

SBS GOVT. P.G. COLLEGE

PIPARIYA



SSR DOCUMENT

2018-19 TO 2022-23

CRITERION - 2

Teaching-Learning and Evaluation

Metrics No. 2.6.1

Document Title:

Programme Outcomes and Course Outcomes

Shaheed Bhagat Singh Government P.G. College Pipariya Distt.- Narmadapuram (M.P.)



College Code – 3203

Accredited by NAAC with B+ Grade

AISHE Code – C-35178

Email – heggpcpiphos@mp.gov.in, Website – www.sbsgovtpgcollegepipariya.in, Phone/Fax – 07576-220112



कार्यालय प्राचार्य, शहीद भगत सिंह
शासकीय स्नातकोत्तर महाविद्यालय
पिपरिया, जिला-नर्मदापुरम् (म.प्र.)

NAAC द्वारा B+ ग्रेड में प्रत्याक्षित
ईमेल: heggpcpiphos@mp.gov.in
महाविद्यालय कोड: 3203
फोन/फैक्स: 07576-220112
वेबसाइट: www.gpgcpipariya.nic.in



OFFICE OF THE PRINCIPAL, SHAHEED BHAGAT SINGH
GOVERNMENT P. G. COLLEGE
PIPARIYA, DIST-NARMADAPURAM (M.P.)

Accredited by NAAC with B+ Grade
E-mail: heggpcpiphos@mp.gov.in
COLLEGE CODE: 3203
PHONE /FAX: 07576-220112
Website: www.gpgcpipariya.nic.in

Ref No. 1440/Est/SBSGPGCP/2024

Pipariya, Date 19.06.2024

DECLARATION

This is to declare that the information, reports, true copies of supporting documents, numerical data etc. furnished in this file as supporting documents are verified by IQAC and found correct.


IQAC Coordinator
Coordinator (IQAC)
Internal Quality Assurance Cell
S. B. S. Govt. P. G. College
PIPARIYA (M. P.)


Principal
PRINCIPAL
Shaheed Bhagat Singh Govt. P.G. College
PIPARIYA (M. P.)



Department of Zoology
M.Sc. Zoology (Two-year courses)
Programme Outcome Zoology

1. On completion of the course, students can pursue PhD with various fellowships like DBT, ICAR, CSIR, ICMR and other Government findings like JFR or SRF.
2. They can join various research projects in government research Labs like ICMR, CSIR, NEERI, DRDO etc.
3. They can apply for various government jobs through UPSC, MPPSC, SSC, Railway recruitment and technical persons in Government Research labs, etc.
4. After completing B.Ed students can get job as a teacher in various school and junior colleges.
5. The students can also opt various branch of science related to
 - ✓ Paramedical and health
 - ✓ Food technology and processing
 - ✓ Wildlife officers
 - ✓ Marine Biologist etc
6. Students can be entrepreneur or serve in industries or establishing their own industrial unit in field of
 - ✓ Mushroom cultivation
 - ✓ Poultry
 - ✓ Sericulture
 - ✓ Apiculture
 - ✓ Pisciculture
 - ✓ Dairy
7. Various activities like Field survey, Wild life photography project, Science exhibition trip develop their hidden talent and help in shaping their personality.

After higher studies, students can join as Scientist or Assistant professor and can even look for professional job-oriented courses, such as Indian Civil Services, Indian Forest Service, Indian Police Service etc.



Class: B.Sc. II Year Zoology

Paper & Title: Paper I Vertebrate and Evolution

Teacher's Name: Dr. Sunil Kumar

After completion of the course student will able to:

1. Understand chordate diversity of animals and their taxonomic position.
2. Identify the morphological and anatomical features and basis of chordate classification.
3. Know economic importance and present status that will develop positive attitude toward conservation of biodiversity.
4. Differentiate the organism belonging to different taxa by studying comparative anatomy.
5. Know the importance of integumentary, circulatory, digestive, respiratory, urinogenital and nervous systems in vertebrates.
4. Describe the flight and aquatic adaptations in birds and mammals.

Class: B.Sc. II Year Zoology

Paper & Title: Paper II Animal Physiology and Biochemistry

Teacher's Name: Dr. Sunil Kumar

Upon completion of the course, Students will be able to

- 1 Understand how to organs function at different level i.e from cellular to system levels.
- 2 Examine internal harmony of different body system by learning inherent disorders and deficiencies, which is needed to maintain good health.
- 3 Understand functions of biomolecules & their role in metabolism by studying biochemistry.
- 4 Improve the student's perspective of health biology through deep study of physiology.
- 5 Understand the structure, function and action mechanism of neuroendocrine glands, Synapse and neurotransmitter.



