



Alva's Institute of Engineering & Technology

Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

Phone: 08258-262725, Fax: 08258-262726

VISION AND MISSION OF INSTITUTE

VISION STATEMENT

"Transformative education by pursuing excellence in Engineering and Management through enhancing skills to meet the evolving needs of the community"

MISSION STATEMENT

- To bestow quality technical education to imbibe knowledge, creativity and ethos to students community.
- To inculcate the best engineering practices through transformative education.
- To develop a knowledgeable individual for a dynamic industrial scenario
- To inculcate research, entrepreneurial skills and human values in order to cater the needs of the society.


Dr. Peter Fernandes
PRINCIPAL

Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K.



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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Phone: 08258-262725, Fax: 08258-262726

Department of Engineering Physics

Vision

“Excel in imparting knowledge in physics and propel scientific research to technological horizon”

Mission

- To educate students in fundamentals of Physics in Engineering curriculum
- To conduct research in frontier science.
- To ensure technological research to meet the needs of the nation.

A handwritten signature in black ink, appearing to read "N. O. D.", is written over a circular stamp.

N. O. D
Dept. Of Physics
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

(ಶಿಕ್ಷಣ ಮತ್ತು ತಂತ್ರಜ್ಞಾನಗಳ ರಾಜ್ಯ ಸರ್ಕಾರದ ಅಧೀನದಲ್ಲಿ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯ ವಿಶ್ವವಿದ್ಯಾಲಯ)

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

(State University of Government of Karnataka Established as per the VTU Act, 1994)

"Jyoti Sagar" Belagavi-590018, Karnataka, India



Prof. Dr. B. E. Rangaswamy, Ph.D.
REGISTRAR(I/C)

Phone: (0831) 2498100
Fax : (0831) 2405467

REF: VTU/BGM/ACA/2022-23/1051

DATE: 14 NOV 2022

NOTIFICATION

Subject: - Tentative Academic Calendar of 1st semesters of B.E./B.Tech./B.Arch./B.Plan., programs of University regarding...

Reference: Dean faculty of Engineering, VTU Belagavi approval dated 10.11.2022

Hon'ble Vice-Chancellor's approval dated: 14.11.2022

The tentative academic calendar concerned to 1st semesters of B.E./B.Tech./B.Arch./B.Plan., programs of University for academic year 2022-23 are hereby notified as mentioned below;

(Tentative) Academic Calendar for I Semester of UG programs for the Academic Year 2022-23			
Details	I semester B.E./B.Tech.	I semester B.Arch.	I semester B.Plan
Commencement of I semester (*Induction Program)	21.11.2022	21.11.2022	21.11.2022
Commencement of I semester Classes	01.12.2022	01.12.2022	01.12.2022
Last Working day of I Semester	18.03.2023	18.03.2023	18.03.2023
Practical Examinations	21.03.2023 To 31.03.2023	21.03.2023 To 31.03.2023	21.03.2023 To 31.03.2023
Theory Examinations	03.04.2023 To 28.04.2023	03.04.2023 To 28.04.2023	03.04.2023 To 28.04.2023
Commencement of II Semester	02.05.2023	02.05.2023	02.05.2023

Please Note:

- The academic sessions for ODD semesters should commence on the date mentioned above.
- ** Induction Program shall be conducted for 11 days at the beginning of 1st semester and 10 days at the beginning of the 2nd semester.

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During induction program college has to brief about the new curriculum that implemented from the academic year 2022-23.

- The Institute needs to function for **six days** a week with Saturday being half working day. If required, the college can also plan to have extra classes on Saturday afternoons and Sundays full day to complete academic activities within the duration mentioned.
- The faculty/staff shall be available to undertake any work assigned by the university.
- Notification regarding the Calendar of Events relating to the conduct of University Examinations will be issued by the Registrar (Evaluation) from time to time.
- Academic Calendar **may be modified** based on guidelines/directions issued in the future by MHRD/UGC/AICTE/State Government.
- Academic Calendar is also applicable for **Autonomous Colleges**. If any changes are to be effected by Autonomous Colleges in the academic terms and examination schedule, they could do so with the approval of the University.
- The college has to conduct offline classes to cover **80%** of the syllabus of the courses; however, **20%** of the syllabus can be covered in virtual model (Online) mode. **Attendance** of the students for offline and online classes is mandatory and records should be maintained and submitted to the university whenever informed.
- AICTE Activity point details circular will be issued by the Registrar's office separately.
- If any clarification/correction, please email to - sblvtuso@yahoo.com

The Principals of Affiliated, Constituent and Autonomous Engineering Colleges, Chairpersons of the University departments are hereby informed to bring the academic calendar to the notice of all concerned.

Sd/-

REGISTRAR

To,

1. The Principals of all affiliated/ constituent /Autonomous Engineering Colleges under the ambit of VTU Belagavi.
2. The chairperson, of the Department of Mechanical Engineering /Civil Engineering /Computer Science and Engineering Electronics & Communication Engineering Dept. of the University

Copy to.

