**PANDIT SUNDARLAL SHARMA (OPEN) UNIVERSITY CHHATTISGARH**

**PROGRAMME PROJECT REPORT (PPR)**

**PROGRAMME: BACHELOR OF SCIENCE (HONOURS)**

(4 Year Under Graduate Programme)

1. **Programme Mission and Objective:** Bachelor of Science (Honours) Programme is designed through distance mode is guided by the provisions outlined in the National Education Policy 2020. The primarily objective is to promote the scientific temperament of the learners in higher education by providing easy access to all those learners to improve their qualification, skills and competence. The education in Bachelor of Science (Honours) will be under the following core subjects, which combines theory and practical:
    - B.Sc.(Honours) in Mathematics,
    - B.Sc.(Honours) in Physics,
    - B.Sc.(Honours) in Zoology,
    - B.Sc.(Honours) in Botany,
    - B.Sc.(Honours) in Chemistry, and
    - B.Sc.(Honours) in Computer Science.

    The Programme Structure is described in section 6. Details of Core Courses lists are attached in annexure I to VI, while list of Generic Elective courses, Ability Enhancement Courses, Value Added Courses, and Skill Enhancement Courses are attached in annexure VII to X.

    Following are the broader objectives of the programme:

    i. To educate and create the prospective and diverse group of learners of Chhattisgarh with knowledge, analytical ability and importance of Mathematics, Physics, Chemistry, Zoology, Botany and Computer Science and skills needed to provide leadership to society.

    ii. To be prepared for a lifelong career with primary processing acquiring the skills and experience to undertake appropriate research and study of Physics, Chemistry, Computer Science, Zoology, Botany and Mathematics.

iii. To make the learners aware of changing environment and scope, in the field of Physics, Chemistry, Zoology, Botany, Computer Science and Mathematics to operate in a competitive environment and to choose the discipline as a career for industry and entrepreneurship.

iv. To seek continuous improvement in individual learning skills and personal development and to work with confident self-direction and originality so as to make a meaningful contribution to society in the field of science.

v. The overall objective of the programme is to encourage and boost the learners towards post graduate programme and scientific visualization.

2. **Relevance of the Program with HEI's Mission and Goals:** Pandit Sundarlal Sharma (Open) University Chhattisgarh is committed to endow with assure quality of scientific education to tribal area of learner where regular form of education cannot reach. In the line of the mission of the University, this programme will provide ample of opportunities to those rural and backward learners who are deprived of Science education and cannot find a place in regular education system. Apart from that it is also open to those who wish to continue their learning irrespective of their rural background and economically poor families.

3. **Nature of Prospective Target Group of Learners:** The prospective learners can be 10+2 learners of science background.

4. **Appropriateness of programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence:** Bachelor of Science (Honours) is one of the suitable course/programme to be offered through Open and Distance Learning mode. The theory and practical knowledge can be thoroughly captured by the learners to acquire the capability which will make them trained for self-employment as per the market demand.

5. **Instructional Design:**

Instructional design is a systematic and scientific approach that incorporates principles for the effective creation and implementation of educational programs. In the context of distance learning, instructional design holds particular significance. Successful distance learning design caters to the distinct learning needs of adult learners. Before course development begins, a thorough curriculum assessment is conducted, followed by the

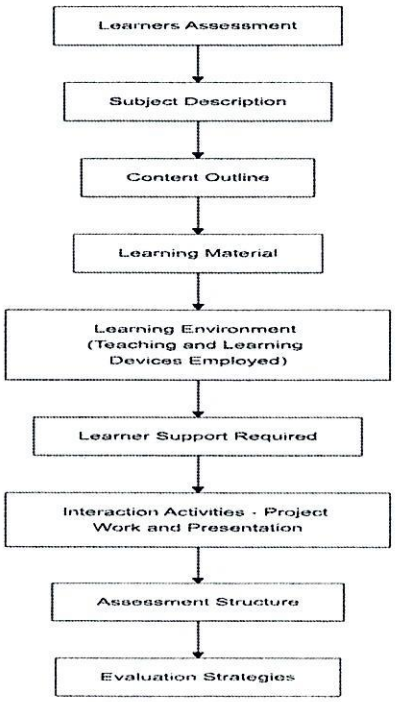
application of appropriate access devices and pedagogical tools to construct the curriculum.

