# SCHOOL OF MATHEMATICS

# Program: M.Sc. Mathematics Program code: MT5A Duration: 4 semesters Number of seats: 45(reservation as per state govt. Rules) Aims:

1. Strengthening the logical reasoning which is the main ingredient to understand Mathematical concepts.

2. Create more interest in the subject and motivate students for self learning.

3. Developing the Mathematical skills among the students and preparing them to take up a career in research.

#### **Objectives:**

1. To make students understand the techniques of proofs in Mathematics and apply suitable techniques to tackle problems.

2. To inculcate the habit of making observations and experimentation and arrive at the final result.

3. Make student acquire the communication skill to present technical Mathematics so as to take up a career in Teaching Mathematics at various levels including schools, colleges, universities, etc.

#### Learning outcomes:

- 1. Clearing competitive examinations like NET, JRF, GATE, SET, other examinations for administrative posts.
- 2. Getting selected for Ph.D. in elite institutes like IITs, IISERs etc.
- 3. Getting placement in local UG/PG, engineering colleges.
- 4. Training students for competitive examinations.

# **ELIGIBILITY:**

B.A./B.Sc. with Mathematics as a Principal Subject with 50% marks in aggregate as well as in Mathematics.

# AGE LIMIT: NO AGE LIMIT.

### **ADMISSION PROCEDURE:**

The admissions will be done as per merit in the entrance test conducted by the university.

#### **EXISTING FEE STRUCTURE:**

#### For M.Sc. Program:

Semester	Academic	Development &	Students'		Examination	Total (Rs.)	
	Fee	Maintenance	Services Fee		Fee		
		Fee	Boys	Girls		Boys	Girls
First	2500	2000	3300	3111	2500	10300	10111
Second	2500	2000	2911	2722	2500	9911	9722
Third	2500	2000	3300	3111	2500	10300	10111
Fourth	2500	2000	2911	2722	2500	9911	9722

- Caution money (Refundable) of Rs. 4000/- will be charged additionally in the first semester.
- Alumni Fee of Rs. 500/- will be charged extra in the first semester.
- If a student repeats a paper(s) in a semester, an additional fee of Rs.500/- per paper shall be payable.
- For NRI/ FN/ PIO Candidates, a fee of US\$ 3500 Per Annum shall be payable on yearly basis. They will have to pay a refundable deposit of US\$ 500 once at the time of admission.
- Hostel Fee and Central Library Fee will be extra.

# **PROGRAMME STRUCTURE:**

The following notation comprising of three digits is used while numbering the courses.

1. The first digit refers to the semester number i.e. 1,2,3, and 4.

2. The second digit 1 refers to a core course and the second digit 0 refers to an optional course.

3. The third digit refers to the serial number of the course.

# **Course structure:**

# DEVI AHILYA VISHWAVIDYALAYA, INDORE

Course Code	Name of the Course			
M101	Differential Equations I			
M111	Field Theory			
M112	Real Analysis I			
M113	Topology I			
M114	Complex Analysis I			
M201	Differential Equations II			
M211	Advanced Abstract Algebra			
M212	Real Analysis II			
M213	Topology II			
M214	Complex Analysis II			
M301	Theory of Linear operators I			
M302	Linear Programming I			
M305	Mathematical Modelling I(CBCS)			
M311	Integration Theory			
M312	Functional Analysis			
M313	Partial Differential Equations			
M401	Theory of Linear operators II			
M402	Linear Programming II			
M403	Homotopy Theory			
M404	Topics in Ring Theory			
M405	Mathematical Modelling II(CBCS)			
M406	Analytical Number Theory			
M411	Mechanics			

- Five courses are offered in each semester and CBCS course is offered in third and fourth semester, in addition to these courses.
- Each course other than those offered under CBCS is of four credits. CBCS course is of three credits.
- A comprehensive viva voce will be held after semester examination.

#### **Program outcome:**

- (i) Working knowledge in courses taught.
- (ii) Ability to apply to real life problems and industrial problems.
- (iii) Tackle applications to other branches of Mathematics and science.
- (iv) Ability to face competitive exams like NET, GATE, SET etc.,

#### Program specific outcome:

To become good teachers and researchers.