

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF COMPUTER SCIENCE
COURSE CURRICULUM

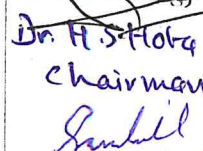

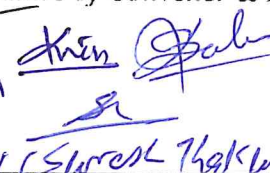

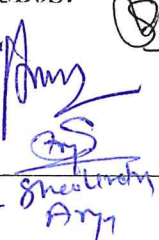
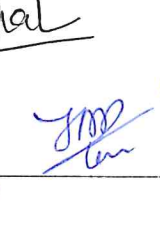
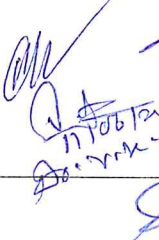
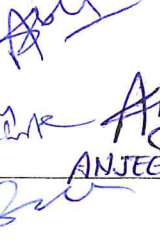
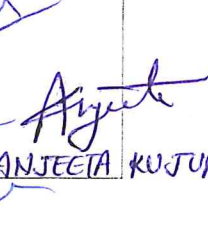
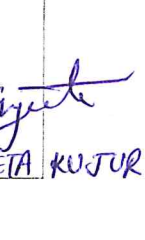
PART- A: Introduction			
Program: Bachelor in Science (CS) (Certificate / Diploma / Degree/Honors)		Semester - IV	Session: 2024-2025
1	Course Code	CSSC-04T	
2	Course Title	Relational Database Management System	
3	Course Type	DSC (Discipline Specific Course)	
4	Prerequisite (if, any)	As per program	
5	Course Learning Outcomes (CLO)	At the end of this course, the students will be able to: <ul style="list-style-type: none"> • Learn about Database Concepts, Architecture, various Users, Data Models and Data Management. • Familiar with RDBMS Software like Oracle and MySql. • Create various Tables and Databases. • Explore various SQL commands. • Create Database on the basis of E-R diagrams for Minor and Major Project. 	
6	Credit Value	3 Credits	Credit = 15 Hours - Learning & Observation
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40

PART -B: Content of the Course

Total No. of Teaching–Learning Periods (01 Hr. per period) - 45 Periods (45 Hours)

Unit	Topics (Course contents)	No. of Period
I	Overview of Database Management: Introduction, Data Processing versus Data Management, Data Models: Network Model, Relational Model, Hierarchical Model, Instance and schema, View of Database system, File Oriented Approach vs Database Oriented Approach, Data Independence, DBMS Architecture, Database Administration Roles, Database languages: DDL, DML, DCL, TCL, Different kinds of DBMS users, Introduction to Data Dictionary.	12
II	Database Design and E-R Model: Introduction, Entity, Strong and weak entities, Relationship, Cardinality, Attributes, Concept of keys: Super key, Candidate key, Primary key, Alternate key, Foreign key, ER Diagram, Constraints in Database, Codd's Rules, Extended ER features: Generalization, Specialization and Aggregation, Participation, Converting an E-R model into relational Schema.	11
III	Relational Database Design and Operations: Introduction, Dependencies: Functional dependencies, Multivalued Dependencies, Join dependencies, Database anomalies, Decomposition, Normalization: Normal forms 1NF, 2NF, 3NF, BCNF, 4NF, 5NF, De-normalization. Relational Algebra: Select operation, Project operation, Union operation, Cartesian Product operation, Intersection operation, Join operation, Different types of joins (Inner join, Outer join, Self join).	11
IV	Transaction: Introduction, Desirable properties of transaction (ACID), Concurrency control techniques, Serializability.	11
Keywords	Data Models, Data Dictionary, E-R Model, E-R Diagram, Keys, Functional Dependency, Anomalies, Normalization, Relational Algebra, Concurrency, Serializability.	

Name and Signature of Convener & Members of CBoS:

Dr. H. S. Hota
 Chairman

 Sankhil

 (Suresh Thakur)

 Jyoti Kulkarni

 Anurag

 Anurag

 Anurag

 Anurag

 ANJETA KUMAR

 Anurag


FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF COMPUTER SCIENCE
COURSE CURRICULUM

PART- A: Introduction

Program: Bachelor in Science (CS) (Certificate / Diploma / Degree)		Semester - IV	Session: 2024-2025
1	Course Code	CSSC-04P	
2	Course Title	Lab 4: Relational Database Management System (Oracle/MySQL)	
3	Course Type	Practical	
4	Prerequisite	As per program	
5	Course Learning Outcomes (CLO)	<p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> • Learn about Database Concepts, Architecture, various Users, Data Models and Data Management which helps them to interact with various Databases. • Develop various Tables and Databases which helps them to develop new Software. • Practice various SQL commands which helps them to generate new relationships among various Tables and Databases which are useful for Software Development. • Familiar with RDBMS Software like Oracle and SQL Server which are used as Backend for Software Development. • Develop new Databases for their Minor and Major Project Development which enhances their Data Storage, Data Accessibility and Data Management. 	
6	Credit Value	1 Credits	Credit =30 Hours Laboratory or Field Learning/Training
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20

PART -B: Content of the Course

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

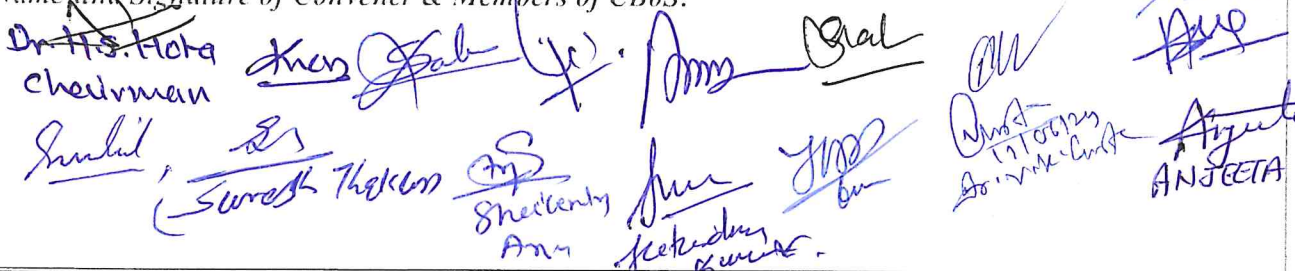
Module	Topics (Course contents)	No. of Period
List of Practical Experiments	<ol style="list-style-type: none"> 1. Design an employee table in Oracle/SQL Server having eid(primary key) ename, edesignation, edoj, edob, eaddress, salary, econtact as fields and answer the following questions : <ol style="list-style-type: none"> a) Insert five records in above created table. b) Display all five records. c) Delete the fourth record. d) Update the third record of the field ename as 'hari'. e) Add one new field in the table. 2. Design a salary table Oracle/SQL Server with one primary key and foreign key(employee table) having following fields : Month, working days, deptid, gross, incentive, deduction and net salary. <ol style="list-style-type: none"> a) Insert five records in the above created table. b) Display all five records. c) Use foreign key relations and display records. d) Update the second record of field deptid as 'Sales'. e) Add one new field in the table. 3. Create a new user in Oracle/SQL Server. 4. Create a view in Oracle/SQL Server. 5. Create a new table in Oracle/SQL Server and practice for join operation. 6. Create a new user in Oracle/SQL Server and practice for the commit and rollback command. 	30

