses

Ability Enhancement Courses typically focus on language skills. These courses aim to enhance students' proficiency in communication, both in written and oral forms, which is essential for academic success and future career prospects. Please refer to Annexure-4 for courses offered under this basket.

Ability Enhancement Courses help students improve their communication skills, enabling them to effectively convey their ideas, research findings and insights. Strong communication skills are valuable in academic, professional and personal contexts.

9.4 Value Added courses

Value Added Courses are additional courses that provide students with extra skills and knowledge beyond their major and minor disciplines. These courses are typically designed to enhance employability and provide a competitive edge in the job market.

Value Added Courses aim to make students more versatile and marketable by equipping them with skills that are in high demand in various industries. These courses enhance their career prospects and adaptability. Please refer to Annexure-4 for courses offered under this basket.

9.5 Summer Internship / Community Engagement

Summer Internship or Community Engagement programmes involve students participating in real-world work experiences, either in industry or within the community, during the summer break. These experiences can be credit-bearing and provide practical exposure to their chosen field of study.

Summer Internship and Community Engagement experiences bridge the gap between theoretical knowledge and practical application. They offer students an opportunity to apply what they have learned in a real-world context, gain hands-on experience and develop professional networks.

9.6 Research Project / Dissertation / Production Action Learning

These are in-depth, research-oriented components of the academic programme. Students engage in original research, dissertation writing, or production action learning, depending on the programme's requirements. Research projects are typically carried out under the guidance of faculty members.

These components aim to develop students' research skills, critical thinking abilities and problem-solving capabilities. They encourage students to explore, analyze and contribute to the knowledge base of their major discipline, preparing them for careers in research, academia, or industry leadership roles.

10. Course registration

At the beginning of each semester courses available for registration across baskets will be announced. Students can select and register the courses from the list of available courses.

10.1 Registration for Major (core) discipline courses

Out of all the available major disciplines students can select any one to study. Please refer to Annexure-1 for courses offered in each major (core) discipline. The selection of the major discipline will determine the degree or certificate or diploma the student is going to receive. Refer to Section-5 “Programme duration and multiple exits” for details.

10.2 Registration for Domain (minor), Skill and Multi-disciplinary courses

The total credit value of various domain offered by the university ranges between 16 to 29. Credit value of courses range between 2 to 6. Students can select the domain they want to study. Each of the skill courses are of 4 credits. Selected courses from the Major (Core) discipline

basket are offered as multi-disciplinary courses. All such courses are of 6 credits. Students can opt for any discipline other than their selected major discipline under this basket or category. Since, domain, multi-disciplinary and skill courses belong to one basket there is flexibility for selection of courses across these baskets. However, following conditions will be applicable.

- A student has to take minimum one domain.
- A student cannot opt more than one domain simultaneously.
- Only after successful completion of one domain a student can opt for another domain.
- Students can opt for skill and multi-disciplinary courses out of the credits available beyond the credits of the domain courses.

Refer to Annexure-2 and Annexure-3 for courses offered under the domain and skill baskets respectively.

10.3 Registration for Ability Enhancement Courses

'Job readiness' is offered as the Ability Enhancement course. This is of 6 credits. However, it is covered over multiple semesters. Please refer to Annexure-4 for courses offered under this basket.

10.4 Registration for Value added courses

Students are free to select the value added courses they want to opt for. Please refer to Annexure-4 for courses offered under this basket. The total credits assigned to value added courses is 10. The value of different courses under this basket are either 2 or 3 credits.

10.5 Registration for Summer Internship or Community Engagement activity

The total credits available for summer internship or community engagement activity is 4. Students can opt for either summer internship or community engagement activities or both. Students can go for summer internship only after the completion of their first year. A student successfully completing either summer internship or community engagement activity will secure 4 credits. However, students opting for both summer internship and community engagement activity will get 2 credits for each upon successful completion.

10.6 Registration for Research Project / Dissertation / Production Action Learning Projects

Students securing more than 75% marks in the first 6 semester can only opt for this basket in the 4th year. Students can select their faculty guide from the university. Along with the internal faculty guides students can have external guides from industry and academia.

11. Change of major and minor

Students can opt for a change of major within the broad discipline at the end of the first year by giving them sufficient time to explore interdisciplinary courses during these two semesters.

Students shall be allowed to change Minor courses of his/her areas of interest within the broad discipline at the end of the third semester. If a student pursuing a major obtains a minimum of 12 credits from another branch, then the student will be awarded Bachelor degree in previous with a minor in later. Students are not allowed to choose or repeat courses already undergone at the higher secondary level (12th class) in the proposed major and minor stream under this category.

12. Semester wise offer of courses (indicative only)

Semester	Major (Core) Courses	Domain (Minor), Multi-Disciplinary and Skill Courses	Ability Enhancement Courses	Value Added Courses	Summer Internship / Community Engagement	Research Project / Dissertation / Production Action Learning
	84	44	6	10	4	12
I	√	√	√	√	0	0
II	√	√	√	√	0	0
EXIT: Undergraduate Certificate: 40 credits with one 4 credit Skill Enhancement Course or Summer Internship						
III	√	√	√	√	√	0
IV	√	√	√	√	√	0
EXIT: Undergraduate Diploma: 80 credits with one 4 credit Skill Enhancement Course or Summer Internship						
V	√	√	√	√	√	0
VI	√	√	√	√	√	0
EXIT • Bachelor Degree: 120 credits • Bachelor Degree (with Single Major): 120 credits with Minimum 60 (50%) credits from major discipline • Bachelor Degree (with Double Major): 120 credits with Minimum 48 (40%) credits from the second major						
VII	√	√	0	0	0	√

VI II	√	√	0	0	0	√

EXIT

- Bachelor Degree (Honours): 160 credits with minimum 80 (50%) credits from major/core discipline
- Bachelor Degree (Honours with Research): 75% marks in the first six semesters with 160 credits including 12 credits research project in major discipline
- Bachelor Degree (with Double Major): 160 credits with Minimum 64 (40%) credits from the second major

Note: *Honours students not undertaking research will take other courses worth 12 credits in lieu of a research project / dissertation*

