



Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057

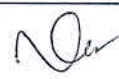




Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

Department of Biotechnology


18-08-2020

CIRCULAR

This is to inform that the following Curriculum Board members are requested to attend the meeting on 19/08/2020 at 10.30 AM in the HODs chamber to decide the syllabus and the lesson plan for the Bridge Course on "Basic Science of Electromagnetic radiation"

Sl No.	Faculty Name	Designation	Signature
1	Dr. Veena S More	HOD & Professor	
2	Dr Allwin Ebinesar J S S	Associate Professor	
3	Prof. Prashanth Kumar H P	Assistant Professor	
4	Dr. Soumya C	Assistant Professor	
5	Prof. Shobha G	Assistant Professor	


Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 057


HOD, BT
Head of the Department
Dept. of Bio - Technology
Sapthagiri College of Engineering
No. 57/1, Chikkasandra
Hesaraghatta Main Road
Bangalore - 57



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Department of Biotechnology

Date: 18-08-2020

To,

Dr Allwin Ebinesar J S S

Associate Professor

Sapthagiri College of Engineering Bangalore

Bangalore - 560057.

Respected Sir,

Subject: Invitation as a "Guest Speaker" in Bridge Course and to attend meeting to discuss about the program

Department of Biotechnology has planned to conduct a Bridge Course titled "Basic Science of Electromagnetic radiation" for 5th semester students from 24th Aug 2020 to 30th Aug 2020. In this connection, we are privileged to invite you as a guest speaker on the above mentioned topic. We request you to attend the meeting to discuss about the conduction of certification course on 19/08/2020 at 10.30 A M.

Thanking you


Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 057



Yours faithfully

Head of the Department
Dept. of Bio - Technology
Sapthagiri College of Engineering
No. 14/5, Chikkasandra
Hesaraghatta Main Road
Bangalore - 57

Minutes of Meeting

A meeting was conducted on 19-Aug-2020 in BT HOD's Chamber to discuss and approve the following about the one week Certification Course for 5th semester BT Students.

- **Course Title :** Basic Science of Electromagnetic radiation
- **Resource Personnel:** Dr Allwin Ebinesar J S S, Associate Professor, Sapthagiri College of Engineering, Bangalore
- **Course Duration & Date:** 24th Aug 2020 to 30th Aug 2020
- **Syllabus and Schedule of the certification program**

Date	Time	Topics
24/08/2020	8:30 AM - 12:30 PM	Electromagnetic waves and properties Problems solving class
	1:30 PM – 4.30 PM	
25/08/2020	8:30 AM - 12:30 PM	UV rays, properties and applications Problems solving class
	1:30 PM – 4.30 PM	
26/08/2020	8:30 AM - 12:30 PM	Infrared rays, properties and applications Problems solving class
	1:30 PM – 4.30 PM	
27/08/2020	8:30 AM - 12:30 PM	Microwaves and radio waves properties and applications Problems solving class
	1:30 PM – 4.30 PM	
28/08/2020	8:30 AM - 12:30 PM	X-rays and applications Problems solving class
	1:30 PM – 4.30 PM	
29/08/2020	8:30 AM - 12:30 PM	Difference between Electron beam and X-rays and its applications
	1:30 PM – 4.30 PM	
30/08/2020	8:30 AM - 12:30 PM	Problems solving
	1:30 PM – 4.30 PM	


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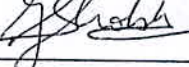
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Department of Biotechnology

The following Curriculum board members were present

Sl No.	Faculty Name	Designation	Signature
1	Dr.Veena S More	HOD & Professor	
2	Dr Allwin Ebinesar J S S	Associate Professor/ Resource Person	
3	Prof.Prashanth Kumar H P	Assistant Professor	
4	Dr.Soumya C	Assistant Professor	
5	Prof.Shobha G	Assistant Professor	


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From:

20-08-2020

Dr. Veena S. More

Dept. of Biotechnology,

SCE, Bangalore-57

To:

The Principal,

SCE, Bangalore-57


Sub: Requisition to conduct Bridge course on "Basic science and applications of
Electromagnetic radiations "from 24-08-2020 to 29-08-2020 for
5th semester students.