1. To the Hon'ble Vice-Chancellor through the secretary to VC, VTU Belagavi for information
2. The Registrar (Evaluation), VTU Belagavi for information.
3. The Regional Directors (I/c) of all the regional offices of VTU for circulation.
4. The Director I/c. ITI SMU, VTU Belagavi for information and to make arrangements to upload Academic Calendar on the VTU web portal.
5. The Director of Physical Education, VTU Belagavi for information
6. OS for information and make arrangements to send the circular regarding AICTE Activity Points
7. All the concerned Special Officer/s and Caseworker/s of the academic section, VTU, Belagavi

Raj 14/11/2022 *BE*

REGISTRAR

Course Title:	Applied Physics for EEE Stream		
Course Code:	22PHYE12/22	CIE Marks	50
Course Type (Theory/Practical/Integrated)	Integrated	SEE Marks	50
		Total Marks	100
Teaching Hours/Week (L:T:P: S)	2:2:2:0	Exam Hours	03
Total Hours of Pedagogy	40 hours+10-12 Lab Slots	Credits	04
Course objectives <ul style="list-style-type: none"> To study the principles of quantum mechanics To understand the properties of dielectrics and superconductors To study the essentials of photonics for engineering applications. To understand fundamentals of vector calculus and EM waves. To study the knowledge about semiconductors and devices. 			
Teaching-Learning Process These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes and make Teaching –Learning more effective <ol style="list-style-type: none"> 1. Flipped Class 2. Chalk and Talk 3. Blended Mode of Learning 4. Simulations, Interactive Simulations and Animations 5. NPTEL and Other Videos for theory topics 6. Smart Class Room 7. Lab Experiment Videos 			
Module-1 (08 Hours)			
Quantum Mechanics: de Broglie Hypothesis and Matter Waves, de Broglie wavelength and derivation of expression by analogy, Phase Velocity and Group Velocity, Heisenberg's Uncertainty Principle and its application (Non existence of electron inside the nucleus-Non Relativistic), Principle of Complementarity, Wave Function, Time independent Schrödinger wave equation, Physical Significance of a wave function and Born Interpretation, Expectation value, Eigen functions and Eigen Values, Particle inside one dimensional infinite potential well, Waveforms and Probabilities. Numerical Problems Pre-requisite: Wave–Particle dualism Self-learning: de Broglie Hypothesis			
Module-2 (08 hours)			
Electrical Properties of Solids: Conductors: Quantum Free Electron Theory of Metals: Assumptions, Fermi-energy, Fermi factor, Variation of Fermi Factor with Temperature and Energy, Mention of expression for electrical conductivity. Dielectric Properties: Polar and non-polar dielectrics, Electrical Polarization Mechanisms, internal fields in solids, Clausius-Mossotti equation (Derivation), Solid, Liquid and Gaseous dielectrics. Application of dielectrics in transformers, Capacitors, Electrical Insulation. Numerical Problems. Superconductivity: Introduction to Superconductors, Temperature dependence of resistivity, Meissner Effect, Critical Field, Temperature dependence of Critical field, Types of Super Conductors, BCS theory (Qualitative), High Temperature superconductivity, SQUID, MAGLEV, Numerical problems. Pre-requisites: Classical Free Electron Theory Self-learning: Dielectrics Basics			
Module-3 (08 hours)			
Lasers and Optical Fibers: Lasers: Characteristics of LASER, Interaction of radiation with matter, Expression for Energy Density and its significance. Requisites of a Laser System. Conditions for Laser action. Principle, Construction and Working of Carbon Dioxide Laser. Application of Lasers in Defense (Laser range finder) and Laser Printing. Numerical			

Problems Optical Fibers: Total Internal Reflection, Propagation mechanism, Angle of Acceptance, Numerical Aperture, Fractional Index Change, Modes of Propagation, Number of Modes and V Number, Types of Optical Fibers. Attenuation and Mention of Expression for Attenuation coefficient, Attenuation Spectrum of an Optical Fiber with Optical Windows. Discussion of Block Diagram of Point to Point Communication, Intensity based Fiber Optic Displacement Sensor, Merits and Demerits, Numerical problems. Pre-requisite: Properties of light Self-learning: Total Internal Reflection	
Module-4 (08 hours)	
Maxwell's Equations and EM waves: Maxwell's Equations: Fundamentals of Vector Calculus. Divergence and Curl of Electric field and Magnetic field (static), Gauss' divergence theorem and Stoke's theorem. Description of laws of Electrostatics, Magnetism, Faraday's laws of EMI, Current Density, Equation of Continuity, Displacement Current (with derivation), Maxwell's equations in vacuum, Numerical Problems EM Waves: The wave equation in differential form in free space (Derivation of the equation using Maxwell's equations), Plane Electromagnetic Waves in vacuum, their transverse nature. Pre-requisite: Electricity & Magnetism Self-learning: Fundamentals of vector calculus.	
Module-5 (08 hours)	
Semiconductors and Devices: Fermi level in Intrinsic & Extrinsic Semiconductor, Expression for concentration of electrons in conduction band & holes concentration in valance band (only mention the expression), Relation between Fermi energy & Energy gap in intrinsic semiconductors(derivation), Law of mass action, Electrical conductivity of a semiconductor (derivation), Hall effect, Expression for Hall coefficient (derivation) and its application. Photo-diode and Power responsivity, Construction and working of Semiconducting Laser, Four probe method to determine resistivity, Phototransistor, Numerical problems. Pre-requisite: Basics of Semiconductors Self-learning: Fermi level in Intrinsic & Extrinsic Semiconductor	
Course outcome (Course Skill Set) At the end of the course the student will be able to:	
CO1	Describe the fundamental principles of the Quantum Mechanics and the essentials of Photonics.
CO2	Elucidate the concepts of conductors, dielectrics and superconductivity
CO3	Discuss the fundamentals of vector calculus and their applications in Maxwell's Equations and EM Waves.
CO4	Summarize the properties of semiconductors and the working principles of semiconductor devices.
CO5	Practice working in groups to conduct experiments in physics and Perform precise and honest measurements.
Assessment Details (both CIE and SEE) The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks out of 50). The minimum passing mark for the SEE is 35% of the maximum marks (18 marks out of 50). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 35% (18 Marks out of 50) in the semester-end examination(SEE), and a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.	
Continuous Internal Evaluation(CIE): The CIE marks for the theory component of the IC shall be 30 marks and for the laboratory component 20 Marks .	
CIE for the theory component of the IC	
<ul style="list-style-type: none"> Three Tests each of 20 Marks; after the completion of the syllabus of 35-40%, 65-70%, and 90-100% respectively. Two Assignments/two quizzes/ seminars/one field survey and report presentation/one-course project totalling 20 marks. 	