13. Career progression

Level of Programme	Requirements of the Programme		
Master's Diploma/ Degree	A Two-Year (Four-Semester) Master's Degree/ Diploma Programme	Entry requirements	Completion of a Three-Year Bachelor's Programme, a student shall be eligible for entry into a Two-Year (Four-Semester) Master's Degree Programme with the second year devoted entirely to research.
		Exit requirements	i) A student who desires to exit after successful completion of One year (1st and 2nd semesters) of the Master's Degree Programme, equivalent to 40 credits shall be awarded a Master's/ Post-Graduate Diploma. ii) A student who successfully completes the Two-year Master's Degree Programme (all 4 semesters), equivalent to 80 credits shall be awarded a Master's/ Post-Graduate Degree.
	A One-Year (Two-Semester) Master's Degree Programme	Entry requirements	i) Entry into a One-Year (Two-Semester) Master's Degree Programme shall be for those students who obtained a 4-year Bachelor's Degree with Honours/ Research. ii) (Lateral entry for Post-Graduate Diploma holders will be based on the validation of prior learning).
		Credit requirements	On completion of the One-Year (Two-Semester) Master's Degree Programme equivalent to 40 credits shall be awarded a Master's/ Post-Graduate Degree.
Doctorate Degree	Entry requirements	i) A 1-year (Two-Semester) Master's Degree programme after 4-year Undergraduate Degree with Honours/ Research, with at least 55% marks in aggregate or its equivalent grade 'B' in the UGC 10-point scale (or an equivalent grade (wherever grading system is followed) or an equivalent degree from a foreign educational institution accredited by an Assessment and Accreditation Agency which is approved, recognized or authorized by an authority, established or incorporated under	

		a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of educational institutions. ii) A 2-year (four-semester) Master's degree programme, with the same conditions as mentioned above in i) iii) A candidate seeking admission after a 4-year/8-semester Bachelor's degree in Research should have a minimum CGPA of 7.5/10.
	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 coursework and a thesis with published work and/or creative work (for example, in the case of visual or performing arts).

14. Assessment

14.1 Evaluation for Theory Components

i. <u>End semester theory examinations (50% weightage):</u>

a. Duration – 3 hrs

b. Full Mark – 100. During result processing, it will be proportionately added.

c. Distribution of marks (should cover all COs)

i. 10 short questions x 2 marks = 20 marks

ii. 5 long questions x 12 marks = 60 marks

iii. 4 short notes x 5 marks = 20 marks

ii. <u>Continuous assessments:</u> Details are as indicated in the table below:

Sl. No.	Continuous Assessment	Score
1	Individual / Group Presentation *Rubric is as under:* • *Content & creativity – 05* • *Presentation & Discussion – 05*	10
2	Mid-semester (Written Examination) *Mark Distribution:* • *5 short questions x 1 marks = 5 marks* • *2 long questions x 5 marks = 10 marks* • *2 short notes x 2.5 marks = 5 marks*	20
3	Assignment (2 assignments x 5 marks each)	10
4	Learning Record *(Based on the parameters indicated in the learning record format, course faculty to evaluate and award score)*	10

Total	50

14.2 Evaluation of Practice/ Laboratory Components

The evaluation of the practice component will be carried out 50% by concerned faculty and 50% by the external examiner and will be conducted as per the present policy. Details are as under:

Internal

A	Concept	10
B	Planning & Execution/ Practical/ Simulation/ Programming	10
C	Result and Interpretation	10
D	Record/ Report	10
E	Viva	10
Total		**50**

External

A	Execution & Result	20
B	Record of Applied and Action Learning	10
C	Viva	20
Total		**50**

14.3 Evaluation of Project Component

The evaluation of the project component will be completed 50% by concerned faculty and 50% by the external examiner and will be conducted as per the present policy. Following guideline may be referred during evaluation of internal and external components:

Internal

A	Understanding the relevance, scope and dimension of the project	10
B	Methodology	10
C	Quality of Analysis and Results	10
D	Interpretations and Conclusions	10
E	Report	10
Total		**50**

External

A	Understanding the relevance, scope and dimension of the project	10
B	Report	20
C	Viva	20
Total		**50**

14.4 Evaluation of Internship

The evaluation of the internship will be completed 50% by concerned faculty and 50% by the industry guide. Following guideline may be referred during evaluation of internal and external components:

Internal

A	Daily Diary & Log Report	20
B	Periodical (Weekly/Monthly) Report	10
C	Presentation & Viva	20
Total		**50**

External

A	Completion of the task / project assigned	30
B	Feedback of the industry supervisor	20
Total		**50**

14.5 Evaluation of Workshop Component

The evaluation of the workshop component will be completed 100% by concerned faculty as per the present policy. Following guideline may be referred during evaluation:

A	Critical Thinking/ Simulation/ Field work & Report	50
B	Presentation & Viva	50
Total		**50**

15. Pass criteria

A. Theory papers: students must secure a minimum of **30% in individual components** (both continuous assessment & end-semester theory) **along with 40% in aggregate**

B. Theory & practice papers

i. Theory component: minimum of 30% in individual components (both continuous assessment & end-semester theory) along with 40% in aggregate

ii. Practice component: minimum of 50% marks both in internal & external

C. Theory & project type papers

i. Theory component: minimum of 30% in individual components (both continuous assessment & end-semester theory) along with 40% in aggregate

ii. Project component: minimum of 50% marks both in internal & external

D. Theory, practice & project type papers

i. Theory component: minimum of 30% in individual components (both continuous assessment & end-semester theory) along with 40% in aggregate

ii. Practice component: minimum of 50% marks both in internal & external

iii. Project component: minimum of 50% marks both in internal & external

E. Practice & project type papers

i. Practice component: minimum of 50% marks both in internal & external

ii. Project component: minimum of 50% marks both in internal & external

F. Workshop or Internship type papers: 50% in aggregate

16. Grading

CUTM follows "Absolute" grading system / Grade point or marks scheme applicable for different programmes. Under absolute grading system, a Ten Point grading system on base of 10 shall be followed in CUTM. Categorization of these grades and their correlation shall be as under:

Qualification	Grade	Score on 100 Percentage Points	Point
Outstanding	O	90 and above up to 100	10
Excellent	E	80 and above but less than 90	9
Very Good	A	70 and above but less than 80	8
Good	B	60 and above but less than 70	7
Fair	C	50 and above but less than 60	6
Pass	D	40 and above but less than 50	5
Failed	F	Below 40	2
Malpractice	NOT APPLICABLE	NOT APPLICABLE	0
Absent	NOT APPLICABLE	NOT APPLICABLE	0

N.B. Grade C shall be considered as average, Grade D shall be the passing Grade for theory and Grade C shall be the Pass Grade for Practical/ Project/ Workshop mode paper.

