

 CHERIST
 (Regn, No. 137/75; No.F.22-1/2015/AC.U.G.C.)

 COLLEGE (AUTONOMOUS)
 Affiliated to University of Calicut and Re-accredited by NAAC 'A++' Grade

 IRINJALAKUDA, KERALA
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 I office@christcollegeijk.edu.in
 Image: No. 137/75; No.F.22-1/2015/AC.U.G.C.)

Department:PHYSICS SFBatch:BSC PHY SF 2021Semester:Course CompletedSubject Planner Report (Proposed) Of CC20UPHY5B06 Computational Physics

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	, a body dropped into a highly viscous medium, two dimensionalprojectile motion and radioactive deca	programming	25- 09- 2023	2	4	Lecture	Experiential learning via Google colab
2	motions of a freely falling body	programming	21- 09- 2023	1	4	Lecture	experiential learning via google colab
3	Theory, and graphical simulation by programming	programming	18- 09- 2023	2	4	Lecture	experiential learning via google colab
4	-Significance of Computer in numerical methods- Applications of Euler's method	programming	15- 09- 2023	1	4	Lecture	participative learning via python
5	Formulation: From analytical to numerical methods -	programming	14- 09- 2023	1	4	Lecture	experiential learning via google colab
6	-Taylor's Series expansion of Sin(x) and Cos(x).	programming	24- 08- 2023	1	3	Lecture	participative learning via python
7	Runge- Kutta method (Second order)	programming	21- 08- 2023	2	3	Lecture	experiential learning via google colab
8	Solution of differential equations: Euler's method,	programming	18- 08- 2023	1	3	Lecture	participative learning via python
9	Numerical integration by Trapezoidal and Simpson's (1/3) method	programming	17- 08- 2023	1	3	Lecture	experiential learning via google colab
10	Numerical integration by Trapezoidal and Simpson's (1/3) method	programming	14- 08- 2023	2	3	Lecture	participative learning via python
11	Newton Cote's quadrature formula-	programming	11- 08- 2023	1	3	Lecture	experiential learning via google colab

12	Newton-Raphson method	programming	10- 08- 2023	1	3	Lecture	experiential learning via google colab
13	Solution of algebraic equations: Bisection method,	programming	08- 08- 2023	4	3	Lecture	participative learning via python
14	First and second derivative by Numerical differentiation	programming	07- 08- 2023	2	3	Lecture	experiential learning via google colab
15	First and second derivative by Numerical differentiation	programming	04- 08- 2023	1	3	Lecture	experiential learning via google colab
16	, Newton's forward difference interpolation formula, difference table	programming	03- 08- 2023	1	3	Lecture	participative learning via python
17	, Newton's forward difference interpolation formula, difference table	programming	31- 07- 2023	2	3	Lecture	experiential learning via google colab
18	Interpolation: Finite difference operator	programming	28- 07- 2023	1	3	Lecture	experiential learning via google colab
19	Curve Fitting: Principle of least squares, Least square fitting of a straight line -	programming	27- 07- 2023	1	3	Lecture	participative learning via python
20	Introduction to numerical methods, Comparison between analytical and numerical methods	programming	24- 07- 2023	2	3	Lecture	experiential learning via google colab
21	- Plotting of functions â□□ sin(x), cos(x), exp(x), sin2 (x), sin(x2)	programming	21- 07- 2023	1	2	Lecture	participative learning via python
22	multiple plots, polar plots, labeling, scaling of axes and coloring plots	programming	20- 07- 2023	1	2	Lecture	experiential learning via google colab
23	Matplotlib module: Introduction, plot(), show() functions, syntax for plotting graphs ,	programming	17- 07- 2023	2	2	Lecture	experiential learning via google colab
24	, matrix multiplication, inversion.	programming	14- 07- 2023	1	2	Lecture	experiential learning via google colab

25	various array operations,	programming	13- 07- 2023	1	2	Lecture	participative learning via python
26	Numpy module: Introduction, creation of arrays and matrices	programming	10- 07- 2023	2	2	Lecture	experiential learning via google colab
27	- File input and file output-Pickling.	programming	07- 07- 2023	1	1	Lecture	participative learning via python
28	- user defined functions- Modules	programming	06- 07- 2023	1	1	Lecture	experiential learning via google colab
29	while, for, break, continue)	programming	03- 07- 2023	2	1	Lecture	experiential learning via google colab
30	while, for, break, continue)	programming	30- 06- 2023	1	1	Lecture	participative learning via python
31	various control and looping statements: (if, ifelse, ifellif	programming	29- 06- 2023	1	1	Lecture	experiential learning via google colab
32	various control and looping statements: (if, ifelse, ifellif	programming	26- 06- 2023	2	1	Lecture	participative learning via python
33	Tuples and Dictionaries,	programming	23- 06- 2023	1	1	Lecture	experiential learning via google colab
34	sets, set operations (set, add, remove, in, not in, union, intersection, symmetric difference)	programming	22- 06- 2023	1	1	Lecture	experiential learning via google colab
35	, Lists, list operations (len, append, insert, del, remove, reverse, sort, +, *, max, min, count, in, not in, sum),	programming	19- 06- 2023	2	1	Lecture	participative learning via python
36	String operations	programming	16- 06- 2023	1	1	Lecture	participative learning via python
37	Variables, operators, expressions and statements	programming	15- 06- 2023	1	1	Lecture	participative learning via python
38	- print command, formatted printing- open and write function -	programming	12- 06- 2023	2	1	Lecture	experiential learning via google colab

