श्रीचन्द्रशेखरेन्द्रसरस्वतीविश्वमहाविद्यालयः

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

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DEPARTMENT OF PHYSICS

CURRICULUM AND SYLLABUS

PHYSICS PAPERS FOR OTHER DEPARTMENTS

(WITH EFFECT FROM 2024 -25)

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA
SCSVMV

(Deemed to be University u/s 3 of UGC Act 1956)
(Accredited with "A" grade by NAAC)
Enathur, Kanchipuram – 631561

SYLLABUS

Applied Physics I &II [B.Sc. (Honors) in Chemistry, Mathematics & Cyber Security]

Applied Physics [B.Sc. (Honors) in Computer Science]

Physics for Information Science [B.Sc. (Honors) in Data Science]

FULL TIME PROGRAMME

CHOICE BASED CREDIT SYSTEM

(For Candidates admitted from the year 2023 onwards)

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Course Code	Course Name	Semester	Credit	Hours
	Applied Physics – I (Maths, Chemistry, Cyber Security)	1 (CH), 3 (MA, **Cy S**)	4	60

Course Objective:

- Gain knowledge in the elastic behaviour of a material and bending behaviour of beams and analyse the expression for young's modulus.
- Analyse waves and oscillations. Study the basic properties and production of Ultrasonics by different methods.
- Understand the basic principle of laser and characteristics. Understand the theory of types of lasers.
- Understand the basic concepts of optical fibres. Understand the applications part of optical fibre into communications systems.
- Learn the basic knowledge on the working of various semi-conductor devices and knowledge on basic digital electronic gates

Unit 1:
Properties of matter

Elasticity - Stress – Strain – Hooke's law –Moduli of elasticity- Poisson's ratio- Elastic behaviour of Material – Factors affecting Elasticity – Young's modulus by cantilever-Non - uniform Bending

Unit 2:
Technical acoustics

Reverberation time - Acoustics of buildings – Reverberation, echo, creep, focusing, standing wave, Principles to be observed in the Acoustical design of an Auditorium – Noise Pollution – Absorption coefficient - Ultrasonics -Generation – Piezoelectric method –Applications of Ultrasonics in industries.

Unit 3:
Laser

Principles – Einstein theory of spontaneous and stimulated emission – Population inversion - Nd:YAG laser , CO_2 laser – Applications of Lasers in 3D profiling, computer peripherals such as CD-ROM.

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Unit 4:
Fiber optics

Types of Optical Fibers – step index – graded index single mode – multiple mode fiber – acceptance angle – Numerical aperture – applications in engineering and medicine.

Unit 5:
Electronics

P-N Junction and P-N Junction Diode - Zener Diode – V-I Characteristics –Zener diode as Peak Clipper- Field Effect Transistors (FET) –Types – Junction Field Effect Transistor (JFET)– Static and Transfer Characteristics.

Course Outcome:

CO:1. Understand the properties, elastic behaviour of a material and bending of beams and analyse the expression for young's modulus.
CO:2. Experience the diverse applications of acoustics and sound waves. Learn the basic properties and production of ultrasonic's by different methods.
CO:3. Have gained adequate knowledge on laser fundamentals types & applications
CO:4. Acquire basic knowledge on various types fiber and signal propagation through fiber optics.
CO:5. Understand the principles and concepts of Electronics, Electrical devices like PN Junction diodes, Zener diode as Peak Clipper and FET .

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Bloom's Category	Continuous Assessment Tests		Terminal Examination (100 marks)
	Ist Internal (30 marks)	IInd Internal (30 marks)	
Knowledge	5	5	20
Comprehension	3	3	10
Application	5	5	15
Analysis	5	5	15
Synthesis	3	3	10
Evaluation	9	9	30

References:

[1]. Properties of Matter - D.S.Mathur. (Unit I), 2010
[2]. Sound - Brijilal & Subramanian. (Unit II), 2018
[3]. Engineering Physics - M.N.Avadhanulu. (Unit II &III), 2018
[4]. Introduction to Fiber Optics - Ghatak. (Unit IV), 2002
[5]. Basic Electronics (Solid State) – B.L Thereja (Unit V), 2007
[6]. Ajoy Ghatak and K. Thyagarajan "Lasers – Fundamentals and Applications", MacMillan Publications, 2011
[7]. Ajoy Ghatak and K. Thayagarajan, "Introduction to fiber optics", Cambridge University Press, New Delhi, 2017
[8]. Ajoy Ghatak and K. Thayagarajan, "Fiber Optics and lasers", Macmillan India, New Delhi, 2008