17. Attendance

Attendance will be calculated from the date of commencement of classes or date of admission, whichever is later.

a. A student attending at least 75% of the total number of classes held shall be allowed to sit for the concerned Semester Examinations subject to fulfilment of other conditions laid down in the regulation.
b. A student attending at least 60% but less than 75% of the total number of classes held shall be allowed to sit for the concerned Semester Examinations subject to the payment of prescribed fees and fulfilment of other conditions laid down in the regulations.
c. A student attending less than 60% of the total number of classes held shall not be allowed to sit for the concerned Semester Examinations and he /she has to take admission to the same Semester in the very next year for attending the classes and appearing at the said Semester Examination.

ANNEXURE-1: Details of the Major (Core) Discipline Courses

A 1.1 Botany

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1455	Phycology and Microbiology	6	3+2+1
2	CUTM1456	Biomolecules & Cell biology	6	3+2+1
3	CUTM1457	Mycology & Phytopathology	6	3+2+1
4	CUTM1458	Archegoniate	6	3+2+1
5	CUTM1459	Anatomy of Angiosperms	6	3+2+1
6	CUTM1460	Economic Botany	6	3+2+1
7	CUTM1461	Basics of Genetics	6	3+2+1
8	CUTM1462	Molecular Biology	6	3+2+1
9	CUTM1463	Plant Ecology and Phytogeography	6	3+2+1
10	CUTM1464	Plant Systematics	6	3+2+1
11	CUTM1465	Reproductive Biology of Angiosperm	6	3+2+1
12	CUTM1466	Plant Physiology	6	3+2+1
13	CUTM1467	Plant Metabolism	6	3+2+1
14	CUTM1468	Plant Biotechnology	6	3+2+1

A 1.2 Business Administration

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1209	Fundamentals of Management	4	3+0+1
2	CUTM1210	Organisational Behaviour	4	3+0+1
3	CUTM1211	Statistics for Business Decisions	6	4+2+0
4	CUTM1212	Managerial Economics	6	4+0+2
5	CUTM1213	Business Accounting	6	4+0+2
6	CUTM1214	Macro Economics	6	4+0+2
7	CUTM1215	Principles of Marketing	6	4+0+2
8	CUTM1216	Management Accounting	6	4+0+2
9	CUTM1217	Business Research	6	4+0+2
10	CUTM1218	Human Resource Management	6	4+0+2
11	CUTM1219	Financial Management	6	4+0+2
12	CUTM1220	Quantitative Techniques for Management	6	2+4+0
13	CUTM1221	Legal Aspects of Business	4	3+1+0
14	CUTM1222	Business Policy and Strategy	6	4+1+1
15	CUTM1234	Sales and Distribution Management	6	2+2+2

A 1.3 Chemistry

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1469	Atomic Structure and Chemical bonding-I	6	3+2+1
2	CUTM1470	States of matter and ionic equilibrium	6	3+2+1
3	CUTM1471	Basics and Hydrocarbons	6	3+2+1
4	CUTM1472	Chemical Thermodynamics and its application	6	3+2+1
5	CUTM1473	S- and P-block elements	6	3+2+1
6	CUTM1474	Oxygen Containing Functional Groups	6	3+2+1
7	CUTM1475	Phase Equilibria & Chemical Kinetics	6	3+2+1
8	CUTM1476	Coordination Chemistry	6	3+2+1
9	CUTM1477	Heterocyclic Chemistry	6	3+2+1
10	CUTM1478	Electrochemistry	6	3+2+1
11	CUTM1481	Organometallic chemistry	6	3+2+1
12	CUTM1482	Spectroscopy	6	3+2+1
13	CUTM1479	Bio-molecules	6	3+2+1
14	CUTM1480	Quantum Chemistry & Spectroscopy	6	3+2+1

A 1.4 Commerce

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1942	Financial Accounting	6	4+0+2
2	CUTM1943	Business Laws	6	4+0+2
3	CUTM1944	Business Statistics	4	2+0+2
4	CUTM1945	Corporate Accounting	6	4+0+2
5	CUTM1946	Corporate Law	6	4+0+2
6	CUTM1947	Business Organisation and Management	4	3+0+1
7	CUTM1948	Business Economics	6	4+0+2
8	CUTM1949	Income-tax Law and Practice	6	4+0+2
9	CUTM1950	Cost Accounting	6	4+0+2
10	CUTM1951	Business Mathematics	6	4+0+2
11	CUTM1215	Principles of Marketing	6	4+0+2
12	CUTM1219	Financial Management	6	4+0+2
13	CUTM1218	Human Resource Management	6	4+0+2
14	CUTM1952	Goods & Services Tax (GST) and Customs Law	6	4+0+2
15	CUFM2350	Advanced Managerial Accounting	4	3+0+1

A 1.5 Computer Applications

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1896	Fundamentals of Computer	6	3+2+1
2	CUTM1879	OOPs with C ++ Programming	6	2+3+1
3	CUTM1895	Office Automation	6	3+2+1
4	CUTM1882	Data Structures using C++	6	2+3+1
5	CUTM1904	Database Management Systems	6	4+2+0
6	CUTM1884	Operating System Concepts	6	2+2+2
7	CUTM1898	Programming in Python	6	3+2+1
8	CUTM1897	Computer System Architecture	6	3+2+1
9	CUTM2635	Java Programming	6	3+2+1
10	CUTM1899	Fundamentals of Algorithm Design and Analysis	6	3+2+1
11	CUTM1900	Computer Communication and Networking	6	3+2+1
12	CUTM1902	Introduction To Software Engineering	6	3+2+1
13	CUTM1901	Internet and Web Technology	6	3+2+1
14	CUTM1903	Dot Net Technology	6	3+2+1

A 1.6 Information Technology

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1879	OOPs with C ++ Programming	6	2+3+1
2	CUTM1880	IT Infrastructure Management	6	2+2+2
3	CUTM2635	Java Programming	6	3+2+1
4	CUTM1882	Data Structures using C++	6	2+3+1
5	CUTM1883	Database Creation and Maintenance	6	3+2+1
6	CUTM1884	Operating System Concepts	6	2+2+2
7	CUTM1885	Wireless Networks	6	3+3+0
8	CUTM1886	Mathematical Problem Solving	6	3+3+0
9	CUTM1887	Information Security	6	3+3+0
10	CUTM1888	Database Cluster Administration and Security	6	3+2+1
11	CUTM1889	Advanced Web Programming	6	2+3+1
12	CUTM1890	Formal Language and Automata Theory	6	4+2+0
13	CUTM1891	Android App Development	6	2+2+2
14	CUTM1892	Cloud Practitioners	6	3+3+0