Each course's content is systematically organized into Blocks and Units, with the study material segmented into smaller, manageable sections to accommodate distance learners effectively. To support self-assessment, self-check exercises are integrated throughout the study material. These exercises enable learners to review, consolidate, and evaluate their understanding of the content before progressing further.

Further, various theories and models are referred for designing effective instructional events, some are specified as under:

- Learning objectives
- Self-Check Exercises
- Learning through Modules
- In-depth Learning
- Reference Texts
- Real World Contexts
- Real World Examples

The programme has been developed on the basis of the following sequential steps:



## 6. Curriculum Design:

**Curriculum Design** is the systematic organization and development of educational programs to meet specific academic, professional, or developmental objectives. It involves the careful planning of various components such as duration, credit allocation, course structure, learning methodologies, means of delivery, and faculty requirements to ensure an effective and holistic learning experience for the target audience. The curriculum design of Bachelor of Science (Honours) programme can be stated under the following headings:

i. **Duration and Credit:** The Programme spans Four Years and is divided into Eight Semesters. In Three year (six semesters) duration it offers a total of 122 credit to award a Degree in Bachelor of Science in Major discipline, while it offers a total of 162 credits in Four year (eight semesters) duration to award a Degree in Bachelor of Science (Honours) in Major discipline, with each semester providing at least 20 credits. The programme includes defined exit points at the end of the second, fourth, sixth, and eighth semesters. Detailed information about these exit points and credit distribution is outlined in the Programme structure.

ii. **Medium:** The course material for Bachelor of Science (Honours) programme will be in Hindi/English language. However, Learners can opt either English or Hindi language for answering the questions in the examination.

iii. **Curriculum Framework: Definitions**

**Semester/Credits**

- **Semester Duration:** Each semester at Pandit Sundarlal Sharma (Open) University consists of 90 working days, and an academic year is divided into two such semesters.
- **Internship:** A Four-week term during the vacation allows for internships/ apprenticeships/ vocational training/ Community engagement & services, particularly beneficial for learners of sixth semester.

**Major and Minor Disciplines**

- **Major Discipline:** The major is the primary field of study, and the degree is awarded in this discipline. Learners must secure approximately 50% credit or more from core courses out of the total credits.

- **Minor Discipline:** A minor provides a secondary focus, broadening the learner's academic scope. A learner could earn a minor in a subject by securing a minimum of 12 credits in this discipline.

**Awarding UG Certificate, UG Diploma, and Degrees**

- **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-Year UG Degree:** Students who wish to undergo a 3-year UG Programme will be awarded UG Degree in the Major discipline after successful completion of three years, securing minimum 120 credits.
- **4-Year UG Degree (Honours):** Four-year UG Honours Degree in the major discipline will be awarded to those who complete a four-year degree programme with minimum 160 credits.

**Interdisciplinary and Multidisciplinary Programmes**

**Interdisciplinary UG Programmes**

Interdisciplinary programs involve a blend of courses from related fields to ensure comprehensive expertise upon graduation. The credits for core courses shall be distributed among the constituent disciplines/subjects so as to get core competence in the interdisciplinary programme.

**Multidisciplinary UG Programmes**

These programs allow learners to engage with multiple disciplines, providing a broad educational foundation. In the case of students pursuing a multidisciplinary

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programme of study, the credits to core courses will be distributed among the broad disciplines such as Sciences, Life sciences etc.

The statutory bodies of the University such as the Board of Studies and Academic Council will decide on the list of courses under major category and credit distribution for interdisciplinary and multidisciplinary programmes.