Text Books:

[1]. Venkatramanan, Raja, Sundarrajan, "Applied Physics for Engineers", SCITECH Publishers, 2011 [Unit – I & II]
[2]. R.K.Gaur & S.L.Gupta , "Modern Engineering Physics", Dhanpat Rai publications, 2011[Unit – III]
[3]. A.S.Vasudeva, "Modern Engineering Physics", S.Chand & Company Ltd., 2013 [Unit – IV]
[4]. Bhatacharya, Bhaskaran, "Engineering Physics", Oxford Publications, 2010 [Unit – IV]
[5]. B.L Thereja, "Basic Electronics (Solid State)", S. Chand, 2007 [Unit – V]

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Department of Physics

SYLLABUS

Course Code	Course Name	Semester	Credit	Hours
	Allied lab - Applied Physics Lab - I (Maths, Chemistry and Cyber security)	I-Sem (Chem), III-Sem (Maths) & III-Sem (Cyber Security)	2	30

Course Objective:

Physics laboratory (applied physics) course provides real time experience in handling equipments and measurement techniques. Basic objective of the course is to learn the experimental procedure and execution expertise in practices.

List of Experiments: (Any Six)

1. Torsional pendulum
2. Young's modulus – non uniform bending
3. Ultrasonic Interferometer
4. Determine wavelength of LASER source
5. Determine particle size - LASER
6. Optical Fibre – Numerical aperture & acceptance angle
7. p-n junction diode – V-I Characteristics
8. Zener diode - V-I Characteristics
9. Zener diode as peak clipper
10. Field Effect Transistors
11. Study of CRO

Course Outcome:

CO:1. Demonstrate the procedural preparation skill to conduct the experiment
CO:2. Ability to perform the experiment and tabulate the observations made
CO:3. Skill to obtain an expected experimental out-comes by different techniques and impart practical knowledge in real time solution
CO:4. Interpretation of experimental results and conclusions
CO:5. Understand principle, concept, working and applications of new theory and articulation of the relevant theory

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Scheme of Valuation	
Aim, Apparatus required, Formula & Table	**10 Marks**
Observation & Calculation	**10 Marks**
Viva	**05 Marks**
Result	**05 Marks**
UE	**30 Marks**
CIA	**20 Marks**
Total	**50 marks**

References:

[1]. C.C. Ouseph, U.J. Rao and V. Vijayendran, “Practical Physics and Electronics”, S. Viswanathan Publishers, Pvt. Lt.d, 2011

[2]. K. Venkatramanan, M. Sundarrajan, R. Raja, “Experimental Physics for Engineers”, SciTech Publications, Chennai, 2011

[3]. Harnam Singh, "B.Sc. Practical Physics", S. Chand Publishing, 2000

Text Books:

[1]. M.N. Srinivasan, S. Balasubramanian, R. Ranganathan, “A Textbook of Practical Physics”, Sultan Chand & Sons, 2015

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Department of Physics

SYLLABUS

Course Code	Course Name	Semester	Credit	Hours
	Applied Physics – II (Maths, Chemistry, Cyber Security)	2 (CH), 4 (MA, Cy S)	4	60

Course Objective:

- Properties and synthesis of Nanomaterials
- Properties of para, dia, ferro, Ferri and antiferro magnetism
- Preparation, properties and applications of SMA, Metallic glasses and Bio materials.
- Characteristics of special purpose diodes [PIN diode, Photo diode, LED and LCD]
- IC Fabrication and Logic gates

Unit 1:
Nano Physics

Introduction to Nano materials - Quantum confinement – Properties of nano materials – Synthesis of nano materials – Top down and bottom up approach – Ball milling and Physical vapour deposition method – applications of nano materials – CNTs

Unit 2:
Magnetism & Dielectrics

Types of Magnetic materials (Dia, Para and Ferro)– properties – Application- Floppy Disc - Dielectrics- Basic Definitions –Dielectric Breakdown – Dielectric loss– Internal field – Classius- Mossotti relation. Application of Dielectric materials

Unit 3:
Engineering Materials

Introduction and Properties of Metallic glasses – Shape memory alloys – Bio materials - Superconductors- Introduction – Meissner effect – Type I & Type II superconductors – High Tc Superconductors