Department of Botany

M.Sc. Botany (two-year courses)

Programme Outcome Botany

1. On completion of the course, students can appear for competitive examination such as MPPSC and UPSC exams, Railway Recruitments and Technical persons in Government Research labs, etc.
2. After completing B. Ed. students can get job as a teacher in various school and junior colleges.
3. After qualifying CSIR-NET JRF, M.Sc. Botany student can pursue Ph.D. and would be eligible for the post of Assistant professor.
4. Student can join Botany related or life Science related private firms.
5. They can join agriculture seed companies, tissue culture labs, Pharma companies, etc. and can work as an environmental consultant in various agencies.
6. Student can start their venture in Nursery for development of various plant variety and plantlets like citrus, mango, pomegranate, etc
7. They can do production of bio-fertilizers and bio-pesticides, garden development, landscape designing and food processing unit.
8. They can do cultivation of medicinal plants for conservation and Harvesting.
9. PG holders in Botany have opportunities in public sector like Botanical Survey of India (BSI), National Institute of Oceanography (NIO), Indian Agricultural Research Institute (IARI) etc
10. They can also work as nursery manager, park ranger, herbarium keeper etc.
11. They can start their own Plant Tissue Culture Lab.
12. They can start their own Seed Industry and Seed Bank
13. They can do production of biofertilizers.



B.Sc. Biotechnology (Three years Course)

Programme Outcome

1. On completion of the course, students have scopes in medicinal, agricultural and environmental field. They can work as a consultant in various agencies.
2. Trained biotechnology professionals can explore in field of academic, research or industry in a number of areas including Healthcare, Disease diagnostic, Genetic Engineering, Aquaculture, Food and Nutrition, Pharmaceutical Biotechnology, Desert Biotechnology, Industrial Biotechnology etc
3. They can join Multinational companies (MNC), Agriculture seed companies, Tissue culture labs, and Pharma companies etc
4. After completing GATE, they can join IIT colleges for M.Sc + Ph.D integrated programs.
5. They can also opt Master's degree or Professional courses like M.B.A and LLB etc.



LL.B. program outcome

1. Students will obtain necessary legal knowledge to solve legal and social problems.
2. Enhancement of legal skills with the aim of bringing social change.
3. Preparation of students to face the challenges of legal field.
4. Development of effective communication skills in speech and writing.
5. Acquisition of appropriate knowledge and skills in the context of professional activities as an advocate.
6. Achieve self-employment by developing professional skills.
7. Demonstrating the highest professional ethical standards.
8. To imbibe the process of lifelong study and learning, keeping in view the ever- evolving broader legal landscape.
9. Creation of enlightened citizens aware of their rights and responsibilities.



Shaheed Bhagat Singh Govt. P.G. College Pipariya

Department of Botany

Name of Teacher :- Dr Mahendra Singh Choudhary

Class : B.Sc. First Year (NEP)

Subject :- Botany

Paper :- Major - I - Applied Botany

Course Learning outcomes

1. Understood the significance and role of botany.
2. Learnt the basic aspects of applied botany.
3. Gained knowledge about employment opportunities in field of botany
4. Gained knowledge about start-up opportunities in the field of botany
5. Learnt about opportunities of social services
6. Gain knowledge about best health practices

Class : B.Sc. First Year (NEP)

Subject :- Botany

Paper :- Major - II/ Minor/Open Elev. - Basic Botany

Course Learning outcomes

1. This course will help the student to understand the diversity of plants and evolutionary process in plant kingdoms.
2. It gives an accounts of plant adaptations from aquatic condition to colonize terrestrial habitat.
3. The changes in morphological, anatomical and reproductive structures that propel plant evolution can be investigated.
4. The economic importance and significance of plants in nature will be understood.
5. They will be acquainted with locally prevalent microbial diseases of plants and humans



Class : B.Sc. Third Year (Old)

Subject :- Botany

Paper :- I - Plant physiology and Biochemistry

Course Learning outcomes

1. This course provides learning opportunities in the field of plant physiology, metabolism and biochemical aspects.
2. It gives knowledge about significance of vegetation for sustaining life on earth by learning interesting physiological functions of plants.
3. Students can know the valuable contribution of plants for mankind and society with the help of this course.
4. The practical application of different aspects will be possible for entrepreneurship development.

Class : B.Sc. Third Year (Old)

Subject :- Botany

Paper :- II - Cell Biology , Genetics and Biotchnology

Course Learning outcomes

1. This course introduces the students to the basics of cell and its components.
2. This gives them a strong foundation on the basic unit of life.
3. Students will be taught Mendelian genetics, their principles and gene interaction.
4. They learn about chromosomal aberrations and structure of chromosomes
5. The student will gain a basic understanding on human genetics and hereditary.
6. They are also taught their applications in biotechnology and biochemical research
7. They learn about DNA, RNA and their replication, mutations, DNA repair mechanism.
8. .Explain of different types of chromosome structures Perform plant tissue culture and bagging experiment



**OFFICE OF THE PRINCIPAL, SHAHEED BHAGAT SINGH GOVT. P.G.
COLLEGE PIPARIYA, DIST-NARMADAPURAM(M.P.)**

College Code :- 3203

AISHE Code :- C-35178

Accredited by NAAC with B+ Grade

E-mail : hegpgciphos@mp.gov.in, Website- www.sbsgovtpgcollegepipariya.in, Phone/Fax : 07576-220112



B.Sc. (Computer Science) – Program Outcome (PO)

After completing B.Sc. Computer Science Program students will be able to:

- Apply problem-solving skills and analytical abilities for developing computer-based solutions for real life problems.
- Communicate scientific information in a clear and concise manner both orally and in writing.
- Enhance the scientific temper among the students so that to develop a research culture and Implementation the policies to tackle the burning issues at global and local level.
- Understanding of professional, ethical, legal, security, social issues and responsibilities.

