Government Degree College

Pendlimarri - 516216

YSR Kadapa District, Andhra Pradesh

**Department of Mathematics**

**Programme Outcomes**

**Programme Specific Outcomes for B.Sc.**

**PSO1**: To explore Evolution and functionality of Digital computers. Apply logical skills to

 analyze a given problem.

**PSO2**: Fundamental concept of data structures and to emphasize the importance of data

 structures in developing and implementing efficient algorithms.

**PSO3**: Design & develop database for large volumes & varieties of data with optimized data

 processing techniques.

**PSO4**: Develop problem-solving and programming skills using OOP concepts. Develop the

 ability to solve real-world problems through software development in high-level

 programming language like Java.

**PSO5**: Know Computer system resources and the role of operating system in resource

 management with algorithms. Understand Operating System Architectural design and its

 services.

**PSO6**: Student can join Botany related or life Science related private firms.

**PSO7**: Can join agriculture seed companies, tissue culture labs, pharma companies, etc.

**PSO8:** Can work as an environmental consultant in various agencies.

**PSO9**: Develop inclination towards Environmental consultants.

**PSO10:** Student can start their venture in Nursery for development of various plant variety

 plantlets like citrus, mango, pomegranate, etc.

**PSO11**: B.Sc. Chemistry provides backbone in all the traditional branches of Physical,

 Inorganic, organic and Analytical chemistry.

**PSO12:** The experimental work will be continues throughout the session to develop the

 theoretical knowledge and practical as well.

**PSO13:** Graduates from this course will be better prepared to understand the new environment

 friendly systems and can understand the processes that the chemical industry is

 adopting.

**PSO14:** The course has been designed to have insight in almost all the aspects of chemistry

 and to build a solid foundation in the subject to choose a career in industry or

 academics or research.

**PSO15:** The syllabus very well designed and it covers the areas like water chemistry,

 consumer products-soaps, detergents, shampoos, skin preparations, polymer

 chemistry, drugs, industrially important chemicals used in Industry.

**PSO16:** In banking sector students can get in to with mathematics.

**PSO17:** They can prepare for MPSC and UPSC exam.

**PSO18:** Mathematics graduate can work as finance and investment analyst and advisor and

 chartered or certified accountant.

**PSO19:** A career in teaching offers unparalleled job satisfaction.

**PSO20:** Physics graduate can find ample career openings both in public as well as private

 sector enterprises; also can apply for all government jobs as graduation is the basic

 qualification.

**PSO21:** One can find various opportunities in governmental organizations like DRDO, VSSC,

 ISRO, SSPL, BARC, etc.

**PSO22:** They are also recruited in space research centers and in research laboratories.

**PSO23:** There are some of the common job types like, Lab Supervisor, Technician, Teachers,

 Manager, and Radiation Oncologist.

**PSO24:** Students become well versed regarding basic concepts of modern biology, field

 survey work and social extension program and their applications in real life.

**PSO25**: Students acquire knowledge of zoology; it broadens their outlook towards importance

 of field survey work in identifying and classifying and distribution of animals.

**PSO26:** It provides students a launch-pad to enroll themselves for post graduate study in

 systematic and taxonomy.

**PSO27:** Practical work make the students skillful, this skill will help them to design outdoor

 activities involving local citizens in conserving biodiversity in their daily life.

**PSO28:** Various activities like field survey and photography project develop their hidden

 talent, make their mind face to think and act. Science exhibition, poster competition,

 short trip help in shaping their personality and do innovations which will be beneficial

 for the country.

**PSO29:** Competency in reading, writing, listening and writing at professional level.

**PSO30:** Ability to prepare CV, advertisement writing, brief re Program Outcomes writing.

**PSO31:** Understand the structure and function of grammatical units.

**PSO32:** Know the use of language at semantic and syntactic levels.

**PSO33:** Developed skill in electronic communication as well.

Government Degree College

Pendlimarri - 516216

YSR Kadapa District, Andhra Pradesh

**Department of Mathematics**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROGRAM** | **SEMESTER** | **CODE** | **COURSE** |
| B.SC MPC  | I | MAT01 | Differential Equation  |