	<ol style="list-style-type: none"> 7. Create a new database in Oracle/SQL Server having at least five tables for the Hotel Management System. 8. Create a new database in Oracle/SQL Server having at least four tables for Covid Vaccination Management System. 9. Create a new database in Oracle/SQL Server having at least five tables for the Library Management System. 10. Create a new table in Oracle/SQL Server and practice for Group by and Order by Clause. 11. Create a new table in Oracle/SQL Server and practice for max(), min(), avg() and count() functions. 12. Create a new table in Oracle/SQL Server and practice for lower(), substr(),trim() and upper() functions. 13. Create a new table in Oracle/SQL Server and practice for unique and check constraints. 14. Create a new table in Oracle/SQL Server and practice for any two date formats. 15. Create a new table in Oracle/SQL Server and practice using clauses. 16. Create a new table in Oracle/SQL Server and practice for having clauses with sub queries. 17. Create a new table in Oracle/SQL Server and practice for aliases in any table. 18. Create a new table in Oracle/SQL Server and practice for inner and outer join. 19. Create a new table in Oracle/SQL Server and practice for Drop command. 20. Write a PL/SQL program for addition of two numbers. 21. Write a PL/SQL program to find the factorial value of any entered number. 22. Write a PL/SQL program for swapping of two numbers. 23. Write a PL/SQL program to print the first ten Natural Numbers. 24. Write a PL/SQL program to generate even series upto five digits starting from 2 and sum all the terms. 25. Write a PL/SQL program to practice for implicit and explicit cursors. <p>Note: Concerned teacher can add additional practical exercises as per requirement.</p>	
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<i>Keywords</i>	TABLE, SQL, PL/SQL.
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Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota
chairman



PART-C: Learning Resources
Text Books, Reference Books and Others
<p>Text Books Recommended:</p> <ul style="list-style-type: none"> • Database system concept, H. Korth and A. Silberschatz, TMH Publications. • Data Base Management System, Alexies & Mathews, Vikash publication. • Data Base Management System, C. J. Date ,Narosha Publication. • Data Base Management System By James Matin. <p>Reference Books Recommended:</p> <ul style="list-style-type: none"> • Principles of Database System by Ullman. • Program Design, Peter Juliff, PHI Publications. • The Complete Reference, Kevin Loney, Oracle Press.

- SQL, PL/SQL The Programming Language of Oracle, Ivan Bayross, PustakKosh Publication.
- Microsoft SQL Server Management and Administration, Ross, STM Publications.

Online Resources:

- SWAYAM URL link for DBMS and RDBMS:
<https://youtu.be/f6LGtJutWyA>
- SWAYAM URL link for DBMS and RDBMS:
<https://youtu.be/IoL9Ve2SRwQ>
- SWAYAM URL link for DBMS and RDBMS :
<https://swayam.gov.in/courses/4434-data-base-management-system>

PART -D: Assessment and Evaluation

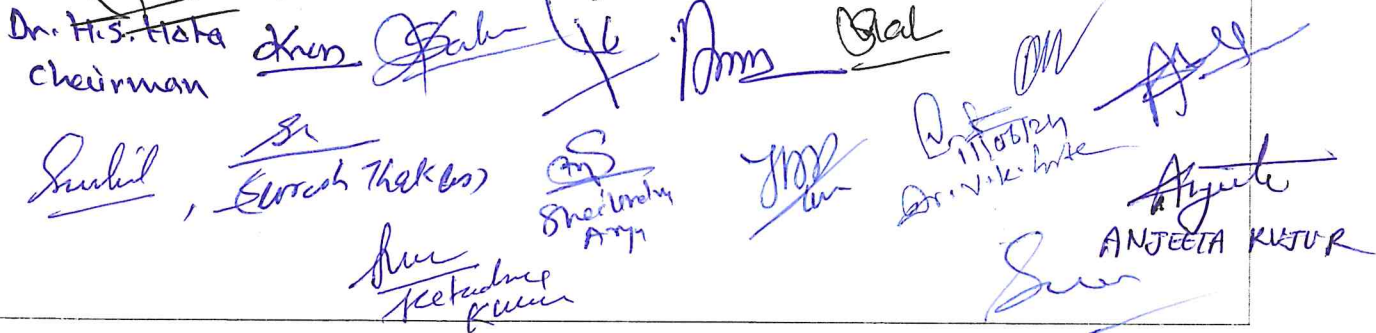
Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks
 Continuous Internal Assessment (CIA): 15 Marks
 End Semester Exam (ESE): 35 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
	Assignment/Seminar +Attendance - 05 Total Marks - 15	
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment	
	A. Performed the Task based on lab. work - 20 Marks	Managed by Course teacher as per lab. status
	B. Spotting based on tools & technology (written) - 10 Marks	
	C. Viva-voce (based on principle/technology) - 05 Marks	

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota
 Chairman



Anjeeta Kujur

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF COMPUTER SCIENCE
COURSE CURRICULUM

PART- A: Introduction			
Program: Bachelor in Science (CS) (Certificate / Diploma / Degree/Honors)		Semester - IV	Session: 2024-2025
1	Course Code	CSSE-02	
2	Course Title	Computer System Architecture	
3	Course Type	DSE (Discipline Specific Elective)	
4	Prerequisite	As per Program	
5	Course Learning Outcomes (CLO)	At the end of this course, the students will be able to: <ul style="list-style-type: none"> • Understand the architecture and functioning of computer systems at the hardware level. • Analyze the Instruction Set Architecture (ISA) • Understand design, Implementation and Analysis of data path for instruction execution. • Understand the functioning of the CPU. • Understand the concept of parallel processing with their applications. • Understand the communication between the peripheral devices and CPU. • Explore the concepts of Memory Organization. • Understand the concept of multiprocessing. • Design the basic computer system Architecture. 	
6	Credit Value	4 Credits	Credit = 15 Hours - learning & Observation
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40
PART -B: Content of the Course			
Total No. of Teaching–Learning Periods (01 Hr. per period) – 60 Periods (60 Hours)			
Unit	Topics (Course contents)		No. of Period
I	Fundamentals Of Basic Computer Organization And Design: Introduction of digital components, register and its types(DR,AR,AC,IR,PC,TR,INPR,OUTR), register transfer and register transfer language, microoperations and its types, common bus system for register and memory organization, computer instruction, basic format of instruction, types of instruction according addressing field (zero, one, two, three addressing), types of instruction (MRI,NMRI), addressing modes, instruction cycle and its flowchart, types of control unit(hardwired and microprogrammed control unit), design of control unit in basic computer.		15
II	Central Processing Unit and Parallel Processing Techniques: Introduction to CPU, general register organization, stack organization (register stack, memory stack), application of stack organizations, CPU instructions (data transfer instruction, data manipulation instruction, program control instructions), RISC and CISC instructions, interrupts and its types, interrupt cycle. Flynn’s classification of computers, Parallel processing techniques (pipeline processing, vector processing, array processing), pipeline processing concept, types of pipelines and its application, speedup ratio of a pipeline, vector processing concept and its applications, concept of array processing and its applications.		15
III	Input – Output Organization: Introduction to peripheral devices, input-output interface and its designing, Modes of data transfer (synchronous and asynchronous data transfer), controls in asynchronous data transfer (strobe control and handshaking control), modes of data transfer (programmed i/o, interrupt-initiated i/o and direct memory access), input-output processor.		15
IV	Memory Organization and Multiprocessor Architecture: Memory hierarchy, main memory and its organization (RAM and ROM Chips, memory address map, memory connections to CPU), auxiliary memory, associative memory, concept of cache memory, cache memory mapping techniques (associative mapping, direct mapping, set-associative mapping), cache coherence problem and its solution, introduction to multiprocessors, interconnection structures of multiprocessor-based systems, inter-processor communication and synchronization.		15

Keywords: Registers, micro-operation, instruction, control unit, instruction cycle, interrupt cycle, CPU, stack, parallel processing, pipeline processing, vector processing, array processing, asynchronous data transfer, DMA, RAM, ROM, cache memory, IOP, multiprocessor.