A 1.7 Mathematics

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1511	Calculus	6	3+1+2
2	CUTM1512	Linear Algebra	6	3+1+2
3	CUTM1513	Analysis-I	6	3+0+3
4	CUTM1514	Ordinary Differential Equations	6	3+2+1
5	CUTM1515	Analysis-II	6	3+0+3
6	CUTM1516	Modern Algebra	6	3+0+3
7	CUTM1517	Partial Differential Equations and System of Ordinary Differential Equation	6	3+2+1
8	CUTM1518	Numerical Analysis	6	3+2+1
9	CUTM1519	Advanced Analysis	6	3+0+3
10	CUTM1520	Complex Analysis	6	3+1+2
11	CUTM1521	INTEGRAL TRANSFORMATION	6	3+1+2
12	CUTM1522	Discrete Mathematical Structure	6	3+1+2
13	CUTM1523	Linear Programming	6	3+2+1
14	CUTM1524	Probability and Statistics	6	3+1+2

A 1.8 Physics

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1483	Mathematical Physics-I	6	3+2+1
2	CUTM1484	Mechanics	6	3+2+1
3	CUTM1485	Thermal Physics	6	3+2+1
4	CUTM1486	Waves and Optics	6	3+2+1
5	CUTM1487	Mathematical Physics-II	6	3+2+1
6	CUTM1488	Electricity and Magnetism	6	3+2+1
7	CUTM1489	Analog System and Application	6	3+2+1
8	CUTM1490	Mathematical Physics-III	6	3+2+1
9	CUTM1491	Elements of Modern Physics	6	3+2+1
10	CUTM1492	Digital Systems and Applications	6	3+2+1
11	CUTM1493	Quantum Mechanics and Applications	6	3+2+1
12	CUTM1494	Solid State Physics	6	3+2+1
13	CUTM1495	Electromagnetic Theory	6	3+2+1
14	CUTM1496	Statistical Mechanics	6	3+2+1

A 1.9 Zoology

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1497	Non-Chordates I	6	3+2+1
2	CUTM1499	Principles of Ecology	6	3+2+1
3	CUTM1498	Non-Chordates II	6	3+2+1
4	CUTM1500	Cell Biology	6	3+2+1
5	CUTM1501	Diversity of Chordates	6	3+2+1
6	CUTM1502	Physiology: Controlling and Coordinating Systems	6	3+2+1
7	CUTM1503	Fundamentals of Biochemistry	6	3+2+1
8	CUTM1504	Comparative Anatomy of Vertebrates	6	3+2+1
9	CUTM1505	Physiology: Life Sustaining Systems	6	3+2+1
10	CUTM1506	Biochemistry of Metabolic Processes	6	3+2+1
11	CUTM1507	Molecular Biology	6	3+2+1
12	CUTM1510	Evolutionary Biology	6	3+2+1
13	CUTM1509	Developmental Biology	6	3+2+1
14	CUTM1508	Principle of Genetics	6	3+2+1

ANNEXURE-2: Details of the Minor (Domain) Courses

Course Code	Course Title	Credit	Type (T+P+Pj)
MLCU2000	**Data Science and Machine Learning**	**26**	2+9+15
CUML2002	ML for Predictive Analysis	4	1+2+1
CUML2003	ML for Image Analytics	6	0+4+2
CUML2004	ML for Hyperspectral imaging	6	0+4+2
CUML2007	Digital Video Processing	4	0+2+2
CUML2008	IoT Analytics	4	0+2+2
CUML2005	Internship	4	0+0+4
CUML2006	Project	4	0+0+4
STCU2010	**Software Technology**	**20**	0+7+13
CUST2010	Web Services Using JAVA	5	0+4+1
CUST2011	Advanced JAVA Programming	4	0+3+1
CUST2012	Web Programming Using AngularJS	3	0+2+1
CUST2013	Product Development	8	0+0+8
ASCU2020	**Aerial Survey and Remote Sensing Applications**	**18**	4+10+4
CUAS2020	Remote Sensing & Digital Image Proc	4	2+2+0
CUAS2021	Geospatial Technology and its Applica	4	2+2+0
CUAS2022	Photogrammetry and its Application	2	0+2+0
CUAS2023	Lidar Remote sensing and its Application	2	0+2+0
CUAS2024	Hyper-spectral Remote Sensing and it	2	0+2+0
CUAS2025	Project	4	0+0+4
CTCU2030	**Cloud Technology**	**18**	4--8--6
CUCT2030	AWS Solution Architect (SAA-CO2)	6	2+4+0
CUCT2031	AWS Developer (DVA-CO1)	6	2+4+0
CUCT2032	Project	6	0+0+6

CSCU2040	**Cyber Security**	**24**	8+10+6
CUCS2040	Linux Administration	4	2+2+0
CUCS2041	Advanced Hacking Techniques	5	2+3+0
CUCS2042	System and Network Security	5	2+3+0
CUCS2043	IT Data Security	4	2+2+0
CUCS2044	Project	6	0+0+6
ESCU2050	**Embedded System Design**	**18**	3+9+6
CUES2050	Micro-Controller Based Embedded System Design	4	1+3+0
CUES2051	Real-Time Operating System and	4	1+3+0
CUES2052	Embedded Linux on ARM	4	1+3+0
CUES2053	Project	6	0+0+6
ARCU2060	**Gaming and Immersive Learning (AR & VR)**	**20**	5+5+10
CUAR2060	Introduction to Gaming & Simulation	2	1+1+0
CUAR2061	Game Assets & Game Objects	3	1+1+1
CUAR2062	Building Game Environment	3	1+1+1
CUAR2063	Game Animation, Scripting & UI	3	1+1+1
CUAR2064	Binary Deployment and Cross-Platform Controls	3	1+1+1
CUAR2065	Project	6	0+0+6
VLCU2070	**Chip Design and Fabrication using VLSI**	**18**	6+6+6
CUVL2070	ASIC Design	3	2+1+0
CUVL2071	Digital VLSI	4	2+2+0
CUVL2072	Analog VLSI	3	2+1+0
CUVL2073	Verification Using System Verilog	2	0+2+0
CUVL2074	Project	6	0+0+6
CSCU2080	**Communication Systems**	**18**	4+8+6
CUCS2086	Optics and Wireless Sensor Networks	3	1+2+0
CUCS2081	Satellite & TV Communications	3	2+1+0
CUCS2087	Cell site and BTS Installation	3	0+3+0
CUCS2084	Microwave & RADAR Communication	3	2+1+0
CUCS2085	Project	6	0+0+6
EGCU2090	**Operation and Maintenance of Electrical Grid System &**	**24**	6+14+4
CUEG2090	Introduction, Power Scenario, Power Quality & Fault clearance	2	1+1+0
CUEG2091	Switchyard & substation Networks	3	1+2+0
CUEG2092	Protection scheme & Switchgear	3	1+2+0
CUEG2093	Cable system & Testing	3	1+2+0
CUEG2094	Power Markets	1	1+0+0
CUEG2095	Grid Safety	2	0+2+0
CUEG2096	Transformer Manufacturing	6	1+5+0
CUEG2097	Project	4	0+0+4
IACU2100	**Industrial Automation**	**24**	5+9+10
CUIA2100	Introduction to Industrial	1	1+0+0
CUIA2101	Advanced Programming & Control Blocks of PLC	3	1+2+0