**iv. Programme Structure:**

The structure of the 4 Year Undergraduate Programme at Pandit Sundarlal Sharma (Open) University Chhattisgarh, detailing the minimum credit requirements for Bachelor of Science (Honours) is given below:

| PANDIT SUNDARLAL SHARMA (OPEN) UNIVERSITY CHHATTISGARH BILASPUR, PROPOSED STRUCTURE FOR SEMESTER WISE DISTRIBUTION OF CREDITS OF UNDER GRADUATE PROGRAM UNDER NEP 2020 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Semester | Discipline Specific Courses (DSCs) Each 4 credits | Discipline Specific Electives (DSEs) Each 4 credits | Generic Electives (GEs) Each 3 credits | Ability Enhancement Courses (AEC) Each 3 credits | Value Added Courses (VAC) Each 2 credits | Skill Enhance ment Courses (SDC) Each 4 credits | Internship/ Apprenticeship/ Vocational Training/ Community Engagement & Services | Grand total (credit) |
| I | DSC 1 DSC 2 | DSE 1 | GE 1 | AEC 1 | VAC 1 | X | X | 20 |
| II | DSC 3 DSC 4 | DSE 2 | GE 2 | AEC 2 | X | SEC 1 | X | 22 |
| LEVEL 4.5 EXIT 1 UG CERTIFICATE | | | | | | | | |
| III | DSC 5 DSC 6 | DSE 3 | GE 3 | AEC 3 | VAC 2 | X | X | 20 |
| IV | DSC 7 DSC 8<br>DSC 9 | DSE 4 | X | X | X | SEC 2 | X | 20 |
| LEVEL 5 EXIT 2 UG DIPLOMA | | | | | | | | |
| V | DSC 10 DSC 11<br>DSC 12 | DSE 5 | X | X | X | SEC 3 | X | 20 |
| VI | DSC 13 DSC 14<br>DSC 15 | DSE 6 | X | X | VAC 3 | X | Internship/Community Engagement & Service (2 C) | 20 |
| | 60 Credits | 24 Credits | 9 Credits | 9 Credits | 6 Credits | 12 credits | 2 Credits | 122 Credits |
| LEVEL 5.5 EXIT 3 UG DEGREE | | | | | | | | |
| VII | DSC(H) 16 DSC(H)17<br>DSC(H) 18 DSC(H)19 | DSE 7 | X | X | X | X | X | 20 |
| VIII | DSC(H) 20 DSC(H)21<br>DSC(H) 22 DSC(H)23 | DSE 8 | X | X | X | X | X | 20 |
| | 92 Credits | 32 Credits | 9 Credits | 9 Credits | 6 Credits | 12 credits | 2 Credits | 162 Credits |
| LEVEL 6 EXIT 4 UG DEGREE HONOURS | | | | | | | | |

**Provisions for opting various courses**

- From semester I to semester VI, learner have to study 15 DSC courses, 06 DSE courses, 03 GE courses, 03 AEC courses, 03 VAC courses, 03 SEC courses and one Internship/Apprenticeship/ Vocational Training/ Community Engagement & Services.

- In IV, V, VI semester, Learners will be required to opt for one specific subject as DSC, out of those opted previously by him in semester I, II and III as DSC/DSE. This selected subject will be for courses DSC-9, DSC-12 and DSC-15 respectively. Learners having successfully accomplished VI semester, will have three subjects of study as DSC/DSE. Out of these three subjects, two subjects will account for six courses each and the third subject will account for nine courses. Learners will be allowed to continue for honours in VII and VIII Semesters with the subject where he/she has studied and accomplished nine courses.
- The list of courses which is to be offered in a specific discipline for **Discipline Specific Courses (DSC)** will be given by respective department concern of the university.
- The list of courses which is to be offered in **Discipline Specific Elective (DSE)** will be offered by various School of Studies/Faculties. This list will be offered subject wise and on the basis of various semesters. The learners can opt from the basket of offered subjects, provided that he/she has to continue with the same subject form I to VI semester, thereby studying six courses of specific opted subject.
- The list of courses which is to be offered in **Generic Elective (GE) Course** shall be given by various School of Studies/Faculties. Learners can opt from the basket of offered courses provided that he/she shall not continue to opt for those courses which are offered by School/Faculty as **Discipline Specific Course (DSC)** which the learner has opted earlier.
- The list of courses which is to be offered as **Ability Enhancement Course (AEC)** shall be made available to the Learners. The Learners can opt for one AEC in each semester from the offered courses.
- The list of courses which is to be offered as **Value Added Course (VAC)** shall be made available to the Learners. The Learners can opt for one VAC in each semester from the offered courses.
- The list of courses which is to be offered as **Skill Enhancement Courses (SEC)** shall be made available to the Learners. The Learners can opt for one SEC in each semester from the offered courses.
- A Four-week term during the vacation allows for internships/ apprenticeships/ vocational training/ Community engagement & services, particularly beneficial for learners of sixth semester.