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hora
chairman
Sushil
Kun (Suresh Kumar)
Gopal
Anjeta KUR
Sushil
S (Suresh Kumar)
Anjeta KUR

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- M. Morris Mano, Computer System Architecture, 3e, Pearson Education.
- B. Ram Sanjay Kumar, Computer Fundamentals Architecture and Organization, 5e, New Age International Publishers.

Reference Books Recommended:

- William Stalling, Computer Organization & Architecture, 11e, Pearson.
- Jyotsna Sengupta, Fundamentals of Computer Organization and Architecture, Deep & Deep Publications.
- Amit Kumar Mishra, A Textbook of Computer Architecture, Katson Books.

Online Resources:

- NPTEL YouTube Channel: Online Lecture Series on Computer Architecture
 - <https://youtube.com/playlist?list=PL59E5B57A04EAE09C&si=WUP8O10Y6Zrleu-i>
 - <https://youtube.com/playlist?list=PL1A5A6AE8AFC187B7&si=JmIOO3rT9NGSMkmN>
 - <https://youtube.com/playlist?list=PLgHucKw979AvcnTpPNZMZyORdL5HvTr9m&si=PqOM Y-sh6tCuzPXA>
- NPTEL Portal : Online Lecture Computer Architecture and Organization
NPTEL :: Computer Science and Engineering – NOC :Computer architecture and organization

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2):	20 +20	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks
	Assignment / Seminar -	10	
	Total Marks -	30	

End Semester Exam (ESE):	Two section – A & B Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40 Marks
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Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hora
chairman
Sushil
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Gopal
Anjeta KUR
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Anjeta KUR

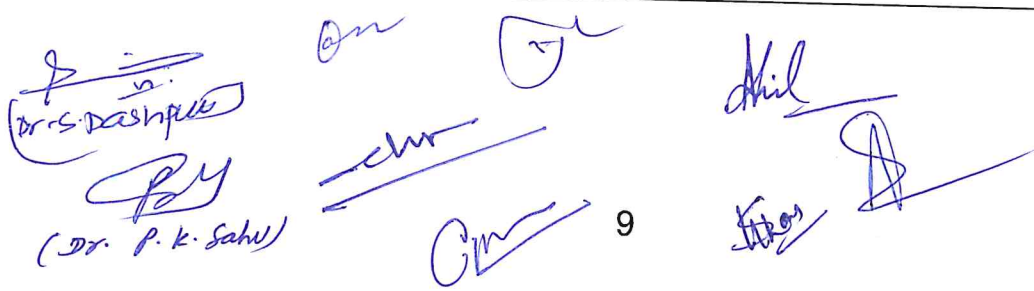
FOUR YEAR UNDER GRADUATE PROGRAM(2024-25)
DEPARTMENT OF MATHEMATICS
COURSE CURRICULUM

Part A: Introduction		
Program: Bachelor in Science (Diploma/Degree/Honors)		Semester - IV
		Session:2024-2025
1	Course Code	MASC-04
2	Course Title	Abstract Algebra
3	Course Type	Discipline Specific Course (DSC)
4	Pre-requisite(if any)	Knowledge of algebra, vector space and inner product space.
5	Course Learning Outcome (CLO)	<ul style="list-style-type: none"> ➤ Understand of Homomorphism, Isomorphism of Group ➤ Understand Cyclic and Permutation Groups. ➤ Understand vector spaces, subspaces, basis, dimension and their properties. ➤ Learn about properties of linear transformation and isomorphism theorems. ➤ Understand the concept of linear transformations.
6	Credit Value	4 C
7	Total Marks	1Credit = 15 hours- Learning and Observation
		Maximum Marks : 100
		Minimum Passing Marks:40

Part B: Content of the Course

Total no of teaching – learning period =60 Periods (60 Hours)

UNIT	Topics	No of Periods
I	Isomorphism Theorems , Cyclic and Permutation Groups : Group homomorphism and isomorphism with properties; First, second and third isomorphism theorems for groups, Cyclic groups and properties, Classifications of subgroup of cyclic groups, Permutation group and properties, Even and odd permutations, Cayley's theorem.	15
II	Ring, Field and Integral Domain, Ideals: Definition and properties of a ring, example of rings, Subrings, Integral domain and fields, characteristic of ring and field. Ring Homomorphism, Ideals and Quotient Rings. Field of Quotients of an Integral Domain, Euclidean Rings, Polynomial Rings, Polynomials over the Rational Field. The Eisenstein Criterion, Polynomial Rings over Commutative Rings, Unique factorization domain. R unique factorization domain implies so is $R[x_1, x_2, \dots, x_n]$.	15
III	Vector Spaces: Definition and examples of vector spaces. Subspaces. Sum and direct sum of subspaces, Linear span. Linear dependence, independence and their basic properties. Basis. Finite dimensional vector spaces. Existence theorem for bases. Invariance of the number of elements of a basis set. Dimension. Existence of complementary subspace of a subspace of a finite dimensional vector space. Dimension of sums of subspaces. Quotient space and its dimension.	15



 (Dr. S. Dash)

 (Dr. P. K. Sahu)

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IV	Linear Transformation: Linear transformations and their representation as matrices. The Algebra of linear transformations. The rank nullity theorem. Change of basis. Dual space. Bi-dual space and natural isomorphism. Adjoint of a linear transformation.	15
Part C - Learning Resource		
Text Books, Reference Books, Other Resources		
Text Books Recommended-		
<ol style="list-style-type: none"> 1. Nathan Jacobson (2009). <i>Basic Algebra I</i> (2nd edition). Dover Publications. 2. Nathan Jacobson (2009). <i>Basic Algebra II</i> (2nd edition). Dover Publications. 		
Reference Books Recommended-		
<ol style="list-style-type: none"> 3. I. M. Gel'fand (1989). <i>Lectures on Linear Algebra</i>. Dover Publications. 4. Kenneth Hoffman & Ray Kunze (2015). <i>Linear Algebra</i> (2nd edition). Prentice-Hall. 5. Serge Lang (2005). <i>Introduction to Linear Algebra</i> (2nd edition). Springer India. 6. Gilbert Strang (2014). <i>Linear Algebra and its Applications</i> (2nd edition). Elsevier 		
E-resources: https://onlinecourses.nptel.ac.in https://epqp.inflibnet.aci.in https://swayam.gov.in https://www.mooc.org		
Part D: Assessment and Evaluation		
Suggested Continuous Evaluation Methods:		
Maximum Marks: 100 Marks		
Continuous Internal Assessment (CIA):		30 Marks
End Semester Examination (ESE):		70 Marks
Continuous Internal Assessment (CIA) (Conducted by course teacher)	Test /Quiz – 20+20 Marks Assignment/Seminar- 10 Marks	Better marks out of two test/quiz + obtained marks in Assignment shall be considered against 30 marks
End Semester Examination (ESE)	Two Section-A&B Section-A: Q1.Objective- 10x1=10 marks Q2. Short answer type question-5x4=20marks Section-B: Descriptive answer type question, 1 out of 2 from each unit- 10x4= 40 Marks	