Respected Sir,

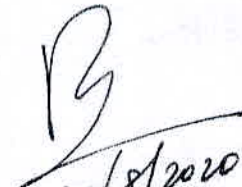
With respect to the above subject, requesting you to grant permission to conduct Bridge
course "Basic science and applications of Electromagnetic radiations from 24-08-2020 to
29-08-2020 for 5th semester students. Dr. J S S Allwin Ebinesar will be conducting the course.
Kindly do the needful.

Thanking you,

Yours faithfully


(Dr. Veena S. More) 20/08/2020

Dept. of Bio-Technology
Sapthagiri College of Engineering
No. 57/1, Chikkasandra
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20/8/2020


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Department of Biotechnology

Date: 20/08/2020

NOTICE

As a part of programming skill development Department of Information Science and Engineering is conducting One Week Bridge Course on “Basic Science of Electromagnetic radiation” from 24th Aug 2020 to 30th Aug 2020. All the 5th SEM BT students must attend the course compulsorily.

Principal
Sapthagiri College of Engineering
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Signature of HOD
Head of the Department
Dept. of Bio - Technology
Sapthagiri College of Engineering
No. 57/1, Chikkasandra
Hesaraghatta Main Road
Bangalore -57

Bridge Course on “Basic Science of Electromagnetic radiation”

Students Enrollment

SL.NO.	USN	STUDENT NAME
1.	1SG18BT001	ABHINANDAN KANJIKAR
2.	1SG18BT002	AMRUTHA S
3.	1SG18BT003	ANIKA ANJANA GOWDA
4.	1SG18BT005	ARUNA MOHAN
5.	1SG18BT006	AVISHKA SARIKA GOWDA
6.	1SG18BT007	AVINASH K G
7.	1SG18BT008	BENITA S ROBIN
8.	1SG18BT009	BHAGYASHREE R
9.	1SG18BT010	BHARGAVI KRISHNA
10.	1SG18BT011	BRAMARI S SHETTY
11.	1SG18BT012	CHAITRA U KABBUR
12.	1SG18BT013	CHAITRA V S
13.	1SG18BT014	CHANDRAMOULI S
14.	1SG18BT015	CHINMAYI J
15.	1SG18BT016	CHITTOJU PRERANA
16.	1SG18BT017	DEERAJ J
17.	1SG18BT018	DIKSHITHA S

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19.	1SG18BT020	HARSHITHA P S
20.	1SG18BT021	KANCHANA B K
21.	1SG18BT022	KAUSHIK P M
22.	1SG18BT023	MONIKA N
23.	1SG18BT024	MONISHA S
24.	1SG18BT025	N VAMSHI PRIYA
25.	1SG18BT026	NANCY YADAV
26.	1SG18BT027	NAYANIKA AISHWARYA
27.	1SG18BT028	NISAR AHMED PARASAR
28.	1SG18BT029	NISARGA P
29.	1SG18BT030	NISHA K
30.	1SG18BT031	POOJA D L
31.	1SG18BT032	POOJA R
32.	1SG18BT033	POOJA S YADAV
33.	1SG18BT034	POOJA YELLAPPA KARLANNAVAR
34.	1SG18BT035	PRAVEEN KUMAR T S
35.	1SG18BT036	PREETHI H K
36.	1SG18BT037	R RAHUL
37.	1SG18BT038	RACHANA G
38.	1SG18BT039	RUTHWIK K SHETTY
39.	1SG18BT040	SAHANA M



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41.	1SG18BT042	SANTHOSH G K
42.	1SG18BT043	SHARATH S TAVARKHED
43.	1SG18BT044	SHILPA S
44.	1SG18BT045	SRIRAM P BHAT
45.	1SG18BT046	SUMA K
46.	1SG18BT047	VAISHNAVI B L
47.	1SG18BT048	VARSHA K
48.	1SG18BT049	VRUNDA A PATEL
49.	1SG18BT050	YASHASWINI K

Principal

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HOD, BT

Head of the Department
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Department of Biotechnology

Bridge Course on "Basic Science of Electromagnetic radiation"