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- The learner, who have obtained overall 75% and above marks in I to VI semester, shall be eligible to continue for fourth year, i.e. VII and VIII semester for honours programme.
- In VII and VIII semester, learner have to study 04 DSC courses and one DSE course in each semester, i.e. total 08 DSC courses and 02 DSE courses.

**Discipline Specific Courses (DSC) under Bachelor of Science (Honours)**

A learner can opt DSC Courses form the list of offered courses as per the provisions mentioned by the School of Science and School of Life Science under Bachelor of Science (Honours). Learners can choose Mathematics, Physics and Computer Science courses from School of Science, while they can choose Zoology, Biology and Chemistry courses from School of Life Science. Details of course lists are available in annexure I to VI.

**Discipline Specific Electives (DSE) under Bachelor of Science (Honours)**

A learner can choose a course from multiple disciplines under Discipline Specific Elective. From School of Science, Computer Science, Mathematics, and Physics courses are available as DSE courses, while from School of Life Science, Chemistry, Zoology and Botany courses are available as DSE courses. Details of course lists are available in annexure I to VI.

**Generic Elective**

A learner has to study a course from the list of Generic Electives in each semester of semester I, II, & III. A learner can choose a course from multiple disciplines provided by various Schools/ Board of studies. Details of course lists are available in annexure VII.

**Ability Enhancement Course**

A learner has to study a course from the list of Ability Enhancement Courses in each semester of semester I, II, & III. A learner can choose a course from various disciplines provided by various Schools/ Board of studies. Details of course lists are available in annexure VIII.

**Value Added Course**

A learner has to study three Value Added Courses during semester I to VI. A learner can choose a course from various disciplines provided by various Schools/ Board of studies. Details of course lists are available in annexure IX.

**Skill Enhancement Course**

A learner has to study three Skill Enhancement Courses during semester I to VI. A learner can choose a course from various disciplines provided by various Schools/ Board of studies. Details of course lists are available in annexure X.

v. **Learning Method:** The learning method developed by University will comprise of independent form of delivery and will constitute the following components:
   a) Self-Instructional text books (Self Learning Materials).
   b) Counselling and contact sessions at the study centre by the subject experts.
   c) Preparing the learners Assignment.
   d) Video & Audio Lectures.

   Contact sessions for courses shall be arranged at the Head Quarter and Learners Support centre where the Learners can solve their difficulties.

vi. **Means of Delivery:** The learners are given the syllabus of the courses and also the Self learning material. It helps the learners to study a specific topic. If the learner has any difficulty, he or she can make a note of it. They can discuss these noted difficulties with the counsellor during the contact session at the study centre.

vii. **Requirement of Faculty and Support Staff:** University shall appoint faculty and staff in specific Department/ Discipline as per the provision laid down by UGC ODL & Online Regulations.

7. **Procedure for admissions, curriculum transaction and evaluation:**

i. **Procedure of Admission:** The admission for Undergraduate Programme will be on semester basis (or as decided by the University from time to time). All the admissions for the Programme will be done through online mode. Applications will be invited by the University with in stipulated time period where Learners have to apply for the same with all their testimonials and required fees. The minimum eligibility for admission into this programme for the candidates is having passed 10+2 examination of Chhattisgarh Board of Secondary Education, Chhattisgarh or any other equivalent examination of a Board or University recognized by Pandit Sundarlal Sharma (open) University Chhattisgarh.

ii. **Curriculum Transaction:** For successful completion of the proposed programme, a candidate has to obtain minimum passing mark for each of the subjects as specified in the University ordinance.

iii. **Evaluation Pattern:** The pattern of evaluation for each course from semester I to semester VIII of Undergraduate Programme will have following three components: (a) Continuous Assessment through TMA (b) Practical Viva-Voce/ Internship (c) Term End Examination (TEE)

a) **Continuous Assessment through Tutor Mark Assignment:** For each course in every year the Learners performance will be continuously evaluated. Continuous assessment schedule and evaluation will be done by the Study Centre which will be monitored by the department concern. The Learners have to submit Tutor Mark Assignment (TMA) carrying 30 marks before the Term end examination (TEE) which will be the base of evaluation.