Name and signature of convener & members of CBOS-



 (Dr. S. Rashpreet)

 (Dr. P. K. Sahu)

 Dr. Anil Kumar

 Dr. Anand

 M. White

FOUR YEAR UNDER GRADUATE PROGRAM (2024-28)
DEPARTMENT OF MATHEMATICS
COURSE CURRICULUM

Part A: Introduction			
Program: Bachelor in Science (Diploma/Degree/Honors)		Semester - IV	Session:2024-2025
1	Course Code	MASE-02	
2	Course Title	MECHANICS	
3	Course Type	Discipline Specific Elective (DSE)	
4	Pre-requisite(if any)	Basic idea of Statics and Dynamics	
5	Course Learning Outcome (CLO)	<p>This Course will enable the students to:</p> <ul style="list-style-type: none"> ➤ The object of the paper is to give students knowledge of basic mechanics such as simple harmonic motion, motion under other laws and forces. ➤ Learn about a nul point, a nul line, and a nul plane with respect to a system of forces acting on a rigid body together with the idea of central axis. ➤ Understand necessary conditions for the equilibrium of particles acted upon by various forces and learn the principle of virtual work for a system of coplanar forces acting on a rigid body. Determine the centre of gravity of some materialistic systems and discuss the equilibrium of a uniform cable hanging freely under its own weight. ➤ Deal with the kinematics and kinetics of the rectilinear and planar motions of a particle including the constrained oscillatory motions of particles. Learn that a particle moving under a central force describes a plane curve and know the Kepler's laws of the planetary motions, which were deduced by him long before the mathematical theory given by Newton. ➤ Understand the reduction of force system in three dimensions to a resultant force acting at a base point and a resultant couple, which is independent of the choice of base of reduction. 	
6	Credit Value	4 C	1Credit =15 hours-Learning and Observation
7	Total Marks	Maximum Marks : 100	Minimum Passing Marks:40

Part B: Content of the Course		
Total no of teaching – learning period =60 Periods (60 Hours)		
UNIT	Topics	No of Periods
I	Analytical conditions of equilibrium of Coplanar Forces. Forces in three dimensions, Poinot's central axis, Wrenches, Null lines and planes.	15
II	Virtual work, Stable and Unstable equilibrium, Catenary.	15
III	Velocities and accelerations along and transverse directions, and along tangential and normal directions, Simple harmonic motion, Motion under other law of forces. Elastic strings.	15

(Dr. S. Dashputra)

(Dr. P. K. Sahu)

(Handwritten signatures and initials)

IV	Motion in resisting medium, Constrained motion, Motion on smooth and rough plane curves. Motion of particles of varying mass, Central orbit, Keplers laws of motion, Rocket motion, Motion of particle in three dimensions.	15
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Part C - Learning Resource

Text Books, Reference Books, Other Resources

Text Books Recommended-

1. R.S. Verma (1962). a text books of statics Pothishala Pvt. Ltd.
2. P.L. Shrivastava (1964). Elementary dynamics. Ram Narayan Lal, Beni Prasad Publishers Allahabad

Reference Books Recommended-

3. A.S. Ramsey (2009), Statics, Cambridge University Press
4. A.S. Ramsey (2009), Dynamics, Cambridge University Press
5. S.L. Loney (2006) , An Elementary Treatise on the dynamics of a partical and of rigid bodies. .
6. J.L. Synge an Griffith (1949). Principal of Mechanics, McGraw-Hill.

E-Recourses:

- <https://onlinecourses.nptel.ac.in>
<https://epqp.inflibnet.aci.in>
<https://swayam.gov.in>
<https://www.mooc.org>

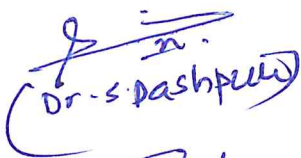
Part D: Assessment and Evaluation

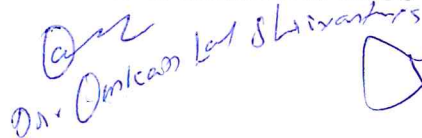
Suggested Continuous Evaluation Methods:

Maximum Marks:	100 Marks
Continuous Internal Assessment (CIA):	30 Marks
End Semester Examination (ESE):	70 Marks

Continuous Internal Assessment (CIA) (Conducted by course teacher)	Test /Quiz – 20+20 Marks	Better marks out of two test/quiz + obtained marks in Assignment shall be considered against 30 marks
	Assignment/Seminar- 10 Marks	
End Semester Examination (ESE)	Two Section-A&B	
	Section-A: Q1.Objective- 10x1=10 marks Q2. Short answer type question-5x4=20marks	
	Section-B: Descriptive answer type question, 1 out of 2 from each unit- 10x4= 40 Marks	

Name and signature of convener & members of CBOS-


(Dr. S. Dashputra)

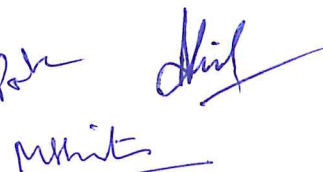

Dr. Ankan Lal Shrivastava


(Dr. P. K. Sahu)








