ST. GREGORIOS COLLEGE KOTTARAKARA

2.2.1. Programmes for advanced and slow learners

Programme For Slow and Advanced Learners

The college has a well-structured system to support students based on their academic performance. Students scoring 75% and above are classified as advanced learners, those with scores between 50-75% as medium learners, and those below 50% as slow learners. Each group receives tailored support to meet their needs. For slow learners, remedial classes and bridge courses are offered, along with a mentor-mentee system. This system assigns a specific number of students to each teacher, who identifies slow learners through regular classroom interactions and assessments. Additionally, ICT-enabled teaching methods and peer teaching are encouraged. During the pandemic, recorded videos in English and Malayalam were used to help slow learners with repeated viewings for better understanding. Advanced learners, on the other hand, benefit from counselling sessions and guidance on research projects. The college also provides seminars and career coaching to enhance their career readiness. The Departments of Chemistry and Mathematics offer JAM coaching to support undergraduate students further. Overall, the college's approach ensures that each group of learners receives the right kind of support to help them succeed academically and personally.

ST. GREGORIOS COLLEGE, KOTTARAKARA

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I E

Total Pages: 10

Name of Examination with programme: 3rd Semester BSc Degree Internal Exam February 2024

Name of Course: Electrodynamics

Roll No. 06

Subject Code

Course Code

Date of Examination: 03/02/2024 (FN ~~AN~~)

Time: 10:00 To 11:30

Name of Student: Abhijna Anil

Class: BSc Physics

	Qn	1	2	3	4	5	6	7	8	9	10			Total Marks
Very Short (10/10)	Mark	0	½	1	1	1	2		2	2	2			
	Qn	11	12	13	14	15	16	17	18	19	20	21	22	
Short (8/12)	Mark	2					4	3½		4	15	15		
	Qn	23	24	25	26	27	28	29	30	31				3½
Short Essay (6/9)	Mark													8
	Qn	32	33	34	35									11½
Long Essay (2/4)	Mark													~~5~~ 15

GRAND TOTAL 38

MAXIMUM MARKS 40 ~~80~~

Priyanka Philip

Name of Invigilator

Priyanka

Signature of Invigilator

1. The ~~total~~ electric flux ~~over a closed surface~~ is ~~equal to~~ $\frac{1}{\varepsilon_0}$ times the ~~net charge enclosed by the~~ surface as Gauss's Law. $\phi_E = \frac{Q}{\varepsilon_0}$

$\oint E \cdot ds = \frac{Q}{\varepsilon_0}$

2. Curl of electric field is always zero.

$\therefore \quad \nabla \times E = 0$

3. Power factor is the ratio of true or actual power to the apparent power.

i.e., $\cos\phi = \frac{\text{True power}}{\text{Apparent power}}$

4. Q-factor is quality factor or figure of merit, it gives the sharpness of resonance. If Q-factor is high, it is sharpness. Q factor is defined as the ratio of potential difference across capacitor or inductor to the potential difference across resistor at resistance.

i.e., $Q = \frac{I L\omega}{IR} = \frac{I/C\omega}{IR}$

$Q = \frac{L\omega}{R} = \frac{1}{C\omega R}$

5. When a substance is placed in an electric field,

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I E

Total Pages: 3

Name of Examination with programme: THIRD SEMESTER BSC DEGREE INTERNAL EXAMINATION

Name of Course: ~~BSC Physics~~ ELECTRODYNAMICS

Roll No. 23

Subject Code

Course Code

Date of Examination: 03/02/2024 FN / AN

Time: 10 To 11:30

Name of Student: Pooja B

Class: Second Year BSC Physics

Very Short (10/10)	Qn	1	2	3	4	5	6	7	8	9	10			Total Marks
	Mark	0	0	0	0	0		½	1	½	1			3½
Short (8/12)	Qn	11	12	13	14	15	16	17	18	19	20	21	22	
	Mark		½	2				2	½				¼	5
Short Essay (6/8)	Qn	23	24	25	26	27	28	29	30	31				
	Mark													
Long Essay (2/4)	Qn	32	33	34	35									
	Mark													

GRAND TOTAL: ~~9½~~ 12½

Name of Invigilator: Dr. Rajalekshmy. V.S.

