ADP (Mathematics)
[Associate Degree Program]

ELIGIBILITY CRITERIA:

a. The candidate has passed the Intermediate or equivalent examination with Mathematics from an institution recognized by the Higher Education Commission of Pakistan / Inter Board Committee of Chairmen, Pakistan.

     or

Any other examination of a Foreign University / Institution /Examining Body, equivalent to Intermediate with Mathematics. Equivalence and percentage of marks will be determined by the IBCC.

     or

Diploma of Associate Engineering Examination, securing at least 60% marks in aggregate.

b. Subject to policy/applicability, the candidate shall pass the Entrance Test as required by the HEC.

PROGRAM STRUCTURE:

(Program is equivalent to 14 years of education)

Minimum Duration: 2 years; through 4 regular semesters (Fall/Spring)

Minimum Credits: 71

COURSES OF STUDY:

(*Information about the Prerequisites (if any) of the course(s) will be provided by the Department at the beginning of the program*)

Compulsory Courses
Total: 19-Credits

Course Code	Course Title	Cr. Hrs.
ENGL101	English I (Functional English)	3
ENGL102	English II (Communication Skills)	3
ENGL103	English III (Technical Writing and Presentation Skills)	3
CSC101	Introduction to Computers and Computing	3
STAT101	Elements of Statistics and Probability	3
PKST101	Pakistan Studies - General Profile	2
ISLM101	Fundamentals of Islamic Studies (for Muslim Students)	2
	or	
ETHC101	Principles of Ethics (for Non-Muslim Students)	2

Foundation Courses
Total: 12-Credits

Course Code	Course Title	Cr. Hrs.
MATH 111	Logic and Set Theory	3
MATH231	Linear Algebra 1	4
MATH131	Calculus-I	4
MATH132	Calculus-II	3

Major Courses (Core)
Total: 31-Credits

Course Code	Course Title	Cr. Hrs.
MATH211	Affine and Euclidean Geometry	3
MATH234	Calculus-III	4
MATH 312	Algebra -1	3
MATH311	Real Analysis -1	3
MATH 313	Complex Analysis	3
MATH 331	Ordinary Differential Equations	3
MATH 332	Vector and Tensor Analysis	4
MATH 416	Differential Geometry	3
MATH 335	Classical Mechanics	3
MATH 432	Integral Equations	3
MATH431	Fluid Mechanics-1	3

Major Courses (Elective)
Total: 06-Credits
(Subject to the university offering, the student shall opt. Two courses from the list below)

Course Code	Course Title	Cr. Hrs.
MATH 318	Number Theory	3
MATH 421	Numerical Methods	3
MATH 412	Functional Analysis	3
MATH 413	Special Functions	3

<u>SEMESTER-WISE BREAK DOWN OF SCHEME OF STUDIES</u>

First Year (Semester 1)

Course Code	Course Title	Cr. Hrs.
ENGL101	English - I	3
ISLM101	Fundamentals of Islamic Studies	2
STAT101	Elements of Statistics & Probability	3
CSC101	Introduction to Computers and Computing	3
MATH131	Calculus - I	4
MATH111	Logic and Set Theory	3
Total		**18**

First Year (Semester 2)

Course Code	Course Title	Cr. Hrs.
ENGL102	English -II	3
MATH211	Affine & Euclidean Geometry	3
MATH312	Algebra - I	3
PKST101	Pakistan Studies	2
MATH132	Calculus - II	3
MATH231	Linear Algebra - I	4
Total		**18**

Second Year (Semester 3)

Course Code	Course Title	Cr. Hrs.
ENGL103	English - III	3
MATH324	Calculus - III	4
MATH 416	Differential Geometry	3
MATH 432	Integral Equations	2
MATH331	Ordinary Differential Equations	3
MATH 335	Classical Mechanics	3
Total		**18**

Second Year (Semester 4)

Course Code	Course Title	Cr. Hrs.
MATH431	Fluid Mechanics-1	3
MATH311	Real Analysis - I	3
MATH 332	Vector and Tensor Analysis Vector and Tensor	4
MATH318, MATH412,	Analysis	3
MATH413, MATH421	Elective - I	3
Total	Elective - II	**16**