Total Marks scored (test + assignments) out of 80 shall be scaled down to **30 marks**

CIE for the practical component of the IC

- On completion of every experiment/program in the laboratory, the students shall be evaluated and marks shall be awarded on the same day. The **15 marks** are for conducting the experiment and preparation of the laboratory record, the other **05 marks shall be for the test** conducted at the end of the semester.
- The CIE marks awarded in the case of the Practical component shall be based on the continuous evaluation of the laboratory report. Each experiment report can be evaluated for 10 marks. Marks of all experiments' write-ups are added and scaled down to 15 marks.
- The laboratory test (**duration 03 hours**) at the end of the 15th week of the semester /after completion of all the experiments (whichever is early) shall be conducted for 50 marks and scaled down to **05 marks**.

Scaled-down marks of write-up evaluations and tests added will be CIE marks for the laboratory component of IC/IPCC for **20 marks**.

- The minimum marks to be secured in CIE to appear for SEE shall be 12 (40% of maximum marks) in the theory component and 08 (40% of maximum marks) in the practical component. The laboratory component of the IC/IPCC shall be for CIE only. However, in SEE, the questions from the laboratory component shall be included. The maximum of 05 questions is to be set from the practical component of IC/IPCC, the total marks of all questions should not be more than 25 marks.

The theory component of the IC shall be for both CIE and SEE.

Semester End Examination(SEE):

Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (**duration 03 hours**)

- The question paper shall be set for 100 marks. The medium of the question paper shall be English/Kannada. The duration of SEE is 03 hours.
- The question paper will have 10 questions. Two questions per module. Each question is set for 20 marks. The students have to answer 5 full questions, selecting one full question from each module. The student has to answer for 100 marks and **marks scored out of 100 shall be proportionally reduced to 50 marks**.

There will be 2 questions from each module. Each of the two questions under a module (with a maximum of 3 sub-questions), **should have a mix of topics** under that module.

Suggested Learning Resources:

Books (Title of the Book/Name of the author/Name of the publisher/Edition and Year)

1. A Textbook of Engineering Physics- M.N. Avadhanulu and P.G. Kshirsagar, 10th revised Ed, S. Chand. & Company Ltd, New Delhi.
2. An Introduction to Lasers theory and applications by M.N. Avadhanulu and P.S. Hemne revised Edition 2012. S. Chand and Company Ltd -New Delhi.
3. Engineering Physics-Gaur and Gupta-Dhanpat Rai Publications-2017.
4. Concepts of Modern Physics-Arthur Beiser: 6th Ed; Tata McGraw Hill Edu Pvt Ltd- New Delhi 2006.
5. Fundamentals of Fibre Optics in Telecommunication & Sensor Systems, B.P. Pal, New Age International Publishers.
6. Introduction to Electrodynamics, David Griffith, 4th Edition, Cambridge University Press 2017.
7. Lasers and Non Linear Optics – B.B. Laud, 3rd Ed, New Age International Publishers 2011.
8. LASERS Principles, Types and Applications by K.R. Nambiar-New Age International Publishers.
9. Solid State Physics-S O Pillai, 8th Ed- New Age International Publishers-2018.

Web links and Video Lectures (e-Resources):

Laser:<https://www.britannica.com/technology/laser.k>

Laser:<https://nptel.ac.in/courses/115/102/115102124/>

Quantum mechanics:<https://nptel.ac.in/courses/115/104/115104096/>

Physics:<http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html>

Numerical Aperture of fiber:<https://bop-iitk.vlabs.ac.in/exp/numerical-aperture-measurement>

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning

<http://nptel.ac.in>

<https://swayam.gov.in>

<https://www.vlab.co.in/participating-institute-amrita-vishwa-vidyapeetham>

<https://vlab.amrita.edu/index.php?sub=1&brch=189&sim=343&cnt=1>

https://virtuallabs.merlot.org/vl_physics.html

<https://phet.colorado.edu>

<https://www.myphysicslab.com>

Laboratory Component:

Any Ten Experiments have to be completed from the list of experiments

Note: The experiments have to be classified into

- a) Exercise
- b) Demonstration
- c) Structured Inquiry
- d) Open Ended

Based on the convenience classify the following experiments into above categories selecting at least three experiments for each type. Select at least one simulation/spreadsheets activity.