M. K. S. S.



FOUR YEARS UNDERGRADUATE PROGRAM (2024-28)
DEPARTMENT OF PHYSICS
COURSE CURRICULUM

PART – A: INTRODUCTION			
Program: Bachelor in Science (Diploma/ Degree/ Honors)		Semester: IV	
		Session: 2024-25	
1	Course Code	PHSC-04T	
2	Course Title	Waves and Optics	
3	Course Type	Discipline Specific Course	
4	Pre-requisite (if any)	As per Program	
5	Course Learning Outcomes (CLO)	After going through the course, the student should be able to: <ul style="list-style-type: none"> ➤ Analyze the behavior of waves propagating through different mediums and predict how factors such as density, elasticity, and temperature affect wave propagation. ➤ Demonstrate an understanding of interference phenomena, including constructive and destructive interference, and apply this knowledge to solve problems involving wave superposition. ➤ Explain the concept of diffraction and its implications for wave propagation, including how waves bend around obstacles and spread out after passing through narrow openings. ➤ Describe the polarization of waves, including linear, circular, and elliptical polarization, and apply polarization concepts to analyze and manipulate electromagnetic waves. 	
6	Credit Value	03 Credits 1 Credit= 15 Hours - Learning & Observation	
7	Total Marks	Maximum Marks: 100	Minimum Pass Marks: 40
PART – B: CONTENT OF THE COURSE			
Total No. of Teaching-learning Periods (01 Hr. per period) - 45 Periods (45 Hours)			
Unit	Topics (Course contents)		No. of Period
I	Contribution of C. V. Raman: Brief biography of C. V. Raman with his contribution in field of acoustics and optics. Waves in Medium: Speed of transverse waves on uniform string, Speed of longitudinal waves in a fluid, Energy density and energy transmission in waves. Group velocity and phase velocity and relationship between them. Reflection, refraction and diffraction of sound: Acoustic impedance of a medium, percentage reflection & refraction at a boundary, diffraction of sound, principle of a sonar system.		11
II	Interference: Principle of superposition, Division of wavefront and division of amplitude, Young's Double Slit experiment. Fresnel's Biprism, Phase change on reflection, Stokes' treatment. Interference in Thin Films: parallel and wedge-shaped films. Fringes of equal inclination (Haidinger Fringes); Fringes of equal thickness (Fizeau Fringes). Newton's Rings, measurement of wavelength and refractive index. Michelson's Interferometer, Formation of fringes, Determination of wavelength, Wavelength difference.		12
III	Diffraction: Fresnel Diffraction; Half-period zones. Zone plate. Fresnel Diffraction pattern of a straight edge, a slit and a wire using half-period zone analysis. Fraunhofer diffraction; Single slit, Double slit. Multiple slits & Plane Diffraction Grating, Resolving Power of Grating.		11
IV	Polarization: Polarized light and its mathematical representation, Electromagnetic theory of double refraction, Nicol Prism, Double image prism, Polaroid, Phase retardation plates, Circular and elliptical polarization. Polarization by double refraction and Huygens's theory, Rotation of plane of polarization, Biquartz polarimeter.		11
Keywords:	<i>Longitudinal and transverse waves, principle of superposition, Haidinger Fringes, Fresnel Diffraction, Fraunhofer diffraction, Polarization</i>		

Signature of Convener & Members (CBoS) :

PART – C: LEARNING RESOURCES

Text Book, Reference Book and Others

Text Books Recommended-

1. Berkely Physics Course: Vol.-III, 'Waves and Oscillations'
2. Principles of Optics, B.K. Mathur, 1995, Gopal Printing
3. Fundamentals of Optics, H.R. Gulati and D.R. Khanna, 1991, S. Chand Publication
4. Physical Optics, A.K. Ghatak
5. Unified Physics- II, R. P. Goyal, Shivalal Agrawal Publications
6. Unified Physics- II, Navbodh Publications

Reference Books Recommended

1. Concepts of Physics by H.C. Verma
2. Fundamentals of Physics by R. Shankar
3. Optics by Ajoy

Online Resources (e-books/ learning portals/ other e-resources)

1. Wave an introduction <https://youtu.be/SuQE7eUEriU>
2. Interference <https://youtu.be/hvpYKPyT-vc>
3. Diffraction <https://youtu.be/3RZZQvEVrEA>
4. Polarization https://youtu.be/nELYaf_N528
5. Waves and Oscillations- <https://archive.nptel.ac.in/courses/115/106/115106119/>
6. Optics- <https://archive.nptel.ac.in/courses/115/107/115107131/>

PART – D: ASSESSMENT AND EVALUATION

Suggested Continuous Evaluation Methods:

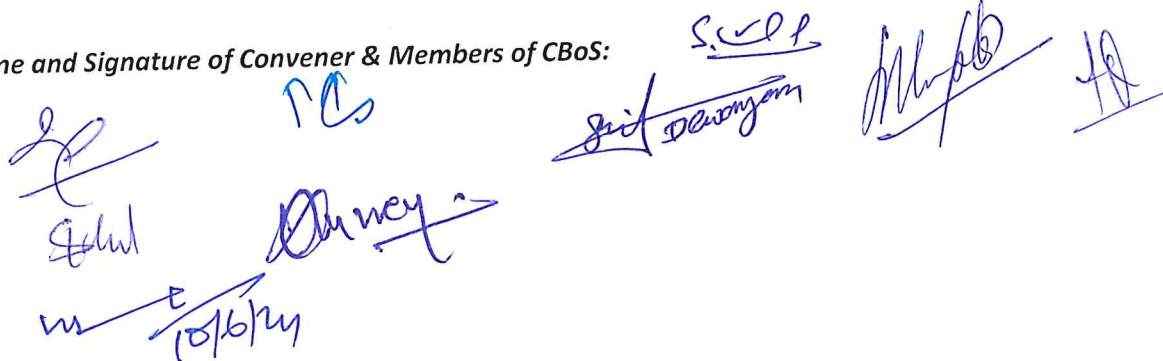
Maximum Marks: 100Marks

Continuous Internal Assessment (CIA):30 Marks

End Semester Examination (ESE): 70 Marks

Continuous Internal Assessment (CIA): (By course teacher)	Internal Test/ Quiz (2): 20 20 Assignment/ Seminar (1): 10 Total Marks: 30	Better marks out of the two Test / Quiz + marks obtained in Assignment shall be considered against 30 Marks
End Semester Examination (ESE):	Two section – A & B Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20Marks Section B: Descriptive answer type, 1out of 2 from each unit-4x10=40 Marks	

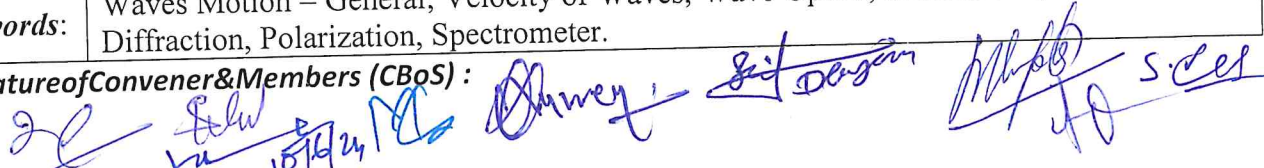
Name and Signature of Convener & Members of CBoS:



FOUR YEARS UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF PHYSICS
COURSE CURRICULUM

PART – A: INTRODUCTION			
Program: Bachelor in Science (Diploma/ Degree/ Honors)		Semester: IV	
		Session: 2024-25	
1	Course Code	PHSC- 04P	
2	Course Title	Waves and Optics	
3	Course Type	Discipline Specific Course	
4	Pre-requisite (if any)	As per program	
5	Course Learning Outcomes (CLO)	<p>After the completion of the course, Students are expected to understand laws and principles behind various optical phenomena, specially related to wave nature of light. The students will also be able to</p> <ul style="list-style-type: none"> ➤ Gain proficiency in operating laboratory equipment such as light source i.e. mercury, sodium and Laser, spectrometers, polarimeter, demonstrating competence in setting up experiments, calibrating instruments, and collecting accurate data. ➤ Develop a deep understanding of optical principles such as refraction, diffraction, dispersion, and interference, as well as their applications in various scientific disciplines ➤ Analyze recorded data and formulate it to get desired results. 	
6	Credit Value	01 Credit	1 Credit = 30 Hours Laboratory Work
7	Total Marks	Maximum Marks: 50	Minimum Pass Marks: 20
PART – B: CONTENT OF THE COURSE			
Total No. of learning-Training/performance Periods -30 Periods (30 Hours)			
Sr. No.	Objects (At least 10 of the following or related Experiments)	No. of Period	
1	To determine the Frequency of AC mains with the help of Sonometer.	30	
2	Determination of angle of prism using spectrometer.		
3	To determine the Refractive Index of the Material of a given Prism using Spectrometer.		
4	To determine Dispersive Power of the Material of a given Prism using Spectrometer		
5	To determine the value of Cauchy Constants of a material of a prism.		
6	To determine the Resolving Power of a Prism.		
7	To determine wavelength of sodium light using Fresnel Biprism.		
8	To determine wavelength of sodium light using Newton's Rings Method.		
9	To determine the wavelength of Laser light using Single Slit Diffraction.		
10	To determine wavelength of Sodium light by laser diffraction.		
11	To determine wavelength of spectrum of Mercury light using plane diffraction Grating and Spectrometer.		
12	To determine the Resolving Power of a Plane Diffraction Grating.		
13	To determine the thickness of a thin paper by measuring the width of the interference fringes produced by a wedge-shaped Film.		
14	Determination of resolving power telescope.		
15	Study of polarization of sugar solution using polarimeter.		
Keywords:	Waves Motion – General, Velocity of Waves, Wave Optics, Interference, Interferometer, Diffraction, Polarization, Spectrometer.		

