

PROGRAMME PROJECT REPORT (PPR)

M.SC. MATHEMATICS

(A) Programme's Mission And Objective-

Mission-

- The mission of this programme is to provide systematic and complete knowledge of Mathematics so that one can develop his/her ability of Logical thinking, computational skill, research skill and become the competent and motivational professionals with sound theoretical and practical knowledge.
- To cater the development of the nation through high class research, consultancy and training activity.

Objective-

- To offer research and post Graduates degree in Mathematical Science.
- To provide high quality Education at doorstep through flexible and open learning mode without barriers and inconformity with National priority and social needs.
- To provide Education/degree of those needy person who cannot continue their regular Education due to any reason irrespective of their age bar.
- To offer job oriented and vocational programmes in flexible term keeping in mind the national and regional demand of manpower.

(B) Relevance of The Programme With HEI's Mission and Goals-

- This open and distance learning mode of Education will connect more and more aspirants of Higher Education with quality assurance.
- This programme will provide an opportunity to upgrade/enhance the degree/knowledge of those aspirants who are looking for promotion.
- It also helps to meet the desire and requirement of higher Education to those aspirants who faced the age bar problem with regular system.

(C) Nature of prospective target group of learner's-

The learner's in this mode of Education are basically the employees of public/private sectors, over aged learners, Housewives and learner's who couldn't comfort with the regular Education system to enhance their Educational qualification. All these kind of learner's can take advantage of M.Sc. Mathematics in this mode of Education.

(D) Appropriateness of programme to be conducted in Open and distance Learning mode to acquire specific skills and competence-

- Able to enter new fields through independent study.

- Have a good understanding of the most important Mathematical theories including a deep knowledge of the foundation of Mathematics.
- Able to perform calculations including use of numerical methods and computing to solve problems.
- Understanding of the nature and methods of Mathematics research and how it can be applied in other fields e.g. engineering.
- Able to carry out professional activities in the area of applied technologies and industry.

(E) Instructional Design-

Curriculum Design, Detailed Syllabi & Duration of Program-

M.Sc. Mathematics program offered in Institute of Open & Distance Education for the period of 24 months (2 years) & its eligibility is graduated with mathematics discipline. It offers specialization to be opted by student in 2nd year of programs. Specialization (elective paper) as given in scheme.

Credit Points-

All courses offered by us carry a certain value in terms of credit-points. A credit point is a way of expressing the learning hours required to study a certain unit, in a book or a course. Generally, one credit point is considered equivalent to about 30 learning hours. These learning hours could mean the time you spend in face to face counseling, self study, practical, assignment, project, participating in discussions on the topic, listening to audios, viewing especially prepared videos, etc. Programme structure for M.Sc. mathematics are clearly mention below-

MASTER OF SCIENCE (M.Sc.) – Mathematics

Course Code	Name of the Course	Credit	Total Marks	Theory		Practical Marks		Assignments		
				Max	Min	Max	Min	Max	Min	
First Semester										
1MSCM1	Advanced Abstract Algebra-I	4	100	70	25	-	-	30	11	
1MSCM2	Real Analysis-I	4	100	70	25	-	-	30	11	
1MSCM3	Topology-I	4	100	70	25	-	-	30	11	
1MSCM4	Complex Analysis-I	4	100	70	25	-	-	30	11	
	Total	16	400	280	112	-	-	120	48	
Second Semester										
2MSCM1	Advanced Abstract Algebra-II	4	100	70	25	-	-	30	11	
2MSCM2	Real Analysis-II	4	100	70	25	-	-	30	11	
2MSCM3	Topology-II	4	100	70	25	-	-	30	11	
2MSCM4	Complex Analysis-II	4	100	70	25	-	-	30	11	
	Total	16	400	280	112	-	-	120	48	

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Third Semester									
3MSCM1	Functional Analysis-I	4	100	70	25	-	-	30	11
3MSCM2	Integral Transform-I	4	100	70	25	-	-	30	11
3MSCM3	Special Functions-I	4	100	70	25	-	-	30	11
3MSCM4	Elective-I	4	100	70	25	-	-	30	11
Total		16	400	280	112	-	-	120	48
Fourth Semester									
4MSCM1	Functional Analysis-II	4	100	70	25	-	-	30	11
4MSCM2	Integral Transform-II	4	100	70	25	-	-	30	11
4MSCM3	Special Functions-II	4	100	70	25	-	-	30	11
4MSCM4	Elective-II	4	100	70	25	-	-	30	11
Total		16	400	280	112	-	-	120	48

ELECTIVE PAPERS IIIRD & IVTH SEMESTER

Optional Papers for 3MSCM4 / 4MSCM4	
A	Advance Differential Equation
B	Advance Discrete Mathematics
C	Operations Research
D	Graph Theory
E	Mathematics Modeling
F	Fundamental of Computers
G	Advance Numerical Analysis
H	Partial Differential Equations

Evaluation Scheme-

1. 36% in each theory, practical, project, dissertation & internal assessment but the total Aggregate for passing is 40%.