CUIA2102	Control & Signal Wiring of PLC	2	0+2+0
CUIA2103	SCADA based advanced features	2	1+1+0
CUIA2104	SCADA & PLC based sequential	1	0+1+0
CUIA2105	Human Machine Interface	3	1+2+0
CUIA2106	OPC server base data fetching &	2	1+1+0
CUIA2107	Project	6	0+0+6
CUIA2108	Internship	4	0+0+4
CUCP2110	**Construction Planning Monitoring and Project Management**	**16**	4+8+4
CUCP2110	Study of Drawings and Plan	3	2+1+0
CUCP2111	Project Scheduling &Management	2	0+2+0
CUCP2112	Site Study And Study on Contract	3	2+1+0
CUCP2113	Concepts Of Quality Control and	2	0+2+0
CUCP2114	Quantity Estimation and Equipment Management	2	0+2+0
CUCP2115	Site Supervision Project	4	0+0+4
SDCU2120	**Architectural and Structural Design**	**20**	0+15+5
CUSD2120	Critical Thinking and Presenting it with	3	0+3+0
CUSD2121	Scope to Enrich by Exposing them to BIM	5	0+5+0
CUSD2122	Design and Failure Analysis of	5	0+5+0
CUSD2123	Amalgamation of Architecture and Civil	2	0+2+0
CUSD2124	Project	5	0+0+5
CDCU2130	**Composite Design and**	**24**	6+12+6
CUCD2130	Introduction to composites	2	2+0+0
CUCD2131	Composite materials and characterization	2	0+2+0
CUCD2132	CATIA-Composites Design	4	0+4+0
CUCD2133	Composite Product Validation; Simulia	4	0+4+0
CUCD2134	Machineries and Technologies used for	2	2+0+0
CUCD2135	Quality control and Fabrication of Composite Structure	4	2+2+0
CUCD2136	Project	6	0+0+6
GMCU2140	**GO-TO-MARKET**	**22**	4+10+8
CUGM2140	Design Thinking and Managing Innovation	3	1+2+0
CUGM2141	PLM Tools on Dassault Platform	8	2+6+0
CUGM2142	Process Management (Using Enovia)	3	1+2+0
CUGM2143	Product Development	8	0+0+8
CMCU2150	**Manufacturing (Conventional, CNC and Additive)**	**26**	2+16+8
CUCM2150	Manufacturing Requirements and	2	2+0+0
CUCM2151	Conventional Machining for Cylindrical and	6	0+4+2
CUCM2152	CNC Machining	8	0+6+2
CUCM2153	Non-Traditional Machining and 3D	4	0+2+2
CUCM2154	Wood Engineering	2	0+2+0
CUCM2155	Internship	4	0+0+4
WICU2160	**Welding and Inspection**	**22**	8+8+6

CUWI2160	Joining Processes and Technology	6	2+2+2
CUWI2161	Metal Transfer and Weld Metallurgy	4	2+2+0
CUWI2162	Design of Welded Joints	6	2+2+2
CUWI2163	Testing of Welded Joints	6	2+2+2
AECU2170	**Automobile Engineering**	**24**	7+7+10
CUAE2170	Introduction to Automobile	3	2+1+0
CUAE2171	Subsystems of Automobile	5	3+2+0
CUAE2172	Electric Vehicles	3	2+1+0
CUAE2173	Maintenance of Automobile	3	0+3+0
CUAE2174	Project	6	0+0+6
CUAE2175	Internship	4	0+0+4
CFCU2180	**Computational Fluid Dynamics**	**20**	**2+10+8**
CUCF2180	Introduction to CFD	3	2+0+1
CUCF2181	Grid Generation	2	0+2+0
CUCF2182	Flow Solver Techniques-Simulia	4	0+3+1
CUCF2183	Simulation and Validation	5	0+5+0
CUCF2184	Industry Specific Project and/or	6	0+0+6
RECU2190	**Renewable Energy Applications**	22	4+8+10
CURE2190	Materials for Renewable Energy	2	1+1+0
CURE2191	Renewable Energy Technology for Industrial Process	3	1+2+0
CURE2192	Micro-grid Design & Implementation	2	0+2+0
CURE2193	Hybrid Renewable Energy Systems	3	1+2+0
CURE2194	Solar Off-grid Entrepreneur	2	1+1+0
CURE2195	Project	6	0+0+6
CURE2196	Internship	4	0+0+4
DACU2200	**Data Analytics**	**20**	0+14+6
CUDA2206	Data Driven Business	1	0+0+1
CUDA2207	Exploring Data Science	4	0+2+2
CUDA2208	Data Exploration	3	0+1+2
CUDA2209	Applied Data Science Project	4	0+0+4
CUDA2210	Data Analytics for Decision Making	3	0+2+1
CUDA2211	Natural Language Processing with Sci	2	0+1+1
CUDA2212	Dashboarding	3	0+2+1
BACU2210	**Business Analytics**	**21**	0+12+6
CUBA2215	Data Driven Business	1	0+0+1
CUBA2216	Exploring Data Science	2	0+1+1
CUBA2217	Data Exploration	1	0+1+0
CUBA2218	Applied Data Science Project	2	0+0+2
CUBA2211	Business analytics through Excel	3	0+2+1
CUBA2210	Marketing Analytics	3	0+2+1
CUBA2212	Financial Analytics	3	0+2+1
CUBA2213	Agriculture Analytics	3	0+2+1
CUBA2214	HR Analytics	3	0+2+1
FMCU2220	**Smart Farm Machinery**	**28**	6+9+13
CUFM2220	Product Development Brief	2	0+1+1
CUFM2221	Sensor, Actuators and Robot Operating Systems	4	2+2+0
CUFM2222	Farm Machinery Design	3	2+0+1