List of Experiments

1. Determination of wavelength of LASER using Diffraction Grating.
2. Determination of acceptance angle and numerical aperture of the given Optical Fiber.
3. Determination of Magnetic Flux Density at any point along the axis of a circular coil.
4. Determination of resistivity of a semiconductor by Four Probe Method
5. Study the I-V Characteristics of the Given Bipolar Junction Transistor.
6. Determination of dielectric constant of the material of capacitor by Charging and Discharging method.
7. Study the Characteristics of a Photo-Diode and to determine the power responsivity / Verification of Inverse Square Law of Intensity of Light.
8. Study the frequency response of Series & Parallel LCR circuits.
9. Determination of Planck's Constant using LEDs.
10. Determination of Fermi Energy of Copper.
11. Identification of circuit elements in a Black Box and determination of values of the components.
12. Determination of Energy gap of the given Semiconductor.
13. Step Interactive Physical Simulations.
14. Study of motion using spread Sheets
15. Study of Application of Statistics using spread sheets
16. PHET Interactive

Simulations(<https://phet.colorado.edu/en/simulations/filter?subjects=physics&type=html,prototype>)

COs and POs Mapping (Individual teacher has to fill up)

COs	POs											
	1	2	3	4	5	6	7	8	9	10	11	12
CO1	3	2	-	-	-	-	-	-	-	-	-	2
CO2	3	2	-	-	-	-	-	-	-	-	-	2
CO3	3	2	-	-	-	-	-	-	-	-	-	2
CO4	3	2	-	-	1	-	-	-	-	-	-	2
CO5	3	2	1	-	2	-	-	3	3	-	-	2

Level 3- Highly Mapped, Level 2-Moderately Mapped, Level 1-Low Mapped

Note : The CO-PO mapping values are indicative. The course coordinator can alter the mapping using **Competency and Performance Indicators** mentioned in the **AICTE Exam reforms**.



ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

Shobhavana campus, Mijar-574225

Group	Physics	CLASS TIME TABLE					Semester		First	
Section	H (EC2)						Academic Year		2022-2023	
Class Coordinator		Mrs. Radhika, Dept. of Mathematics					Room No.		415	
Day/ Period	9.00 to 9.50	9.50 to 10.40	10.40 to 11.00	11.00 to 11.50	11.50 to 12.40	12.40 to 1.40	1.40 to 2.30	2.30 to 3.20	3.30 to 5.00	
Monday	22PHYE12 (JA)	22PHYE12 (H1 Batch Lab) (JA+ /H2 Batch: LIBRARY				LUNCH	22MATE11 (RD)	22ENG16 (AP)	22ETC15B (TR)	
Tuesday	22MATE11 (RD)	22PHYE12 (JA)	T E A	22ESC144 (GN)	22BEE13 (KVS)		22PHYS12 (H2 Batch Lab) (JA+ /H1 Batch: LIBRARY			
Wednesday	22MATE11 (LAB)			22ENG16 (AP)	22MATE11 (RD)		22ICO17 (AK)	22BEE13 (KVS)	22ESC144 (GN)	
Thursday	22ESC144 (GN)	22BEE13 (H1 batch Lab) (KVS) /H2 Batch: LIBRARY					22ETC15B (TR)	22PHYE12 (JA)	MMM	
Friday	22BEE13 (KVS)	22MATE11 (RD)	T E A	22PHYE12 (JA)	22IDT18 (VS)		22BEE13 (H2 batch Lab) (KVS) /H1 Batch: LIBRARY			
Saturday	22ETC15B (TR)	22PHYE12 (JA)		22BEE13 (KVS)	22ESC144 (GN)					

ALLOCATION OF THEORY SUBJECTS

COURSE	COURSE CODE	COURSE TITLE	FACULTY NAME	FACULTY CODE
ASC(IC)	22MATE11	Mathematics for EEE stream I	Mrs. Radhika	RD
ASC(IC)	22PHYE12	Physics for EEE stream	Dr. Jayarama A	JA
ESC	22BEE13	Basic Electronics	New faculty	NF
ESC1	22ESC144	Introduction to Mechanical Engineering	Mr. Ganesh	GN
ETC1	22ETC15B	Green Buildings	Ms. Tanvi Rai	TR
AEC	22EGH16	Communicative English	Mr. Ajith Peter	AP
HSMC	22ICO17	Indian Constitution	Mr. Ajith Kumar	AK
AEC/SDC	22IDT18	Innovation and Design Thinking	Mr. Vishal	VS
MMM	Mentor Mentee Meeting			

ASC(IC): Applied Science Course, ESC: Engineering Science Course, ETC1: Emerging Technology Course-I, AEC: Ability Enhancement Course, HSMC: Humanity & Social Science and Management Course, SDC: Skill Development Course

