Department of Mathematics

B. Sc. Mathematics 2017 – 2020

Course Structure

Semester	Course	Subject code	Paper	Hours/ week	Credit
I	**Part I**	TL1711 FL1711	Language: Tamil French	6	3
	Part II	GE1711 GE1712	General English: A Stream B Stream	6	3
	Part III	MC1711	Major Core I: Differential Calculus and Trigonometry**.**	6	5
		MA1711	Allied I: Algebra and Calculus (for Physics and Chemistry)	6	5
	Part IV	AEC171	Ability Enhancement Compulsory Course (AECC): English Communication	2	2
		MNM171	Non Major Elective Course (NMEC): Mathematics for life - I	4	2
		VEC172	Foundation Course I :Values for Life	-	-
	Part V	SDP172	Skill Development Programme (SDP) - Certificate Course	-	-
		STP174	Student Training Programme (STP) - Clubs & Committees / NSS	-	-
II	**Part I**	TL1721 FL1721	Language Tamil French	6	3
	Part II	GE1721 GE1722	General English A Stream B Stream	6	3
	Part III	MC1721	Major Core II : Classical Algebra and Integral Calculus	6	5
		MA1721	Allied II: Vector Calculus and Differential Equations (for Physics and Chemistry)	6	5
	Part IV	AEC172	Ability Enhancement Compulsory Course (AECC):Environmental Studies	2	2
		MNM172	Non Major Elective Course (NMEC) : Mathematics for life – II	4	2
		VEC172	Foundation Course I : Values for Life	-	1

	Part	Code	Title		
	Part V	SDP172	Skill Development Programme (SDP) : Certificate Course	-	1
		STP174	Student Training Programme (STP) : Clubs & Committees / NSS	-	-
III	**Part I**	TL1721 FL1721	Language: Tamil French	6	3
	Part II	GE1721 GE1722	General English : A Stream B Stream	6	3
	Part III	MC1731	Major Core III : Differential Equations and Vector Calculus	6	4
		MC1732	Major Core IV : Sequences and series	5	4
		MA1731	Allied III: Probability Theory and Distributions	5	5
	Part IV	SBC173/ SBC174	Skill Based Course (SBC) :Meditation and Exercise / Computer Literacy	2	2
		VEC174	Foundation Course II : Personality Development	-	-
	Part V	STP174	Student Training Programme (STP): Clubs & Committees / NSS	-	-
		SLP173	Service Learning Programme (SLP): Extension Activity (RUN)	-	1
IV	**Part I**	TL1741/ FL1741	Language Tamil French	6	3
	Part II	GE1741 GE1742	General English A Stream B Stream	6	3
	Part III	MC1741	Major Core V :Groups and Rings	6	5
		MC1742	Major Core VI : Analytical Geometry - 3 Dimensions	5	4
		MA1741	Allied IV: Applied Statistics	5	5
		SBC173/ SBC174	Skill Based Course (SBC):Meditation and Exercise / Computer Literacy	2	2

	Part IV	VEC174	Foundation Course II - Personality Development	-	1
	Part V	STP174	Student Training Programme (STP): Clubs & Committees / NSS	-	1
V	**Part III**	MC1751	Major Core VII: Linear Algebra	6	5
		MC1752	Major Core VIII : Real Analysis	6	5
		MC1753	Major Core IX : Graph Theory	6	5
		MC1754	Major – Project	5	5
		MC1755 MC1756 MC1757	Elective I: (a) Numerical Methods (b) Fuzzy Mathematics (c) Object Oriented Programming with C++	5	4
	Part IV	MSK175	Skill Based Course (*SBC) :Mathematics for Competitive Examination – I	2	2
		HRE175	Foundation Course III: Human Rights Education (HRE)	-	1
VI	**Part III**	MC1761	Major Core X :Complex Analysis	6	5
		MC1762	Major Core XI: Mechanics	6	5
		MC1763	Major Core XII : Number Theory	5	5
		MC1764	Major Core XIII : Operations Research	5	5
		MC1765 MC1766 MC1767	Elective II: (a) **Astronomy** (b) Boolean Algebra (c) Web Designing with HTML	6	5
	Part IV	MSK176	Skill Based Course(*SBC) :Mathematics for Competitivee Examination-II	2	2
		WSC176	Foundation Course IV : Women's Studies (WS)	-	1
			TOTAL	**180**	**140+3**

B.Sc. PROGRAMME OUTCOMES (POs)

PO No.	Upon completion of the B.Sc. Degree Programme, the graduates will be able to:
PO - 1	Apply the acquired scientific knowledge to face day to day needs.
PO - 2	Create innovative ideas through laboratory experiments.
PO - 3	Carry out field works and projects independently and in collaboration with other institutions and industries.
PO - 4	Reflect upon green initiatives and take responsible steps to build a sustainable environment.
PO - 5	Face challenging competitive examinations that offer rewarding careers in science and education.
PO - 6	Impart communicative skills and ethical values.
PO - 7	Equip students with hands on training through various courses to enhance entrepreneurship skills.

