

PROGRAMME PROJECT REPORT (PPR)

B. Sc. [MATHEMATICS]

[Mathematics, Physics, and Chemistry] or [Mathematics, Physics, and Computer Science]

- a) **Programme Mission and Objective:** Bachelor of Science [Mathematics] is designed through distance mode to promote the scientific temperament of the learners in higher education by providing easy access to all those students to improve their qualification, skills and competence. The education in B.Sc. [Mathematics] with Physics, and Chemistry/Computer Science will combine theory and practical so that students will be prepared for a Chemist, Mathematician, Physicist or computer specialist as a career for industry and entrepreneurship. Following are the broader objectives of the programme:
- i. To educate and create the prospective and diverse group of students of Chhattisgarh with knowledge, analytical ability and importance of Mathematics, Physics, Chemistry 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 and Mathematics.
  - iii. To make the students aware of changing environment and scope, in the field of Physics, Chemistry, Computer Science and Mathematics to operate in a competitive environment.
  - 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.
- b) **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 Maths 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.

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- c) **Nature of Prospective Target Group of Learners:** The prospective learners can be 10+2 students of science background.
- d) **Appropriateness of programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence:** Bachelor of Science [Mathematics] 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.
- e) **Instructional Design :**
- Duration and Credit: This programme has a duration of three years although student may complete the programme gradually within a maximum period of six years. The programme has weightage of 111 credits. In this programme the student has to study 10 Courses of 37 credit points in year I ,II and III. Contact sessions for every course will be arranged at the study centre where the students can solve their difficulties.
  - Medium: The course material for B.Sc. programme will be in Hindi language. However students can opt for both English and Hindi language for answering the questions.
  - Course Structure:

**BACHELOR OF SCIENCE [ MATHEMATICS]**

[Mathematics, Physics, Chemistry] or [Mathematics, Physics, Computer Science]

DURATION OF THE COURSE: 3 YEARS

ELIGIBILITY: 10+2

**COURSE SYLLABUS**

**Fundamental course**

CURRICULUM TITLE	PAPER	YEAR	CREDIT
Hindi language	First	First	05
English language	Second	First	05
Environment Education (No credit but compulsory passed in first year)			
Hindi language	First	second	05

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English language	Second	second	05
Hindi language	First	third	05
English language	Second	third	05

**Elective subject**

<b>CHEMISTRY</b>			
<b>Curriculum title</b>	<b>PAPER</b>	<b>YEAR</b>	<b>CREDIT</b>
Physical chemistry	First	First year	02
Inorganic chemistry	Second	First year	02
Organic chemistry	Third	First year	02
practical	Practical	First year	03
Physical chemistry	First	Second year	02
Inorganic chemistry	Second	Second year	02
Organic chemistry	Third	Second year	02
Practical	Practical	Second year	03
Physical chemistry	First	Third year	02
Inorganic chemistry	Second	Third year	02
Organic chemistry	Third	Third year	02
practical	Practical	Third year	03
<b>PHYSICS</b>			
Physics	First	First year	03
Physics	Second	First year	03
Practical	Practical	First year	03
Physics	First	Second year	03

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Physics	Second	Second year	03
Practical	Practical	Second year	03
Physics	First	Third year	03
Physics	Second	Third year	03
Practical	Practical	Third year	03
<b>MATHEMATICS</b>			
Mathematics	First	First year	03
Mathematics	Second	First year	03
Mathematics	Third	First year	03
Mathematics	First	Second year	03
Mathematics	Second	Second year	03
Mathematics	Third	Second year	03
Mathematics	First	Third year	03
Mathematics	Second	Third year	03
Mathematics	Third	Third year	03
<b>Computer Science</b>			
Fundamentals of Computer and Information Technology.	First	First year	03
Object oriented programming in C++	Second	First year	03
Computer Lab-I	Practical	First year	03
Operating System	First	Second year	03
Internet and Web Development	Second	Second year	03

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Computer Lab-II	Practical	Second year	03
System Analysis and Design	First	Third year	03
GUI Programming in Visual Basic	Second	Third year	03
Computer Lab-III	Practical	Third year	03

- iv. **Learning Method:** The learning method developed by University will comprise of independent form of delivery and will constitute the following components:
- Self-Instructional text books (Self Learning Materials).
  - Counselling and contact sessions at the study centre by the subject experts.
  - Preparing the students Assignment.
- v. **Means of Delivery:** The students are given the syllabus of the courses and also the Self learning material. It helps the students to study a specific topic. If the student 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.
- vi. **Requirement of Faculty and Support Staff:** Faculty of science is headed by permanent faculty member. Supporting staffs will be deputed at the study centre as per need of the course curriculum.
- f) **Procedure for admissions, curriculum transaction and evaluation :**
- Procedure of Admission:** The admission for this programme will be on yearly basis (or as decided by the University from time to time). All the admissions for the course will be done through online mode. Applications will be invited by the University with in stipulated time period where students 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.
  - Curriculum Transaction:** For successful completion of the proposed programme, a candidate has to obtain minimum pass marks of 33% . Degree will be awarded on the basis of aggregate marks obtained in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year. Passing in all the years will be an essential criteria for the award of degree.
  - Evaluation Pattern:** The pattern of evaluation for each course from year I to year III of B.Sc.[ Mathematics] programme will have following three components : (a) Continuous Assessment through TMA (b) Practical/Viva voce(c) Term End Examination (TEE)

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- a) **Continuous Assessment through Tutor Mark Assignment:** For each course in every year the students 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 students 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:** Evaluation of this component will be based in practical work submitted by the students with viva-voce. 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 B.Sc. programme is as under:

**Details of University Fee (In Rupees)**

Particulars	Year I	Year II	Year III	Total
Yearly Fees	5100	5100	5100	15300

- g) **Requirement of the laboratory support and Library Resources:** As such laboratory facility for this programme is not available in the university headquarter however complete lab setup and facilities are available at the study centers. Resources in the form of reference books and Journals will be made available to the students in the University Central library, which they can access for gaining knowledge.
- h) **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.
- i) **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

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the University. Students 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.

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