Attendance

SI No.	USN	Student Name	24/08/20		25/08/20		26/08/20		27/08/20		28/08/20		29/08/20		30/08/20	
			MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	MS	AS
1	ISG18BT001	Abhinandan Kanjekar	1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	ISG18BT002	Amrutha S	1	2	3	4	5	6	7	8	9	10	11	12	13	14
3	ISG18BT003	Anika Anjana Gowda	0	1	2	3	4	5	6	7	8	9	10	11	12	13
4	ISG18BT005	Aruna Mohan	1	2	3	4	4	5	6	7	8	9	10	11	12	13
5	ISG18BT006	Avishka Sarika Gowda	1	2	3	4	5	6	7	8	9	10	11	12	13	14
6	ISG18BT007	Avinash K G	0	1	2	2	3	4	5	6	7	8	9	10	11	12
7	ISG18BT008	Benita S Robin	1	2	3	4	5	6	7	8	9	10	11	12	13	14


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8	1SG18BT009	Bhagyashree R	1	2	3	4	5	6	7	8	9	10	11	12	13	14
9	1SG18BT010	Bhargavi Krishna	1	2	3	4	5	6	7	8	9	10	11	12	13	14
10	1SG18BT011	Bramari S Shetty	1	2	3	4	5	6	7	8	9	10	11	12	13	14
11	1SG18BT012	Chaitra U Kabbur	1	2	3	4	5	6	7	8	9	10	11	12	13	14
12	1SG18BT013	Chaitra V S	1	2	3	4	5	6	7	8	9	10	11	12	13	14
13	1SG18BT014	Chandramouli S	1	2	3	4	5	6	7	8	9	10	11	12	13	14
14	1SG18BT015	Chinmayi J	1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	1SG18BT016	Chittoju Prerana	1	2	3	4	5	6	7	8	9	10	11	12	13	14
16	1SG18BT017	Deeraj J	0	1	2	3	4	5	6	7	8	9	10	11	12	13
17	1SG18BT018	Dikshitha S	1	2	3	4	5	6	7	8	9	10	11	12	13	14
18	1SG18BT019	Dimple B H	1	2	3	4	4	5	6	7	8	9	10	11	12	13
19	1SG18BT020	Harshitha P S	1	2	3	4	5	6	7	8	9	10	11	12	13	14

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20	ISG18BT021	Kanchana B K	1	2	3	4	5	6	7	8	9	10	11	12	13	14
21	ISG18BT022	Kaushik P M	1	2	3	4	5	6	7	8	9	10	11	12	13	14
22	ISG18BT023	Monika N	1	2	3	4	5	6	7	8	9	10	11	12	13	14
23	ISG18BT024	Monisha S	1	2	3	4	5	6	7	8	9	10	11	12	13	14
24	ISG18BT025	N Vamshi Priya	1	2	3	4	5	6	7	8	9	10	11	12	13	14
25	ISG18BT026	Nancy Yadav	1	2	3	4	5	6	7	8	9	10	11	12	13	14
26	ISG18BT027	Nayanika Aishwarya	1	2	3	4	5	6	7	8	9	10	11	12	13	14
27	ISG18BT028	Nisar Ahmed Parasar	1	2	3	3	4	5	6	7	8	9	10	11	12	13
28	ISG18BT029	Nisarga P	1	2	3	4	5	6	7	8	9	10	11	12	13	14
29	ISG18BT030	Nisha K	1	2	3	4	5	6	7	8	9	10	11	12	13	14
30	ISG18BT031	Pooja D L	1	2	3	4	5	6	7	8	9	10	11	12	13	14
31	ISG18BT032	Pooja R	1	2	3	4	5	6	7	8	9	10	11	12	13	14