B. Sc. Mathematics PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO	Upon completion of B.Sc. Mathematics, the graduates will be able to	PO Addressed
PSO - 1	acquire a strong foundation in various branches of mathematics to formulate real life problems into mathematical models.	PO - 1
PSO - 2	develop problem solving skills, cultivating logical thinking, and face competitive examinations with confidence	PO - 5
PSO - 3	Enhance numerical ability and address problems in interdisciplinary areas which would help in project and field works.	PO - 3
PSO - 4	apply the mathematical knowledge and skills to face competitive examination with confidence.	PO - 5
PSO - 5	pursue higher studies which in turn will offer them job opportunities in government and public sector undertakings, banks, central government institutes etc.	PO - 5
PSO - 6	develop entrepreneurial skills, become empowered and self-dependent in society.	PO - 7
PSO - 7	understand the professional, ethical, legal, security, social issues and responsibilities.	PO - 4
PSO - 8	apply knowledge of principles, concepts and results in specific subject area to analyze their local and global impact.	PO - 3
PSO - 9	communicate appropriately and effectively, in a scientific context using present technology and new findings.	PO - 6

Course Outcome

Semester : I   **Major Core I**

Name of the Course : **Differential Calculus and Trigonometry**

Course code : **MC1711**

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO - 1	Recall the idea of derivative, rules of differentiation and understand the concept of p-r equation.	PSO - 1	R
CO - 2	Learn the concepts of curvature, circle of curvature, evolute and apply the concepts to solve problems.	PSO - 2	U, Ap
CO - 3	Recognize the rules of identifying asymptotes and employ the same to different curves.	PSO - 3	Ap, U
CO - 4	Acquire the knowledge about hyperbolic functions and compare it with circular functions, trigonometric functions, inverse trigonometric functions and their properties.	PSO - 1	U, E
CO - 5	Categorize the methods of finding the sum of trigonometric series.	PSO - 8	An

Semester : I   **Allied I**

Name of the Course : **Algebra and Calculus (for Physics and Chemistry Paper - I)**

Course code : **MA1711**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Recall the fundamentals of algebraic equations, matrices and rules of integration	PSO - 1	R
CO - 2	Practice the formation of equations and compute symmetric functions of roots in terms of coefficients	PSO - 2	Ap
CO - 3	Revise the properties of eigen values of the matrices	PSO - 3	E
CO - 4	Learn Beta, Gamma functions and evaluate integrals using them	PSO - 4	E, U
CO - 5	Practice the expansion of Fourier series and utilize the same for higher studies	PSO - 5	Ap

Semester   **: I**   **NMEC**

Name of the Course   **: Mathematics for life-I**

Course code   **: MNM171**

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO - 1	Recall the formation of number system	PSO - 1	R
CO - 2	Review the rules of operations on numbers	PSO - 2	U
CO - 3	Differentiate and compare different types of fractions	PSO - 3	An
CO - 4	Apply BODMAS rule for simplification and determine missing numbers in a sequence	PSO - 5	Ap
CO - 5	Construct and develop mathematical solutions to simple real life problems.	PSO - 9	C

Semester   **: II**   **Major Core II**

Name of the Course   **: Classical Algebra and Integral Calculus**

Course code   **: MC1721**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Recall the fundamentals of algebraic equations and rules of integration.	PSO - 1	R
CO - 2	Apply fundamental theorem of algebra in framing and solving equations	PSO - 8	U
CO - 3	Choose appropriate method for transformation of equations	PSO - 2	Ap
CO - 4	Develop the skill of evaluation of double and triple integrals over different regions	PSO - 3	Ap
CO - 5	Identify Beta, Gamma functions and utilize them for the evaluation of definite integrals	PSO - 8	Ap,E
CO - 6	Develop the Fourier Series expansion in any interval and apply the same for solving technical and physical problems	PSO - 6	Ap, An

