



# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

## Shri Vaishnav Institute of Science

Choice Based Credit System (CBCS) in Light of NEP

Department of Physics

B.Sc. Phys. I Sem

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem University Exam	Two Term Exam	Teachers Assessment *	End Sem University Exam	Teachers Assessment *				
BSCPH101	DC	General Properties of Matter, Waves and Oscillations	60	20	20	00	00	4	0	0	4

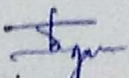
### Course Objectives

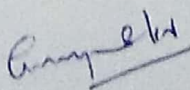
1. To develop the basic understanding of General Properties of Matter, Waves and Oscillations.
2. To introduce the importance of various types of waves and their relations.
3. To brief the concepts of Rotational Dynamics, Elasticity and Fluid Mechanics.
4. To build the concepts of Resonance, Sharpness and Quality factor.

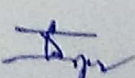
### Course Outcomes

1. The student will be able to understand the concept General Properties of Matter.
2. The student will be able to learn the basic principles of Waves and Oscillations.
3. The student will acquire the knowledge of Elasticity and Fluid Mechanics.
4. The student will be able to analyze and apply the concept of Resonance, Sharpness in various emerging applications.

Abbreviation		Teacher Assessment (Theory) shall be based on following components: Quiz / Assignment/ Project / Participation in class (Given that no component shall be exceed 10 Marks).
Th	Theory	
T	Tutorial	
P	Practical	Teacher Assessment (Practical) shall be based on following components: Viva / File / Participation in Lab work (Given that no component shall be exceed 50% of Marks).

  
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## Shri Vaishnav Institute of Science

Choice Based Credit System (CBCS) in Light of NEP

### Department of Physics

#### B.Sc. Phys. I Sem

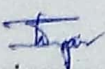
Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
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			End Sem University Exam	Two Term Exam	Teachers Assessment *	End Sem University Exam	Teachers Assessment *				
BSCPH101	DC	General Properties of Matter, Waves and Oscillations	60	20	20	00	00	4	0	0	4

#### UNIT I: System of many particles

System of particles and equation of motion, Centre of mass for a system of particles, motion of the center of mass, law of conservation of linear momentum for a system of one, two, n particles, law of conservation of angular momentum for a single particle, system of n particles and examples, recoil velocity on firing a bullet from a gun, motion of a boat or propulsion of an Aeroplane, jet propulsion, motion of rocket. Kepler's law of planetary motion.

#### UNIT II: Rotational Dynamics

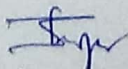
Motion of rigid body, rotatory motion, equations of rotary motion of a particle under a constant angular acceleration, angular momentum and concept of moment of inertia in rotational motion, Newton's law of rotational motion, Moment of inertia and its examples, radius of gyration, rotational kinetic energy, relation between Torque and moment of inertia, Theorem of parallel axis, theorem of perpendicular axis.

  
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Department of Physics

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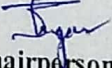
### UNIT III: Elasticity and Fluid Mechanics

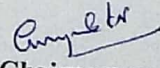
Elasticity, small deformation, Stress and Strain; Hook's law, elasticity constants for an isotropic solid, Young's modulus, Bulk Modulus, Modulus of rigidity, Poisson's ratio. Bending of beam and bending moment, Cantilever, transverse oscillations of a cantilever, torsion of cylinder.

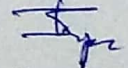
Ideal and Viscous fluid, Stream line and Turbulent flow, Reynolds's number, Rotational and irrotational flow, Equation of continuity, Bernoulli's theorem and its application, Stokes law, viscous flow of fluids, Effect of pressure and temperature on the coefficient of viscosity, Poiseuille's formula,

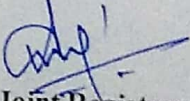
### UNIT IV: Waves

Wave motion, one dimensional wave equation and solution, speed of transverse waves in a uniform stretched string, speed of longitudinal waves in a fluid and gases, speed of longitudinal waves in a solid, variation in velocity and pressure in a plane progressive wave, Energy, Energy density of a progressive wave and intensity of a wave, waves on liquid surface, gravity waves and ripples, phase velocity and group velocity.