H1 Batch: 1-32 & H2 Batch: 33-64

H.O.D

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Mijar, MOODBIDRI - 574 225

HOD

PRINCIPAL

Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225, D.K

PRINCIPAL

STUDENT LIST

H SECTION

SN	USN	NAME
01	4AL22EC002	AISHWARYA SANGANNA KUDLEPPANAVAR
02	4AL22EC007	ANUSHRI MALLAPPA JOGIN
03	4AL22EC011	ASWINI VEERAPPA MINCHABUTTI
04	4AL22EC015	BHAVANA K N
05	4AL22EC016	BHOOMIKA C
06	4AL22EC017	BHOOMIKA K B
07	4AL22EC020	CHANDAN DK
08	4AL22EC022	CHARITH KUMAR KS
09	4AL22EC030	KANNIKA PARAMESH SATTIGIHALLI
10	4AL22EC037	KSHAMA N
11	4AL22EC038	MADHU MAHANTESH AVVAKKANAVAR
12	4AL22EC039	MADHU VH
13	4AL22EC041	MAHESHWARI
14	4AL22EC044	MANASA BS
15	4AL22EC045	MANJUNATH BASAVARAJ KAMMANAHALLI
16	4AL22EC046	MANJUNATH CHOORI
17	4AL22EC049	MONIKA
18	4AL22EC053	NETRA SHRISHAIL KURBET
19	4AL22EC057	NIVEDITHA BAVOOR
20	4AL22EC059	PATTADI VENKATAIYYA
21	4AL22EC062	PRAJNA
22	4AL22EC063	PRAJWAL ANDANUR
23	4AL22EC066	PRASAD PRAKASH OLEKAR
24	EC	PRATHAM HA
25	4AL22EC067	PRATHIK M SALIAN
26	4AL22EC068	PRATIK CHANDRAKANT KHED
27	4AL22EC071	PUNEETH KUMAR BR
28	4AL22EC076	RAMESH CHIGARER
29	4AL22EC078	RITISH KUMAR CHANDRAHAS GOUDA
30	4AL22EC072	RM RUDRESH PATIL
31	4AL22EC084	SAHANA BASAVARAJ ASUNDI
32	4AL22EC086	SANJANA SHIVAGOUDA PATIL
33	4AL22EC091	SHARANAPRAKASH HOSAMANI
34	4AL22EC092	SHETTY DIYA NITHYANANDA
35	4AL22EC093	SHETTY TRISHA VASANTHA
36	4AL22EC094	SHRAVAN
37	4AL22EC095	SHRAVANI
38	4AL22EC096	SHRINIDHI RAJKUMAR SHINDE
39	4AL22EC098	SIDDU N DHANNOR

40	4AL22EC099	SINCHANA KARUNAKAR POOJARI
41	4AL22EC082	SK PUNYASHREE
42	4AL22EC100	SNEHA SANJAY BAGANE
43	4AL22EC101	SOHAM SHANTISAGAR KUDACHI
44	4AL22EC102	SONAL
45	4AL22EC103	SOUJANYA DHARMAGOUDA GUDDANAGOUDRA
46	4AL22EC104	SOUMYA MUCHHANDI
47	4AL22EC105	SPANDANA G C
48	4AL22EC106	SPOORTHY G
49	4AL22EC107	SRUJAN H R
50	4AL22EC108	SRUSHTI S M
51	4AL22EC109	SUBRAMANYA K M
52	4AL22EC110	SUHAS HIREMATH
53	4AL22EC112	SUNITHA M
54	4AL22EC113	SURAJ S AIRANI
55	4AL22EC114	SWARNA K L
56	4AL22EC115	UDBHAVI N M
57	4AL22EC116	ULAVATTI SHIVARAJA
58	4AL22EC117	V SAI HITESH GOWDA
59	4AL22EC118	VARSHITHA A R
60	4AL22EC119	VASANTKUMAR CHANDRASHEKHAR JUTTANNAVAR
61	4AL22EC122	VIDYASREE CS
62	4AL22EC123	VIJAY KULAL
63	4AL22EC126	VISHWA PRADEEP SHET
64	4AL22EC127	YASHWANTH KUMAR N
65	4AL22EC029	JYOTHI
66	4AL22EC028	JAAHNNAWWIE



H. O. D

Dept. Of Physics

Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225

LESSON PLAN

H SECTION

ENGINEERING PHYSICS EEE STREAM

AIET		Lesson Plan & Execution			Format No. Issue No. Rev. No.		ACD 08 01 00	
Name of the faculty					DR. JAYARAMA A			
Semester and Section					FIRST, H SECTION			
Date of Commencement					12-12-2022			
Last Working Day of the Semester					31-03-2023			
Source Materials List								
1. A Textbook of Engineering Physics-M.N. Avadhanulu and P.G. Kshirsagar, 10th revised Ed, S. Chand. & Company Ltd, New Delhi.					6. Introduction to Electrodynamics, David Griffith, 4th Edition, Cambridge University Press 2017.			
2. An Introduction to Lasers theory and applications by M.N.Avadhanulu and P.S.Hemne revised Edition 2012. S.Chand and Company Ltd -New Delhi.					7. Lasers and Non-Linear Optics – B.B. Laud, 3rd Ed, New Age International Publishers 2011.			
3. Engineering Physics-Gaur and Gupta-Dhanpat Rai Publications-2017.					8. LASERS Principles, Types and Applications by K.R. Nambiar-New Age International Publishers.			
4. Concepts of Modern Physics-Arthur Beiser: 6th Ed;Tata McGraw Hill Edu Pvt Ltd- New Delhi 2006.					9. Solid State Physics-S O Pillai, 8th Ed- New Age International Publishers-2018.			
5. Fundamentals of Fibre Optics in Telecommunication & Sensor Systems, B.P. Pal, New Age International Publishers.								
Subject Name : Physics for Electrical & Electronics Engineering Stream								
Pe rio d	Plan				Execution			
	Date	Topics to be covered		Sou rce Mat eria l nee ded	Topics Covered		Date	Sou rce Mat erial Refe rred
1	12-12-	de Broglie Hypothesis		1	de Broglie Hypothesis		12-12-	1