Program Specific Outcomes

- Demonstrate mastery of Computer Science in the core knowledge areas such as Data Structures and Programming Languages, Databases, Software Engineering and Development, Computer Hardware and Architecture.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.
- Apply fundamental principles and methods of Computer Science to a wide range of applications.
- Prepare for continued professional development.
- Understand the concepts of software application and projects.
- Aware them to publish their work in reputed journals.
- To make them employable according to current demand of IT Industry and responsible citizen.

Job Opportunities

With the BSc Computer Science, you will be able to apply for a range of computational and mathematical jobs in the creative industries, business, finance, education, medicine, engineering and science. Typical job titles include:

1. Application programmer
2. Mobile App developer
3. Web developer
4. Video game developer
5. Film special effects and post-production
6. Computer music/sound engineer Interface designer
7. Systems analyst Database manager
8. A professional team member in a multidisciplinary environment, local or global.
9. A successful member of an advanced academic or research organization.
10. A successful entrepreneur.
11. Hardware Designers/Engineers with the knowledge of Networking concepts.
12. System Engineers and System integrators serve as the System Administrators thorough knowledge of DBMS.
13. Work as the support Engineers and the Technical writers work as consultant and management officers for system management.
14. IT officers in Banks and cooperative societies.
15. DTP operator in small-scale industries.



M.Sc. (Mathematics) – Program Outcome (PO)

1. Get knowledge about both pure as well as applied mathematics branches.
2. Advanced knowledge of principles, methods and clear perception of in-numerous powers of mathematical ideas and tools.
3. Attained ability to exercise Research Intelligence in investigations and Innovations.
4. Acquire their analytical thinking, logical deductions and rigor in reasoning.
5. The students learn function of real and complex variables, different type of integration and algebra of functionals.
6. Learning of abstract algebraic structures and topological structure.
7. The students learn methods of finding optimal solution of physical and industrial problems using techniques of operation research.
8. Student able to solve practical and complicated issues of real-world problem by using special functions and integral transformation.
9. Understand the cosmic world by learning of spherical trigonometry and astronomy.
10. Acquire knowledge in recent developments in various branches of Mathematics and thus pursue research.
11. Peruse as higher studies in mathematics in reputed institute of our country like IITs, IESER and central university etc.
12. To appear in several competitive examination like CGPSC, UPSC, MAT, Railways, SSC etc.
13. To explain the core ideas and the techniques of mathematics at the college and school.
14. To develop the logical approach to take decision in complicated decision.
15. To motivate for research in mathematical scheme.
16. To train computational scientist who can work on real life challenging problem
17. To apply rigorous, analytic, highly numerate approach to analysis execute tasks and solve problems in daily life at work.
18. To produce a mature oral presentation of non-trivial mathematical topic.
19. To understand the concept of normal and subnormal series, solvability group and nilpotent group.
20. To learn various types of extension of fields and to understand models, various types of modules.





**OFFICE OF THE PRINCIPAL, SHAHEED BHAGAT SINGH GOVT. P.G.
COLLEGE PIPARIYA, DIST-NARMADAPURAM(M.P.)**

College Code :- 3203

Accredited by NAAC with B+ Grade

AISHE Code :- C-35178

E-mail : hegpgcpiparos@mp.gov.in, Website- www.sbsgovtpgcollegepipariya.in, Phone/Fax : 07576-220112



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Dr. Ravi Kumar Vishwakarma

Class: MSc 1 Sem Mathematics

Subjects: Advanced Abstract Algebra-I

CO1 - An understanding of normal and subnormal series, Jordan Holder theorem.

CO2 – Derive the idea of solvable group and its properties, commutator subgroup, Nilpotent group and its properties.

CO3 - Develop the knowledge of extension field, finite extension, algebraic and transcendental extension.

CO4 - Knowledge of derivative of polynomial separable and separable extension, Perfect field and finite field.

CO5 – Understand the Galois extension and its application.

Teacher's Name: Prof. S.K. Baghel

Class: MSc 1 Sem Mathematics

Subjects: Real Analysis

CO1 - Understand Riemann Stieltjes integral and its properties, fundamentals theorem of calculus.

CO2 – Know about integration of vector-valued function, Riemann's theorem.

CO3 - Develop the knowledge of sequence and series of functions, Riemann-stieltjes integration, power series.

CO4 - Know about function of several variables, linear transformations, Inverse function theorem.

CO5 - Explain Derivative of higher order with power series, Abel's and Tauber's theorems along with their applications.



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Dr. Ravi Kumar Vishwakarma

Class: MSc 1 Sem Mathematics

Subjects: Topology-I

CO1: Students will learn about countable and uncountable sets along with theorems like Cantor's, Schroeder Bernstein, Well ordering and Zorn's Lemma.

CO2. Students will understand the concepts of metric spaces and topological spaces, and their role in mathematics.

CO3. Students will be able to define alternate definition of topological space in terms of Kuratowski Closure, continuity and homogeneous properties of Spaces.

CO4. Students will be able to demonstrate countability of the spaces like first and second countable spaces.

CO5 - Development an understanding of connected and path connected spaces.