  
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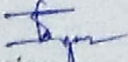
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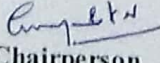
### UNIT V: Oscillations

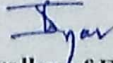
SHM: Simple Harmonic Oscillations, Differential equation of SHM and its solution. Kinetic energy, Potential energy, total energy and their time-average values. Damped oscillation. Forced oscillations: Transient and steady states; Resonance, sharpness of resonance; power dissipation and Quality Factor, motion of simple pendulum, motion of compound pendulum, motion of mass connected with spring, motion of torsional pendulum.

### References

1. D. Kleppner and R. Kolenkow, *An Introduction to Mechanics*, 2<sup>nd</sup> Edition, Cambridge University Press, 2014.
2. D. S. Mathur, *Elements of Properties of Matter*, S. Chand & Co., 1962.
3. C. Kittel, W. D. Knight and M. A. Ruderman, *Mechanics, Berkeley Physics Course*, Vol. 1, 2<sup>nd</sup> Edition, McGraw-Hill Book Company, 1973.
4. Halliday and Resnick, *Fundamentals of Physics*, 10<sup>th</sup> Edition, John Wiley & Sons, 2014.
5. H. D. young, R. A. Freedman, R. Bhathal and A. L. ford, *Sears and Zemansky's University Physics with Modern Physics*, 1<sup>st</sup> Australian SI Edition, Pearson Education Inc, 2011.

  
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Department of Physics

B.Sc. Phys. I Sem

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
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			End Sem University Exam	Two Term Exam	Teachers Assessment	End Sem University Exam	Teachers Assessment				
BSCPH101(P)	DC	Physics Laboratory	0	0	0	30	20	0	0	4	2

### Course Objectives

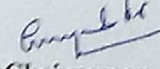
1. To gain practical knowledge by applying the experimental methods to correlate with the Physics theory.
2. To learn the usage of electrical and optical systems for various measurements.
3. Apply the analytical techniques and graphical analysis to the experimental data.
4. To develop intellectual communication skills and discuss the basic principles of scientific concepts in a group.

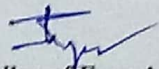
### Course Outcomes

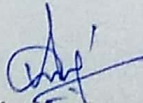
1. Apply the various procedures and techniques for the experiments.
2. Use the different measuring devices to record the data with precision.
3. Apply the mathematical concepts/equations to obtain quantitative results.
4. Develop basic communication skills through working in groups in performing the laboratory experiments and by interpreting the results.

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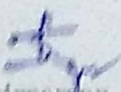
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BSCPH101 (P): Physics Laboratory


Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		Th	T	P	CREDITS
			End Sem Examina- tion	Two Term Exam	Teachi- ngs Asses- ment	End Sem Exami- nation	Teachi- ngs Asses- ment				
BSCPH101(P)	EC	Physics Laboratory	0	0	0	30	20	0	0	4	2

List of Experiments

1. To verify laws of Perpendicular axes for moment of inertia.
2. To determine Acceleration due to gravity using compound pendulum.
3. To determine Coefficient of Viscosity of fluid using Stoke's law.
4. To determine Young's Modulus using Cantilever method.
5. To determine Surface Tension by Jaeger's method.
6. To determine Coefficient of Viscosity of fluid using Poiseuille's method.
7. To determine Modulus of rigidity by Torsional pendulum.
8. To determine Young's Modulus of long wire by Searl's method.
9. To determine Poisson's ratio of rubber tube.
10. To determine the force constant of the given spring in parallel combination.

  
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**Shri Vaishnav Institute of Social Sciences, Humanities and Arts**  
**Choice Based Credit System (CBCS) in Light of NEP-2020**  
**Ability Enhancement Course (AEC)**  
**Semester I & II (Batch 2022-26)**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME									
			THEORY			PRACTICAL			L	T	P	CREDIT
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*					
ENG101	AEC	Foundation English	60	20	20	-	-	4	0	0	4	

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

\*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**Course Educational Objectives (CEOs): The students will**

- CEO 1 Understand the different nuances of communication.
- CEO2 understand the features of listening and reading skills.
- CEO3 Comprehend the factors that influence use of grammar and vocabulary in speech and writing
- CEO4 study the essential aspects of effective written communication through Business letters and email writing for professional success.
- CEO5 Develop competency in professional communication.

