SILIGURI INSTITUTE OF TECHNOLOGY

ELECTRICAL ENGINEERING

COURSE FILE

2ND SEM, 1ST YEAR, 2019

PAPER DESCRIPTION : PHYSICS - 1

PAPER CODE : BS PH201

Course File

Course Title: ***Physics I***

Code: BS-PH 201/PH291

Semester: 2nd Year: 1st, 2019

Name of the Faculty:

Internet Homepage:

E-mail :

	Class Schedule				
	Lecture		Bridge course	Tutorial	Practical
Day	No. Of periods	Time	1 class	1 class	3 class(=1 lab)
Monday	1	3.00pm-3.50pm	11.40am-12.30pm	---	-------
Wednesday	1	2.10pm-3.00pm		3.00pm-3.50pm	---
Thursday	1	10.00am-10.50am	----	----	---
Friday	---	----	----	----	2.10-4.40pm

Hours for meeting students:		
Tuesday	11am - 12pm	Or by appointment
Wednesday	11am - 12pm	

i) Course Objective

A foundation course on Physics from which the students will be able to apply their knowledge in their respective engineering disciplines

ii) Course Outcomes

i. After completion of this course the students are expected to be able to demonstrate following knowledge, skills and attitudes.

The student will be able to:

COs	Statement	Target
C102.1	Have basic concepts of mechanics, optics and its applications, electricity, magnetism and qualitative understanding of concepts of quantum physics and statistical mechanics.	50%
C102.2	Explain different physical phenomenon by mathematical formulations.	50%
C102.3	Implement different theoretical formulation for quantitative solutions of problems.	50%

C102.4	Employ data analysis techniques, including errors and representing data graphically by different experimental methods.	60%

ii. Once the student has successfully completed this course, he/she must be able to answer the following questions or perform/demonstrate the following:

Sl.	Question	BT Level
1.	Define damped vibration. Write down the differential equation for damped vibratory motion explaining the physical significance of each term in the equation	BT Level 1
2.	How is it proved that an electromagnetic wave consists of particles? Explain the two effects	BT Level 1
3.	Derive Schrodinger's time dependent wave equation for one dimensional motion of a free particle. Hence, write the three dimensional time dependent wave equation	BT Level 2
4.	What is hysteresis loss? How should the hysteresis curve look for permanent magnets and electromagnets?	BT Level 1
5.	Give the physical interpretation of wave function	BT Level 1
6.	State the basic postulates of M-B, B-E and F-D statistics	BT Level 1
7.	Compare Interference and Diffraction of light. Distinguish between Fresnel and Fraunhofer class of Diffraction. Prove that the tangent of the polarization angle is equal to the refractive index of the medium. Define what is population inversion?	BT Level 1
8.	Give the physical significance of Maxwell's equations	BT Level 1
9.	Plot electron distribution function governed by F-D statistics in metals at (i) T = 0K and (ii) T > 0K	BT Level 2
10.	Explain the behaviour of a dielectric material placed in an electrostatic field.	BT Level 2

iii) Topic/Unit/Chapter Layout

Topic/Unit/Chapter	Laboratory topics	Lecture Hours	Laboratory hours
Module-1: Quantum Mechanics: a. Advanced Classical Mechanics	Determination of Stefan's radiation constant Determination of Planck's constant using photocell.	6	3 3
b. Quantum Mechanics		10	
Module-2: Statistical Mechanics	--------	4	0

Module-3: a) Dielectric properties b) Magnetic properties	Determination of dielectric constant of a given dielectric material	3	3
	Determination of Lande'g factor using Electron spin resonance spectrometer.	4	3
Module-4 : Crystal structure	Determination of band gap of semiconductors	14	3
	Determination of Hall co-efficient of semiconductors.		3
	To study current-voltage characteristics, load response, areal characteristics and spectral response of photo voltaic solar cells.		3
	Determination of the thermo-electric power at a certain temperature of the given thermocouple.		3
	Determination of specific charge (e/m) of electron by J.J. Thomson's method.		3
	Verification of Bohr's atomic orbital theory through Frank-Hertz experiment		3
	Determination of Rydberg constant by studying Hydrogen/ Helium spectrum		3

iv)Textbooks

1. R. K. Kar (Engineering physics), NCBA, 2e
2. Amal Chakraborty (Engineering Physics I), Chhaya Prakashani, 1e
3. S. P. Kulia (Engineering Physics I), NCBA, 2e
4. Sanjib Bhattacharya (Engineering Physics I), Book and Allied (P) Ltd., 1e
5. Sujoy kr. Bhattacharya and Saumen Paul (Engineering Physics I), Mc Graw Hill, 3e
6. A.K.Vasudeva (Modern Engineering Physics) S.Chand, 3e
7. Amal Chakraborty (Engineering Physics II), Chhaya Prakashani, 1e
8. Sujoy kr. Bhattacharya and Saumen Paul (Engineering Physics II), Mc Graw Hill, 3e

Reference books :

1. Bhattacharyya (Engineering Physics) , OUP, 1e
2. A. B. Gupta (College Physics Vol II), NCB, 4e
3. A. K. Ghatak (Optics), Tata McGraw Hill Publishing Company Limited, 3e
4. S. N. Ghoshal (Introduction to Quantum Mechanics), S.Chand, 3e
5. S. O. Pillai (Crystallography), New Age Science, 3e

(v) Evaluation Scheme

1) Theory

Evaluation Criteria	Marks
Internal Exam*	15
Quiz / assignment	10
Attendance	5
University Exam/External Exam	70
Total	100

* Two internal examinations are conducted; based on those two tests, average of them are considered in a scale of 15.