Teacher's Name: Prof. S.K. Baghel

Class: MSc 1 Sem Mathematics

Subjects: Complex Analysis-I

CO1 - Get an idea of complex integration, Cauchy integral formula, Higher order derivative.

CO2 - Understand Morera's theorem, Liouville's theorem, Taylor's theorem,

CO3 - Know about the maximum modulus principle, Schartz lemma, Isolated singularities, Inverse function theorem.

CO4 - Develop an understanding of residues, Cauchy residue theorem, Evaluation of integrals.

CO5 - Gain knowledge of bilinear transformation and their properties, Definition and example to conformal mapping.



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

\

Teacher's Name: Dr. Kailash Kumar Namdeo

Class: MSc 1 Sem Mathematics

Subjects: Differential and Integral Equations-I

CO1. Students will be able to solve the problems using multiple approaches and will learn to classify ODEs.

CO2. Students will demonstrate an understanding of the theory of ODEs and will work with a variety of applications of ODE.

CO3. Students will learn to system of first order equations.

CO4. Student will have a working knowledge of solution of non-homogeneous voltera integral equation of first kind with various methods.

CO5. Students will understand solution of Fredholm integral equation, iterated kernels and reciprocal functions.

Teacher's Name: Dr. Ravi Kumar Vishwakarma

Class: MSc 2 Sem Mathematics

Subjects: Advanced Abstract Algebra-II

CO1 - Explain the elements of Galois theory, fundamental theorem of Galois theory.

CO2 - Understand modules, sub modules and direct sum of submodules, finitely generated modules.

CO3 - Define simple modules, semi-simple modules, free modules, Rank of a modules.

CO4 - Explain Noetherian and Artinian modules, Noetherian and Artinian ring, Wedderburn Artin Theorem.

CO5 - Understand fundamentals algebra of linear transformation, characteristic roots and matrices along with reduction of triangular forms.



**OFFICE OF THE PRINCIPAL, SHAHEED BHAGAT SINGH GOVT. P.G.
COLLEGE PIPARIYA, DIST-NARMADAPURAM(M.P.)**

College Code :- 3203

Accredited by NAAC with B+ Grade

AISHE Code :- C-35178

E-mail : hegpgcpiphos@mp.gov.in, Website- www.sbsgovtpgcollegepipariya.in, Phone/Fax : 07576-220112



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Prof. S.K. Baghel

Class: MSc 2 Sem Mathematics

Subjects: Lebesgue Measure and Integration

CO1 - Understand Lebesgue outer measure, Measurable sets, Regularity, Measurable functions, non-measurable sets.

CO2 - Define integration of non-negative function, Integration of series, Riemann Integration.

CO3 - Get an idea of the four derivative, Function of Bounded variation, differentiation and integration.

CO4 - Know about LP spaces, convex function, Ten series inequality, Holder and Murkowski inequalities.

CO5 - Understand about dual spaces. Convergence in measure, uniform, convergence and almost uniform convergence.

Teacher's Name: Dr. Ravi Kumar Vishwakarma

Class: MSc 2 Sem Mathematics

Subjects: Topology-II

CO1 – Understand the concepts of T_0, T_1, T_2, T_4 and their characterization, Tietze extension theorem.

CO2 - Analyse compactness in the spaces and learn about sequentially and countably compact sets, Local compactness.

CO3 – Know about Tychonoff's product topology, projection maps, product spaces and connected spaces.

CO4 - Develop an understanding of nets and filters, convergence of nets filters and their convergence.

CO5 - Get an idea of fundamental group and covering spaces.



**OFFICE OF THE PRINCIPAL, SHAHEED BHAGAT SINGH GOVT. P.G.
COLLEGE PIPARIYA, DIST-NARMADAPURAM(M.P.)**

College Code :- 3203

Accredited by NAAC with B+ Grade

AISHE Code :- C-35178

E-mail : hegpgcpiphos@mp.gov.in, Website- www.sbsgovtpgcollegepipariya.in, Phone/Fax : 07576-220112



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Prof. S.K. Baghel

Class: MSc 2 Sem Mathematics

Subjects: Complex Analysis-II

CO1 - Get knowledge of Gamma function and its properties, Riemann Zeta function Riemann Riemann's Functional equation.

CO2 – Awareness about the Prove of Mittag-Leffler's theorem, Analytic Continuation, Schwarz reflection principle.

CO3 - Develop an understanding of Harmonic function, Harnack inequality, Dirichlet problem, Green's functions.

CO4 - Know about Canonical product, Jensen's formula, Hadamard's three circle theorem Borals and Hadamard's theorems.

CO5 – Understanding to develop the proof of Bloch's theorem, The little Picard theorem, Schottky's theorem great Picard theorem, Bieberbach conjecture and $\frac{1}{4}$ -theorem.

Teacher's Name: Dr. Kailash Kumar Namdeo

Class: MSc 2 Sem Mathematics

Subjects: Differential and Integral Equations-II

CO1 – Learn to solve Partial Differential Equation by using Lagrange's and Charpits method.

CO2 - Get knowledge of homogeneous linear equation and Monge's method.

CO3 - Analyse fundamental matrix and non-homogeneous linear systems.

CO4 – Understand solution of linear system with constant and periodic coefficients, Floquent's theory.