Semester   **: II**   **Allied II (for Physics and Chemistry)**
Name of the Course   **: Vector Calculus and Differential Equations**
Course code   **: MA1721**

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO - 1	Explain the physical meaning and properties of curl and divergence	PSO - 1	U
CO - 2	Practice the computation of line integrals, surface integrals	PSO - 2	Ap
CO - 3	Use computational tools to solve problems and applications of partial differential equations of first order.	PSO - 2	Ap
CO - 4	Find the complementary function and particular integral of a differential equation by using appropriate methods.	PSO - 8	U
CO - 5	Use Laplace transform and their inverse to solve differential equations.	PSO - 3	Ap

Semester   **: II**   **NMEC II**
Name of the Course   **: Mathematics for life - II (NMEC)**
Course code   **: MNM172**

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO - 1	Find the average of numbers and solve some real life problems	PSO - 4	U, Ap
CO - 2	Frame equations and solve problems involving ratios and fractions	PSO - 3	Ap
CO - 3	Apply law of indices and surds to find missing numbers in an expression	PSO - 4	Ap
CO - 4	Compare surds and ratio	PSO - 8	An
CO - 5	Learn ratio and proportion and practice duplication and triplication of ratios	PSO - 6	U, Ap
CO - 6	Employ the problems related to ages and apply the same to real life situations.	PSO - 4	Ap

Semester   **: III**   **Major Core III**

Name of the Course   **: Differential equations and Vector Calculus**

Course code   **: MC1731**

CO	Upon completion of this course the students will be able to :	PSO addressed	CL
CO - 1	Distinguish linear, nonlinear, ordinary and partial differential equations	PSO - 4	An
CO - 2	Solve linear differential equations with constant and variable coefficients	PSO - 8	U
CO - 3	Explain the basic properties of Laplace Transforms and Inverse Laplace Transforms.	PSO - 1	U
CO - 4	Use the Laplace transform to find the solution of linear differential equations	PSO - 2	Ap
CO - 5	Learn methods of forming and solving partial differential equations	PSO - 3	U
CO - 6	Learn differentiation and integration of vector valued functions	PSO - 4	U
CO - 7	Evaluate line and surface integrals using Green's theorem, Stoke's theorem and Gauss divergence theorem	PSO - 8	Ap,E
CO - 8	Apply the concepts to solve problems in physical sciences and engineering	PSO - 3	Ap

Semester   **: III**   **Major Core IV**

Name of the Course   **: Sequences and Series**

Course code   **: MC1732**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Explain the primary concepts of sequences and series of real numbers	PSO - 1	U
CO - 2	Define convergence and divergence of sequences and series	PSO - 1	R
CO - 3	Distinguish between convergence and divergence of sequences and series	PSO - 2	U
CO - 4	Relate the behavior of monotonic and geometric sequences and series	PSO - 8	Ap
CO - 5	Calculate the limit and peak point of sequences	PSO - 3	An
CO - 6	Analyze the importance of Cauchy's general principle of convergence of sequences and series	PSO - 7	An

| CO - 7 | Evaluate the convergence of series using different types of tests. | PSO - 4 | E |
| CO - 8 | Develop the skill of analyzing in sequence and series. | PSO - 4 | An |

Semester   **: III**   **Allied III**

Name of the Course   **: Probability Theory and Distributions**

Course code   **: MA1731**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Recall the definition of probability and set functions	PSO - 1	R
CO - 2	Differentiate between probability and conditional probability and compute according to the requirement	PSO - 4	An
CO - 3	Understand the definition of random variables, their types and related concepts	PSO - 1	U
CO - 4	Detect the different probability distributions which are widely used	PSO - 4	An
CO - 5	Apply the techniques to prove the properties of probability and related distributions	PSO - 8	Ap
CO - 6	Choose the suitable probability distribution corresponding to a given data	PSO - 5	E
CO - 7	Test the validity of a given data	PSO - 9	E

Semester   **: IV**   **Major Core V**

Name of the Course   **: Groups and Rings**

Course code   **: MC1741**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Recall the definitions of groups ,rings, functions and also examples of groups and rings	PSO - 1	R
CO - 2	Explain the properties of groups, rings and different types of groups and rings	PSO - 1	U
CO - 3	Develop proofs of results on Permutation groups ,Cyclic groups, Quotient group, Subgroups, subrings , quotient rings	PSO - 5	C
CO - 4	Examine the properties of Ideals-Maximal and Prime ideals-Cosets-order of an element	PSO - 8	E
CO - 5	Test the homomorphic and isomorphic properties of groups and rings	PSO - 4	An
CO - 6	Develop the concepts of ordered integral domains and Unique Factorisation Domains	PSO - 5	E
CO - 7	Apply the theory of Groups and Rings and solve problems	PSO - 8	Ap