	2022	and Matter Waves, de Broglie wavelength and derivation of expression by analogy,		and Matter Waves, de Broglie wavelength and derivation of expression by analogy,	2022	
1	12-12-2022	Phase Velocity and Group Velocity,	1	Phase Velocity and Group Velocity,	12-12-2022	1
2	13-12-2022	Heisenberg's Uncertainty Principle and its application (Non-existence of electron inside the nucleus-Non Relativistic)	1	Heisenberg's Uncertainty Principle and its application (Non-existence of electron inside the nucleus-Non Relativistic)	13-12-2022	1
6	29-12-2022	Principle of Complementarity, Wave Function,	1	Principle of Complementarity, Wave Function,	29-12-2022	1
3	30-12-2022	Time independent Schrodinger wave equation,	1	Time independent Schrodinger wave equation,	30-12-2022	1
2	31-12-2022	Physical Significance of a wave function and Born Interpretation, Expectation value,	1	Physical Significance of a wave function and Born Interpretation, Expectation value,	31-12-2022	1
2	31-12-2022	Eigen functions and Eigen Values, Particle inside one-dimensional infinite potential well,	1	Eigen functions and Eigen Values, Particle inside one-dimensional infinite potential well,	31-12-2022	1
4	01-02-2023	Waveforms and Probabilities.	1	Waveforms and Probabilities.	01-02-2023	1
4	01-03-2023	Numerical Problems	1	Numerical Problems	01-03-2023	1
1	01-05-2023	Numerical Problems	4	Numerical Problems	01-05-2023	4
6	01-06-2023	Dielectric Properties: Polar and non-polar dielectrics, Types of Polarization, internal fields in solid,	3	Dielectric Properties: Polar and non-polar dielectrics, Types of Polarization, internal fields in solid,	01-06-2023	3
2	01-07-2023	Clausius-Mossottiequation(Derivation), solid, liquid and gaseous dielectrics.	3	Clausius-Mossottiequation(Derivation), solid, liquid and gaseous dielectrics.	01-07-2023	3
3	01-12-2023	Application of dielectrics in transformers, Capacitors, and	3	Application of dielectrics in transformers, Capacitors, and	01-12-2023	3

		Electrical Insulation.		Electrical Insulation.		
3	01-09-2023	Numerical problems.	1	Numerical problems.	01-09-2023	1
3	13/01/2023	Superconductivity: Introduction to Superconductors, Temperature dependence of resistivity, Meissner's Effect,	3	Superconductivity: Introduction to Superconductors, Temperature dependence of resistivity, Meissner's Effect,	13/01/2023	3
2	14/01/2023	Silsbee Effect, Types of Super Conductors,	3	Silsbee Effect, Types of Super Conductors,	14/01/2023	3
1	16/01/2023	Temperature dependence of Critical field, BCS theory (Qualitative),	3	Temperature dependence of Critical field, BCS theory (Qualitative),	16/01/2023	3
2	17/01/2023	High-Temperature superconductivity, SQUID, MAGLEV,	3	High-Temperature superconductivity, SQUID, MAGLEV,	17/01/2023	3
6	19/01/2023	Numerical problems.	1	Numerical problems.	19/01/2023	1
3	20/01/2023	Numerical problems.	3	Numerical problems.	20/01/2023	3
2	21/01/2023	Lasers: Characteristics of LASER, Interaction of radiation with matter,	2	Lasers: Characteristics of LASER, Interaction of radiation with matter,	21/01/2023	2
1	23/01/2023	Expression for energy density equation and its significance. Requisites of a Laser system. Conditions for Laser action. Principle,	2	Expression for energy density equation and its significance. Requisites of a Laser system. Conditions for Laser action. Principle,	23/01/2023	2
2	24-01-2023	Construction and working of carbon dioxide laser. Application of Lasers in Defence (Laser range finder) and Laser Printing.	2	Construction and working of carbon dioxide laser. Application of Lasers in Defence (Laser range finder) and Laser Printing.	24-01-2023	2
3	27-01-2023	Numerical problems.	2	Numerical problems.	27-01-2023	2
2	28-01-2023	Optical Fibers: Propagation mechanism, TIR, angle of acceptance, Numerical aperture, fractional index change,	5	Optical Fibers: Propagation mechanism, TIR, angle of acceptance, Numerical aperture, fractional index change,	28-01-2023	5
2	28-01-2023	Modes of propagation, Number of modes and	5	Modes of propagation, Number	28-01-2023	5