CO5 – Aware about Fredholm integral equation, Eigen value of the Kernel, fundamental function and Hadamard's theorem.



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Dr. Kailash Kumar Namdeo

Class: MSc 3 Sem Mathematics

Subjects: Functional Analysis-I

CO1 – Understand the definition of Normed linear spaces, Banach spaces and their properties.

CO2 - Derive the knowledge of Normed linear subspaces, equivalent norms, compactness, Quotient space of normed linear spaces.

CO3 – Learn the definition of linear, bounded and continuous operator.

CO4 - Know about Linear functional, bounded linear functional and dual spaces in detail.

CO5 - Understand the concept of Hilbert space, orthogonal complement, sets and sequences.

Teacher's Name: Prof. S.K. Baghel

Class: MSc 3 Sem Mathematics

Subjects: Advanced Special Functions-I

CO1 – Understand the definition of Gamma and Beta function, difference equation, factorial function and proof of duplication formula and Gauss multiplication theorem.

CO2 - Know about Hypergeometric function, contiguous function and hypergeometric differential equation with solution.

CO3 - Construction of Generalized Hypergeometric function.

CO4 – Understand elementary series manipulation, simple transformation relation between function of z and $1 - z$.

CO5 – Learn about confluent hyper geometric function and its properties.



**OFFICE OF THE PRINCIPAL, SHAHEED BHAGAT SINGH GOVT. P.G.
COLLEGE PIPARIYA, DIST-NARMADAPURAM(M.P.)**

College Code :- 3203

Accredited by NAAC with B+ Grade

AISHE Code :- C-35178

E-mail : hegpgcpiparos@mp.gov.in, Website- www.sbsgovtpgcollegepipariya.in, Phone/Fax : 07576-220112



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Dr. Ravi Kumar Vishwakarma

Class: MSc 3 Sem Mathematics

Subjects: Operations Research-I

CO1 - Develop an understating about scope of Operations Research, Origin and Development of Operations Research along with its characteristics.

CO2 – Learn to Construct model in Operation Research, Phase, uses and limitation of Operations Research and Linear Programming Problem.

CO3 - Understand the Mathematical formation of Linear Programming Problem and its Graphical Solution.

CO4 – Know about the solution of Linear Programming Problem by using Simplex method, Big M method, Two Phase method along with degeneracy problem.

CO5 – Understand the concept of Duality and its properties with theorems.

Teacher's Name: Dr. Kailash Kumar Namdeo

Class: MSc 3 Sem Mathematics

Subjects: Integral Transform-I

CO1 – Learn to define Laplace Transform and inverse Laplace Transform, Properties and theorem related to Laplace and Inverse Laplace Transform. Initial and boundary value problems.

CO2 – Able to apply application of Laplace Transform into differential equation, integral equation.

CO3 – Understand the concept of Laplace equation in two dimensional and Wave equation applications.

CO4 – Know about Application of Laplace transform to electric circuits and Beams.

CO5 – Learn heat conduction equation and application of Laplace transform in heat conduction equation.



**OFFICE OF THE PRINCIPAL, SHAHEED BHAGAT SINGH GOVT. P.G.
COLLEGE PIPARIYA, DIST-NARMADAPURAM(M.P.)**

College Code :- 3203

Accredited by NAAC with B+ Grade

AISHE Code :- C-35178

E-mail : hegpgcpiphos@mp.gov.in, Website- www.sbsgovtpgcollegepipariya.in, Phone/Fax : 07576-220112



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Prof. S.K. Baghel

Class: MSc 3 Sem Mathematics

Subjects: Spherical Trigonometry and Astronomy-I

CO1 – Understand great circle, small circle, properties of poles, spherical radius and angle.

CO2 – Derive the knowledge about polar triangle, spherical triangle, cosine and sine formulae.

CO3 – Learn formula for half angle and half a side supplemental sine-cosine formulae, cotangent formula.

CO4 - Know about analogies of Napier and de almbert, Right angle triangle.

CO5 - Understand about Position of earth, latitude and longitude, system of stars, zenith and azimuth distances.

Teacher's Name: Dr. Kailash Kumar Namdeo

Class: MSc 4 Sem Mathematics

Subjects: Functional Analysis-II

CO1 - Understand the operators like Adjoint, self-adjoint, unitary, normal and positive operators in Hilbert space.

CO2 – Able to derive the proofs of Zorn's lemma, Hahn-Banach theorem for real and complex spaces.

CO3 – Know the relation between Normed Adjoint operator and Hilbert adjoint operator, Reflexivity of Hilbert spaces.

CO4 – Learn about Bair's category theorem, uniform boundedness theorem and weak convergence in normed spaces.

CO5 - Understand the proof of Open and Closed mapping theorems, contraction theorem.



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Prof. S.K. Baghel

Class: MSc 4 Sem Mathematics

Subjects: Advanced Special Functions-II

CO1 - Understand the definition of Bessel's function, generating function, Bessel's integral with index half and odd integers.

CO2 – Learn the generating function of Legendre polynomial, Rodrigues formula and some other generating functions.

CO3 – Know the definition of Hermite polynomial, Rodrigues formula and some other generating functions.