Duration-

This programme has duration of two years although student may complete the programme gradually within a maximum period of five years.

Medium-

English/Hindi shall be the medium of instruction and the examination may be written in Hindi or English.

Requirement of faculty and support staff-

For M.Sc. Mathematics programme we have two faculty members (full time-dedicated for ODL courses) has the level of Associate and Assistant Professor. Supporting staffs will be deputed at the learner support centre as per need of the course curriculum.

Instructional delivery Mechanism & Usage of media for distance learning-

The methodology of instruction in the distance learning mode in the University is different from that of the conventional regular programs. The system adopted for this is more learner-oriented and the learner is an active participant in the pedagogical (teaching & learning) process. Most of the instructions are imparted through distance education methodology and face-to-face mode as per requirement.

The programme delivery methodology used in the distance learning mode follows a multimedia approach for instruction, which comprises-

- **Self-Instructional Written Material-** The printed study material (written in self instructional style) for both theory and practical components of the programs is supplied to the learners in batches for every course.
- **Audio-Visual Material Aids-** The learning package contains audio and video CDs which have been produced/adopted by the University for Better Clarification and enhancement for understanding of the course material given to the learners. A video programme is normally of 25-30 minutes duration. The video cassettes are screened at the learner support centre during specific sessions which are duly notified for the benefit of the learners.
- **Counseling Session-** Normally counseling sessions are held as per schedule drawn by the IODE DR. CV RAMAN UNIVERSITY. These are mostly held outside the regular working hours of the learner support centre.
- **Teleconferences-** Live teleconferencing sessions are conducted via Internet/ satellite through interactive Video Conferencing facility (available at some places) from the University studios, the schedule of which is made available at the learner support centre.
- **Industrial Training/ Practicals/ Project Work-** Some programmes have industrial training/practical/ project component also. Practicals are held at designated institutions for which schedule is provided by the learner support centre. Attendance at practicals is compulsory. For Project Work, comprehensive project guide, in the form of booklet, is provided to the student along with the study material.
- The printed study materials will be dispatched periodically to the enrolled students for each paper of study. These materials will be as guide for the students for effective learning. The assignment for internal assessment shall also be dispatched along with the study material. Online modules are also available for some courses. These are in progress and as and when available, these will be available on the website of the students for registered candidates.
- The counseling sessions will be of 30 days duration for a course in a year. The actual schedule and place of contact program shall be announced and communicated to students in time.

Nature of Contact Classes-

During the contact sessions, the counselors are supposed to guide/discuss with the learners, based on the course material. The learners can solve their difficulties by discussing with their colleagues as well as with the counselor during contact sessions. A part from this contact

sessions, learners will have to attend practical as well as various training schedule conducted by the respective learner support centre.

Learner Support Services-


Dr. C. V. Raman University Institute of Open And Distance Education has a fully fledged Learner Support Division (LSD) to provide guidance and help to its students. Necessary information is passed on to the registered student through modern means of communication as SMS, website and e-mail. For the convenience of learner, computer, photocopy machine, internet, WIFI facilities have also been provided. The learner support division has a web centre and SMS No. 56161 where learner can message their problems and seek answer. Bulk SMS are sent to learners regarding their registration detail, dispatch of study, material time table for contact class, submission of examination forms, examination schedule etc. from time to time. Important information and necessary material are also sent through e-mail and through regular post. University website www.cvru.ac.in also provides information about the various programmes being offered by the institute of open and distance education, the syllabus, assignment, programme guide.

Counseling & Study Structure-

The counseling & study structure for M.Sc. Mathematics programme is as below-

COUNSELING AND STUDY STRUCTURE

Sl.	Course Code	Title of the Course	Credit	Total Hours of Study	Counseling and Study Structure (hours)			
					Face to Face Counseling	Self study	Practical s	Assignment
Semester I								
1	1MSCM1	Advanced Abstract Algebra-I	4	120	16	68	-	36
2	1MSCM2	Real Analysis-I	4	120	16	68	-	36
3	1MSCM3	Topology-I	4	120	16	68	-	36
4	1MSCM4	Complex Analysis-I	4	120	16	68	-	36
Semester II								
5	2MSCM1	Advanced Abstract Algebra-II	4	120	16	68	-	36
6	2MSCM2	Real Analysis-II	4	120	16	68	-	36
7	2MSCM3	Topology-II	4	120	16	68	-	36
8	2MSCM4	Complex Analysis-II	4	120	16	68	-	36