Semester   **: IV**   **Major Core VI**

Name of the Course   **: Analytical Geometry - 3 Dimensions**

Course code   **: MC1742**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Recall the basic definitions and concepts of planes and lines	PSO - 1	R
CO - 2	Demonstrate the Projection of the line joining two points, Cosines of the line joining two points and will be able to solve problems	PSO - 3	Ap
CO - 3	Calculate the distance between points, lines and planes and the angles between lines and planes	PSO - 2	An
CO - 4	Draw three dimensional surfaces from the given information	PSO - 4	An
CO - 5	Discuss the characteristics and properties of 3 - dimensional objects like sphere, cube etc	PSO - 1	U
CO - 6	Develop the skill in 3 - dimensional geometry to gain mastery in related courses	PSO - 6	C

Semester   **: IV**   **Allied IV**

Name of the Course   **: Applied Statistics**

Course code   **: MA1741**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Identify and demonstrate appropriate sampling processes	PSO - 8	An
CO - 2	Recall the methods of classifying and analyzing data relative to single variable	PSO - 1	R
CO - 3	Describe the χ^2 distribution in statistics	PSO - 7	U
CO - 4	Distinguish between the practical purposes of a large and a small sample	PSO - 8	An
CO - 5	Understand that correlation coefficient is independent of the change of origin and scale	PSO - 4	U

Semester   **: V**   **Major Core VII**

Name of the Course   **: Linear Algebra**

Course Code   **: MC1751**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Recall and define Groups ,Fields and their properties	PSO - 1	R
CO - 2	Cite examples of vector spaces ,subspaces and linear transformations	PSO - 1	U
CO - 3	Determine the concepts of linear independence, linear dependence , basis and dimension of vector spaces	PSO - 1	U
CO - 4	Correlate rank and nullity ,Linear transformation and matrix of a Linear transformation	PSO - 2	Ap
CO - 5	Examine whether a given space is an inner product space and the orthonormality of sets	PSO - 3	Ap

Semester   **: V**   **Major Core VIII**

Name of the Course   **: Real Analysis**

Course code   **: MC1752**

CO	Upon completion of this course the students will be able to:	PSOs addressed	CL
CO - 1	Understand the concepts of completeness, continuity and discontinuity of metric spaces	PSO - 1	U
CO - 2	Apply the metric space theorems to real life situations	PSO - 4	Ap
CO - 3	Distinguish between continuous functions and uniform continuous functions	PSO - 9	An
CO - 4	Use basic concepts in the development of real analysis results	PSO - 1	C
CO - 5	Understand the concepts of countable sets, metric space, connectedness, compactness of metric spaces	PSO - 7	U
CO - 6	Develop the ability to reflect on problems that are quite significant in the field of real analysis	PSO - 8	Ap

Semester   **: V**   **Major Core IX**

Name of the Course   **: Graph theory**

Course Code   **: MC1753**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Understand the basic definitions to write the proofs of simple theorems	PSO - 1	U
CO - 2	Employ the definitions to write the proofs of simple theorems	PSO - 2	Ap
CO - 3	Relate real life situations with mathematical graphs	PSO - 3	Ap
CO - 4	Develop the ability to solve problems in graph theory	PSO - 4	An
CO - 5	Analyse real life problems using graph theory both quantitatively and qualitatively	PSO - 4	An

Semester   **: V**

Name of the Course   **: Project**

Course Code   **: MC1754**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Choose a new topic of their interest	PSO - 1	U
CO - 2	Develop the attitude of studying a topic in depth independently	PSO - 4	An
CO - 3	Express their views with confidence in a group	PSO - 1	U
CO - 4	Relate with the group members and reap the best harvest	PSO - 3	Ap
CO - 5	Develop communication skills through oral presentation	PSO - 4	An
CO - 6	Create a taste for research in mathematics	PSO - 5	C
CO - 7	Develop confidence to face interviews	PSO - 5	C
CO - 8	Interpret and analyze data mathematically	PSO - 4	An