MAXIMUM MARKS: 80

Signature of Invigilator:

Pooja

13/40

ST.GREGORIOS COLLEGE, KOTTARAKARA
THIRD SEMESTER B.Sc. DEGREE INTERNAL EXAMINATION, FEBRUARY 2024
FIRST DEGREE PROGRAMME UNDER CBCSS PHYSICS CORE COURSE
PY 1341 : ELECTRODYNAMICS

Time: 1 Shrs

Max Marks: 40

PART A

(Answer **all** questions in one or two sentences. Each question carries **1** mark)

1. State gauss's theorem
2. What is the significance of curl of electric field?
3. Define power factor.
4. Define Q factor
5. What are Dielectrics

(5x 1 = 5 marks)

PART B

(Answer any **four questions**. Each question carries **2** marks)

6. Derive Laplace equation.
7. find the electric potential corresponding to the electric field 3xy-2y.
8. What are the properties of electric field lines?
9. What do you meant by wattless current?
10. Why a series LCR circuit is called an acceptor circuit?
11. Write a short note on LR circuit
12. State and explain Gauss law in Prescence of dielectrics
13. What are polar and non polar molecules give examples

(4 x 2 = 8 marks)

PART C

(Answer any **three** questions. Each question carries **4** marks)

14. Find the electric field at a point which is at a distance z from the centre of a straight line segment of length 2L, carrying a uniform line charge.
15. Derive an expression for electric field due to a Hollow cylinder carrying uniform charges.
16. Calculate the power associated with an LCR circuit.
17. Compare the characteristics of series and parallel LCR circuit.
18. With necessary explanations state the electrostatic boundary condition
19. State Maxwells equations with necessary explanations,

(3 x 4 =12marks)

PART D

(Answer any **one** question. Each question carries **15** marks)

20. Explain electric potential. Write the expressions for electric potential due to a point charge. Derive an expression for the electric potential due to a charged hollow sphere at any points.
21. Explain series LCR circuit.
22. Explain bound charges and physical significance. Show that the potential due to polarized dielectric is same as that produced by a volume charge density and surface charge density

(1x 15 =15 marks)

ST GREGORIOS COLLEGE KOTTARAKARA

DEPARTMENT OF PHYSICS

SLOW AND ADVANCED LEARNERS OF THE YEAR 23-24

Sl No	Candidate Code	Name of the Candidate	Achievement test (40)	Interview (10 mark)	Total	Level of learner
1	23022126001	ABHIMA ANIL	38	10	48	AL
2	23022126003	DHANALEKSHMI S	31	6	37	ML
3	23022126004	PAVITHRA MANOJ	30	6	36	ML
4	23022126005	SURYA GAYATHRI S R	31	6	37	ML
5	23022126006	ABHIRAJ A	12	1	13	SL
6	23022126007	ADWAITH R	9	2	11	SL
7	23022126008	AKHIL MONACHAN	5	4	9	SL
8	23022126009	AKHILA B S	14	2	16	SL
9	23022126010	ANAND A	28	6	34	ML
10	23022126011	ANUGRAHA JACOB	29	6	35	ML
11	23022126012	ARJUN A K	30	7	37	ML
12	23022126013	DEVIKA B	32	5	37	ML
13	23022126014	DEVISREE D	28	5	33	ML
14	23022126015	NANDANA S BIJU	39	10	49	AL
15	23022126016	POOJA B	13	5	18	SL
16	23022126018	SONA KOSHY	38	10	48	AL
17	23022126019	SREELEKSHMI S	38	10	48	AL
18	23022126020	U K RITHURAJ	32	6	38	ML
19	23022126023	JESIN JACOB	30	7	37	ML
20	23022126024	ROHITH BABY	38	10	48	AL
21	23022126025	SION SOLU KOSHY	26	6	32	ML

35< Advanced learners (AL), 25<Medium Learners (ML) <35, Slow Learners (SL)<25

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Dr. SUMI ALEX
PRINCIPAL IN CHARGE
ST. GREGORIOS COLLEGE
KOTTARAKARA

DEPARTMENT OF PHYSICS

SLOW AND ADVANCED LEARNERS OF THE YEAR 23-24

LIST OF SLOW LEARNERS

Sl No	Candidate Code	Name of the Candidate
1	23022126006	ABHIRAJ A
2	23022126007	ADWAITH R
3	23022126008	AKHIL MONACHAN
4	23022126009	AKHILA B S
5	23022126016	POOJA B

LIST OF ADVANCED LEARNERS

Sl No	Candidate Code	Name of the Candidate
1	23022126001	ABHIMA ANIL
2	23022126015	NANDANA S BIJU
3	23022126024	ROHITH BABY
4	23022126018	SONA KOSHY
5	23022126019	SREELEKSHMI S

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