**Course Outcomes (COs): The students will be able to**

- CO1 develop a comprehensive understanding of the theoretical and practical aspects of communication.
- CO2 understand and the different aspects of listening and reading.
- CO3 Apply grammatical rules in speech and writing.
- CO4 Use proper formats of written business communication.
- CO5 Demonstrate different strategies for using professional communication skills.

**ENG101**  
**Foundation English**

**COURSE CONTENTS**

**UNIT I**

**Communication**

Communication: Nature, Meaning, Definition, Process, Functions and importance, Characteristics of Communication, Verbal and Non-Verbal Communication, Barriers to Communication.

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**Ability Enhancement Course (AEC)**  
**Semester I& II (Batch 2022-26)**

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ENG101	AEC	Foundation English	60	20	20	-	-	4	0	0	4

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### UNIT II

#### Listening and Reading Skills

Listening: Process, Types, Difference between Hearing and Listening, Benefits of Effective Listening, Barriers to Effective Listening, Overcoming Listening Barriers, and How to Become an Effective Listener, Developing Reading Skills: Reading Comprehension, Process, Active & Passive reading, Reading speed Strategies, Benefits of effective reading, SQ3R Reading technique.

### UNIT III

#### Basic Grammar

Basic Language Skills: Grammar and usage- Parts of Speech, Tenses, Subject and Verb Agreement, Prepositions, Articles, Types of Sentences, Direct - Indirect, Active - Passive voice, Phrases & Clauses.

### UNIT IV

#### Business Letters

Business Correspondence: Business Letters, Parts & Layouts of Business Letter, Job application and Resume, Application Calling/ Sending Quotations/ Orders/ Complaints. E-mail writing, Email etiquettes

### UNIT V

#### Professional Skills

Negotiation Skills, Telephonic Skills, Interview Skills: Team building Skills and Time management

#### Suggested Readings:

- Adair John (2003). **Effective Communication**. London: Pan Macmillan Ltd.
- Thomson A.J. and Martinet A.V. (1991). **A Practical English Grammar** (4<sup>th</sup> ed). New York: Ox- ford IBH Pub
- Rizvi Ashraf (2005). **Effective Technical Communication**. New Delhi: Tata Mc Graw Hill
- Kratz Robinson (1995). **Effective Listening Skills**. Toronto: ON: Irwin Professional Publishing.



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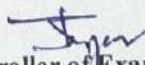
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**Shri Vaishnav Institute of Science**  
**Name of Program: B.Sc. (Major: Chemistry)**  
**(2022-2025)**

**Semester I**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
<b>BSCCH101</b>	<b>UG</b>	<b>Inorganic Chemistry I</b>	60	20	20	30	20	4	0	4	6

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit.

\***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**Course Educational Objectives (CEOs):**

The subject aims to provide the student with:

1. To understand the periodic law and significance of atomic no and electronic configuration as the basic for periodic classification.
2. To include the importance of different types and theories of chemical bonding.
3. To understand different properties and reactions of the compounds of s- and p- block elements.
4. To acquire required knowledge about coordination compounds and different theories of complexes.
5. To acquaint the students with practical knowledge of the concepts of inorganic chemistry.

**Course Outcomes (COs):**

1. Students will gain the basic knowledge of periodic law and significance of atomic no and electronic configuration as the basic for periodic classification and able to classify elements into s, p, d and f blocks.
2. They learn the importance of different types of chemical bonding in terms of the attainment of a stable electronic structure.
3. They will be able to understand the properties of s- and p- block elements and their compounds.

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**Shri Vaishnav Institute of Science**  
**Name of Program: B.Sc. (Major: Chemistry)**  
**(2022-2025)**

**Semester I**

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<b>BSCCH101</b>	<b>UG</b>	<b>Inorganic Chemistry I</b>	60	20	20	30	20	4	0	4	6

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit.

\***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

- Students will be able to explain the fundamental concepts in coordination chemistry.
- They can predict potential applications of inorganic chemistry and practical utility to become good chemist.