Semester   **: V**   **Elective I (a)**

Name of the Course   **: Numerical Methods**

Course Code   **: MC1755**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Understand the basic definitions and meaning of interpolation	PSO - 1	U
CO - 2	Select appropriate numerical methods and apply the same to various types of problems	PSO - 1	U
CO - 3	Apply numerical methods to obtain approximate solutions to mathematical problems	PSO - 3	Ap
CO - 4	Employ different methods of constructing a polynomial using	PSO - 2	A

	various methods		
CO - 5	Compare the rate of convergence of different numerical formula	PSO - 4	An
CO - 6	Distinguish the advantages and disadvantages of various numerical methods	PSO - 4	An

Semester   **: V**   **Elective I (b)**

Name of the Course   **: Fuzzy Mathematics**

Course Code   **: MC1756**

CO	**Upon completion of this course the students will be able to:**	**PSO addressed**	**CL**
CO - 1	Understand the basic mathematical operations carried out on fuzzy sets	PSO - 1	U
CO - 2	Compare fuzzy sets with crisp sets	PSO - 4	An
CO - 3	Explain classical logic and fuzzy logic	PSO - 1	U
CO - 4	Describe the significance of fuzzy systems and genetic algorithms	PSO - 1	U
CO - 5	Solve problems that are appropriately solved by neural networks , fuzzy logic and genetic algorithms	PSO - 3	Ap
CO - 6	Apply the concepts fuzzy systems and neural networks in various fields like machine intelligence and robotics	PSO - 2	Ap
CO - 7	Differentiate between Possibility theory and Probability theory	PSO - 4	An

Semester   **: V**   **Elective I (c)**

Name of the Course   **: Object Oriented Programming with C++**

Course Code   **: MC1757**

CO	**Upon completion of this course the students will be able to:**	**PSO addressed**	**CL**
CO - 1	Apply C++ features to program design and implementation	PSO - 3	Ap
CO - 2	Explain object oriented concepts and describe how they are supported by C++	PSO - 1	U
CO - 3	Use C++ to demonstrate practical experience in developing object oriented solutions	PSO - 2	Ap
CO - 4	Design and implement programs using C++	PSO - 3	Ap
CO - 5	Analyse a problem description and design object oriented sortware using good coding practices and techniques	PSO - 4	An
CO - 6	Implement an achievable practical applications and analyze	PSO - 5	C

	issues related to object oriented techniques in the C++ programming language		
CO – 7	Use common software patterns in object oriented design and recognize their applicability to other software development contexts	PSO – 1	U
CO - 8	Create application using C++ programming language	PSO - 5	C
CO - 9	Write algorithm for programs	PSO - 1	U

Semester   **:V**   **SBC**

Name of the Course   **: Mathematics for Competitive Examinations I**

Course Code   **: MSK 175**

CO	Upon completion of this course the students will be able to:	PSOs addressed	CL
CO - 1	Recall the problems on percentage	PSO - 1	R
CO - 2	Discuss the problems on population and depreciation	PSO - 1	U
CO - 3	Conversion of decimal into percentage and vice versa	PSO - 2	Ap
CO - 4	Use percentage concept to solve applied technical problems	PSO - 3	Ap
CO - 5	Analyze the problems related to inlet and outlet of the tank	PSO - 4	An
CO - 6	Evaluate time and distance related problems	PSO - 4	E
CO - 7	Create the ability to make an appropriate mixture	PSO - 5	C

Semester   **: VI**   **Major Core X**

Name of the Course   **: Complex Analysis**

Course Code   **: MC1761**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Understand the geometric representation of complex numbers	PSO - 1	U
CO - 2	Use differentiation rules to compute derivatives and express complex- differentiable functions as power series	PSO - 4	E
CO - 3	Compute line integrals by using Cauchy's integral theorem and formula	PSO - 3	E
CO - 4	Identify the isolated singularities of a function and determine whether they are removable, poles or essential	PSO - 1	U
CO - 5	Evaluate definite integrals by using residues theorem	PSO - 8	E

Semester   : VI   Major Core XI

Name of the Course   : Mechanics

Course Code   : MC1762

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Calculate the reactions necessary to ensure static equilibrium	PSO - 2	U
CO - 2	Apply the principles of static equilibrium to particles and rigid bodies	PSO - 4	Ap
CO - 3	Understand the ways of distributing loads	PSO - 7	U
CO - 4	Identify internal forces and moments of a rigid body	PSO - 6	U
CO - 5	Apply the basic principles of projectiles into real world problems	PSO - 2	Ap
CO - 6	Classify the laws of friction	PSO - 4	An
CO - 7	Describe energy methods for particles and systems of particles	PSO - 1	U
CO - 8	Understand the general principles of dynamics	PSO - 7	U
CO - 9	Differentiate the various frictional forces	PSO - 2	An