b) **Practical Viva Voce/ Internship:** Evaluation of this component will be based on Practical Viva-Voce/ Internship done by the Learners. Viva-voce will be conducted in the presence of an external examiner.

c) **Term End Examination (TEE):** Term End Examination (TEE) will be conducted at the end of the learning period through an examination as like other universities. Term End examination (TEE) of each course will be of 70 marks and will be on subjective mode. The questions in the examination will comprise of very short type answer, brief answers and long type answers. The structure of the examination is as under:

| Section | Total No. Of Questions | Type of Questions | Marks |
|---|---|---|---|
| A | 8 (All Compulsory Questions) | Objective Type | 1X8=8 |
| B | 6 (4 Should be answered) | Very Short Type | 2.5X 4=10 |
| C | 4 (3 Should be answered) | Short Type | 5X3=15 |
| D | 4 (2 Should be answered) | Semi Long Type | 10X2=20 |
| E | 2 (1 Should be answered) | Long Type | 17X1=17 |
| TOTAL | 24 (18 Should be answered) | | 70 Marks |

d) **University Fee Structure:** The fee structure of the Undergraduate Programme is Rs. 3000/-(Rupees Three Thousand) per Semester, with an addition fee of Rs. 300/-(Rupees Three Thousand only) per Practical Course.

8. **Requirement of the laboratory support and Library Resources:** Laboratory as per requirement of the Curriculum will be made available to the learners either at the University Head Quarter or at LSCs. Resources in the form of reference books and Journals will be made available to the Learners in the University Central library, which they can access for gaining knowledge and conceptual clarity.

9. **Cost estimate of the programme and the provisions**: For the design, development delivery and maintenance of the programme the fund will be as per the budget allocated by the University in its Annual Budget session.

10. **Quality assurance mechanism and expected programme outcomes:** The monitoring of the programme will be done on continuous basis by the department concern. Regular updating of the curriculum and syllabus will be checked by the concerned board of studies and regular monitoring will be done by Centre for Internal Quality Assurance (CIQA) of the University. Learners will be asked to provide their feedback on continuous basis to develop suitable action plans for the programme and will be duly incorporated into the teaching and delivery system.

## Annexure I

**List of Courses from Mathematicsunder Bachelor of Science (Honours)**

Lists of DSC and DSE courses from Mathematics discipline under Bachelor of Science (Honours) are given below:

| Semester | | Mathematics- Discipline Specific Courses (DSC) / Discipline Specific Elective (DSE) |
|---|---|---|
| I | DSC | Calculus |
| II | DSC | Algebra and Trigonometry |
| III | DSC | Vector analysis and geometry |
| IV | DSC | Higher calculus |
| | DSC | Abstract algebra |
| V | DSC | Differential equation |
| | DSC | Mechanics Part-02 |
| VI | DSC | Mechanics |
| | DSC | Simple statistical principles and their uses |
| VII | DSC(H) | Topology |
| | DSC(H) | Real Analysis |
| | DSC(H) | Partial Differential Equation |
| | DSC(H) | Discrete Mathematics |
| | DSE(H) | Advance Discrete Mathematics/dissertation |
| VIII | DSC(H) | Operational Research |
| | DSC(H) | Complex Analysis |
| | DSC(H) | Mathematical Statistics |
| | DSC(H) | Object oriented Programming with C++ |
| | DSE(H) | Graph Theory |

## AnnexureII

### List of Courses from Physics under Bachelor of Science (Honours)

Lists of DSC and DSE courses from Physics discipline under Bachelor of Science (Honours) are given below:

| Semester | | Physics-Discipline Specific Courses (DSC) / Discipline Specific Elective (DSE) |
|---|---|---|
| I | DSC | Mechanical Oscillation |
| II | DSC | Electromagnet and Electromagnetic Theory |
| III | DSC | Kinetic Theory of Gases |
| IV | DSC | Wave and Sounds |
| | DSC | Atomic and Nuclear Physics |
| V | DSC | Optics |
| | DSC | Solid State Physics |
| VI | DSC | Emergence of Quantum Mechanics |
| | DSC | Electronics |
| VII | DSC(H) | Mathematical Physics |
| | DSC(H) | Classical Mechanics |
| | DSC(H) | Analog system & Application |
| | DSC(H) | Element of Modern Physics |
| | DSE(H) | Astro Physics |
| VIII | DSC(H) | Digital System &Application |
| | DSC(H) | Electrodynamics |
| | DSC(H) | Medical Physics |
| | DSC(H) | Atmospheric Physics |
| | DSE(H) | Biophysics |