Unit 4:
Optoelectronic Devices

Photomultiplier Tube –Photo Conductive cells – P-N junction Photodiode – PIN Photodiode- Avalanche Photodiodes - Light Emitting Diode (LED) –-Liquid Crystal Display (LCD)

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Unit 5:
Integrated Circuits & Logic Gates

Introduction –Scale of Integration - Classification of IC's by Structure and function – Linear and Digital Integrated Circuits- Fabrication of IC Components – Logic Gates- Positive and Negative Logic- The OR, AND, NOT Gates – Symbols and Truth table for Logic Operations – Universal Gates – The NAND & NOR gates – Symbols and Truth Table for Logic operations

Course Outcome:

CO:1. Understand the properties, Synthesis of nano materials and bending of beams, analyse Physical vapour deposition method and applications of nano materials
CO:2. Experience the diverse applications of Magnetic materials and properties. Learn the basic properties of dielectric materials
CO:3. Adequate knowledge on engineering materials, metallic glasses & superconductors
CO:4. Basic knowledge on various types of optoelectronic devices and applications
CO:5. Knowledge on the principles and concepts of Integrated circuits, Classification of IC's by Structure and function, linear and digital integrated circuits, fabrication of IC components

Bloom's Category	Continuous Assessment Tests		Terminal Examination (100 marks)
	Ist Internal (30 marks)	IInd Internal (30 marks)	
Knowledge	5	5	20
Comprehension	3	3	10
Application	5	5	15
Analysis	5	5	15
Synthesis	3	3	10
Evaluation	9	9	30

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

References:

[1]. R.Murugesan, "Modern Physics", S. Chand (Unit I), 2019
[2]. M.N.Avadhanulu, "Engineering Physics", S. Chand (Unit II&III), 2018
[3]. P.K.Palanisamy, "Engineering Physics", Scitech Publications (Unit II &III), 2010
[4]. B.L Thereja, "Basic Electronics (Solid State)", S. Chand (Unit IV & V), 2007

Text Books:

[1]. R.K.Gaur&S.L.Gupta, "Modern Engineering Physics", DhanpatRai publications, 2019 [Unit – I]
[2]. A.S.Vasudeva , "Modern Engineering Physics", S.Chand & Company Ltd. 1999 [Unit – II]
[3]. Bhatacharya, Bhaskaran, "Engineering Physics", Oxford Publications, 2013 [Unit – III]
[4]. Venkatramanan, Raja, Sundarrajan, "Applied Physics for Engineers", SCITECH, 2011 [Unit – IV]
[5]. B.L Thereja, "Basic Electronics (Solid State)", S. Chand, 2007 [Unit – V]

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Course Code	Course Name	Semester	Credit	Hours
	Allied lab - Applied Physics Lab-II (Maths, Chemistry & Cyber Security)	IV-Sem (Maths), II-Sem (Chem), IV-Sem (Cyber Security)	2	30

Course Objective:

Physics laboratory (applied physics) course provides real time experience in handling equipments and measurement techniques. Basic objective of the course is to learn the experimental procedure and execution expertise in practices.

List of Experiments: (Any Six)

1. Comparison of magnetic moments – Tan A & Tan B – Equidistance method
2. Comparison of magnetic moments – Tan A & Tan B – Null deflection method
3. Dielectric constant
4. Basic Logic gates
5. NAND – Universal building block
6. NOR – Universal building block
7. Half Adder using NAND & NOR gate
8. Half Subtractor using NAND & NOR gate
9. De-Morgan's theorem
10. Lissajous figures - CRO

Course Outcome:

CO:1. Demonstrate the procedural preparation skill to conduct the experiment
CO:2. Ability to perform the experiment and tabulate the observations made
CO:3. Skill to obtain an expected experimental out-comes by different techniques and impart practical knowledge in real time solution
CO:4. Interpretation of experimental results and conclusions
CO:5. Understand principle, concept, working and applications of new theory and articulation of the relevant theory

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Scheme of Valuation	
Aim, Apparatus required, Formula & Table	**10 Marks**
Observation & Calculation	**10 Marks**
Viva	**05 Marks**
Result	**05 Marks**
UE	**30 Marks**
CIA	**20 Marks**
Total	**50 marks**

References:

[1]. C.C. Ouseph, U.J. Rao and V. Vijayendran, “Practical Physics and Electronics”, S. Viswanathan Publishers, Pvt. Lt.d, 2011

[2]. K. Venkatramanan, M. Sundarrajan, R. Raja, “Experimental Physics for Engineers”, SciTech Publications, Chennai, 2011

[3]. Harnam Singh, "B.Sc. Practical Physics", S. Chand Publishing, 2000

Text Books:

[1]. M.N. Srinivasan, S. Balasubramanian, R. Ranganathan, “A Textbook of Practical Physics”, Sultan Chand & Sons, 2015

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Department of Physics

SYLLABUS

Course Code	Course Name	Semester	Credit	Hours
	Applied Physics (Computer Science)	3 (CS)	4	60

Course Objective:

- Gain knowledge in the elastic behaviour of a material and bending behaviour of beams and analyse the expression for young's modulus.
- Analyse waves and oscillations. Study the basic properties and production of ultrasonics by different methods.
- Understand the basic principle of laser and characteristics. Understand the theory of types of lasers.
- Understand the basic concepts of optical fibres. Understand the applications part of optical fibre into communications systems.
- Learn the basic knowledge on the working of various semi-conductor devices and knowledge on basic digital electronic gates

Unit 1:
Properties of matter

Elasticity - Stress – Strain – Hooke's law –Moduli of elasticity- Poisson's ratio- Elastic behaviour of Material – Factors affecting Elasticity – Young's modulus by cantilever-Non - uniform Bending

Unit 2:
Technical acoustics

Reverberation time - Acoustics of buildings – Reverberation, echo, creep, focusing, standing wave, Principles to be observed in the Acoustical design of an Auditorium – Noise Pollution – Absorption coefficient - Ultrasonics -Generation – Piezoelectric method –Applications of Ultrasonics in industries.

Unit 3:
Laser

Principles – Einstein theory of spontaneous and stimulated emission – Population inversion - Nd:YAG laser , CO_2 laser – Applications of Lasers in 3D profiling, computer peripherals such as CD-ROM.

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Unit 4:
Fiber optics

Types of Optical Fibers – step index – graded index single mode – multiple mode fiber – acceptance angle – Numerical aperture – applications in engineering and medicine.

Unit 5:
Electronics

P-N Junction and P-N Junction Diode - Zener Diode – V-I Characteristics –Zener diode as Peak Clipper- Field Effect Transistors (FET) –Types – Junction Field Effect Transistor (JFET)– Static and Transfer Characteristics.

Course Outcome:

CO:1. Understand the properties, elastic behaviour of a material and bending of beams and analyse the expression for young's modulus.
CO:2. Experience the diverse applications of acoustics and sound waves. Learn the basic properties and production of ultrasonic's by different methods.
CO:3. Have gained adequate knowledge on laser fundamentals types & applications
CO:4. Acquire basic knowledge on various types fiber and signal propagation through fiber optics.
CO:5. Understand the principles and concepts of Electronics, Electrical devices like PN Junction diodes, Zener diode as Peak Clipper and FET .

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Department of Physics

SYLLABUS

Bloom's Category	Continuous Assessment Tests		Terminal Examination (100 marks)
	Ist Internal (30 marks)	IInd Internal (30 marks)	
Knowledge	5	5	20
Comprehension	3	3	10
Application	5	5	15
Analysis	5	5	15
Synthesis	3	3	10
Evaluation	9	9	30

References:

[1]. Properties of Matter - D.S.Mathur. (Unit I), 2010
[2]. Sound - Brijilal & Subramanian. (Unit II), 2018
[3]. Engineering Physics - M.N.Avadhanulu. (Unit II &III), 2018
[4]. Introduction to Fiber Optics - Ghatak. (Unit IV), 2012
[5]. Basic Electronics (Solid State) – B.L Thereja (Unit V), 2007
[6]. Ajoy Ghatak and K. Thyagarajan "Lasers – Fundamentals and Applications", MacMillan Publications, 2011
[7]. Ajoy Ghatak and K. Thayagarajan, "Introduction to fiber optics", Cambridge University Press, New Delhi, 2017
[8]. Ajoy Ghatak and K. Thayagarajan, "Fiber Optics and lasers", Macmillan India, New Delhi, 2008

Text Books:

[1]. Venkatramanan, Raja, Sundarrajan, "Applied Physics for Engineers", SCITECH Publishers, 2011[Unit – I & II]
[2]. R.K.Gaur & S.L.Gupta , "Modern Engineering Physics", Dhanpat Rai publications, 2011 [Unit – III]
[3]. A.S.Vasudeva, "Modern Engineering Physics", S.Chand & Company Ltd., 2013 [Unit – III]
[4]. Bhatacharya, Bhaskaran, "Engineering Physics", Oxford Publications, 2010 [Unit – IV]
[5]. B.L Thereja, "Basic Electronics (Solid State)", S. Chand, 2007 [Unit – V]

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Course Code	Course Name	Semester	Credit	Hours
	Allied lab - Applied Physics Lab (Computer Science)	III-Sem (Computer Science)	2	45

Course Objective:

Physics laboratory (applied physics) course provides real time experience in handling equipments and measurement techniques. Basic objective of the course is to learn the experimental procedure and execution expertise in practices.

List of Experiments: (Any Six)

1. Torsional pendulum
2. Young's modulus – non uniform bending
3. Ultrasonic Interferometer
4. Determine particle size - LASER
5. Determine wavelength of LASER source
6. Optical Fibre – Numerical aperture & acceptance angle
7. p-n junction diode – V-I Characteristics
8. Zener diode - V-I Characteristics
9. Zener diode as peak clipper
10. Field Effect Transistors
11. Study of CRO

Course Outcome:

CO:1. Demonstrate the procedural preparation skill to conduct the experiment
CO:2. Ability to perform the experiment and tabulate the observations made
CO:3. Skill to obtain an expected experimental out-comes by different techniques and impart practical knowledge in real time solution
CO:4. Interpretation of experimental results and conclusions
CO:5. Understand principle, concept, working and applications of new theory and articulation of the relevant theory

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Scheme of Valuation	
Aim, Apparatus required, Formula & Table	**10 Marks**
Observation & Calculation	**10 Marks**
Viva	**05 Marks**
Result	**05 Marks**
UE	**30 Marks**
CIA	**20 Marks**
Total	**50 marks**

References:

[1]. C.C. Ouseph, U.J. Rao and V. Vijayendran, “Practical Physics and Electronics”, S. Viswanathan Publishers, Pvt. Lt.d, 2011

[2]. K. Venkatramanan, M. Sundarrajan, R. Raja,“Experimental Physics for Engineers”, SciTech Publications, Chennai, 2011

[3]. Harnam Singh, "B.Sc. Practical Physics", S. Chand Publishing, 2000

Text Books:

[1]. M.N. Srinivasan, S. Balasubramanian, R. Ranganathan, “A Textbook of Practical Physics”, Sultan Chand & Sons, 2015

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Course Code	Course Name	Semester	Credit	Hours
	Physics for Information Science (Data Science)	3 (DS)	4	60

Course Objective:

- Properties of semiconductors and carrier concentrations
- Properties of para, dia, ferro, Ferri and antiferro magnetism
- Characteristics of special purpose diodes [PIN diode, Photo diode, LED and LCD]
- IC Fabrication and Logic gates
- Properties and synthesis of Nanomaterials

Unit 1:
Semiconductor Physics

Intrinsic and extrinsic semiconductors – Energy band diagram, Fermi level, direct and indirect band gap semiconductors, Carrier concentration in intrinsic semiconductors, Carrier concentration in N type semiconductor, Carrier concentration in P type semiconductor.

Unit 2:
Magnetism & Dielectrics

Types of Magnetic materials (Dia, Para and Ferro)– properties – Application- Floppy Disc - Dielectrics- Basic Definitions –Dielectric Breakdown – Dielectric loss– Internal field – Classius- Mossotti relation. Application of Dielectric materials

Unit 3:
Optoelectronic Devices

Photomultiplier Tube –Photo Conductive cells – P-N junction Photodiode – PIN Photodiode- Avalanche Photodiodes - Light Emitting Diode (LED) –-Liquid Crystal Display (LCD)

Unit 4:
Integrated Circuits & Logic Gates

Introduction –Scale of Integration - Classification of IC's by Structure and function –Fabrication of IC Components – Logic Gates - OR, AND, NOT Gates – Symbols and Truth table for Logic Operations – Universal Gates – The NAND & NOR gates – Symbols and Truth Table for Logic operations