2) Laboratory

Expt. No.	Experiment Name	Schedule	Marks
BS PH 291-1	Determination Of Dispersive Power Of The Material Of Given Prism.	hours	**40**
BS PH 291-2	Determination Of Wavelength Of Light By Newton's Ring Method..		
BS PH 291-3	Determination Of Wavelength Of Light By Laser Diffraction Method.		
BS PH 291-4	Determination Of specific charge (e/m) of electron by J.J. Thomson's method		
BSPH 291-5	Determination Of Hall coefficient of a semiconductor by four probe method		
BSPH 291-6	Use Of Carry Foster's Bridge To Determine Unknown Resistance.	FRIDAY	
BSPH 291-7	Determination Of Steafan-Boltzmann constant	2.10-4.40PM	
BSPH 291-8	Determination Of Planck's constant using photocell		
BSPH 291-9	Determination Of Lande-g factor using Electron Spin Resonance Spectrometer		
BSPH 291-10	Determination Of Wavelength Of Light By Fresnel's Bi-Prism Method.		
BSPH 291-11	Determination Of Band gap of semiconductor.		
BSPH 291-12	Determination Of Young's Modulus of elasticity of the material of a bar by the method of flexure.		
BSPH 291-13	Determination Of Modulus Of Rigidity By Static Method		
BSPH 291-14	Determination Of Modulus Of Rigidity By Dynamic Method.		
University Exam			**60**

Course target attainment levels:

Attainment Level	Inference
Attainment Level 1	40% or less of the students have attained more than the target level of that CO
Attainment Level 2	41-50% of the students have attained more than the target level of that CO
Attainment Level 3	51-60% of the students have attained more than the target level of that CO

Overall Course Attainment Target = 70% of the students will get “A” Grade

Target has been set on the basis of last year’s performance / result by the students, student quality this year and difficulty level of the course.

University Grading System:

Grade	Marks
O	90% and above
E	80 – 89.9%
A	70 – 79.9%
B	60 – 69.9%
C	50 – 59.9%
D	40 – 49.9%
F	Below 40%

(vi) Mapping of Course Outcomes and Program Outcomes:

Course Outcomes	Program Outcomes (POs)												PSOs	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
BSPH 201.1	2	2	0	0	0	0	0	0	1	0	0	2	1	0
BSPH 201.2	2	2	0	0	0	0	0	0	1	0	0	2	1	0
BSPH 201.3	2	2	0	0	0	0	0	1	2	0	0	2	1	0
BSPH 291	2	1	0	0	2	0	0	2	2	2	0	2	1	0
BSPH 201	2	2	0	0	1	0	0	2	2	2	0	2	1	0

1 = courses in which the student will be exposed to a topic (BT level 1& 2)
2 = courses in which students will gain competency in that area (BT level 3-4)
3= courses in which students will master that skill (BT level 5-6)

CO1 to CO4 partially satisfies application of knowledge of mathematics and science in solving engineering problems. (PO1, PO2).

(vii) Assessment Methodology

Outcome	Assessment Tool	Specific Question/activity aligned to the Outcome
BSPH 201.1	Assignment Internal Test Quiz End semester test	1. Write down the differential equation for a damped vibratory motion, explaining the physical significance of each term in the equation. What is meant by critical damping? 2. State stokes theorem. If $\vec{A}=x^2y\hat{\imath}-2xz\hat{\jmath}+2yz\hat{k}$, find curl of $\vec{A}$. Find the equation of motion of a floating cylinder in a liquid and hence find the frequency of oscillation. 3. What is Rayleigh criterion of resolution? (b) What do you mean by resolving power of an optical instrument? (c) Obtain an expression for the resolving power of a plane diffraction grating.
BSPH 201.2	Assignment Internal Test Quiz End semester test	1. State Gauss's theorem in electrostatics .With the help of this theorem find the values of field for uniformly charged infinite cylinder 2. Explain the difference between (i) diamagnetism and paramagnetism, (ii) paramagnetism and ferromagnetism (iii) ferromagnetism and antiferromagnetism, and (iv) antiferromagnetism and ferrimagnetism. 3. State De Broglie's hypothesis.
BSPH 201.3	Assignment Internal Test Quiz End semester test	1. Derive Schrodinger's time dependent wave equation for one dimensional motion of a free particle. Hence, write the three dimensional time dependent wave equation. 2. Show that for a particle in a rigid box spanning from x = 0 to x = a, the eigen function is given by $y(x) = \sqrt{(2/a)}\ \sin n\pi x/a$. Also find the average eigen values.
BS PH 201.4	Assignment Internal Test Quiz End semester test	1. Calculate the number of ways of arranging 10 Fermions in 15 phase space cells. 2. Find the number of energy states in the energy range E and E+dE. 3. What will happen to the distribution function following F-D statistics at T = 0K when (i) $E_i = E_f$, (ii) $E_i > E_f$ and (iii) $E_i < E_f$?
BS PH 201	Mini Project Term Paper Power point Presentation	Applications of Different Topics related to the Syllabus of B. Tech students
BS PH 291	Assignment	Laboratory Assignment 1 and 2