## Annexure III

### List of Courses from Zoology under Bachelor of Science (Honours)

Lists of DSC and DSE courses from Zoology discipline under Bachelor of Science (Honours) are given below:

| Semester | | Zoology-Discipline Specific Courses (DSC) / Discipline Specific Elective (DSE) |
|---|---|---|
| I | DSC | Cell Biology and Invertebrates |
| II | DSC | Vertebrates and Embryology |
| III | DSC | Anatomy, Animal Physiology and Biochemistry |
| IV | DSC | Ecology and Economic Zoology |
| | DSC | Immunology and Microbiology |
| V | DSC | Genetics, Evolution and Animal Behaviour |
| | DSC | Biodiversity Conservation |
| VI | DSC | Molecular Cell Biology, Biotechnology and Medical Zoology |
| | DSC | Fish and Aquaculture |
| VII | DSC(H) | Diversity and Biology of Nonchordates |
| | DSC(H) | Animal Physiology |
| | DSC(H) | Ecology and Environment |
| | DSC(H) | General Physiology and Comparative Endocrinology of Vertebrates |
| | DSE(H) | Genetics and Genetic engineering |
| VIII | DSC(H) | Genetics and Genetical Engineering |
| | DSC(H) | Molecular Cell Biology |
| | DSC(H) | Biotechnology |
| | DSC(H) | Tools and Techniques of Biology |
| | DSE(H) | Immunology |

## Annexure IV

**List of Courses from Botanyunder Bachelor of Science (Honours)**

Lists of DSC and DSE courses from Botany discipline under Bachelor of Science (Honours) are given below:

| Semester | | Botany -Discipline Specific Courses (DSC) / Discipline Specific Elective (DSE) |
|---|---|---|
| I | DSC | Bacteria, Virus and Fungi |
| II | DSC | Algae and Bryophytes |
| III | DSC | Pteridophytes and Gymnosperm |
| IV | DSC | Biology of Flowering Plants |
| | DSC | Cell Biochemistry |
| V | DSC | Ethnobotany |
| | DSC | Plant Physiology |
| VI | DSC | Cell and Molecular Biology |
| | DSC | Plant Ecology |
| VII | DSC(H) | Mycology |
| | DSC(H) | Plant Pathology |
| | DSC(H) | Element of Genetics |
| | DSC(H) | Tissue Culture |
| | DSE(H) | Instrumentation |
| VIII | DSC(H) | Instrumentation |
| | DSC(H) | Microbiology |
| | DSC(H) | Cytology and Molecular Biology |
| | DSC(H) | Botany of Flowering Plants |
| | DSE(H) | Conservational biology |

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## Annexure V

## Annexure V

**List of Courses from Chemistry under Bachelor of Science (Honours)**

Lists of DSC and DSE courses from Chemistry discipline under Bachelor of Science (Honours) are given below:

| Semester | | Chemistry-Discipline Specific Courses (DSC) / Discipline Specific Elective (DSE) |
|---|---|---|
| **I** | **DSE** | Physical Chemistry-I |
| **II** | **DSE** | Inorganic Chemistry-I |
| **III** | **DSE** | Organic Chemistry-I |
| **IV** | **DSC** | Physical Chemistry-III |
| | **DSE** | Physical Chemistry-II |
| **V** | **DSC** | Inorganic Chemistry-III |
| | **DSE** | Inorganic Chemistry-II |
| **VI** | **DSC** | Organic Chemistry-III |
| | **DSE** | Organic Chemistry-II |
| **VII** | **DSC(H)** | Solid State Chemistry |
| | **DSC(H)** | Polymer Chemistry |
| | **DSC(H)** | Industrial Chemistry |
| | **DSC(H)** | Green Chemistry |
| | **DSE(H)** | Biochemistry |
| **VIII** | **DSC(H)** | Pericyclic Reaction |
| | **DSC(H)** | Photochemistry |
| | **DSC(H)** | Group Theory |
| | **DSC(H)** | Novel Inorganic Solids |
| | **DSE(H)** | Molecular rearrangement Reactions |