39	Writing and execution of programs -various data types in Python- Reading keyboard input: The raw_input function and input function	programming	09- 06- 2023	1	1	Lecture	experiential learning via google colab
40	- Introduction to Python language- Advantages and unique features of Python language - Interactive mode and script mode	programming	08- 06- 2023	1	1	Lecture	experiential learning via google colab
41	Introduction to algorithm, flowchart and high level Computer programming languages Compilers- Interpreters	programming	05- 06- 2023	2	1	Lecture	experiential learning via google colab
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Depa	Department:PHYSICS SF Batch:BSC PHY SF 2021 Semester:Course Completed											
Handling faculty:- Anjali Joby												
S	Subject Planner	Report (Ac	ctual)	Of CC2	OUPHY5B0	6 Computat	ional Phys					
Sl.No	Topic Name	Date	Hour	Module	Teaching Pedagogy	Portion Status	Subject Strength	Students Attended				
1	, a body dropped into a highly viscous medium, two dimensional projectile motion and radioactive deca	25-09-23	2	4	Experiential learning via Google colab	Fully covered	28	26				
2	motions of a freely falling body	21-09-23	1	4	experiential learning via google colab	Fully covered	28	27				
3	Theory, and graphical simulation by programming	18-09-23	2	4	experiential learning via google colab	Fully covered	28	28				
4	-Significance of Computer in numerical methods- Applications of Euler's method	15-09-23	1	4	participative learning via python	Fully covered	28	26				
5	Formulation: From analytical to numerical methods -	14-09-23	1	4	experiential learning via google colab	Fully covered	28	24				
6	-Taylor's Series expansion of Sin(x) and Cos(x).	24-08-23	1	3	participative learning via python	Fully covered	28	23				
7	Runge- Kutta method (Second order)	21-08-23	2	3	experiential learning via google colab	Fully covered	28	22				
8	Solution of differential equations: Euler's method,	18-08-23	1	3	participative learning via python	Fully covered	28	24				
9	Numerical integration by Trapezoidal and Simpson's (1/3) method	17-08-23	1	3	experiential learning via google colab	Fully covered	28	22				



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Depa	rtment:PHYSI	ICS SF Ba	atch:B	SC PH	Y SF 2021	Semester:C	Course Con	npleted					
C	Handling faculty:- Anjali Joby Subject Planner Report (Actual) Of CC20UPHV5R06 Computational Physics												
8	ubject Plannel	r keport (A	(ual)		UUTHY5BU Teaching	Portion	Subject	Studente					
Sl.No	Topic Name	Date	Hour	Module	Pedagogy	Status	Strength	Attended					
10	Numerical integration by Trapezoidal and Simpson's (1/3) method	14-08-23	2	3	participative learning via python	Fully covered	28	26					
11	Newton Cote's quadrature formula-	11-08-23	1	3	experiential learning via google colab	Fully covered	28	25					
12	Newton- Raphson method	10-08-23	1	3	experiential learning via google colab	Fully covered	28	20					
13	Solution of algebraic equations: Bisection method,	08-08-23	4	3	participative learning via python	Fully covered	28	24					
14	First and second derivative by Numerical differentiation	07-08-23	2	3	experiential learning via google colab	Fully covered	28	23					
15	First and second derivative by Numerical differentiation	04-08-23	1	3	experiential learning via google colab	Fully covered	28	21					
16	, Newton's forward difference interpolation formula, difference table	03-08-23	1	3	participative learning via python	Fully covered	28	22					
17	, Newton's forward difference interpolation formula, difference table	31-07-23	2	3	experiential learning via google colab	Fully covered	28	23					
18	Interpolation: Finite difference operator	28-07-23	1	3	experiential learning via google colab	Fully covered	28	24					
19	Curve Fitting: Principle of	27-07-23	1	3	participative learning via	Fully covered	28	15					