CUFM2223	Piloting a Drone	3	1+2+0
CUFM2224	PLM using Dassault Tools	3	1+2+0
CUFM2225	Testing of Farm Machinery	3	0+2+1
CUFM2226	Product Development Project	10	0+0+10
OFCU2230	**Organic Farming**	**29**	3+15+11
CUOF2230	Organic Farming	3	1+2+0
CUOF2231	Certification and Inspection Systems in Organic Farming in India	3	1+2+0
CUOF2232	Biopesticides and Biofertilizers	3	1+2+0
CUOF2233	Organic Production- Field Crops	3	0+3+0
CUOF2234	Organic Production- Horticultural	3	0+3+0
CUOF2235	Biofertilizer and Biopesticide Production Technology	3	0+3+0
CUOF2236	AELP Project	11	0+0+11
DPCU2240	**Dairy Processing and Development**	**28**	3+15+10
CUDP2240	Milk Processing in Dairy Industry	3	1+2+0
CUDP2241	Dairy Starters in Fermented Milk	3	1+2+0
CUDP2242	Quality Assurance in Dairy Industry	3	1+2+0
CUDP2243	Dairy Products Development	3	0+3+0
CUDP2244	Symbiotic Dairy Foods	3	0+3+0
CUDP2245	Quality Analysis of Milk and Milk	3	0+3+0
CUDP2246	Project & Industrial Internship	10	0+0+10
AQCU2250	**Intensive Aquaculture**	**29**	3+15+11
CUAQ2250	Intensive Fish Rearing	3	1+2+0
CUAQ2251	Ornamental Fish Farming	3	1+2+0
CUAQ2252	Biofloc Aquaculture	3	1+2+0
CUAQ2253	Framing of SOPs for Intensive Fish Culture	3	0+3+0
CUAQ2254	Health Management in Aquaculture	3	0+3+0
CUAQ2255	Feed Management in Aquaculture	3	0+3+0
CUAQ2256	Aquaculture Rearing	11	0+0+11
SPCU2260	**Seed Production using Manual and Molecular Methods**	**29**	3+15+11
CUSP2260	Breeding methods: Conventional and Molecular Approach	3	1+2+0
CUSP2261	Seed Production of Vegetable and Cereals Crops	3	1+2+0
CUSP2262	Seed Certification	3	1+2+0
CUSP2263	Hybridization Techniques	3	0+3+0
CUSP2264	Vegetable Seed Production	3	0+3+0
CUSP2265	Cultivar Purity and Seed Quality	3	0+3+0
CUSP2266	AELP Project	11	0+0+11
GECU2270	**Genetic Engineering & Genomics**	**29**	3+15+11
CUGE2270	Computational Biology	3	1+2+0
CUGE2271	Genetic Engineering and its	3	1+2+0
CUGE2277	Genetics and Genomics	3	1+2+0
CUGE2273	Molecular Genomics	3	0+3+0
CUGE2274	Plant Tissue Culture Technologies	3	0+3+0
CUGE2275	Techniques in Molecular Biology	3	0+3+0

CUGE2276	AELP Project	11	0+0+11
NUCU2280	**Nutraceuticals**	**29**	3+9+17
CUNU2280	Introduction to Nutraceutical	3	1+2+0
CUNU2281	Functional Food	3	1+2+0
CUNU2282	Nutrigenetics	3	1+2+0
CUNU2283	Development of Personalized Food and Medicine	3	0+1+2
CUNU2284	Development of Biopesticides and Biofertilizers	3	0+1+2
CUNU2285	Development of Immune Boosters	3	0+1+2
CUNU2286	AELP Project	11	0+0+11
AGCU2290	**SMART Agriculture**	**29**	**3+6+20**
CUAG2290	Applied Hi-tech Horticulture	3	1+2+0
CUAG2291	Protected Cultivation of Vegetable	3	1+2+0
CUAG2292	High-tech Fruit Culture	3	1+2+0
CUAG2293	Management of High-value Cut-	3	0+3+0
CUAG2294	Management of Crops in	3	0+3+0
CUAG2295	Use of Smart Tools for Precision Crop Management	3	0+3+0
CUAG2296	AELP Project	11	0+0+11
PHCU2300	**Protected Horticulture**	**29**	3+15+11
CUPH2300	Applied Hi-tech Horticulture	3	1+2+0
CUPH2301	Protected Cultivation of Vegetable	3	1+2+0
CUPH2302	High Tech Fruit Culture	3	1+2+0
CUPH2303	Production Technology of Cut Flowers & Loose Flowers	3	0+3+0
CUPH2304	Protected Floriculture	3	0+3+0
CUPH2305	Production Management of Medicinal and Aromatic Crops	3	0+3+0
CUPH2306	AELP Domain	11	0+0+11
FPCU2310	**Food Processing**	**29**	3+15+11
CUFP2310	Processing Technology of Cereals	3	1+2+0
CUFP2311	Processing Technology of Legumes and Oilseeds	3	1+2+0
CUFP2312	Processing Technology of Fruits, Vegetables,	3	1+2+0
CUFP2313	Product Development and Packaging Technologies	3	0+3+0
CUFP2314	Food Standards and Regulations and HACCP Systems	3	0+3+0
CUFP2315	Sensory Evaluation and Nutritional Labelling of Foods	3	0+3+0
CUFP2316	AELP Project	11	0+0+11
ABCU2320	**Agri Business Management**	**23**	2+0+21
CUAB2320	Agri Food Markets and Value Chain	3	1+0+2
CUAB2321	Agri Input Marketing	3	1+0+2
CUAB2322	Rural Haat and Market Analysis	2	0+0+2
CUAB2323	Community Owned and Managed Agri Businesses	2	0+0+2
CUAB2324	Agri Warehouse Management	2	0+0+2