Signature of Convener & Members (CBoS) :



PART – C: LEARNING RESOURCES

Text Books, Reference Books and Others

Text Books Recommended

1. Advanced Practical Physics for students, B.L. Flint and H.T. Worsnop, 1971, Asia Publishing House
2. A Text Book of Practical Physics, I. Prakash & Ramakrishna, 11th Ed., 2011, Kitab Mahal
3. Advanced level Physics Practicals, Michael Nelson and Jon M. Ogborn, 4th Edition, reprinted 1985, Heinemann Educational Publishers
4. A Laboratory Manual of Physics for undergraduate classes, D.P.Khandelwal, 1985, Vani Pub.
5. Practical Physics B.Sc II : R P Goyal, Shivlal Publications

Reference Books Recommended

1. Practical Physics by S.L. Gupta and V. Kumar
2. Advanced Practical Physics for Students by B.L. Worsnop and H.T. Flint
3. B.Sc. Practical Physics by C.L. Arora
4. Experimental Physics: Modern Methods by R.A. Dunlap

Online Resources (e-books/ learning portals/ other e-resources)

1. Link for e-Books for Physics:Physics Practical : <https://egyankosh.ac.in/handle/123456789/82374>;
https://www.lightandmatter.com/lab_223.pdf;
2. Virtual Lab : <https://vlab.amrita.edu/index.php?sub=1&brch=281>
3. <https://www.compadre.org/books/?ID=70&FID=63273>
4. <https://www.edutech.com/category/higher-education/engineering-labs/virtual-labs-1>
5. <https://phet.colorado.edu/en/simulations/wave-interference>
6. <https://egyankosh.ac.in/handle/123456789/82374>

PART – D: ASSESSMENT AND EVALUATION

Suggested Continuous Evaluation Methods:

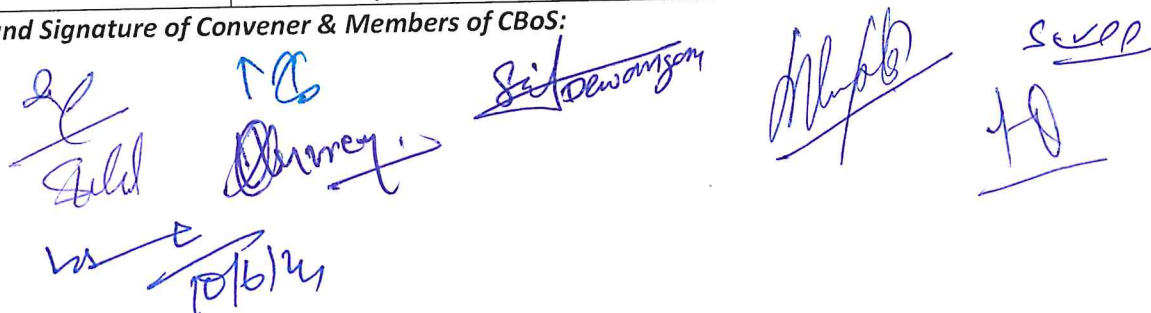
Maximum Marks: 50 Marks

Continuous Internal Assessment(CIA):15 Marks

EndSemester Exam(ESE):35 Marks

Continuous Internal Assessment(CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance – 05 Total Marks - 15	Better marks out of the two Test / Quiz +Marks obtained in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory Performance: On spot Assessment Performed the Task based on lab. work - 20 Marks Spotting based on tools & technology (written) – 10 Marks Viva-voce (based on principle/technology) - 05 Marks	Managed by Course teacher as per lab. status

Name and Signature of Convener & Members of CBoS:

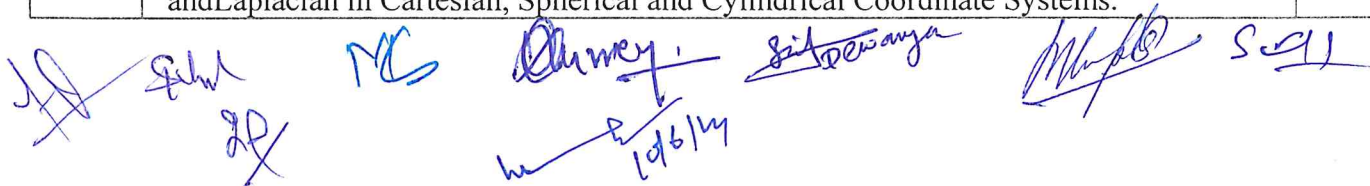


FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF PHYSICS
COURSE CURRICULUM

PART-A: INTRODUCTION			
Program: Bachelor in Science <i>(Diploma /Degree/Honors)</i>		Semester - IV	Session: 2024-2025
1	Course Code	PHSE-02	
2	Course Title	Mathematical Physics-I	
3	Course Type	Discipline Specific Elective	
4	Pre-requisite (if, any)	As per Program	
5	Course Learning Outcomes(CLO)	<ul style="list-style-type: none"> ➤ Revise and apply the knowledge of calculus, vectors, vector calculus, probability and probability distributions in various cases. ➤ Illustrate proficiency in writing and solving Differential equation and solving them for a given physical system. ➤ Apply and interpret the curvilinear coordinates in problems with spherical and cylindrical symmetries. ➤ Use Dirac Delta function for various physical situation, especially in quantum mechanical approaches. 	
6	Credit Value	4 Credits	Credit = 15 Hours -learning & Observation
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40

PART -B: CONTENT OF THE COURSE

Total No. of Teaching-learning Periods(01 Hr. per period) – 60 Periods (60 Hours)		
Unit	Topics (Course Contents)	No. of Period
I	<p>Calculus: Recapitulation: Limits, continuity, average and instantaneous quantities, differentiation. Plotting functions, Intuitive ideas of continuous, differentiable, etc. functions and plotting of curves. Approximation: Taylor and binomial series (statements only). Calculus of functions of more than one variable: Partial derivatives, exact and inexact differentials. Integrating factor, with simple illustration. Constrained Maximization using Lagrange Multipliers. Origin and Evolution of Mathematical concepts in Ancient India: Bhaskaracharya, the Inventor of Calculus: some examples on calculus</p>	16
II	<p>First Order and Second Order Differential equations: First Order Differential Equations and Integrating Factor. Homogeneous Equations with constant coefficients. Wronskian and general solution. Statement of existence and Uniqueness Theorem for Initial Value Problems. Particular Integral. Orthogonal Curvilinear Coordinates: Orthogonal Curvilinear Coordinates. Derivation of Gradient, Divergence, Curl and Laplacian in Cartesian, Spherical and Cylindrical Coordinate Systems.</p>	16