(VIII) A. Weekly Lesson Plan

Week	Lectures	Tutorial	PRACTICAL	Assignment

1 (3L & 1T)	Discussion of COs, Syllabus and Assessment Methodology. Problems including constraints & friction. Basic ideas of vector calculus and partial differential equations. Potential energy function F = -grad V, equi-potential surfaces and meaning of gradient. Conservative and non-conservative forces.	Problems on Vectors	Introductory class and manual distribution	<u>Assignment 1</u> Vectors, Oscillators, Rigid body dynamics, Diffraction, Polarisation, Laser, Maxwell's equations.
2 (3L & 1T)	Conservation laws of energy & momentum. Non-inertial frames of reference. Harmonic oscillator; Damped harmonic motion forced oscillations and resonance.	Problems on Damped harmonic motion forced oscillations and resonance	**BSPH 291-12** **BSPH 291-4** **BSPH 291-5** **BSPH 291-6** **BSPH 291-7**	
3 (3L & 1T)	Motion of a rigid body in a plane and in 3D. Angular velocity vector. Moment of inertia. Distinction between interference and diffraction, Fraunhofer and Fresnel diffraction, Fraunhofer diffraction at single slit, double slit, and multiple slits (only the expressions for max;min, & intensity and qualitative discussion of fringes); diffraction grating(resolution formula only), characteristics of diffration grating and its applications.	Problems on Motion of a rigid body in a plane and in 3D, diffraction at single slit, double slit, and multiple slits (only the expressions for max;min, & intensity.	**BSPH 291-5** **BSPH 291-4** **BSPH 291-6** **BSPH 291-7** **BSPH 291-9** **BSPH 291-2**	
4 (3L & 1T)	Polarisation : Introduction, polarisation by reflection, polarisation by double reflection, scattering of light, circular and elliptical polarisation, optical activity. Lasers : Principles and working of laser : population inversion, pumping, various modes, threshold population inversion with examples .	Problems on Polarisation & Lasers	**BSPH 291-2** **BSPH 291-11** **BSPH 291-3** **BSPH 291-5** **BSPH 291-9** **BSPH 291-6**	
5	Maxwell's equations. Polarisation, permeability and dielectric constant, polar and non-polar dielectrics,	Problems on Maxwell's	**BSPH 291-9** **BSPH 291-11** **BSPH 291-5**	

(3L & 1T)	internal fields in a solid,	equations. Polarisation	**BSPH 291-2** **BSPH 291-4** **BSPH 291-12**	
6 (3L & 1T)	Clausius-Mossotti equation (expression only), applications of dielectrics. Magnetisation , permeability and susceptibility,	Problems on Clausius-Mossotti equation Magnetisation , permeability and susceptibility,	**BSPH 291-11** **BSPH 291-5** **BSPH 291-2** **BSPH 291-12** **BSPH 291-9** **BSPH 291-3**	Assignment 2 On Electromagnetism and Basic Quantum mechanics
7 (3L & 1T)	Classification of magnetic materials, ferromagnetism, magnetic domains and hysteresis, applications. Introduction to quantum physics, Black body radiation, explanation using the photon concept,	Problems on Quantum physics	**BSPH 291-11** **BSPH 291-5** **BSPH 291-2** **BSPH 291-12** **BSPH 291-9** **BSPH 291-3** **BSPH 291-4**	
8 (3L & 1T)	Compton effect, de Broglie hypothesis, wave-particle duality, verification of matter waves,	Problems on Compton effect, de Broglie hypothesis	Revision class/Extra class	
9 (3L & 1T)	Uncertainty principle, Schrodinger wave equation, particle in box,	Problems on Uncertainty principle, Schrodinger wave equation, particle in box	Revision class/Extra class	Assignment 3 Applications of Quantum mechanics
10 (3L & 1T)	Quantum harmonic oscillator, Hydrogen atom. Macrostate, Microstate, Density of states,	Problems on Quantum harmonic oscillator, hydrogen atom, Density of states	Revision class/Extra class	

11 (3L & 1T)	Qualitative treatment of Maxwell Boltzmann, Fermi-Dirac statistics.	Problems on Maxwell Boltzmann, Fermi-Dirac statistics	Mock test 1	<u>Assignment 4</u> Statistical Mechanics <u>AND</u> Laboratory Assignment
12 (2L & 1T)	Bose-Einstein statistics.	Problems on Bose-Einstein statistics.	Mock test 2	
13 (2L & 1T)	Revision and Previous years questions discussions.	University question answer discussion	Mock test 3	

(VIII) B. COMBINED DAILY LESSON PLAN & EXECUTION REPORT

NAME OF FACULTY :	DEPARTMENT: EE	SUBJECT: Physics CODE : BS PH201

Unit / Module	Comp. Index	Topic Description (to be quoted from syllabus)	No. of Lecture(s)	Plan Date(s)	Execution Date(s)	Details of home work/assignment/ mini project/ ICT used/ partial delivery of courses by industry experts, Eminent speakers etc.)
x1	**Introduction and Mechanics**		**05**			
	1.1	Introduction about CO, PO. Syllabus and Assessment Methodology.	01	16.01.2019	16.01.2019	
	1.2	Basic ideas of vector calculus and partial differential equations. Potential energy function F = -grad V.	01	21.01.2019	21.01.2019	
	1.3	Equi-potential surfaces and meaning of gradient. Conservative and non-conservative forces. Conservation laws of energy & momentum.	01	24.01.19	24.01.2019	Assignment 1
	1.4	Non-inertial frames of reference. Harmonic oscillator; Damped harmonic motion forced oscillations and resonance. Motion of a rigid body in a plane and in 3D. Angular velocity vector. Moment of inertia.	01	28.01.19	28.01.2019	Assignment 1 + MCQ test
	1.5	Tutorial (Solution of Problems + Doubts clearance)	01	16.01.19	16.01.2019	
2	**Introduction to Optics**		**06**			
	2.1	Basic Idea about Interference and Diffraction.	01	30.01.19	30.01.2019	Assignment 2