CUAB2325	Sales and Distribution of Agrifood	11	0+0+11
FSCU2330	**Commodity and Food Storage**	**29**	3+15+11
CUFS2330	Storage Entomology	3	1+2+0
CUFS2331	Seed Pathology	3	1+2+0
CUFS2332	Post-harvest Biochemistry and Physiology of Crops	3	1+2+0
CUFS2333	Recent Trends in Post-harvest	3	0+3+0
CUFS2334	Pest Management Techniques in	3	0+3+0
CUFS2335	Post-harvest Storage of Fruits and	3	0+3+0
CUFS2336	AELP Project	11	0+0+11
SWCU2340	**Soil and Water Conservation through Watershed**	**28**	4+11+13
CUSW2340	Rainwater Harvesting and Artificial	3	1+2+0
CUSW2341	Integrated Watershed Management	3	2+1+0
CUSW2342	Sustainable Watershed	3	1+2+0
CUSW2343	R programming in Watershed	3	0+2+1
CUSW2344	Modelling and Simulation of Watershed Processes	3	0+2+1
CUSW2345	Geo-spatial Application in Watershed Management	3	0+2+1
CUSW2346	Industrial Internship	10	0+0+10
FTCU2350	**Fish Processing Technology**		
CUFT2350	Post harvest handling and processing of fish and shellfish	3	1+2+0
CUFT2351	Design, maintenance of fish processing plant and	3	1+2+0
CUFT2352	Quality assurance, management and certification	3	1+2+0
CUFT2353	Fish and shellfish waste	3	0+3+0
CUFT2354	Microbiological analysis of fish and fisheries products	3	0+3+0
CUFT2355	Biochemical analysis of fish and fisheries product	3	0+3+0
CUFT2356	Preparation of different fisheries products and quality	11	0+0+11
DFCU2360	**Cyber Security and Digital Forensic**	20	
CUDF2360	Security Risk Assessment (Ethical	4	2+2+0
CUDF2361	Proactive Defence and	4	1+1+2
CUDF2362	Information and Network Security	4	2+2+0
CUDF2363	Cyber Hacking & Forensic Investigator	4	1+1+2
CUDF2364	Project	4	0+0+4
PCCU2370	**Pharmaceutical Chemistry**	**20**	
CUPC2370	Physical Chemistry of	4	2+2+0
CUPC2371	Essentials of Pharmaceutical	4	2+2+0
CUPC2372	Analytical Techniques for Pharmaceutical Drugs	4	2+2+0
CUPC2373	Extraction and Isolation of Drugs	2	0-2-0
CUPC2374	Project	6	0-0-6

HCCU2380	**Health Care Assistancy**	**25**	
CUHC2381	Laboratory Diagnosis of Diseases	5	1+3+1
CUHC2382	Health Care Assistancy	4	1+3+0
CUHC2383	Infection Control Policy	3	2+1+0
CUHC2384	Drug Abuse and Stress Management	3	2+0+1
CUHC2385	Organization of Health Industries	5	2+0+3
CUHC2386	Project	5	0+0+5
MSCU2390	**Manufacturing Execution System**	**18**	
CUMS2390	Introduction to MES	2	2+0+0
CUMS2391	Delmia Apriso	4	0+2+2
CUMS2392	Internet of Things	6	2+4+0
CUMS2393	Project	6	0+0+6
VPCU2400	**Advance Video Processing, Computer Vision and Machine**	30	6+6+6
CUVP2400	Image Processing, Computer Vision, Video Processing	6	2+2+2
CUVP2401	Advanced Video Processing and Its	6	3+3+0
CUVP2402	Machine Learning and ANN	4	2+2+0
CUVP2403	Embedded Hardware Board	4	2+2+0
CUVP2404	Control System	4	2+2+0
CUVP2405	Project	6	0+0+6

Domains offered for Management and Commerce Disciplines

Finance Domain				
Sl. No.	**Code**	**Course**	**Credit**	**T+P+P**
1	CUTM1226	Financial Institutions, Markets & Services	6	4+0+2
2	CUTM1227	Commercial Banking and ALM	6	4+0+2
3	CUTM1228	Security Analysis And Portfolio Management	6	2+0+4
4	CUTM1229	Project Appraisal & Financing	6	2+2+2
5	CUTM1231	Financial Analysis and Visualization	6	2+0+4
Marketing Domain				
Sl. No.	**Code**	**Course**	**Credit**	**T+P+P**
1	CUTM1235	Services & Financial Services Marketing	6	2+2+2
2	CUTM1236	Brand Management & Consumer Behaviour	6	3+3+0
3	CUTM1237	Digital Marketing & Marketing Communications	6	3+0+3
4	CUTM1238	Retail & Etail Management	6	3+0+3
5	CUTM1239	B2B Marketing	6	3+3+0
Banking and Accounting Domain				
Sl. No.	**Code**	**Course**	**Credit**	**T+P+P**
1	CUBC2433	Introduction to Banking	2	1+0+1
2	CUBC2434	Banking Law & Practice	4	3+0+1
3	CUTM1226	Financial Institutions, Markets & Services	6	4+0+2
4	CUTM1689	Auditing and Corporate Governance	6	4+0+2
5	CUTM1955	Advanced Corporate Accounting	6	4+0+2

ANNEXURE-3: Details of the Skill Courses

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM3121	3D Game Art	4	0+3+1
2	CUTM3135	3D Modelling and Printing	4	0+2+2
3	CUTM3114	Adobe Tools and Illustrations	4	0+3+1
4	CUTM3143	Agrivoltaic Technology	4	0+3+1
5	CUTM3031	Apparel Production	4	0+3+1
6	CUTM3029	Apparel Production & Marketing	4	0+3+1
7	CUTM3146	Aquarium fish Keeping	4	0+3+1
8	CUTM3148	Art of officiating in sports	4	0+3+1
9	CUTM3164	Artificial Intelligence in Materials Science	4	0+2+2
10	CUTM3147	Badminton	4	0+3+1
11	CUTM3149	Basic analytical chemistry	4	0+3+1
12	CUTM3068	Basketball	4	0+3+1
13	CUTM3160	Big data analytics	4	0+2+2
14	CUTM3103	Bio fertilisers preparation	4	0+3+1
15	CUTM3154	Biopesticide Production	4	0+2+2
16	CUTM3142	Brew Master	4	0+3+1
17	CUTM3095	Business Plan Preparation	4	0+3+1
18	CUTM3152	Cactus and Succulent Grafting and Propagation	4	0+3+1
19	CUTM3053	Camera Operation	4	0+3+1
20	CUTM3039	CNC Machinist	4	0+3+1
21	CUTM3040	CNC Programming (CAM)	4	0+3+1
22	CUTM3151	Coffee and Cocoa Cultivation	4	0+3+1
23	CUTM3158	Commercial Entomology	4	0+2+2
24	CUTM3098	Composite fabrication practice	4	0+3+1
25	CUTM3120	Computer Installation and Maintenance	4	0+3+1
26	CUTM3132	Concrete paver Manufacturing	4	0+2+2
27	CUTM3085	Dairy Farming	4	0+3+1
28	CUTM3096	Dairy Plant operation	4	0+3+1
29	CUTM3041	Design Supervising Wooden and Modular Furniture	4	0+3+1
30	CUTM3055	Desktop Publishing	4	0+3+1
31	CUTM3127	Development of Processor (Shakti)	4	0+2+2
32	CUTM3162	Diabetes Educator	4	0+3+1
33	CUTM3115	Digital Painting	4	0+3+1
34	CUTM3122	Drug Design using Biovia Discovery Studio	4	0+3+1
35	CUTM3054	Editor	4	0+3+1
36	CUTM3089	Electrical Installation	4	0+3+1
37	CUTM3058	Emergency Medical Technology	4	0+3+1
38	CUTM3037	E-Vehicle Assembly and Service Technology	4	0+3+1
39	CUTM3129	Extraction Technologies	4	0+2+2
40	CUTM3046	Fabrication	4	0+3+1
41	CUTM3100	Farm appliances operation	4	0+3+1
42	CUTM3063	First Aid Service	4	0+3+1