III	Introduction to probability: Independent random variables: Probability distribution functions; binomial, Gaussian, and Poisson, with examples. Mean and variance. Dependent events: Conditional Probability. Bayes' Theorem and the idea of hypothesis testing.	15
IV	Dirac Delta function and its properties: Definition of Dirac delta function. Representation as limit of a Gaussian function and rectangular function. Properties of Dirac delta function. Problems based on dirac-delta function and its application	13
<i>Keywords</i>	Calculus, Lagrange Multipliers, Homogeneous Equations, Particular Integral, Probability distribution, Dependent events, Dirac delta function	

Signature of Convener & Members (CBoS):

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PART-C: LEARNING RESOURCES

Text Books, Reference Books and Others

Text Books Recommended –

1. Advanced Engineering Mathematics, D.G. Zill and W.S. Wright, 5 Ed., 2012, Jones and Bartlett Learning
2. Mathematical Physics, Goswami, 1st edition, Cengage Learning
3. Engineering Mathematics, S. Pal and S.C. Bhunia, 2015, Oxford University Press
4. Advanced Engineering Mathematics, Erwin Kreyszig, 2008, Wiley India.
5. Essential Mathematical Methods, K. F. Riley & M.P.Hobson, 2011, Cambridge Univ. Press.
6. Mathematical Physics, H.K. Dass and R. Verma, S. Chand & Company

Reference Books Recommended–

1. Mathematical Methods for Physicists, G.B. Arfken, H.J. Weber, F.E. Harris, 2013, 7th Edn., Elsevier.
2. An introduction to ordinary differential equations, E.A. Coddington, 2009, PHI learning
3. Differential Equations, George F. Simmons, 2007, McGraw Hill.
4. Mathematical Tools for Physics, James Nearing, 2010, Dover Publications.

Online Resources–e-Resources / e-books and e-learning portals

1. NPTEL online Courses: <https://archive.nptel.ac.in/courses/115/105/115105097/>
2. NPTEL online Courses: <https://nptel.ac.in/courses/115103036>
3. e-gyankosh- <https://egyankosh.ac.in/handle/123456789/97951>
4. Origin and Evolution of Calculus in India: <http://mathematical-forum.org/wp-content/uploads/2021/01/Paper-1.pdf>
5. <https://iks.iitgn.ac.in/wp-content/uploads/2016/02/Development-of-Calculus-in-India-K-Ramasubramanian-MD-Srinivas-2010.pdf>
6. Indian Mathematics: NPTEL Course : <https://nptel.ac.in/courses/111101080>

PART-D: ASSESSMENT AND EVALUATION

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

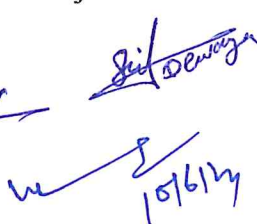
End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment(CIA): (By Course Teacher)	Internal Test / Quiz-(2): 20 & 20	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks
	Assignment/Seminar- 10 Total Marks - 30	
End Semester Exam (ESE):	Two section – A & B Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20Marks Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40Marks	

Name and Signature of Convener & Members of CBoS:


S. S. S.


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15/6/24





FOUR YEARS UNDERGRADUATE PROGRAM (2024-28)
DEPARTMENT OF PHYSICS
COURSE CURRICULUM

PART – A: INTRODUCTION			
Program: Bachelor in Science (Certificate/ Diploma/ Degree/ Honors)		Semester: II/ IV/V/ VI	Session: 2024-25
1	Course Code	PHSEC- 01	
2	Course Title	Basic Electrical Skill	
3	Course Type	Skill Enhancement Course	
4	Pre-requisite (if any)	As per Program	
5	Course Learning Outcomes (CLO)	On successful completion of the course, student is expected to enhance his electrical skill through: ➤ Understanding importance of accuracy in measuring physical quantities. ➤ Using basic mechanical tools. ➤ Using various measuring instruments. ➤ Fault finding and repairing simple domestic appliances	
6	Credit Value	02 Credits (1C+1C)	1 Credit= 15 Hours for Theoretical Learning & = 30 Hours Laboratory or Field learning/ Training
7	Total Marks	Maximum Marks: 50	Minimum Pass Marks: 20
PART – B: CONTENT OF THE COURSE			
Total No. of Teaching–learning Periods: Theory – 15 Periods (15 Hrs) and Lab. or Field learning/Training 30 Periods (30 Hours)			
Module	Topic (Course Contents)		No. of Period
I	<p>Measurement: Idea about accuracy in measurement, measuring devices for commonly used physical quantities (Length, Mass, Density, Temperature, Power, Current, Voltage, Resistance, capacitance, inductance, frequency etc).</p> <p>D.C. Circuit: Ohms law, Series and parallel resistance circuit, Kirchoff's law & their application, Primary and secondary cells, maintenance of secondary cells.</p> <p>A.C. Circuits: Generation of AC voltage, wave shape, frequency, peak, average, instantaneous & RMS values, idea about R, L, C circuits</p> <p>Heating & Lighting effects of current: Joule's law of electric heating and its domestic applications, idea of commonly used lighting bulb, tube, CFL, LED.</p> <p>Working: Working principle of Domestic appliances like electric fan, Cooler, Inverters, Mixer, Electric heater etc</p> <p>Safety measurements- Safety measurements in working with mechanical and electrical tools, testing and repair of electrical appliances.</p>		15
II	<p>Laboratory Work:</p> <p>(i) Use of basic tools: Screwdriver, Pliers, Wrench, Hacksaw, Spanner, Hand and electric drill, Soldering iron etc.</p> <p>(ii) Use of Voltmeter, Current meter, electronic balance.</p> <p>(iii) Use of Multimeter, CRO.</p> <p>(iv) Design & Construction of extension board</p> <p>(v) Fan repairing and its study</p> <p>(vi) Mixer repairing and its study</p> <p>(vii) Electric kettle repairing and its study</p> <p>(viii) Electric press repairing and its study</p> <p>(ix) Cooler repairing and its study</p> <p>(x) Geezer repairing and its study</p> <p>(xi) Invertor repairing and its study</p>		30

Signature of Convener & Members (CBoS) :

PART – C: LEARNING RESOURCES**Text Books, Reference Books and Others****Text Books Recommended-**

1. A text book in Electrical Technology - B L Theraja - S Chand and Co.
2. Electrical circuits, - M Nahvi and J Edminister, Schaum's outline series, Tata McGraw 2005
3. Circuit Theory, A Chakraborti, Dhanpat Rai & Co.
4. A Text book of electrical technology, - Vol.1, B L Thereja, S. Chand & Co, Delhi
5. A text book of electrical technology- J B Gupta, SK Kalaria & Sons,
6. Principle of electrical engineering- V K Mehta, Rohit Mehta, S. Chand & Co, Delhi
Electronic Devices, 7/e Thomas L. Floyd, 2008, Pearson India