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32	ISG18BT033	Pooja S Yadav	1	2	3	4	5	6	7	8	9	10	11	12	13	14
33	ISG18BT034	Pooja Yellappa Karlannavar	1	2	3	4	5	6	7	8	9	9	10	11	12	13
34	ISG18BT035	Praveen Kumar T S	1	2	3	4	5	6	7	8	9	10	11	12	13	14
35	ISG18BT036	Preethi H K	1	2	3	4	5	6	7	8	9	10	11	12	13	14
36	ISG18BT037	R Rahul	1	2	3	4	5	6	7	8	9	10	10	11	12	13
37	ISG18BT038	Rachana G	1	2	3	4	5	6	7	8	9	9	10	11	12	13
38	ISG18BT039	Ruthwik K Shetty	1	2	3	4	5	6	7	8	9	9	10	11	12	13
39	ISG18BT040	Sahana M	1	2	3	4	5	6	7	8	9	10	11	12	13	14
40	ISG18BT041	Sahana Sheeli	1	2	3	4	5	6	7	8	9	10	11	12	13	14
41	ISG18BT042	Santhosh G K	1	2	3	4	5	6	7	8	9	10	11	12	13	14
42	ISG18BT043	Sharath S Tavarkhed	1	2	3	3	4	5	6	7	8	9	10	11	12	13
43	ISG18BT044	Shilpa S	1	2	3	4	5	6	7	8	9	10	11	12	13	14

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44	ISG18BT045	Sriram P Bhat	1	2	3	4	5	6	7	8	9	10	11	12	13	14
45	ISG18BT046	Suma K	1	2	3	4	5	6	7	8	9	10	11	12	13	14
46	ISG18BT047	Vaishnavi B L	1	2	3	4	5	6	7	8	9	10	11	12	13	14
47	ISG18BT048	Varsha K	1	2	3	4	5	6	7	8	9	10	11	12	13	14
48	ISG18BT049	Vrunda A Patel	1	2	3	4	5	6	7	8	9	10	10	11	12	13
49	ISG18BT050	Yashaswini K	1	2	3	4	5	6	7	8	9	10	11	12	13	14


COORDINATOR


Principal
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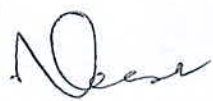

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One Week Bridge Course on “Basic Science of Electromagnetic radiation”

Test Time Table

Sl. No.	DATE	DAY	TIMINGS
1	30/08/2020	Sunday	4.30 to 6.00 PM


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Sapthagiri College of Engineering
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Bridge Course on “Basic Science of Electromagnetic Radiation”

QUESTION PAPER

Date: 30/8/2020

Duration: 1hr

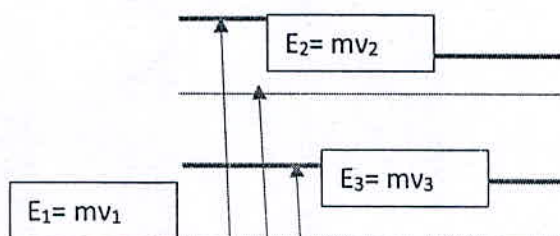
Maximum marks: 100

Note: Question number 1-25 (4M each)

Answer all the questions

25*4=100

1. Explain about the Maxwell equations for the electromagnetic waves [4]
2. Why the velocity of electromagnetic waves is equal to the velocity of light [4]
3. A plane electromagnetic wave travels in vacuum along z-direction. What can you say about the directions of its electric and magnetic field vectors? If the frequency of the wave is 30 MHz, what is its wavelength? [4]
4. In a plane electromagnetic wave, the electric field oscillates sinusoidally at a frequency of 2.0×10^{10} Hz and amplitude 48 V m^{-1} .
 - (a) What is the wavelength of the wave?
 - (b) What is the amplitude of the oscillating magnetic field? [4]
5. An Electromagnetic radiation has an electric field has an equation $E_z = 60 \sin (0.5 \times 10^3 x + 1.5 \times 10^{11} t) \text{ V/m}$ and evaluate the equation for the magnetic field and also draw the electromagnetic waves in the propagation of x direction when $t=0$. [4]
6. Give the graphical representation of [4]



7. A $7.25 \times 10^{-5} \text{ M}$ of KMnO_4 has a transmittance of 44.1% when measured in a 210 cm cell at a wavelength of 525 nm. [4]
 - (a) Calculate the absorbance of this solution

8.

Wavelength	Color of the light	Complementary colors
400- 435	Violet	Yellow green
435-480	Blue	Yellow

Give a statement on behind in change in Complementary colors.