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Department:PHYSICS SF Batch:BSC PHY SF 2021 Semester:Course Completed												
Handling faculty:- Anjali Joby												
5	Subject Planner	r Report (Ad	ctual)	Of CC2	OUPHY5B0	6 Computat	ional Phys	Sics				
Sl.No	Topic Name	Date	Hour	Module	1 eaching Pedagogy	Portion Status	Subject	Attended				
	least squares,				python	Status	Strength	Intended				
	Least square				1.5							
	fitting of a											
	straight line -											
	Introduction											
	methods				experiential							
•	Comparison	<u>a (05 aa</u>			learning via	Fully	•					
20	between	24-07-23	2	3	google	covered	28	25				
	analytical and				colab							
	numerical											
	methods											
	- Plotting of				narticinativa							
21	sin(x) cos(x)	21-07-23	1	2	learning via	Fully	28	24				
	exp(x), $sin2$	21 07 20	-	_	python	covered						
	$(x), \sin(x2)$				1.5							
	multiple plots,											
	polar plots,				experiential	D 11						
22	labeling,	20-07-23	1	2	learning via	Fully	28	27				
	scanng of				colab	covereu						
	coloring plots				coluo							
	Matplotlib											
	module:											
	Introduction,				experiential							
23	plot(), show(17-07-23	2	2	learning via	Fully	28	26				
) functions, syntax for				colab	covereu						
	plotting				contac							
	graphs,											
	. matrix				experiential							
24	multiplication,	14-07-23	1	2	learning via	Fully	28	21				
	inversion.				google	covered						
					narticipative							
25	various array	13-07-23	1	2	learning via	Fully	28	21				
	operations,				python	covered						
	Numpy											
	module:				experiential	E. II.						
26	Introduction,	10-07-23	2	2	learning via	Fully	28	18				
	arrays and				colab	covered						
	matrices											
	- File input				particinative							
27	and file	07-07-23	1	1	learning via	Fully	28	27				
	output-				python	covered	_					
	FICKIINg.											



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Depa	rtment:PHYSI	CS SF Ba	atch:B	SC PH	Y SF 2021	Semester:C	ourse Cor	npleted				
	Handling faculty:- Anjali Joby Subject Planner Penert (Actual) Of CC20UDUV5P06 Computational Plansies											
S	Subject Planner	Report (A	ctual)	Of CC2	OUPHY5BO	6 Computat	ional Phys	sics				
Sl.No	Topic Name	Date	Hour	Module	Teaching Pedagogy	Portion Status	Subject	Students Attended				
28	- user defined functions- Modules	06-07-23	1	1	experiential learning via google colab	Fully covered	28	26				
29	while, for, break, continue)	03-07-23	2	1	experiential learning via google colab	Fully covered	28	21				
30	while, for, break, continue)	30-06-23	1	1	participative learning via python	Fully covered	28	28				
31	various control and looping statements: (if, ifelse, ifellif	29-06-23	1	1	experiential learning via google colab	Fully covered	28	28				
32	various control and looping statements: (if, ifelse, ifellif	26-06-23	2	1	participative learning via python	Fully covered	28	28				
33	Tuples and Dictionaries,	23-06-23	1	1	experiential learning via google colab	Fully covered	28	26				
34	sets, set operations (set, add, remove, in, not in, union, intersection, symmetric difference)	22-06-23	1	1	experiential learning via google colab	Fully covered	28	21				
35	, Lists, list operations (len, append, insert, del, remove, reverse, sort, +, *, max, min, count, in, not in, sum),	19-06-23	2	1	participative learning via python	Fully covered	28	27				
36	String operations	16-06-23	1	1	participative learning via python	Fully covered	28	23				





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Depa	rtment:PHYSI	CS SF Ba	atch:B	SC PH	Y SF 2021	Semester:C	ourse Cor	npleted					
	Handling faculty:- Anjali Joby Subject Planner Report (Actual) Of CC20UPHV5806 Computational Physics												
S	ubject Planner	Report (A	ctual)	Of CC2	OUPHY5B0	6 Computat	ional Phys	sics					
Sl.No	Topic Name	Date	Hour	Module	Teaching Pedagogy	Portion Status	Subject	Attended					
37	Variables, operators, expressions and statements	15-06-23	1	1	participative learning via python	Fully covered	28	27					
38	- print command, formatted printing- open and write function -	12-06-23	2	1	experiential learning via google colab	Fully covered	28	27					
39	Writing and execution of programs - various data types in Python- Reading keyboard input: The raw_input function and input function	09-06-23	1	1	experiential learning via google colab	Partially covered	28	26					
40	Writing and execution of programs - various data types in Python- Reading keyboard input: The raw_input function and input function	09-06-23	1	1	experiential learning via google colab	Fully covered	28	26					
41	- Introduction to Python language- Advantages and unique features of Python language - Interactive mode and script mode	08-06-23	1	1	experiential learning via google colab	Fully covered	28	27					
42	Introduction to algorithm,	05-06-23	2	1	experiential learning via	Fully covered	28	23					

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Department:PHYSICS SF Batch:BSC PHY SF 2021 Semester:Course Completed Handling faculty:- Aniali Joby									
Subject Planner Report (Actual) Of CC20UPHY5B06 Computational Physics									
Sl.No	Topic NameDateHour ModuleTeaching PedagogyPortion StatusSubjectStuder Attend								
	flowchart and				google				
	high level				colab				
	Computer								
	programming								
	languages								
	Compilers-								
	Interpreters								
	r r								