Unit / Module	Comp. Index	Topic Description (to be quoted from syllabus)	No. of Lecture(s)	Plan Date(s)	Execution Date(s)	Details of home work/assignment/ mini project/ ICT used/ partial delivery of courses by industry experts, Eminent speakers etc.)
		Distinction between interference and diffraction, Fraunhofer and Fresnel diffraction.				
	2.2	Fraunhofer diffraction at single slit, double slit, and multiple slits. Resolution formula of diffraction grating, characteristics of diffraction grating and its applications.	01	31.01.19	31.01.2019 06.02.2019	Assignment 2
	2.3	Polarisation : Introduction, Basic concept of Polarisation. Polarisation by reflection, polarisation by double reflection, scattering of light, circular and elliptical polarisation, optical activity.	01	06.02.19	06.02.2019 07.02.2019	Assignment 2
	2.4	Lasers: Principles and working of laser : population inversion, pumping, various modes, threshold population inversion with examples.	01	07.02.19	07.02.2019 11.02.2019	Assignment 2 + MCQ test
	2.5	Tutorial (Solution of Problems + Doubts clearance)	02	6.02.19 13.02.19	13.02.2019	
3	**Electromagnetism and Dielectric Properties of Materials**		**07**			
	3.1	Polarisation, permeability and dielectric constant, polar and non-polar dielectrics, internal fields in a solid. Expression of Clausius - Mossotti equation, applications of dielectrics.	02	11.02.19 13.02.19	13.02.2019	Assignment 3
	3.2	Magnetisation, permeability and susceptibility,	01	14.02.19	14.02.2019	Assignment 3

Unit / Module	Comp. Index	Topic Description (to be quoted from syllabus)	No. of Lecture(s)	Plan Date(s)	Execution Date(s)	Details of home work/assignment/ mini project/ ICT used/ partial delivery of courses by industry experts, Eminent speakers etc.)
		Classification of magnetic materials, ferromagnetism, magnetic domains and hysteresis, applications.				
	3.3	Maxwell's equations. Significance and Derivation.	02	18.02.19 27.02.19	27.02.2019	Assignment 3 + MCQ
	3.4	Tutorial (Solution of Problems + Doubts clearance)	02	13.02.19 27.02.19	13.02.2019 27.02.2019	
4		**Quantum Mechanics**	**06**			
	4.1	Introduction to quantum physics, Black body radiation, explanation using the photon concept	01	08.03.19	11.03.2019	Assignment 4
	4.2	Compton effect, de Broglie hypothesis, wave-particle duality, verification of matter waves.	01	11.03.19	13.03.2019	Assignment 4
	4.3	Uncertainty principle, Schrodinger wave equation, particle in box	01	28.03.19	28.03.2019 01.04.2019	Assignment 4
	4.4	Quantum harmonic oscillator and Hydrogen atom.	02	01.04.19 10.04.19	10.04.2019	Assignment 4 + MCQ test
	4.5	Tutorial (Solution of Problems + Doubts clearance)	01	10.04.19	10.04.2019	
5		**Statistical Mechanics**	**07**			
	5.1	Macrostate, Microstate, Density of states	02	11.04.19 22.04.19	11.04.2019 22.04.2019	Assignment 5
	5.2	Qualitative treatment of Maxwell Boltzmann, Bose-Einstein statistics.	02	23.04.19 24.04.19	23.04.2019 24.04.2019	Assignment 5
	5.3	Fermi-Dirac statistics and Plot of F-D Distribution curve at different conditions.	02	25.04.19 29.04.19	25.04.2019 02.05.2019	Assignment 5 + MCQ test
	5.4	Tutorial (Solution of Problems + Doubts clearance)	01	24.04.19	06.05.2019	

(IX) Teaching Strategy / Method

1. Detailed use of blackboard
2. Good oratory skill with clearly audible volume of lecture
3. Interactive classroom
4. Always encouraging the students to ask questions
5. Use of practical examples or similar models to illustrate the topics.

(IXA) Strategy to support weak students

1. Paying attention to their problems in understanding the subject
2. Encouraging them to express their point of trouble
3. Allotting extra time beyond schedules class hours to help them understand the topics
4. Suggesting them different ways (as found suitable depending upon the case) to overcome their problem.

(IXB) Strategy to encourage bright students

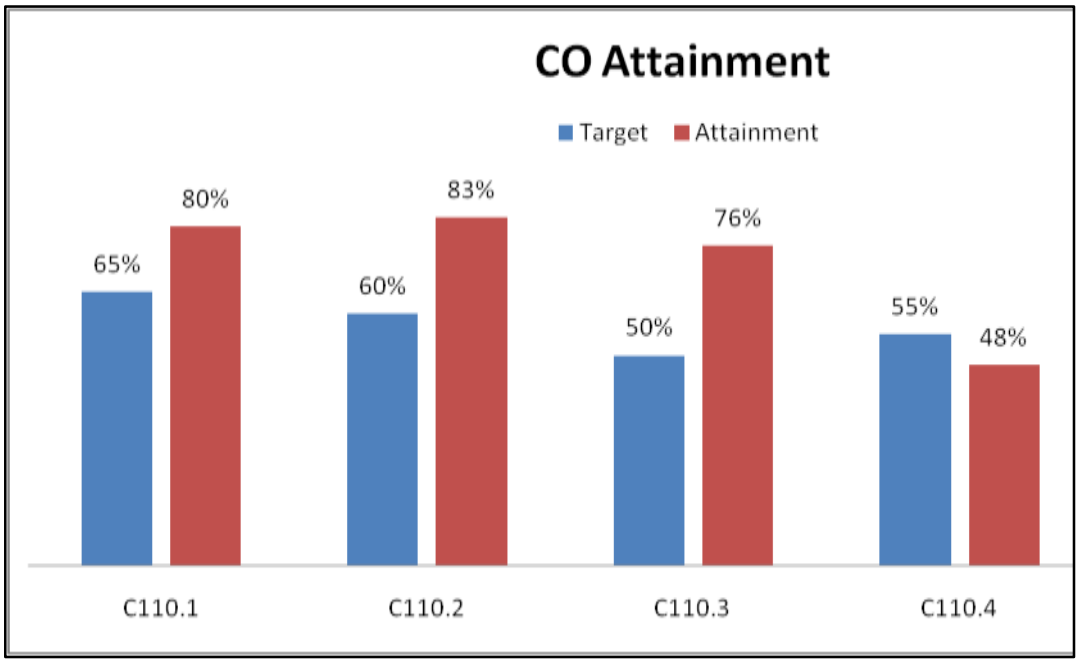
1. Try to encourage them to study beyond the syllabus
2. Ask them to develop the habit of reading anything good and rich in content
3. Advise them to try and solve higher level engineering numerical problems.