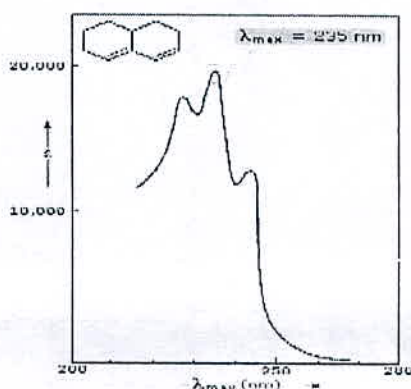
[4]

9. Define about self-quenching.

[4]

10. Give the reasons behind the peaks exist at particular wavelengths

[4]



11. Explain about the solvent effect on Beta hydroxy ketone

[4]

(a) State that above compound follows red shift or blue shift.

12. Draw the FTIR spectra of Succinic Acid and give proper reasons

[4]

13. Draw the FTIR spectra of DNA and give proper reasons

[4]

14. Define shielding effect in NMR

[4]

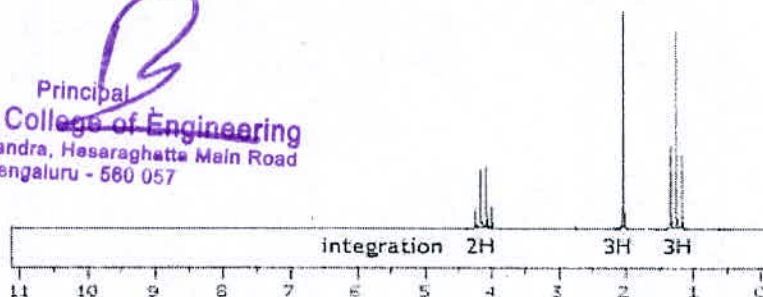
15. Draw the hydrogen spectra of Methyl chloride, Methyl fluoride, Methyl Iodide, Methyl Bromide with proper reasons.

[4]

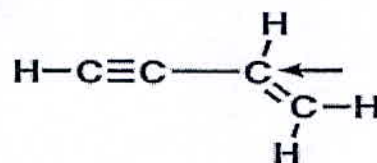
16. Assume the functional groups present in the given spectra

[4]

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17. Find the range of chemical shift of the given compounds and illustrate with reasons.



[4]

18. Explain the principle of XRD diffraction process

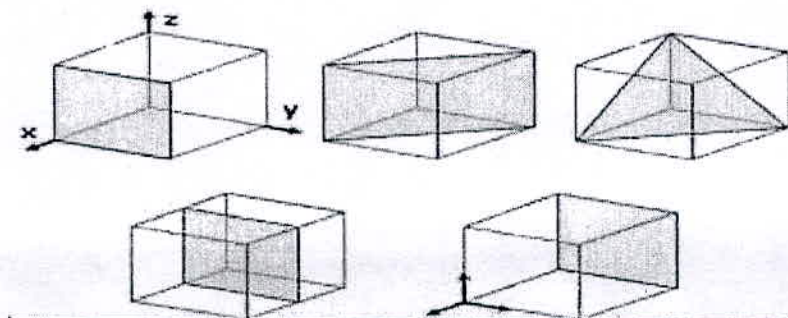
[4]

19. What is the relationship between the de Broglie and Bragg's law

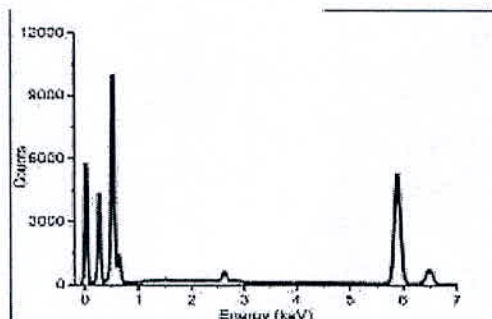
[4]