43	CUTM3159	Fish histopathology	4	0+2+2
44	CUTM3033	Fork Lift Operation	4	0+3+1
45	CUTM3036	Four Wheeler Service Technology	4	0+3+1
46	CUTM3097	Fruit processing with dryers	4	0+3+1
47	CUTM3130	Gamified DIY kits using Lasers	4	0+2+2
48	CUTM3064	General Duty Assistance Service	4	0+3+1
49	CUTM3134	GIS and Remote Sensing: Application Development	4	0+2+2
50	CUTM3133	GIS and Remote Sensing: Applications in Participatory Natural Resource Management	4	0+2+2
51	CUTM3150	Green synthesis	4	0+3+1
52	CUTM3069	Gym Fitness	4	0+3+1
53	CUTM3034	Heavy Vehicle Technology	4	0+3+1
54	CUTM3047	Hi-Tech Surveying	4	0+3+1
55	CUTM3161	Home Health Care Aide	4	0+3+1
56	CUTM3157	Hybrid seed production of vegetables	4	0+2+2
57	CUTM3083	Hydroponics Technology	4	0+3+1
58	CUTM3048	Internet of Things	4	0+3+1
59	CUTM3145	Introduction to Apiculture	4	0+2+2
60	CUTM3125	Introduction to Aquaponics	4	0+3+1
61	CUTM3056	Introduction to Blender and Unity tools	4	0+3+1
62	CUTM3105	Introduction to Block Chain Technology	4	0+3+1
63	CUTM3108	Introduction to Computational Biology	4	0+3+1
64	CUTM3051	Introduction to Nanotechnology	4	0+3+1
65	CUTM3107	Introduction to NLP	4	0+3+1
66	CUTM3106	Introduction to Nutraceuticals	4	0+3+1
67	CUTM3079	Introduction to Quantum Computing	4	0+3+1
68	CUTM3032	Light Motor Vehicle Driving	4	0+3+1
69	CUTM3030	Line Stitching Supervising	4	0+3+1
70	CUTM3049	Mechatronics System Design	4	0+3+1
71	CUTM3124	Medical Diagnostic Techniques	4	0+3+1
72	CUTM3059	Medical Lab Technology	4	0+3+1
73	CUTM3082	Mushroom Farming	4	0+3+1
74	CUTM3110	New material development with Biovia	4	0+3+1
75	CUTM3156	Nursery Management	4	0+2+2
76	CUTM3060	Operating Theatre Technology	4	0+3+1
77	CUTM3123	Opthalmic Lens and spectacle manufacturing Techniques	4	0+3+1
78	CUTM3081	Organic Farming	4	0+3+1
79	CUTM3094	Paddy Processing and marketing	3	0+3+1
80	CUTM3104	PCB designing & fabrication	4	0+3+1
81	CUTM3062	Phlebotomy Technology	4	0+3+1
82	CUTM3050	Plant/Drug Research using Biovia	4	0+3+1
83	CUTM3126	Polyhouse Automation	4	0+2+2
84	CUTM3084	Poultry Farming	4	0+3+1
85	CUTM3045	Precast Concrete Manufacturing	4	0+3+1
86	CUTM3061	Radiology Technology	4	0+3+1
87	CUTM3057	Refraction Technology	4	0+3+1

88	CUTM3091	Refrigeration and air conditioning	4	0+3+1
89	CUTM3090	Repair and Maintenance of Home Appliances	4	0+3+1
90	CUTM3067	Retail Sales	4	0+3+1
91	CUTM3038	Robotics	4	0+3+1
92	CUTM3112	Satellite data processing	4	0+3+1
93	CUTM3093	Seed production - Paddy	4	0+3+1
94	CUTM3144	Simulation based radiation Physics	4	0+2+2
95	CUTM3155	Soil and water testing	4	0+2+2
96	CUTM3077	Solar Driven Equipment Assembly	4	0+3+1
97	CUTM3074	Solar Lighting Technology	4	0+3+1
98	CUTM3073	Solar PV Installation	4	0+3+1
99	CUTM3076	Solar PV Microgrid System	4	0+3+1
100	CUTM3078	Solar Thermal Engineering	4	0+3+1
101	CUTM3102	Solid Waste management	4	0+3+1
102	CUTM3153	Spawn production	4	0+2+2
103	CUTM3111	Spectral image processing using Python	4	0+3+1
104	CUTM3128	Spectroscopy	4	0+2+2
105	CUTM3092	Super critical Co2 plant operation	4	0+3+1
106	CUTM3070	Swimming	4	0+3+1
107	CUTM3087	Transformer Manufacturing, Repairing and Maintenance	4	0+3+1
108	CUTM3035	Two Wheeler Service Technology	4	0+3+1
109	CUTM3086	Vermicomposting Farming	4	0+3+1
110	CUTM3131	VR Assets Development	4	0+2+2
111	CUTM3065	X- ray Technology	4	0+3+1
112	CUTM3072	Yoga & Meditation	4	0+3+1

ANNEXURE-4: Details of the other Courses

a. Ability enhancement courses

Course Code	Course Title	Credit	Type (T+P+Pj)
CUTM1016	Job Readiness	6	0+0+6

b. Value added courses

Sl. No.	Course Code	Course Title	Credit	Type (T+P+Pj)
1	CUTM1010	Environmental Science	2	0+0+2
2	CUTM1014	Gender and Human Rights	3	1.5+0+1.5
3	CUTM1187	Indian Society and Culture	2	1+0+1
4	CUTM1015	Climate Change and Sustainability	3	1.5+0+1.5