Semester   : VI   Major Core XII

Name of the Course   :Number Theory

Course Code   :MC1763

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	express the concepts and results of divisibility of integers effectively	PSO - 1	U
CO - 2	construct mathematical proofs of theorems and find counter examples for false statements	PSO - 6	C
CO - 3	collect and use numerical data to form conjectures about the integers	PSO - 5	Ap
CO - 4	understand the logic and methods behind the major proofs in Number Theory	PSO - 7	U
CO - 5	solve challenging problems related to Chinese remainder theorem effectively	PSO - 3	E
CO - 6	build up the basic theory of the integers from a list of axioms	PSO - 1	U
CO - 7	explore some current research problems in number theory	PSO - 2	C
CO - 8	apply Fermat's theorem and Wilsons theorem effectively	PSO - 8	Ap
CO - 9	use mathematical induction and other types of proof writing techniques	PSO - 1	Ap
CO - 10	understand and utilize mathematical functions and empirical principles and processes	PSO - 7	U

Semester   **: VI**   **Major Core XIII**

Name of the Course   **: Operations Research**

Course Code   **: MC1764**

CO	Upon completion of this course the students will be able to:	PSOs addressed	CL
CO - 1	Understand the origin and development of Operations Research	PSO - 1	U
CO - 2	Explain what is an LPP	PSO - 1	U
CO - 3	Define how to formulate an LPP with linear constraints	PSO - 1	R
CO - 4	Maximize the profit, minimize the cost, minimize the time in transportation problem (ex) Travelling salesman problem, Assignment problem	PSO - 3	Ap
CO - 5	Identify a problem in your locality, formulate it as an LPP and solve	PSO - 4	C

Semester   **:VI**   **Elective II (a)**

Name of the Course   **:Astronomy**

Course Code   **: MC1765**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Define the spherical trigonometry of the celestial sphere	PSO - 1	U
CO - 2	Discuss the Kepler's laws	PSO - 1	U
CO - 3	Calculate the maximum and minimum number of eclipses near a node in a year	PSO - 2	Ap
CO - 4	Interpret latitude and longitude and apply this to find the latitude and longitude of a particular place	PSO - 4	E
CO - 5	Distinguish between geometric parallax and horizontal parallax	PSO - 4	An

Semester   **:VI**   **Elective II(b)**

Name of the Course   **: Boolean Algebra**

Course Code   **: MC1766**

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Discuss the primary concepts of Lattices and Boolean algebra	PSO - 1	U
CO - 2	Recognize upper bound, lower bound, greatest lower bound	PSO - 1	R

CO		PSO addressed	CL
CO - 3	Differentiate between lattices and complete lattices	PSO - 1	U
CO - 4	Relate the concepts of lattice homomorphism and isomorphism	PSO - 2	Ap
CO - 5	Formulate problems in Lattices and Boolean Algebra	PSO - 5	C

Semester   : VI   Elective II (c)
Name of the Course   : Web Designing with HTML
Course Code   : MC1767

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Define modern protocols and systems used on the web(such as HTML,HTTP)	PSO - 1	U
CO - 2	Employ fundamental knowledge on web designing with makeup language	PSO - 2	Ap
CO - 3	Gain strong knowledge in HTML	PSO - 1	U
CO - 4	Use critical thinking skills to design and implement an interactive websites with regard to issues of usability, accessibility and internationalism	PSO - 4	An
CO - 5	To pursue future courses in website development and design	PSO - 2	Ap

Semester   : VI   SBC
Name of the Course   : Mathematics for competitive examinations II
Course Code   : MSK 176

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Recognize the difference between volume and surface areas	PSO - 1	R
CO - 2	Demonstrate the basic concepts of Compound interest	PSO - 1	U
CO - 3	Apply analytical techniques to solve stocks and shares problems	PSO - 2	Ap
CO - 4	Calculate time taken by the train to pass a pole and similar problems.	PSO - 4	An
CO - 5	Compare the surface areas of cuboid and cube	PSO - 4	An
CO - 6	Evaluate the volume of cylinder	PSO - 5	E
CO - 7	Measure the surface area of the sphere	PSO - 4	E
CO - 8	Examine the face value and market value	PSO - 4	An