**Syllabus**

**Unit – 1**

**Atomic structure:**

Bohr's theory, its limitations and atomic spectrum of hydrogen atom. Wave mechanics: de Broglie equation, Heisenberg's uncertainty principle, and its significance. Schrödinger's wave equation, significance of  $\psi$  and  $\psi^2$ . Quantum numbers and their significance. Normalized and orthogonal wave functions. Radial and angular distribution curves. Shapes of s, p, and d orbitals. Pauli's Exclusion Principle, Hund's rule of maximum spin multiplicity, Aufbau principle and its limitations.

**Unit - 2**

**Periodic properties of elements:**

Brief discussion of the following properties of the elements and the trends shown:

- Effective nuclear charge, shielding or screening effect, Slater rules, variation of effective nuclear charge in periodic table.
- Atomic and ionic radii.

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**Shri Vaishnav Institute of Science**  
**Name of Program: B.Sc. (Major: Chemistry)**  
**(2022-2025)**

**Semester I**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
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- (c) Ionization enthalpy, Successive ionization enthalpies and factors affecting ionization enthalpy and trends in groups and periods.
- (d) Electron gain enthalpy and trends in groups and periods.
- (e) Electronegativity, Pauling's/ Allred Rochow's scales. Variation of electronegativity with bond order, partial charge, hybridization, group electronegativity.

**Unit-3**

**Chemical bonding:**

**Ionic bond:** General characteristics, radius ratio rule and its limitations. Born-Landé equation and Kapustinskii equation for lattice energy. Covalent character in ionic compounds, polarizing power and polarizability. Fajan's rules and consequences of polarization.

**Covalent bond:** Valence Bond theory and its limitations. Types of hybridization with examples. Valence shell electron pair repulsion (VSEPR) theory, shapes of some inorganic molecules based on VSEPR (H<sub>2</sub>O, NH<sub>3</sub>, PCl<sub>5</sub>, SF<sub>4</sub>, SF<sub>6</sub>, ClF<sub>3</sub>, ICl<sub>4</sub><sup>-</sup>). Molecular orbital theory. Molecular orbital diagrams of diatomic and simple polyatomic molecules N<sub>2</sub>, O<sub>2</sub>, F<sub>2</sub>, CO and NO.

**Weak Chemical Forces:** van der Waals forces, ion-dipole forces, dipole-dipole interactions, induced dipole interaction, Hydrogen bonding.

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**Name of Program: B.Sc. (Major: Chemistry)**  
**(2022-2025)**

**Semester I**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
<b>BSCCH101</b>	<b>UG</b>	<b>Inorganic Chemistry I</b>	60	20	20	30	20	4	0	4	6

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit.

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**Unit-4**

**Chemistry of *s* and *p* block elements:**

Reactions of alkali and alkaline earth metals with oxygen, hydrogen, nitrogen, and water. Common features such as ease of formation, thermal stability and solubility of the following alkali and alkaline earth metal compounds: hydrides, oxides, peroxides, superoxides, carbonates, nitrates, sulphates.

Catenation, Allotropy of C, P, S; inert pair effect, diagonal relationship between B and Si and anomalous behaviour of first member of each group. Hydrides and their classification ionic, covalent, and interstitial. Study of the following compounds with emphasis on structure, bonding, preparation, properties and uses:

Boric acid and borates, borohydrides (diborane), carboranes, silanes, oxides and oxoacids of nitrogen, phosphorus, and chlorine. Interhalogen compounds. Pseudohalogens.

**Unit-5**

**Coordination compounds**

Werner's coordination theory and its experimental verification, IUPAC nomenclature of coordination compounds, isomerism in coordination compounds. A brief idea about chelate effect and labile and inert complexes. Valence bond theory and its application to complexes of coordination numbers 4 and 6.

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Examples of inner and outer orbital complexes. Crystal field theory, Crystal field splitting in octahedral, tetrahedral, and square planar complexes. Factors affecting the crystal-field parameters.