(IXC) Efforts to keep students engaged

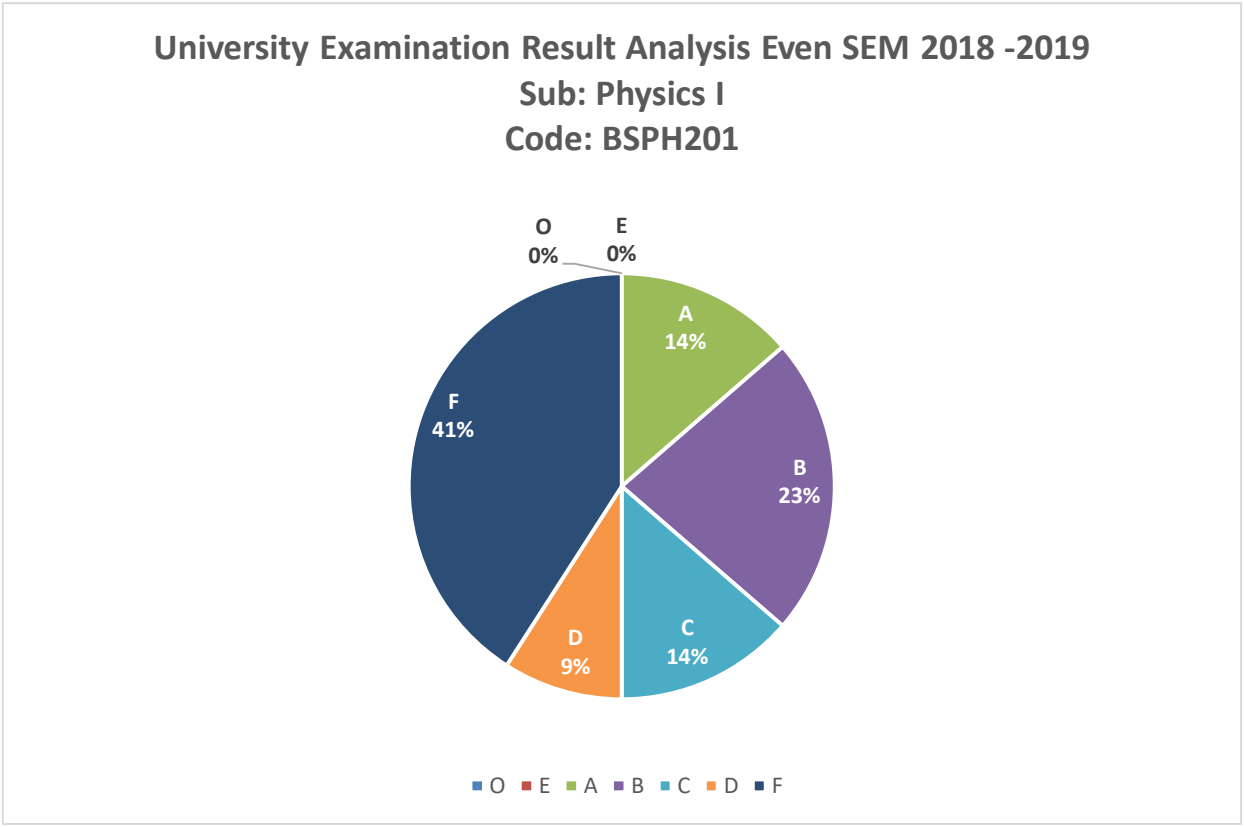
1. During class to avoid monotony, some aptitude problems are given to solve.
2. Asking random questions to the students from the topic
3. Sometimes different tricks or techniques are shown to them to make the lecture interesting.
4. Informal technical quiz is also held.