**CO1: Differential Equations**

1. After successful completion of this course, the student will be able to;Solve linear differential equations
2. Convert nonexact homogeneous equations to exact differential equations by using integratingfactors.
3. Know the methods of finding solutions of differential equations of the first order but not of the first degree.
4. Solve higher-order linear differential equations, both homogeneous and non homogeneous, withconstant coefficients.
5. Understand the concept and apply appropriate methods for solving differential equations

|  |  |  |  |
| --- | --- | --- | --- |
| **PROGRAM** | **SEMESTER** | **CODE** | **COURSE** |
| B.SCMPC | II | MAT02 |  Solid Geometry |

**CO2**: **Solid Geometry**

After successful completion of this course, the student will be able to;

1. get the knowledge of planes.
2. basic idea of lines, sphere and cones.
3. understand the properties of planes, lines, spheres and cones.
4. express the problems geometrically and then to get the solution.

|  |  |  |  |
| --- | --- | --- | --- |
| **PROGRAM** | **SEMESTER** | **CODE** | **COURSE** |
| B.SCMPC | III | MAT03 | Abstract Algebra |

**CO3: ABSTRACT ALGEBRA**

After successful completion of this course, the student will be able to;

* 1. acquire the basic knowledge and structure of groups, subgroups and cyclic groups.
	2. get the significance of the notation of a normal subgroups.
	3. get the behavior of permutations and operations on them.
	4. study the homomorphisms and isomorphisms with applications.
	5. understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.
	6. understand the applications of ring theory in various fields.

|  |  |  |  |
| --- | --- | --- | --- |
| **PROGRAM** | **SEMESTER** | **CODE** | **COURSE** |
| B.SCMPC | IV | MAT04 |  Real Analysis |

**CO4: REAL ANALYSIS**

After successful completion of this course, the student will be able to

* 1. get clear idea about the real numbers and real valued functions.
	2. obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/ series.
	3. test the continuity and differentiability and Riemann integration of a function.
	4. know the geometrical interpretation of mean value theorems.

|  |  |  |  |
| --- | --- | --- | --- |
| **PROGRAM** | **SEMESTER** | **CODE** | **COURSE** |
| B.ScMPC | IV | MAT05 | Linear Algebra |

**C05: LINEAR ALGEBRA**

After successful completion of this course, the student will be able to;

* 1. understand the concepts of vector spaces, subspaces, basises, dimension and their properties
	2. understand the concepts of linear transformations and their properties
	3. Understand the elementary properties of matrices and rank of matrix
	4. Apply cayley Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods

|  |  |  |  |
| --- | --- | --- | --- |
| **PROGRAM** | **SEMESTER** | **CODE** | **COURSE** |
| B.SCMPC | V | MAT06 |  Multiple integrals and applications of vector calculus |

**CO6: Multipule integrals and applications of vector calculus**

After successful completion of this course, the student will be able to;

1.Learn mulipule integrals as a natural extension of definite integral to a function of two variables in the case of double integral/three variables in the case of triple integral

2.Learn application interms of finding surface area by double integral and volume by triple integral

3.Determine the gradient ,divergence and curl of avector and vector identities

4.Evaluate line ,surface and volume integrals

5.Understand relation between surface n volume integrals (Gauss Divergence theorem),relation between line integral and volume integral(Greens theorem),relation between line n surface integral(Stockes theorem)

|  |  |  |  |
| --- | --- | --- | --- |
| **PROGRAM** | **SEMESTER** | **CODE** | **COURSE** |
| B.SCMPC | V | MAT07 | Integral transforms with applications |

**CO7: Integral transforms with applications**

 After successful completion of this course, the student will be able to;

1. Evaluate Laplace transform of Certain function,find laplace transforms of derivatives and of integrals.

2. Determine properties of laplace transforms which may be solved by applications of special functions namely dirasdelta function,error function,bessels function and Periodic function.

3. Understand properties of inverse laplace transforms ,find inverse laplace transforms of derivaties and of integrals

4. Solve ordinary differential equations with constant /variable coefficients by using laplace transforms method

 5. Comprehend the properties of fourier transforms and solve problems related to

 finite fourier transforms.

##