		V parameter, Types of optical fibers.		of modes and V parameter, Types of optical fibers.		
1	30-01-2023	Attenuation and Mention of expression for attenuation coefficient, Attenuation spectrum of an optical fiber with optical windows.	5	Attenuation and Mention of expression for attenuation coefficient, Attenuation spectrum of an optical fiber with optical windows.	30-01-2023	5
2	31-01-2023	Discussion of the block diagram of point-to-point communication,	5	Discussion of the block diagram of point-to-point communication,	31-01-2023	5
6	02-02-2023	Intensity-based fiber optic displacement sensor, Merits and demerits.	5	Intensity-based fiber optic displacement sensor, Merits and demerits.	02-02-2023	5
6	02-02-2023	Numerical problems.	5	Numerical problems.	02-02-2023	5
6	02-03-2023	Maxwell's Equations: Fundamentals of vector calculus. Divergence and curl of electric field and magnetic field (static),	6	Maxwell's Equations: Fundamentals of vector calculus. Divergence and curl of electric field and magnetic field (static),	02-03-2023	6
6	02-03-2023	Gauss' divergence theorem and Stokes' theorem.	6	Gauss' divergence theorem and Stokes' theorem.	02-03-2023	6
3	02-06-2023	Description of laws of electrostatics, magnetism and Faraday's laws of EMI.	6	Description of laws of electrostatics, magnetism and Faraday's laws of EMI.	02-06-2023	6
6	02-03-2023	Current density & equation of Continuity;	6	Current density & equation of Continuity;	02-03-2023	6
2	02-09-2023	displacement current (with derivation)	6	displacement current (with derivation)	02-09-2023	6
1	02-10-2023	Maxwell's equations in vacuum.	6	Maxwell's equations in vacuum.	02-10-2023	6
1	13/02/2023	EM Waves: The wave equation in differential form in free space (Derivation of the equation using Maxwell's equations),	6	EM Waves: The wave equation in differential form in free space (Derivation of the equation using Maxwell's equations),	13/02/2023	6
2	14/02/2023	Plane electromagnetic waves in vacuum, and their transverse	6	Plane electromagnetic waves in vacuum, and their transverse	14/02/2023	6

		nature.		nature.		
1	20/02/2023	Numerical problems.	1	Numerical problems.	20/02/2023	1
2	21/02/2023	Numerical problems.	6	Numerical problems.	21/02/2023	6
1	27/02/2023	Fermi energy and Fermi level, Fermi level in intrinsic semiconductors,	9	Fermi energy and Fermi level, Fermi level in intrinsic semiconductors,	27/02/2023	9
2	03-01-2023	Expression for concentration of electrons in conduction band & holes concentration in valance band (only mention the expression),	9	Expression for concentration of electrons in conduction band & holes concentration in valance band (only mention the expression),	03-01-2023	9
3	03-02-2023	Law of mass action, Electrical conductivity of a semiconductor (derivation),	9	Law of mass action, Electrical conductivity of a semiconductor (derivation),	03-02-2023	9
3	03-03-2023	Hall effect, Expression for Hall coefficient (derivation) and its application.	9	Hall effect, Expression for Hall coefficient (derivation) and its application.	03-03-2023	9
2	03-06-2023	Photodiode and Power responsivity,	9	Photodiode and Power responsivity,	03-06-2023	9
2	03-06-2023	Construction and working of Semiconducting Laser,	9	Construction and working of Semiconducting Laser,	03-06-2023	9
1	03-07-2023	Four probe method to determine resistivity,	9	Four probe method to determine resistivity,	03-07-2023	9
3	03-11-2023	Phototransistor.	9	Phototransistor.	03-11-2023	9
1	13/03/2023	Numerical problems.	3	Numerical problems.	13/03/2023	3
2	14/03/2023	Numerical problems.	9	Numerical problems.	14/03/2023	9



SUBJECT TEACHER



H.O.D

Dept. Of Physics

Alva's Institute of Engg. & Technology
Mijar, MOODBIORI - 574 225

ACADEMIC RESULT

H SECTION (ODD SEMESTER)