**References:**

1. Huheey, J.E.; Keiter, E.A.; Keiter; R. L.; Medhi, O.K., Inorganic Chemistry- Principles of Structure and Reactivity, Pearson Education.
2. Lee, J.D. Concise Inorganic Chemistry, ELBS.
3. Atkins, P.W.; Overton, T.L.; Rourke, J.P.; Weller, M.T.; Armstrong, F.A., Shriver and Atkins Inorganic Chemistry, 5th Edition, Oxford University Press.
4. Cotton, F.A.; Wilkinson, G., Advanced Inorganic Chemistry Wiley-VCH.
5. Sodhi, G.S., Principles of Inorganic Chemistry, Viva books.
6. Garg, R., Singh, R., Inorganic Chemistry, McGraw Hill Education.

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**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav Institute of Science**  
**Name of Program: B.Sc. (Major: Chemistry)**  
**(2022-2025)**

**Semester I**

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
<b>BSCCH101</b>	<b>UG</b>	<b>Inorganic Chemistry I</b>	60	20	20	30	20	4	0	4	6

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\***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**List of Experiments:**

1. Calibration and uses of different apparatus and glasswares.
2. Preparation and standardization of solutions of different Molarity/Normality.
3. Preparation of stock solutions of different Molarity/Normality.
4. Inorganic Preparations. (Compound 1)
5. Inorganic Preparations. (Compound 2)
6. Inorganic Preparations. (Compound 2)
7. Determination of the strength of given unknown oxalic acid solution by titrating it against Potassium permanganate.
8. Estimation of free alkali present in different soaps/detergents.
9. An analysis of a mixture of  $\text{Na}_2\text{CO}_3$  and  $\text{NaOH}$  using two indicators and a standard  $\text{HCl}$  solution.
10. Preparation of colloidal solution of starch.

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# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Name of the Program: B. Sc. (Mathematics)

SUBJECT CODE	Category	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM	MST	Q/A	END SEM	Q/A				
BSCMT 101	DC	Differential Calculus	60	20	20	-	-	3	0	-	3

## Course Objective

To introduce the students with the fundamentals of the Differential Calculus and its applications

## Course Outcomes

After the successful completion of this course students will be able to:

1. Understand the significance of derivatives.
2. Construct the series of a function.
3. Know about the basic concepts of partial differentiations.
4. Apply the concept of derivatives and partial derivatives to practical problems.

## Course Content:

### UNIT – I

Derivative and its geometrical and physical interpretation, Sign of derivatives and monotonic increasing and decreasing functions, Rolle's and Mean value theorems and simple applications.

### UNIT – II

Successive differentiation, Leibnitz theorem, Maclaurin's and Taylor's series expansion, Asymptotes.

### UNIT – III

Curvature, test for concavity and convexity, points of inflection, multiple points, tracing of curves in cartesian and polar coordinates.

### UNIT – IV

Indeterminant form, L'Hospital's rule, Tangents and Normal, Partial differentiation, Euler's theorem, total derivatives.

  
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Name of the Program: B. Sc. (Mathematics)

SUBJECT CODE	Category	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM	MST	Q/A	END SEM	Q/A				
BSCMT 101	DC	Differential Calculus	60	20	20	-	-	3	0	-	3

## UNIT – V

Functions of two and three variables, Maxima and minima of functions of two variables - Lagrange's Method of undetermined multiplier - Problems only. Implicit function in case of function of two variables (existence assumed) and derivative.

## Reference Books:

1. Principles of Mathematical Analysis: W. Rudin, McGraw-Hill, New York, 1976
2. Differential Calculus: Gorakh Prasad, Pothishala Pvt. Ltd. Allahabad.
3. Differential Calculus: Shantinakaran.
4. An elementary treatise on the Differential Calculus: J. Edwards, Radha Publishing House.
5. Advanced Calculus – David V. Widder (Prentice Hall)
6. Differential & Integral Calculus (Vols. I & II) – Courant & John.
7. Differential & Integral Calculus (Vol. I) – N. Piskunov (CBS Publishers & Distributors).
8. Mathematics Analysis: T.M. Apostol, Eddison Wesley Publishing Co.
9. Calculus, Vol. I-II, T.M. Apostol, Wiley.