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## Annexure VI

**List of Courses from Computer Science y under Bachelor of Science (Honours)**

Lists of DSC and DSE courses from Computer Science discipline under Bachelor of Science (Honours) are given below:

| Semester | | Computer Science-Discipline Specific Courses (DSC)/ Discipline Specific Elective (DSE) |
|---|---|---|
| **I** | **DSE** | Fundamentals of Computer and Information Technology. |
| **II** | **DSE** | Internet & Web Development |
| **III** | **DSE** | PC Package |
| **IV** | **DSC** | Desktop Publishing |
| | **DSE** | Introduction to Operating System |
| **V** | **DSC** | Programming in C |
| | **DSE** | Object oriented programming in C++ |
| **VI** | **DSC** | Visual Basic |
| | **DSE** | System Analysis & Design |
| **VII** | **DSC(H)** | Computer Network |
| | **DSC(H)** | Advance Operating System |
| | **DSC(H)** | Software Engineering |
| | **DSC(H)** | DBMS |
| | **DSE(H)** | Cyber Security |
| **VIII** | **DSC(H)** | Artificial Intelligence |
| | **DSC(H)** | Data Mining |
| | **DSC(H)** | MIS |
| | **DSC(H)** | Principle of Communication System |
| | **DSE(H)** | E-Commerce |

# Annexure VII

## Lists of Generic Elective Courses

Lists of Generic Elective courses are given below:

| Semester | School of Commerce & Management | School of Science & School of Life Science | School of Social Science & School of Humanities |
|---|---|---|---|
| I | 1)Principles of Management<br>2) Cyber Era & Intellectual Property Rights | 1) Chemistry in Daily Human Life<br>2) Sericulture | 1) GrameenSamajShashtra 2) BhartiyaDarshan |
| II | 3) GST in India | 3)Physics in Daily Human Life<br>4) Nursery Management & Gardening | 3) ManavVriddhiayamVyaktitwaVikas<br>4) Bhasha Kaushal |
| III | 4) Industrial Relation | 5) Office Automation Tools<br>6) Biodiversity Conservation | 5) Academic & Professional Writing<br>6) Pracheen Bharat me Rishi Parampara |

# Annexure VIII

## Lists of Ability Enhancement Courses

Lists of Ability Enhancement courses are given below:

| Semester | Ability Enhancement Course |
|---|---|
| I | Hindi Language -1 or English Language-1 |
| II | Hindi Language -2 or English Language-2 |
| III | Hindi Language -3 or English Language-3 |

# Annexure IX

## Lists of Value Added Courses

Lists of Value Addedcourses are given below:

| Semester | ValueAdded Courses |
|---|---|
| I | Environmental Study |
| III | Yog:An Introduction |
| VI | Cyber Space & CyberRegulation |

# Annexure X

## Lists of Skill Enhancement Courses

Lists of Skill Enhancementcourses are given below:

| Semester | School of Commerce & Management | School of Science& School of Life Science | School of Social Sciences& School of Humanities | School of Education |
|---|---|---|---|---|
| II | 1. GST-Account Maintenance Computation & Provisions<br>2. E-Commerce | 1. Laboratory Practices &Analytical Techniques<br>2. Vermiculture and Vermicomposting | 1. Counselling skill<br>2. PartakritaPrasikshan | 1. Pradarshankari Kala ayamSikshan |
| IV | 1. Entrepreneurship Development<br>2. Accounting in Tally | 3. Mushroom Cultivation | 3.Professional Social Work | 2. Kala ayam Craft Sikshan |
| V | 1. Office Management<br>2. ITR Filing | 4. Web Designing | 4. Home Budget and Basics of Investment<br>5. VaidicAcharPaddhati | 3.Udyanki Kala Sikshan |