CO4 – Derive the Laguerre polynomial, its generating functions, differential recurrence relation and Rodrigues formula.

CO5 - Understand the Jacobi Polynomial, its generating function and orthogonal properties.

Teacher's Name: Dr. Ravi Kumar Vishwakarma

Class: MSc 4 Sem Mathematics

Subjects: Operations Research-II

CO1 - Solve the Transportation problem by using various methods and exceptional cases also covered.

CO2 - Develop understating to solve Assignment problems, Non-linear programming and Kuhn Tucker conditions along with non-negative constraints.

CO3 – Learn the Network analysis, construction of network, Solution by CPM and PERT methods, Recourse levelling by network technique.

CO4 - Understand Simulation like Monte-Carlo Simulation, Network's Simulation, Advantages and limitations of Simulations.

CO5 - Development an idea of Game Theory, solution by various techniques and solution by linear programming.



Shaheed Bhagat Singh Govt PG College, Pipariya



M.Sc. (Mathematics) – Course Outcomes

Teacher's Name: Dr. Kailash Kumar Namdeo

Class: MSc 4 Sem Mathematics

Subjects: Integral Transform-II

CO1 – Learn about Fourier Transform, infinite and complex Fourier Transform.

CO2 - Get Knowledge of Finite Fourier Transform and Fourier integral.

CO3 - Understand complex Fourier transform. Inversion formula.

CO4 – Analyse the Convolution theorem, Parseval's identity for Fourier series and transform.

CO5 - Develop the Knowledge of Hankel and Melin transforms, Fourier series and Boundary value problems.

Teacher's Name: Prof. S.K. Baghel

Class: MSc 4 Sem Mathematics

Subjects: Spherical Trigonometry and Astronomy-II

CO1 - Understand the Fundamental definitions, motion of Sun and Twilight.

CO2 – Learn Dip of the Horizon, Refraction and Meridian circle.

CO3 – Know the Kepler's laws of planetary motion and time.

CO4 – Understand planetary motion and Phenomena, Aberration.

CO5 – Extend the knowledge about Precession and Mutation, Parallax and Eclipses.

Head of Department

Mathematics



B.COM. (PLAIN AND COMPUTER APPLICATION)

Programme Outcome

After completing the course of B.Com., a student can run a business, prepare its accounts, form a company, operate a company, how the company's account is prepared. One learns these things as well as manufacturing an item, ascertaining its cost, determining the selling price, as well as taxation related knowledge, in which indirect tax GST and direct tax income tax calculation is well learned. When the course of B.Com is completed, then the student is able to work in the following areas for his employment.

- Doing business related to opening one's own business, in this the sole business can do its business through partnership or a company.
- Tax advice can be done with any CA or commercial tax consultant, currently new tax in GST in which all the work is edited online but by not doing business themselves, they appoint people in part time to do this work at their place. Taxes are paid and that person can come according to his time and get employment by doing online entry will generation etc.
- Government takes out recruitment for government posts in various departments, in which departments such as Madhya Pradesh Commercial Tax, in which the post of Taxation Assistant, in which only B.Com graduates are sought, can be filled, in addition to other competitive examinations, in which graduate level candidates are desired, this can also be done. You can join for your employment.

Apart from this, due to the knowledge of accounting, he can also provide his services as an accountant in any business.

- After graduation, this option is available to them, if they want to pursue higher education, they can do postgraduate degree in which M. Com, MBA and MA etc. can be done.

PROGRAMME SPECIFIC OUTCOMES (PSO)

- The students can get the knowledge, skills and attitudes during the end of the B.com degree course.
- By goodness of the preparation they can turn into a Manager, Accountant , Management Accountant, cost Accountant, Bank Manager, Auditor, Company Secretary, Teacher, Professor, Stock Agents, Government employments and so on.,
- Students will prove themselves in different professional exams like C.A., C S, CMA, MPSC, UPSC. As well as other coerces.
- The students will acquire the knowledge, skill in different areas of communication, decision making, innovations and problem solving in day-to-day business activities.
- Students will gain thorough systematic and subject skills within various disciplines of finance, auditing and taxation, accounting, management, communication, computer.
- Students can also get the practical skills to work as accountant, audit assistant, tax consultant, and computer operator. As well as other financial supporting services.
- Students will learn relevant Advanced accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.



B.Com. first year new education policy

- **Financial Accounting** - Upon successful completion of this course, the student will be able to Conceptual knowledge of basics of accounting, able to record accounting records, prepare final accounts of sole trader. Knowledge of the reasons for the difference between the cash book and the passbook to identify the increased risk of errors and frauds.
- **Professional Regulation Framework** - By studying this subject, students will gain knowledge of practical issues of general commercial law, in which they will learn the essentiality of the contract, the understanding of the law regarding the sale of goods, the contract of sale and its remedies.
- **Business organization and communication** - By studying this course, the student will get information about different types of organization of business, as well as business can be made successful by efficient communication in business, knowing the different types of communication, he will be able to communicate effectively.
- **Business Economics** - By studying this course, the student will be familiar with the fluctuations in the price of economic changes in the market, will be able to know the reasons for various changes in demand and supply, as well as knowledge of the means of production and becoming a good entrepreneur, perfect competition, imperfect competition and monopolistic competition. will get knowledge about