  
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# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

## Name of the Program: B. Sc. (Mathematics)

SUBJECT CODE	Category	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM	MST	Q/A	END SEM	Q/A				
BSCMT 102	DC	Algebra and Trigonometry	60	20	20	-	-	3	0	-	3

### Course Objective

*To introduce the students with the fundamentals of the Algebra and Trigonometry*

### Course Outcomes

*After the successful completion of this course students will be able to:*

- 1. Apply the techniques of the algebra of the determinants.*
- 2. Solve the problems involving matrices.*
- 3. Understand and apply the basics concept of complex numbers.*
- 4. Understand the basics of Mathematical Logic.*

### Course Content:

#### UNIT – I

De-moiver's theorem and its application, Exponential function, Cosine and sine function, Logarithms of a complex number, Inverse circular function, hyperbolic function.

#### UNIT – II

Relation between the roots and coefficients of a general polynomial equation in one variable, transformation of equations. Reciprocal equations, Descarte's rule of signs.

#### UNIT – III

Linear Independence of rows and columns of a matrix, Rank of a matrix, Normal & Echelon form of a matrix, Application to system of linear equations.

#### UNIT – IV

Characteristic equations of a matrix, Eigen values, Eigen vectors, Cayley Hamilton theorem and its use in finding inverse of a matrix.

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## Name of the Program: B. Sc. (Mathematics)

SUBJECT CODE	Category	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM	MST	Q/A	END SEM	Q/A				
BSCMT 102	DC	Algebra and Trigonometry	60	20	20	-	-	3	0	-	3

### UNIT – V

Logical connectives, truth tables, Tautology, Contradiction, Logical equivalence, Algebra of proposition.

### Reference Book:

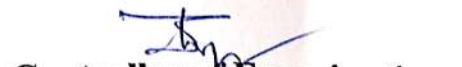
1. The Theory of Equations (Vol. I) – Burnside and Panton.
2. Higher Algebra – Barnard and Child.
3. Plane trigonometry: S.L. Loney.
4. First Course in Abstract Algebra – Fraleigh.
5. Topics in Algebra – Herstein.
6. Test book of algebra – Leadership Project Committee (University of Bombay).
7. Elements of Abstract Algebra – Sharma, Gokhroo, sainsi (Jaipur Publishing House, S.M.S. Highway, Jaipur - 3).
8. Text Book of Matrix – B. S. Vaatsa.
9. A Text Book on Algebra and Theory of Equations: Chandrika Prasad, Pothishala Pvt. Ltd. Allahabad.
10. Elements of Discrete Mathematics (II Ed.): C.L. Liu. McGraw Hill.

  
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# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

## Shri Vaishnav Institute of Computer Applications

### Name of the Program: BCA +MCA in Banking Technology

COURSE CODE	CATEGORY	COURSE NAME	L	T	P	CREDITS	TEACHING & EVALUATION SCHEME				
							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
BCCA103	Compulsory	PC-Software	4	0	0	4	60	20	20	0	0

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Q/A – Quiz/Assignment/Affendance, MST - Mid Sem Test.

\***Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall be exceed 10 Marks)

#### Course Educational Objectives (CEOs):

- To provide the knowledge of using different software packages including word processor, electronic spreadsheet, presentation s/w
- To develop an understanding of database management system
- To explain how to integrate the data stored in word processor, spreadsheet etc.
- To develop presentation skills using these software.

#### Course Outcomes (COs) :Students will be able to

- To create word documents and to format them using various tools available
- To create tables and manipulate them
- To use mail merge, labels
- Creating spreadsheet for storing and managing data using functions
- Format, print spreadsheet
- Create power point presentation for different purposes using objects, animation
- To store and manipulate data stored in databases.
- To export and import data stored from and to, among word processor, spreadsheet, DBMS, presentation s/w

#### UNIT – I

**Word Processor:** Introduction, Word Processing, Advantages of word processing, Creating, Saving and editing a document: Selecting, Deleting, Replacing Text, Copying text to another file. Formatting Text and Paragraph: Using the Font Dialog Box, Paragraph Formatting using Bullets and Numbering in Paragraphs, Line spacing, Margins.