(X) Analysis of Students performance in the course

INTERNAL ASSESSMENT



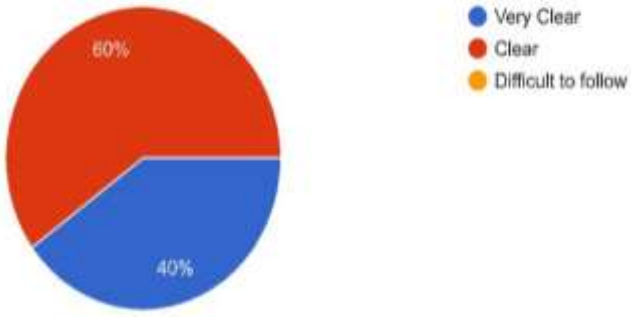
UNIVERSITY EXAMINATION



(XI) Analysis of Student Feed Back

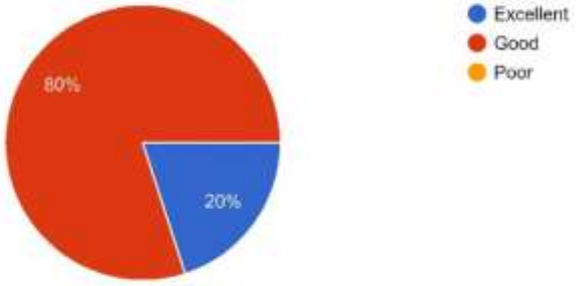
The course coverage during the semester

10 responses



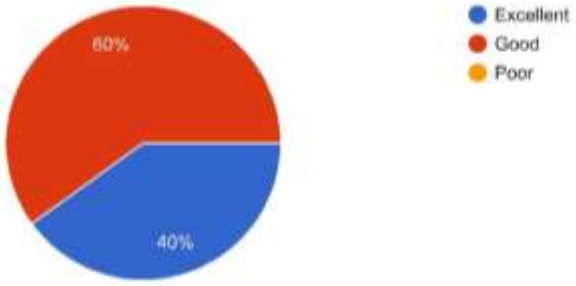
How was your performance in the course

10 responses



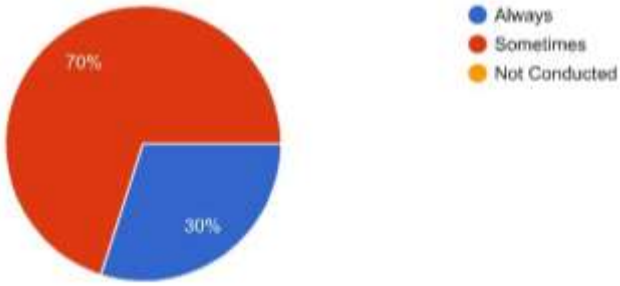
The relevance of this course to your career goals was

10 responses



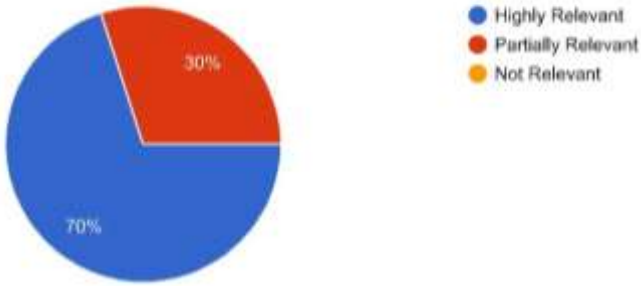
Coverage of content beyond syllabus

10 responses



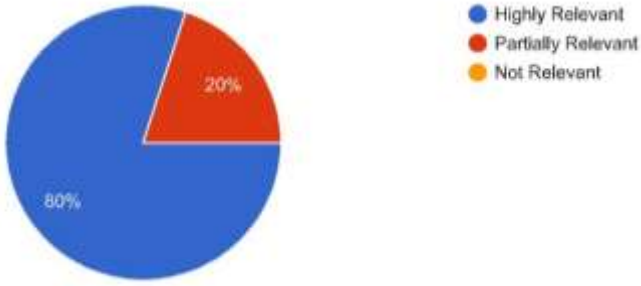
The relevance of laboratory experiment to the course outcomes was

10 responses



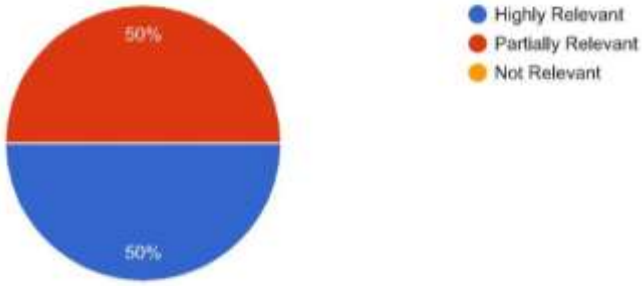
The relevance of assignment / Quiz to the course outcomes was

10 responses



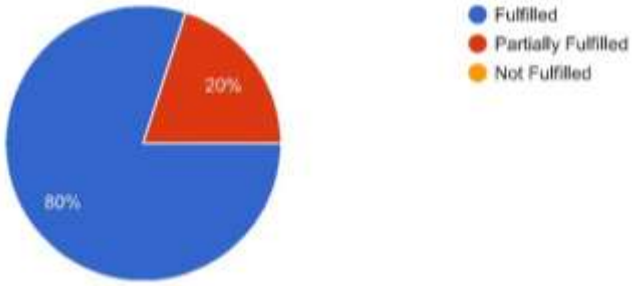
The relevance of questions in internal exams to the course outcomes was

10 responses



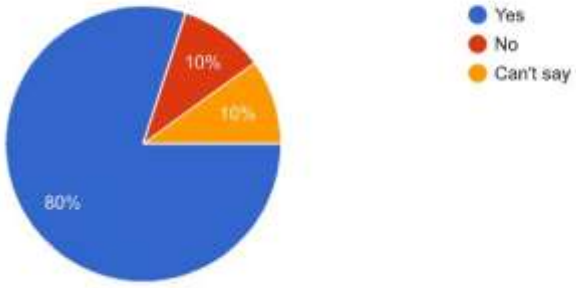
At the end of the semester the coverage of the stated course objectives and course outcomes by teacher was

10 responses



Would you recommend the course to others?