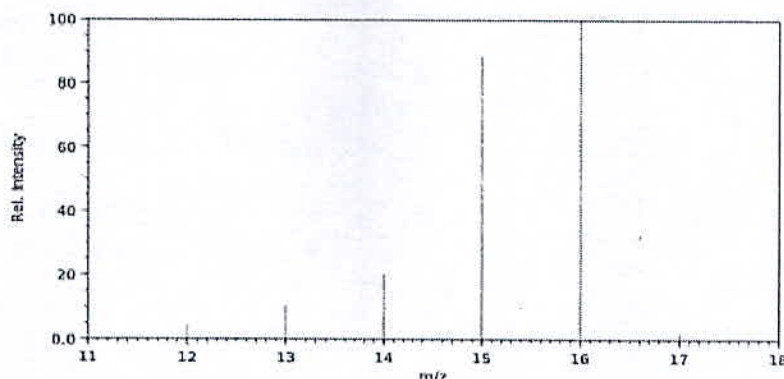
20. Find the Miller indices values and positions for the given three dimensional crystals

[4]



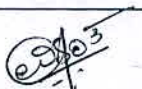




21. Find the elements for the given EDX spectra





Approved by Academic Committee members and Resource person:

SL. NO.	Faculty member	Designation	Signature
1	Dr.Veena S More	HOD & Professor	
2	Dr Allwin Ebinesar J S S	Associate Professor/ Resource Person	
3	Prof.Prashanth Kumar H P	Assistant Professor	
4	Dr.Soumya C	Assistant Professor	
5	Prof.Shobha G	Assistant Professor	


Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560 057

One week Certification Course on “Basic Science of Electromagnetic radiation”

Solutions for the Questions

Duration: 1.5hr

Maximum marks: 100

1. Maxwell's four equations describe the electric and magnetic fields arising from distributions of electric charges and currents, and how those fields change in time.

1. Gauss' Law for electric fields.

$$\int \vec{E} \cdot d\vec{A} = q/\epsilon_0.$$

(The integral of the outgoing electric field over an area enclosing a volume equals the total charge inside, in appropriate units.)

2. The corresponding formula for magnetic fields.

$$\int \vec{B} \cdot d\vec{A} = 0.$$

(No magnetic charge exists: no "monopoles".)

3. Faraday's Law of Magnetic Induction:

$$\oint \vec{E} \cdot d\vec{\ell} = -d/dt \left(\int \vec{B} \cdot d\vec{A} \right).$$

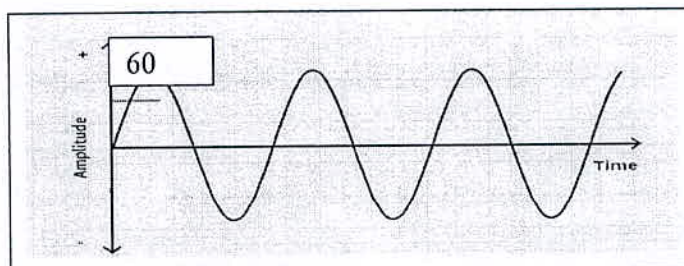
The first term is integrated round a closed line, usually a wire, and gives the total voltage change around the circuit, which is generated by a varying magnetic field threading through the circuit.

4. Ampere's Law plus Maxwell's displacement current:

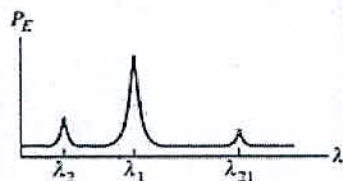
$$\oint \vec{B} \cdot d\vec{\ell} = \mu_0 \left(I + \frac{d}{dt} \left(\epsilon_0 \int \vec{E} \cdot d\vec{A} \right) \right).$$

This gives the total magnetic force around a circuit in terms of the current through the circuit, plus any varying electric field through the circuit (that's the "displacement current").

2. The velocity of the electromagnetic waves in free space is constant and is equal to the speed of light.
3. (a) Perpendicular to each other. 9.993×10^{12} nm
4. 1.5×10^{-2} m, 1.6×10^{-7} T.
- 5.




Principal



6.

7. $A = 0.301. 2.33 \times 10^3 \text{ L/mol.cm}$

8. If wavelengths of light from a certain region of the spectrum are absorbed by a material, then the materials will appear to be the complementary color.