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Unit 5:
Nano Physics

Introduction to Nano materials - Quantum confinement – Properties of nano materials – Synthesis of nano materials – Top down and bottom up approach – Ball milling and Physical vapour deposition method – applications of nano materials – CNTs

Course Outcome:

CO:1. Adequate knowledge on intrinsic and extrinsic semiconductors and carrier concentrations
CO:2. Experience the diverse applications of Magnetic materials and properties. Learn the basic properties of dielectric materials
CO:3. Acquire basic knowledge on various types of optoelectronic devices and applications
CO:4. Understand the properties, Synthesis of nano materials and bending of beams, analyse Physical vapour deposition method and applications of nano materials
CO:5. Understand the principles and concepts of Integrated circuits, Classification of IC's by Structure and function, linear and digital integrated circuits, fabrication of IC components

Bloom's Category	Continuous Assessment Tests		Terminal Examination (100 marks)
	Ist Internal (30 marks)	IInd Internal (30 marks)	
Knowledge	5	5	20
Comprehension	3	3	10
Application	5	5	15
Analysis	5	5	15
Synthesis	3	3	10
Evaluation	9	9	30

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

References:

[1]. R.Murugesan, "Modern Physics", S. Chand (Unit I), 2019
[2]. M.N.Avadhanulu, "Engineering Physics", S. Chand (Unit II&III), 2018
[3]. P.K.Palanisamy, "Engineering Physics", Scitech Publications (Unit II &III), 2010
[4]. B.L Thereja, "Basic Electronics (Solid State)", S. Chand (Unit IV & V), 2007

Text Books:

[1]. R.K.Gaur&S.L.Gupta, "Modern Engineering Physics", DhanpatRai publications, 2019 [Unit – I]
[2]. A.S.Vasudeva , "Modern Engineering Physics", S.Chand & Company Ltd. 1999 [Unit – II]
[3]. Bhatacharya, Bhaskaran, "Engineering Physics", Oxford Publications, 2013 [Unit – II]
[4]. B.L Thereja, "Basic Electronics (Solid State)", S. Chand, 2007 [Unit – III & IV]
[5]. Venkatramanan, Raja, Sundarrajan, "Applied Physics for Engineers", SCITECH, 2011 [Unit – V]

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Department of Physics

SYLLABUS

Course Code	Course Name	Semester	Credit	Hours
	Allied lab - Applied Physics Lab (Data Science)	III-Sem (Data Science)	2	30

Course Objective:

Physics laboratory (applied physics) course provides real time experience in handling equipments and measurement techniques. Basic objective of the course is to learn the experimental procedure and execution expertise in practices.

List of Experiments: (Any Six)

1. Comparison of magnetic moments – Tan A & Tan B – Equidistance method
2. Comparison of magnetic moments – Tan A & Tan B – Null deflection method
3. Dielectric constant
4. Basic Logic gates
5. NAND – Universal building block
6. NOR – Universal building block
7. Determination of Particle size – LASER
8. Determination of wavelength of LASER
9. De-Morgan's theorem
10. Study of CRO

Course Outcome:

CO:1. Demonstrate the procedural preparation skill to conduct the experiment
CO:2. Ability to perform the experiment and tabulate the observations made
CO:3. Skill to obtain an expected experimental out-comes by different techniques and impart practical knowledge in real time solution
CO:4. Interpretation of experimental results and conclusions
CO:5. Understand principle, concept, working and applications of new theory and articulation of the relevant theory

SRI CHANDRASEKHARENDRA SARASWATHI VISWA MAHAVIDYALAYA

Department of Physics

SYLLABUS

Scheme of Valuation	
Aim, Apparatus required, Formula & Table	**10 Marks**
Observation & Calculation	**10 Marks**
Viva	**05 Marks**
Result	**05 Marks**
UE	**30 Marks**
CIA	**20 Marks**
Total	**50 marks**

References:

[1]. C.C. Ouseph, U.J. Rao and V. Vijayendran, “Practical Physics and Electronics”, S. Viswanathan Publishers, Pvt. Lt.d, 2011

[2]. K. Venkatramanan, M. Sundarrajan, R. Raja, “Experimental Physics for Engineers”, SciTech Publications, Chennai, 2011

[3]. Harnam Singh, "B.Sc. Practical Physics", S. Chand Publishing, 2000

Text Books:

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