10 responses



(XII) Teacher Self-Assessment (at the completion of course)

1. Syllabus coverage was 100%
2. More effort will be given to improve the performance level of CO2 and CO3.

(XIV) Recommendations/Suggestions for improvement by faculty

1. Syllabus of Physics-I should be oriented towards more applications in engineering aspects.
2. There are no theoretical discussions for most of the lab classes in the lecture part. So there is a gap between theory and lab classes, which needs to be addressed by the University.
3. Some popular lectures on a topic of beyond syllabus should be arranged to explore student's knowledge (satisfying PO1).
4. Students are advised for regular visit to library for accessing reference books, e-books and journals.
5. Additional and revision classes for slow learners.
6. Organizing Popular talks and seminars

INTERNAL ASSESMENT RECORD

Subject with code: BS PH 201

Section:__EE_____

Semester :_____2nd_____

Discipline:____Physics_____

Sl.	Roll No.	Name	Attendance		Internal Examination			Assignment / Quiz	Total
			Total	Marks	1st	2nd	Avg.		
1.	11901618011	Vivek Roy Kayet	5	5	36	6	37	8	45
2.	11901618012	Swapnanil Dutta	5	5	40	29	40.5	10	50.5
3.	11901618013	Susmita Dutta	5	5	24	33	42.5	9	51.5
4.	11901618014	Suman Bera	5	5	42	39	46	10	56
5.	11901618015	Sujan Barman	5	4	27	4	36.5	8	44.5
6.	11901618016	Subhankar Das	5	4	03	5	34	8	42
7.	11901618017	Shaswata Sengupta	5	4	33	AB	34	8	42
8.	11901618018	Sayan Basak	5	5	13	22	37.5	9	46.5
9.	11901618019	Sanyik Nath	5	5	11	19	35.5	9	44.5

10.	11901618020	Rajiv Chettri	5	5	15	AB	38.5	10	48.5
11.	11901618021	Rajdeep Chakraborty	5	4	5	3	35.5	8	43.5
12	11901618022	Payel Majumdar	5	5	31	40	47	10	57
13	11901618023	Nischal Rai	5	5	23	29	38	9	47
14	11901618024	Komal Kumari	5	5	27	34	44.5	9	43.5
15	11901618025	Gourav Roy	5	5	32	28	40.5	9	49.5
16	11901618026	Debabrata Mukherjee	5	4	6	AB	34	8	42
17	11901618027	Darshan Nath	5	5	49	45	49.5	10	59.5
18	11901618028	Briti Das	5	5	13	11	35.5	9	44.5
19	11901618029	Bipin Kumar	5	5	07	AB	34	8	42
20	11901618030	Bedabrata Dutta	5	5	19	20	33.5	9	42.5
21	11901618031	Barnali Biswas	5	5	16	33	40.5	10	50.5
22	11901618032	Aryan Chettri	5	4	17	13	37	8	45
23	11901618033	Abhishek Chaurasia	5	4	13	6	36.5	8	44.5

ATTENDANCE SHEET (Lecture)

Subject with code: Physics 1 BS PH 201

Section: EE 1st Year

Semester : 2nd **Discipline: EE**

Sl.	Roll No.	Name																
1.	11901618011	Vivek Roy Kayet																
2.	11901618012	Swapnanil Dutta																
3.	11901618013	Susmita Dutta																
4.	11901618014	Suman Bera																
5.	11901618015	Sujan Barman																
6.	11901618016	Subhankar Das																
7.	11901618017	Shaswata Sengupta																
8.	11901618018	Sayan Basak																
9.	11901618019	Sanyik Nath																
10.	11901618020	Rajiv Chettri																
11.	11901618021	Rajdeep Chakraborty																
12	11901618022	Payel Majumdar																
13	11901618023	Nischal Rai																
14	11901618024	Komal Kumari																
15	11901618025	Gourav Roy																
16	11901618026	Debabrata Mukherjee																
17	11901618027	Darshan Nath																
18	11901618028	Briti Das																
19	11901618029	Bipin Kumar																
20	11901618030	Bedabrata Dutta																
21	11901618031	Barnali Biswas																

As per Attendance Register

22	11901618032	Aryan Chettri																
23	11901618033	Abhishek Chaurasia																

ATTENDANCE SHEET (Tutorial)

Subject with code: Physics 1 BS PH 201

Section: EE 1st Year

Semester : 2nd **Discipline: EE**

Sl.	Roll No.	Name															
1.	11901618011	Vivek Roy Kayet															
2.	11901618012	Swapnanil Dutta															
3.	11901618013	Susmita Dutta															
4.	11901618014	Suman Bera															
5.	11901618015	Sujan Barman															
6.	11901618016	Subhankar Das															
7.	11901618017	Shaswata Sengupta															
8.	11901618018	Sayan Basak															
9.	11901618019	Sanyik Nath															
10.	11901618020	Rajiv Chettri															
11.	11901618021	Rajdeep Chakraborty															
12	11901618022	Payel Majumdar															
13	11901618023	Nischal Rai															
14	11901618024	Komal Kumari															
15	11901618025	Gourav Roy															
16	11901618026	Debabrata Mukherjee															
17	11901618027	Darshan Nath															
18	11901618028	Briti Das															
19	11901618029	Bipin Kumar															
20	11901618030	Bedabrata Dutta															
21	11901618031	Barnali Biswas															

As per Attendance Register

22	11901618032	Aryan Chettri																
23	11901618033	Abhishek Chaurasia																

ATTENDANCE SHEET (Practical/Sessional)