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							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
BCCA103	Compulsory	PC-Software	4	0	0	4	60	20	20	0	0

#### UNIT – II

**Creating** and Formatting Tables: Changing Row height, inserting columns, Merging cells Calculations in a Table, Sorting Text, Toolbar using word art, Mail merge: Definition, a Practical Example of mail merge, creating charts.

**Defining Tabs:** Tabs Dialog Box, Enhancing a Document: Inserting page Breaks, Adding Border, Using Header and Footers in the Document.

#### UNIT – III

**Spreadsheet:** Introduction, Definition. Screen parts of worksheet, Entering information: Numbers, Formula, Editing Data in a cell, Using a Range with SUM, Moving and copying data, Inserting and Deleting Row and Columns in the worksheet, Using the format cells Dialog box.

#### UNIT – IV

Protecting a workbook with Password, Macro: Recording and Running a Macro, Linking workbook files Using Pivot table, Inserting Hyper links, Using chart wizard to create a chart, Naming ranges, classification of Functions.

#### UNIT – V

**Presentation** : Introduction, Slide show, Formatting, Creating a Presentation, Inserting clip Arts, Adding Objects, Applying Transitions, Animation effects, formatting and checking text, Modifying Visual elements, Preparing a complete presentation, Case studies.

**DBMS:** Introduction, Basic terms of access, objectives, What is database, Creating a new database, Creating a database through table wizard, Creating a new table, Rename columns, Saving the database.

#### Text Books:

1. Taxali R. K. “PC Software for Windows 98, Made Simple” TMH.
2. Saxena Sanjay, “MS Office 2000 “Vikas Publication House PVT LTD.
3. Busbby M. and Stultz R.A. “Microsoft Office 2000”, BPB.
4. Jain S., Geetha M. and Kratika, “Microsoft Office-2007”, BPB

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**Reference Book:**

1. Microsoft Office – Complete Reference – BPB Publication.

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## Shri Vaishnav Institute of Computer Applications

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							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
BCCA107	Compulsory	PC-Software Lab- Office Tools	0	0	4	2	0	0	0	30	20

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- To develop an understanding of database management system
- To explain how to integrate the data stored in word processor, spreadsheet etc.
- To develop presentation skills using these software.

#### Course Outcomes (COs): Students will be able to

- To create simple word documents and to format them using various tools available
- To create tables and to use various tools
- To use mail merge, labels
- Creating spreadsheet for storing and managing data using functions
- Format, print spreadsheet
- Create power point presentation for different purposes using objects, animation
- To store and manipulate data stored in databases.
- To export and import data among word processor, spreadsheet, DBMS, presentation s/w

#### List of Experiments:

1. To open and practice of OS – Folder related operations, My-Computer, window explorer, Control Panel,
2. To create, save and editing of Text files using word processor.
3. Formatting and printing of document ( setting of margins, size, orientation, different breaks etc. Checking of spelling and use of thesaurus)
4. Creating, inserting tables, header, footers, hyperlink, different objects in a document
5. Use of Charts in Word Processor.
6. Creating a mail merged documents, labels
7. Creating and manipulating spreadsheets. To create, save and editing of spreadsheets. Use of cell

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BCCA107	Compulsory	PC-Software Lab- Office Tools	0	0	4	2	0	0	0	30	20

8. references, sorting and filtering data in a spreadsheet, using formulae
9. Formatting and printing of spreadsheets (setting of margins, size, orientation, different breaks etc. What if analysis, mail merging
10. Creating header, footers, hyperlink, different objects in a spreadsheet
11. Creating different types of graphs and printing
12. Creation, editing and formatting presentation slides.
13. Create presentation for different purposes using objects, animation
14. Creation and manipulation of database table using SQL.
15. To store and manipulate data stored in databases.
16. To export and import data among word processor, spreadsheet, DBMS, presentation s/w

### Text Books:

1. KanitkarYashwant, 'Let us C', BPB New Delhi
2. Balaguruswami, 'Ansi C', TMH, Delhi
3. Kerninghan& Ritchie "The C programming language", PHI
4. Cooper Mullish "The Spirit of C", Jaico Publishing House, Delhi

### Reference Book:

1. Schildt "C: The Complete reference" 4th ed TMH.

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