Reference Books Recommended

1. Electrical and Electronic Measurements and Instrumentation by R.K. Rajput
2. Electrical Workshop: Safety, Commissioning, Maintenance & Testing of Electrical Equipment by R.P. Singh
3. Electricity and Magnetism by D.N. Vasudeva

Online Resources (e-books/ learning portals/ other e-resources)

1. National Digital Library- <https://ndl.iitkgp.ac.in/>
2. https://nptel.ac.in/courses/108/108/108_108076/
3. [Basic Instrumentation Skills – Selfstudy Institute](#)
4. physics.iisuniv.ac.in
5. https://www.sathyabama.ac.in/sites/default/files/course-material/2020-10/note_1469078786.PDF

PART – D: ASSESSMENT AND EVALUATION**Suggested Continuous Evaluation Methods:**

Maximum Marks:	50 Marks
Continuous Internal Assessment (CIA):	15 Marks
End Semester Exam (ESE):	35 Marks

Continuous Internal Assessment (CIA): (By Course Coordinator)	Internal Test / Quiz-(2): 10 & 10	Better marks out of the two Test / Quiz + marks obtained in Assignment shall be considered against 15 Marks
	Assignment/Seminar + Attendance - 05 Total Marks- 15	

End Semester Examination (ESE)	Laboratory /Skill Performance: On spot Assessment	Evaluation by Coordinator
	A. Performed the Task based on learned skill - 20 Marks	
	B. Spotting based on tools (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks	

Signature of Convener & Members (CBoS):

FOUR YEAR UNDERGRADUATE PROGRAM (2024 –28)
DEPARTMENT OF English
COURSE CURRICULUM

PART- A: Introduction			
Program: Bachelor in-Arts/Science/Commerce (Diploma)		Semester -IV	Session: 2024-2025
1	Course Code	AEC- 04	
2	Course Title	Communicative English and Soft Skills	
3	Course Type	AEC [Ability Enhancement Course]	
4	Pre-requisite (if, any)	As per program	
5	Course Learning Outcomes (CLO)	After completion of this course, the students will be able to: <ul style="list-style-type: none"> ➤ Learn deviant use of English both in written and spoken forms. ➤ Understand the importance of communication in English. ➤ Apply the ability to improve competence in using English language. ➤ Analyze the importance of reading skills. ➤ Develop language for speaking with confidence. 	
6	Credit Value	2 Credits	Credit = 15 Hours - learning & Observation
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20

PART -B: Content of the Course		
Total No. of Teaching-learning Periods (01 Hr. per period) - 30 Periods (30 Hours)		
Unit	Topics (Course contents)	No. of Period
I	What is communication? <ul style="list-style-type: none"> • Purpose of Communication, • Types of Communication (Verbal and Non- Verbal), • The motivating factors (Intrinsic and Extrinsic) • Barriers of Communication (Internal and External). 	08
II	Building Vocabulary <ul style="list-style-type: none"> • Use of Dictionary, • Building Vocabulary through synonyms and antonyms, • Use of Phrasal Verbs, Idioms and Phrases • Unseen passage 	07
III	Conversation in English (Performance Based) <p>A) Reading: Very short stories (Gift of Magi, Cinderella, The Selfish Giant, Stories from Panchatantra), Newspaper reports / Fact- based articles, Diction and tone, Identifying topic sentences, Reading aloud: Reading an article/report.</p> <p>B) Spoken English for the Real world and Situational Dialogues) (any four)</p> <ul style="list-style-type: none"> • Call Center: Talking to service Providers, Professional Enquiries, Talking with peers/ seniors. • Bank: for opening an account (seeking information on loans/FDs/other schemes. • Office: (seeking information regarding job vacancy) • Market (asking for price of an object, discount etc), • Restaurant: (asking for the special dish, offerings in the menu and ordering for food) 	08

A collection of handwritten signatures and dates in blue ink, including names like 'Frank', 'Suman', 'Saurav', 'Saurabh', and 'Srujan', with dates such as '10-6-24' and '10/6/24'.

	<ul style="list-style-type: none"> At the Railway Station/ Bus Station enquiry: (Arrival and departure of buses/ trains) Hotel: Booking a room, asking tariff rate Travel agency: (Asking to book tickets fares, finding vacancies in hotels) <p>C) Greetings and Common Etiquettes: Introducing oneself; Invitation; Making Requests; Expressing Gratitude; Complimenting and Congratulating; Expressing Sympathy; Apologizing; Complaining and Expressing Regret</p>	
IV	<p>Presentation skills (Performance Based):</p> <p>Effective oral presentation, Characteristics of good oral presentation. Use of quotations and anecdotes. Ways of Oral Presentation (Seminar, Viva -voce, Interview, Power Point etc.) Gestures/ Mannerism during oral presentation. Media methods used for effective oral presentation, Body Language, Attire.</p>	08
Key words	Communication, Vocabulary, Conversation, Reading, Presentation.	

Signature of Convener & Members (CBoS) :

PART-C: Learning Resources
Text Books, Reference Books and Others
<p>Text Books Recommended - Suggested Reading:</p> <ul style="list-style-type: none"> ➤ Fluency in English - Part II, Oxford University Press, 2006. ➤ Enrich Your English, OUP, SR Inthira and V. Saraswathi, CIEFL, 1997 ➤ Oxford A-Z of English Usage, ed. Jeremy Butterfield, OUP, 2007. ➤ Longman Dictionary of Common Errors, N.D. Turton and J.B. Heaton, Longman, 1998 ➤ Contemporary Communicative English, S Chand ➤ Malhotra Perna, Deb Dulal Halder, (2019) Communication Skills: Theory and Practice, Eighth Edition, BookAge Publications, New Delhi.
<p>Online Resources-</p> <ul style="list-style-type: none"> ➤ Applying Communication Theory for Professional Life: A Practical Introduction. Dainton and Zolley, http://tsime.uz.ac.zw/claroline/backends/download.php?url=L0ludHJvX3RvX2NvbW11bmljYXRpb25f ➤ https://web.sol.du.ac.in/my_modules/type/cbcs-41-2/data/root/B.Com/Semester%202/ABILITY-ENHANCEMENT%20COMPULSORY%20COURSE-AECC/English%20Communication%20A-B-C/Unit%201-5.pdf ➤ https://archive.org/details/personality-development-book/mode/1up ➤ https://www.coursera.org/articles/presentation-skills ➤ https://www.cbs.de/en/blog/15-effective-presentation-tips-to-improve-presentation-skills/ ➤ https://benjaminball.com/blog/good-body-language-best-visual-aid-talks/ ➤ https://blog.moderngov.com/importance-of-body-language-in-presentations-good-bad-examples
PART -D: Assessment and Evaluation
<p>Suggested Continuous Evaluation Methods:</p> <p>Maximum Marks: 50 Marks</p> <p>Continuous Internal Assessment (CIA): 15 Marks</p> <p>End Semester Exam (ESE): 35 Marks</p>

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Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Q1. Objective/ MCQs to be asked only from Unit I (1 x5= 05 Mark) Q2. I Vocabulary: (5Marks) II Unseen Passage (5 Marks) Q3. Particles from Unit 3 & 4 consisting of 20 marks.	

Name and Signature of Convener & Members of CBoS:

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