B.Com. Second Year

- **Corporate Accounting** - This course informs the students about the complete information of company accounting, under which the student will learn the share capital of the company, its types and the methodology of their accounting, valuation of shares, valuation of goodwill, accounting of the holding and subsidiary company, merger of the company, reconstruction of the company as well. Will be aware of the accounting functions of public companies such as banks and insurance, thus after studying corporate accounting, complete information about company accounting will be known.
- **Cost Accounting** - After studying this accounting subject, the student will learn to find out the cost of the item to be made in a factory or manufacturing institute, determine its selling price, in addition to this, will learn the accounting related to the issue control of the material used in the manufacture of the item. This course will give an in-depth



knowledge about various techniques of costing, unit costing, contract costing, process costing, marginal costing, analysis and standard costing in a manufacturing organization, thus helping a small enterprise or factory. Will be able to establish his self-employment by starting

- **Principles of Statistics** - After studying this course, the student will be familiar with even numbers, as well as one-sided classification of these groups, will be able to draw conclusions by knowing different policies of tabulation and analysis, will be familiar with the methods of measurement of central tendency, their variance and deviation used in business. Also will be able to understand correlation coefficient, regression coefficient, attribute relationship, analysis of time series, construction of coordinates and display of even numbers.
- **Principles of Management** - After studying this paper, the student will be able to know the different types of concepts, principles of management, contemporary challenges of management and the functions of the entire management from planning to control, will know the methods of work evaluation and best control. will be able to become

B.Com. Third year

- **Income Tax Legislation & Accounts** - By studying this course, the student will be aware of the general provisions and rules of income tax, in which all types of income such as tax-free income, agricultural income, salary, housing property, capital profit, calculation of gross total income after compensation of losses from business profession and provided from it. After providing the required deductions, you will learn how to calculate total income as well as determine tax on total income of a person, thus he will be able to start his career with a tax consultant.
- **Goods and Services Tax and VAT** - After studying this course, the student will be familiar with the theoretical knowledge of Goods and Services Tax, in which the Goods and Services Tax Act, Integrated Goods and Services Tax Act, 2017, important definitions, provisions, registration details, payment of invoices, refund of tax and penalties and provisions of the Act. Will also be able to calculate the provisions of the Customs Act and the customs duty. The student can start his employment after getting theoretical knowledge from this course by taking practical knowledge from a commercial tax consultant.
- **Auditing** - From the study of this course, the student will be aware of the concept of auditing, its types, the process of auditing, the verification and valuation of assets, the



rights and duties of the auditee, as well as after completion, the student will get knowledge about the audit report and business research from the course. By getting theory knowledge, one can learn work at the place of some auditor and can get his employment by cooperating in their work.

- **Managerial Accounting** - Decision Accounting of Management After studying this course, the student will learn all the methods which have to be resorted to by an efficient manager for taking decisions. In this, the manager of the business will make future policies with the help of financial statements. Learn to draw conclusions or make decisions using various methods, cash flow statement, budget analysis, and standard cost accounting.
- **Principles of Marketing** - After the completion of this course, the student will be able to know how all marketing functions work, including the concept of marketing, its importance, traditional and innovative marketing methods, market mix, consumer behavior and market segmentation, product planning and development, trademarks, brands, Know about packaging, advertising, after sales service, original quotation, channel of distribution, wholesale and retail distribution, transportation and warehousing, sales promotion and personal selling.
- **International Marketing** - After studying this course, the student will be able to understand the concept of international marketing, its nature, scope, international marketing, environment, identification and selection of foreign markets, methods of foreign market entry, international markets, product planning, product branding, packaging, factors affecting international price, selection of international channels of distribution and foreign agents. The appointment of Indian Import & Export Laws will acquire theoretical knowledge about export pricing and modes of finance international payments.



पाठ्यक्रम आउट कम एम कॉम स्नातकोत्तर स्तर

एम कॉम का पाठ्यक्रम दो वर्ष (चार सेमेस्टर) में विद्यार्थी 16 विषयों का अध्ययन मनेजमेंट ग्रुप से पूर्ण कर लेने के पश्चात विद्यार्थी प्रबंध अवधारणा, लागत विश्लेषण, व्यावसायिक वातावरण, उच्चतर लेखांकन, उपभोक्ता व्यवहार, उच्चतर सांख्यिकी एवं अंतरराष्ट्रीय विपणन आदि विषयों का अध्ययन कर लेने के पश्चात किसी अंतरराष्ट्रीय व्यापार का संचालन करने किसी कंपनी का निर्माण, कंपनी का संचालन कंपनी का हिसाब तैयार किस तरह से किया जाता है। यह बातें जान लेता है उसके साथ ही किसी वस्तु का निर्माण करना उसकी लागत का लगा पता लगाना विक्रय मूल्य निर्धारित करना लागतों पर नियंत्रण एवं विश्लेषण करने साथ ही करारोपण संबंधी ज्ञान जिसमें कर नियोजन एवं कर प्रबंध की गणना अच्छी तरह से सीख जाता है। एम कॉम का पाठ्यक्रम जब पूर्ण हो जाता है तो विद्यार्थी अपने रोजगार हेतु निम्न क्षेत्रों में कार्य करने में सक्षम होता है।