Subject with code: Physics 1 BS PH 201

Section: EE 1st Year

Semester : 2nd **Discipline: EE**

Sl.	Roll No.	Name																
1.	11901618011	Vivek Roy Kayet																
2.	11901618012	Swapnanil Dutta																
3.	11901618013	Susmita Dutta																
4.	11901618014	Suman Bera																
5.	11901618015	Sujan Barman																
6.	11901618016	Subhankar Das																
7.	11901618017	Shaswata Sengupta																
8.	11901618018	Sayan Basak																
9.	11901618019	Sanyik Nath																
10.	11901618020	Rajiv Chettri																
11.	11901618021	Rajdeep Chakraborty																
12	11901618022	Payel Majumdar																
13	11901618023	Nischal Rai																
14	11901618024	Komal Kumari																
15	11901618025	Gourav Roy																
16	11901618026	Debabrata Mukherjee																
17	11901618027	Darshan Nath																
18	11901618028	Briti Das																
19	11901618029	Bipin Kumar																
20	11901618030	Bedabrata Dutta																
21	11901618031	Barnali Biswas																

As per Attendance Register

22	11901618032	Aryan Chettri																
23	11901618033	Abhishek Chaurasia																

Records of Assignment

Subject with code: Physics 1 BS PH 201

Section: EE 1st Year

Semester : 2nd **Discipline: EE**

Sl.	Roll No.	Name	Assignment	Term Paper	Mini Project	Power Point Presentation
1.	11901618011	Vivek Roy Kayet	-	-	-	-
2.	11901618012	Swapnanil Dutta	√	√	√	√
3.	11901618013	Susmita Dutta	√	√	√	√
4.	11901618014	Suman Bera	√	√	√	√
5.	11901618015	Sujan Barman	√	√	-	-
6.	11901618016	Subhankar Das	-	-	-	-
7.	11901618017	Shaswata Sengupta	-	-	-	-
8.	11901618018	Sayan Basak	√	√	-	-
9.	11901618019	Sanyik Nath	-	√	-	-
10.	11901618020	Rajiv Chettri	√	√	√	√
11.	11901618021	Rajdeep Chakraborty	√	√	-	-
12	11901618022	Payel Majumdar	√	√	√	√
13	11901618023	Nischal Rai	√	√	√	√
14	11901618024	Komal Kumari	√	√	√	√
15	11901618025	Gourav Roy	√	√	√	√
16	11901618026	Debabrata Mukherjee	-	-	-	-
17	11901618027	Darshan Nath	√	√	√	√
18	11901618028	Briti Das	√	√	√	√

19	11901618029	Bipin Kumar	√	√	√	-
20	11901618030	Bedabrata Dutta	√	√	√	-
21	11901618031	Barnali Biswas	√	√	√	√
22	11901618032	Aryan Chettri	-	-	-	-
23	11901618033	Abhishek Chaurasia	√	√	√	√

LIST OF PRACTICALS

Subject with code: Physics 1 BS PH 201

Section: EE 1st Year

Semester : 2nd **Discipline: EE**

Sl.	Details of Experiment(s)	Hours allotted
BS PH 291-1	Determination Of Dispersive Power Of The Material Of Given Prism.	2.30 hours
BS PH 291-2	Determination Of Wavelength Of Light By Newton's Ring Method.	2.30 hours
BS PH 291-3	Determination Of Wavelength Of Light By Laser Diffraction Method.	2.30 hours
BS PH 291-4	Determination Of specific charge (e/m) of electron by J.J. Thomson's method	2.30 hours
BSPH 291-5	Determination Of Hall coefficient of a semiconductor by four probe method	2.30 hours
BSPH 291-6	Use Of Carry Foster's Bridge To Determine Unknown Resistance.	2.30 hours
BSPH 291-7	Determination Of Steafan-Boltzmann constant	2.30 hours
BSPH 291-8	Determination Of Planck's constant using photocell	2.30 hours
BSPH 291-9	Determination Of Lande-g factor using Electron Spin Resonance Spectrometer	2.30 hours
BSPH 291-10	Determination Of Wavelength Of Light By Fresnel's Bi-Prism Method.	2.30 hours
BSPH 291-11	Determination of Band gap of semiconductor.	2.30 hours
BSPH 291-12	Determination Of Young's Modulus of elasticity of the material of a bar by the method of flexure.	2.30 hours
BSPH 291-13	Determination Of Modulus Of Rigidity By Static Method	2.30 hours

BSPH 291-14	Determination Of Modulus Of Rigidity By Dynamic Method.	2.30 hours

NAME WITH ROLL NO.s OF STUDENT WHOSE ACADEMIC PERFOMANCE IS NOT SATISFACTORY			
Sl.	**Roll No.**	**Name of Student**	**Remedial measures taken by teacher**
1.	11901618011	Vivek Roy Kayet	1. Extra doubt clearing classes were taken. 2. Individually approached and inspired to attend the regular classes.
2.	11901618016	Subhankar Das	
3.	11901618017	Shaswata Sengupta	
4	11901618026	Debabrata Mukherjee	
5	11901618032	Aryan Chettri	

CERTIFICATE

I, the undersigned, have completed the course allotted to me as shown below

Sl. No.	Semester	Subject with Code	Total Units/ Chapters	Remarks

Date :	**Signature of Faculty**

Submitted to HOD

Certificate by HOD

I, the undersigned, certify that……..has completed the course work allotted to him/ her satisfactorily/ notsatisfactorily.

Date :	**Signature of HOD**

Submitted to Principal/Director

Date :	**Signature of Principal/Director**

Director
Siliguri Institute of Technology