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Semester III								
9	3MSCM1	Functional Analysis-I	4	120	16	68	-	36
10	3MSCM2	Integral Transform-I	4	120	16	68	-	36
11	3MSCM3	Special Functions-I	4	120	16	68	-	36
12	3MSCM4	Elective-I	4	120	16	68	-	36
Semester IV								
13	4MSCM1	Functional Analysis-II	4	120	16	68	-	36
14	4MSCM2	Integral Transform-II	4	120	16	68	-	36
15	4MSCM3	Special Functions-II	4	120	16	68	-	36
16	4MSCM4	Elective-II	4	120	16	68	-	36

(F) Procedure for admissions Curriculum transaction and evaluation-

Admission Policy for M.Sc. Mathematics with minimum eligibility & fee structure-

Admission to M.Sc. mathematics programme shall be through merit and/or, entrance test as per rules of the university. A candidate after passing graduation with B.Sc. mathematics /statistics stream of any recognized university and college. All the procedure of admission for the programme will be done through online mode. Application will be invited by the university with it stipulated time period where students have to apply for the same with all their testimonials and required fees.

Fees-

Sl.	Programme	Duration	Fee charged for complete programme
1.	M.Sc. Mathematics	2 Years	32800

Financial Assistance-

E-scholarship is provided to SC/ST students as per norms of the Govt. of Chhattisgarh authorized schemes.

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Evaluation system-

The system of evaluation in Open & Distance Learning System is also different from that of conventional system. CVRU has a multi- tier system of evaluation given as follows-

1. Self –assessment exercises within each unit of study.
2. Continuous evaluation mainly through assignment which is tutor marked, practical assignments & seminar/workshops/ extended contact programmes.
3. Term end examinations.

The evaluation of learners depends upon various instructional activities undertaken by them. A learner has to write assignment responses compulsorily before taking term-end examination from time to time to complete an academic programme. A learner has to submit TMA responses to the learner support centre established by IODE Dr.C.V. Raman University. A learner should keep duplicate copies of assignment responses of TMA that may be required to be produced at Student Evaluation Division on demand. Term-end examination will be conducted at various examination centre approved by institute of open and distance education Dr.C.V. Raman university spread all over the Chhattisgarh. The weightage for Term End Examination will be 70% and weightage for Internal Assessment will be 30% for this programme.

Evaluation Procedure-

(A) Internal Assessment (Continuous Assessment i.e. Home Assignment)- 30% weightage.

(B) Term End Examination - 70% weightage.

Term End Examination	70
Internal Assessment	30
Total Marks	100

The University conducts Term-end Examination in semester system & held in the month of Nov/Dec and May/June every year. Students will be permitted to appear in term-end examination subject to the conditions that-

- 1) Registration for the courses, in which they appeared is valid.
- 2) Minimum time to pursue these courses is elapsed.
- 3) Submission of required number of assignment in respective courses by the due date.

(G) Requirement of the laboratory support and library resource-

Laboratory is not required as par the curriculum. Resources in the form of reference books and journal will be made available to the learner in the reference library (IODE) and university central library which they can access for gaining knowledge.

(H) Cost estimates of the programme and the provision-

This programme was already designed and developed in the year 2009-10. In this process of development considering today's scenario, the current cost estimate which includes developmental cost, delivery cost & maintenance cost for this programme comes to amount of Rs.866880 & provision is made of Rs 900000.

(I) Quality assurance mechanism and expected programme outcomes-

The Centre for Internal Quality Assurance & Board of Studies of the University is accountable for regular monitoring of programme by continuous updating of the curriculum and syllabus. According to feedback provided by stakeholders including learners on continuous basis, a suitable action plan for M.Sc. mathematics programme will be developed and duly incorporated into the teaching and delivery system. The Feedback from all stakeholders in terms of its relevance and appropriateness in catering to the need of the society, economy and environment are also considered in these key aspects. "At the end of the programme expected outcomes"-

- To acquired a general knowledge, principles and mechanisms of mathematics.
- To acquired a basic knowledge of subject.
- To acquired techniques relevant of subjects taught.
- To provide the practical expose and knowledge acquiring skill.
- To crate and develop the presentation skill in seminar/conferences.
- To develop skill to e-library software and internet resources independently.



(Gawda
(Gaurav Shukla)

(D. R. P. Dubey)