ENGINEERING PHYSICS EEE STREAM

SN	USN	NAME	I IA	II IA	III IA	As sig nm ent	Tota l Max: 80	The ory (Max : 30)	Lab IA (Max: 20)	Total IA (Max: 50)
01	4AL22EC002	Aishwarya Sanganna Kudleppanavar	16	19	20	20	75	29	19	48
02	4AL22EC007	Anushri Mallappa Jogin	19	14	20	20	73	28	20	48
03	4AL22EC011	Aswini Veerappa Minchabutti	16	19	20	20	75	29	19	48
04	4AL22EC015	Bhavana K N	11	15	12	20	58	22	19	41
05	4AL22EC016	Bhoomika C	20	20	20	20	80	30	20	50
06	4AL22EC017	Bhoomika K B	13	15	19	20	67	26	20	46
07	4AL22EC020	Chandan Dk	11	6	9	20	46	18	17	35
08	4AL22EC022	Charith Kumar Ks	12	18	19	20	69	26	20	46
09	4AL22EC030	Kannika Paramesh Sattigihalli	18	17	20	20	75	29	20	49
10	4AL22EC037	Kshama N	15	16	20	20	71	27	18	45
11	4AL22EC038	Madhu Mahantesh Avvakkanavar	18	20	20	20	78	30	20	50
12	4AL22EC039	Madhu Vh	12	18	20	20	70	27	19	46
13	4AL22EC041	Maheshwari	13	12	20	20	65	25	20	45
14	4AL22EC044	Manasa Bs	18	20	20	20	78	30	20	50
15	4AL22EC045	Manjunath Basavaraj Kammanahalli	13	17	20	19	69	26	20	46
16	4AL22EC046	Manjunath Choori	8	17	14	20	59	23	19	42
17	4AL22EC049	Monika	8	20	20	20	68	26	20	46
18	4AL22EC053	Netra Shrishail Kurbet	18	16	20	20	74	28	18	46
19	4AL22EC057	Niveditha Bavoor	12	14	20	20	66	25	20	45
20	4AL22EC059	Pattadi Venkataiyya	13	15	17	20	65	25	17	42
21	4AL22EC062	Prajna	18	17	20	20	75	29	19	48
22	4AL22EC063	Prajwal Andanur	9	17	20	20	66	25	20	45
23	4AL22EC066	Prasad Prakash Olekar	9	17	12	20	58	22	20	42
24	EC	Pratham Ha	AB	AB	AB		0	0		0
25	4AL22EC067	Prathik M Salian	18	15	16	20	69	26	20	46
26	4AL22EC068	Pratik Chandrakant Khed	13	18	9	15	55	21	18	39
27	4AL22EC071	Puneeth Kumar Br	18	19	20	20	77	29	19	48
28	4AL22EC076	Ramesh Chigarer	12	18	20	20	70	27	19	46
29	4AL22EC078	Ritish Kumar Chandrahas Gouda	6	16	16	20	58	22	16	38
30	4AL22EC072	Rm Rudresh Patil	7	12	15	20	54	21	19	40
31	4AL22EC084	Sahana Basavaraj Asundi	17	20	20	20	77	29	20	49
32	4AL22EC086	Sanjana Shivagouda Patil	17	19	17	20	73	28	19	47
33	4AL22EC091	Sharanaprakash Hosamani	17	17	10	18	62	24	11	35
34	4AL22EC092	Shetty Diya Nithyananda	19	17	20	20	76	29	20	49
35	4AL22EC093	Shetty Trisha Vasantha	15	20	18	20	73	28	20	48

36	4AL22EC094	Shravan	15	17	10	20	62	24	19	43
37	4AL22EC095	Shravani	19	18	20	20	77	29	20	49
38	4AL22EC096	Shrinidhi Rajkumar Shinde	16	13	20	20	69	26	18	44
39	4AL22EC098	Siddu N Dhannor	3	11	9	20	43	17	14	31
40	4AL22EC099	Sinchana Karunakar Poojari	20	19	20	20	79	30	19	49
41	4AL22EC082	Sk Punyashree	17	19	20	20	76	29	18	47
42	4AL22EC100	Sneha Sanjay Bagane	18	19	20	20	77	29	20	49
43	4AL22EC101	Soham Shantisagar Kudachi	13	10	2	15	40	15	10	25
44	4AL22EC102	Sonal	18	18	20	20	76	29	20	49
45	4AL22EC103	Soujanya Dharmagouda Guddanagoudra	13	20	14	20	67	26	20	46
46	4AL22EC104	Soumya Muchhandi	20	20	20	20	80	30	20	50
47	4AL22EC105	Spandana G C	12	15	20	20	67	26	20	46
48	4AL22EC106	Spoorthi G	16	18	20	20	74	28	12	40
49	4AL22EC107	Srujan H R	19	20	20	20	79	30	20	50
50	4AL22EC108	Srushti S M	17	19	20	20	76	29	18	47
51	4AL22EC109	Subramanya K M	12	15	10	20	57	22	13	35
52	4AL22EC110	Suhas Hiremath	10	13	10	20	53	20	19	39
53	4AL22EC112	Sunitha M	18	17	19	20	74	28	19	47
54	4AL22EC113	Suraj S Airani	14	14	20	20	68	26	20	46
55	4AL22EC114	Swarna K L	19	19	17	20	75	29	19	48
56	4AL22EC115	Udbhavi N M	12	20	20	20	72	27	20	47
57	4AL22EC116	Ulavatti Shivaraja	13	6	10	20	49	19	11	30
58	4AL22EC117	V Sai Hitesh Gowda	19	15	20	15	69	26	18	44
59	4AL22EC118	Varshitha A R	11	18	20	20	69	26	19	45
60	4AL22EC119	Vasantkumar Chandrashekhar Juttannavar	12	11	19	20	62	24	15	39
61	4AL22EC122	Vidyasree Cs	18	19	19	20	76	29	19	48
62	4AL22EC123	Vijay Kulal	16	17	20	20	73	28	19	47
63	4AL22EC126	Vishwa Pradeep Shet	19	20	19	20	78	30	20	50
64	4AL22EC127	Yashwanth Kumar N	10	14	6	20	50	19	18	37
65	4AL22EC029	Jyothi	3	15	13	20	51	19	17	36
66	4AL22EC028	Jaahnnawwie	6	9	9	20	44	17	17	34



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