- स्वयं का व्यवसाय खोलना संबंधी व्यवसाय को करना इसमें एकाकी व्यवसाय साझेदारी या किसी कंपनी के माध्यम से अपने व्यवसाय कर सकता है।
- किसी सीए के साथ कर सलाह का कार्य कर सकता है।
- कर सलाहकार के रूप में स्वयं को पंजीकृत कराकर स्वयं कर सलाहकार का कार्य कर सकता है।
- वर्तमान में जीएसटी में नया कर जिसमें समस्त कार्य ऑनलाइन संपादित होते हैं परंतु व्यवसाय स्वयं ना कर वे अपने यहां इस कार्य को करने के लिए पार्ट टाइम में व्यक्तियों को नियुक्त कर देते हैं और वह व्यक्ति अपने समय अनुसार आकर ऑनलाइन एंट्री विल को जनरेट करना आदि कार्य करते हुए रोजगार प्राप्त कर सकते हैं।
- सरकार द्वारा विभिन्न विभागों में सरकारी पदों हेतु भर्ती निकालती है जिस विभाग जैसे शिक्षा विभाग, उच्च शिक्षा, बैंक, रेल्वे आदि स्नातकोत्तर मांगा जाता है भर सकते हैं इसके अलावा अन्य प्रतियोगिता परीक्षाएं जिसमें स्नातकोत्तर स्तर वाले प्रत्याशी चाहे गए हो वहां पर भी यह अपने रोजगार हेतु शामिल हो सकते हैं।
- इसके अतिरिक्त लेखांकन का ज्ञान होने के कारण यह किसी व्यवसाय के यहां अपनी सेवाएं लेखापाल के रूप में भी प्रदान कर सकते हैं।



Department of Sociology

Programme: B.A. Sociology

Program Specific Outcomes (PSOs)

Upon completion of this programme the student will be able to-

PSO1: Academic competence:

- (i) Understand fundamental concepts and theories in Sociology.
- (ii) Demonstrate an understanding of the interlinkages between varied social phenomena.
- (iii) Interpret contemporary social reality by utilising the varied theoretical tools.

PSO2: Personal and Professional Competence:

- (i) Integrate theoretical knowledge with understanding of contemporary social reality
- (ii) Analyse social policies and legal provisions.
- (iii) Write articles highlighting social challenges, policies.

PSO3: Research Competence:

- (i) Apply research methodology skills for designing and undertaking social research projects.
- (ii) Integrate theoretical understanding and research skills for analysis of social challenges, social policies.

PSO4: Entrepreneurial and Social competence:

- (i) Employ skills in specific areas related to Sociology such as urban sociology, developmental sociology, public policy.
- (ii) Awareness of ethical issues: Emphasizing on academic and research ethics, academic and empathetic understanding of issues pertaining to vulnerable sections of Indian society.



COURSE OUTCOME-

- 1.Students understood discipline and basic concept in sociology and social structure.
2. Students are able to understand social issues and are empowered to face social problems.
3. Students are familiarized with social, political, economical and intellectual context's and understand social thoughts.
4. Students are able to provide an Introduction of Social Structure & Social Change.
5. Students understood Nature of Scientific Method in Social Science Research.
6. Students are able to understand work and industry. And able to understand the Problems faced by Labour in Organized and Unorganized Sector.





M.A. SOCIOLOGY

Department of Sociology

Program Outcomes (PO)

On successful completion of this program, students would be able to:

- 1.The sociological knowledge provides students scientific outlooks and attitudes to understand the human behavior, social issues and phenomena.
- 2.Acquiring sociological knowledge in the forms of theories and methods would make students good social scientists.
- 3.The sociological knowledge would help to make students, critical and logical.
- 4.After studying this course, students would be also able to qualify the UPSC, MPSC/ UGCNET/JRF/ and other examination of Social Welfare Departments.
- 5.Students would be able to get employment opportunities in the Teaching, Research and NGOs and Private sectors.





Programme Specific Outcome Sociology

- 1.To provide the students a deeper and broader understanding of the subject.
- 2: To enhance their research ability to add new thinking and concept into its body of knowledge.
- 3: To equip the students for seeking suitable employment ability.
- 4: To impart knowledge and develop understanding of research methodology and its application for research relevant to social problems .
5. To use ethical skills in transparent, accountable decision making for the common good.





Course Outcome Sociology

Course Outcomes:

- This course is designed such way that offers multiple opportunities to the learners/Students. After completion of this course, student would get job opportunities in the fields of teachings, research, NGOs, corporate sectors and Governmental sectors.
- This course also helps students to qualify the NET/JRF/SET and Competitive Exams such as MPSC/UPSC/Social Welfare Departments and others etc.
- This course has also relevance in the field of production of knowledge about the human behavior, social issues and phenomena.
- This production of knowledge would be helpful to the policy makers, developmental organizations, researchers, social activist and social scientists.
- This course makes differentiate between common sense knowledge and sociological knowledge and this course provides scientific vocabulary, terms, concepts, methods and perspectives in accessing the social issues, events and problems.
- The sociological knowledge would be useful in the social engineering and social reconstruction of the social structure. The sociology not only provides employment opportunities alone, but also makes the students rational, critical and logical.