9. Self-quenching (also called cross-relaxation) occurs between two identical molecules (ions) when a first molecule (or ion) initially in an excited state exchanges energy with the second molecule (ion) that is initially in the ground state, resulting in both molecules (ions) simultaneously changing to excited states.

10. Due to absorption of light at C-H (with higher molar absorptivity and lower absorptivity)

11. It follows condensation reaction



12.

13. FTIR Succinic Acid

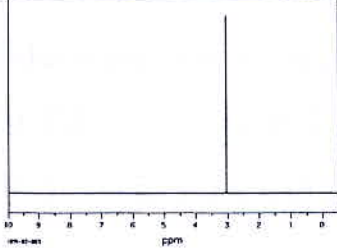
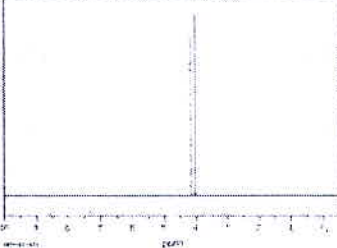
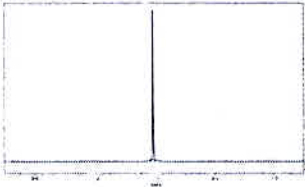
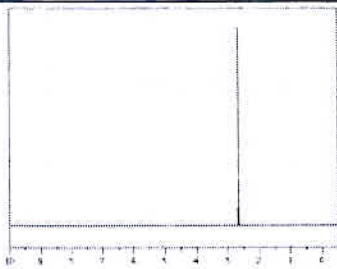


14. Higher electron density around hydrogen atoms creates greater opposition to the applied magnetic field.

15.

[Signature]
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Methyl chloride	Methyl fluoride	Methyl Iodide
		
Methyl bromide		

16. Propylene

17. 8 to 10

18. $n\lambda = 2d \sin \theta$

$$\frac{1}{\lambda} = \frac{n}{2d \sin \theta} = \frac{p}{h} = \frac{\sqrt{2mE}}{h} = \frac{\sqrt{2meV}}{h}$$

Electron wavelength Bragg law deBroglie relation Acceleration through voltage V

19.

20 A (001), b) 101 (c) 111 d) 011

21. C N O S

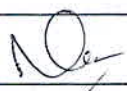



22. In addition to topographical, morphological and compositional information, a Scanning Electron Microscope can detect and analyze surface fractures, provide information in microstructures, examine surface contaminations, reveal spatial variations in chemical compositions, provide qualitative chemical analyses.

23. Glutaraldehyde

24. Magnification is the ability to make small objects seem larger, such as making a microscopic organism visible. Resolution is the ability to distinguish two objects from each other.

25. Carbon di oxide

Scheme and Solutions approved by Academic Committee members:

Sl. NO.	Faculty members	Designation	Signature
1	Dr.Veena S More	HOD & Professor	
2	Dr Allwin Ebinesar J S S	Associate Professor/Resource person	
3	Prof.Prashanth Kumar H P	Assistant Professor	
4	Dr.Soumya C	Assistant Professor	
5	Prof.Shobha G	Assistant Professor	


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Department of Biotechnology

Bridge Course on “Basic Science of Electromagnetic radiation”

Participant Feedback

1. How was the overall organization of the Certification Course?
a) Poor b) Satisfactory c) Good d) Excellent
2. How appropriate were the facilities provided?
a) Poor b) Satisfactory c) Good d) Excellent
3. Opportunity to ask questions for clarification and interaction with presenters
a) Poor b) Satisfactory c) Good d) Excellent
4. Effectiveness of the Hands-on Sessions
a) Poor b) Satisfactory c) Good d) Excellent
5. Topic and contents of the Certification Course
a) Poor b) Satisfactory c) Good d) Excellent
6. How do you rate the Certification Course compared to other workshops that you have attended?
a) Poor b) Satisfactory c) Good d) Excellent
7. Generally how was your overall experience during the Certification Course
a) Poor b) Satisfactory c) Good d) Excellent
8. Any Suggestions:

Student Name:

Student Signature:

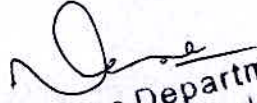

Principal

Timestamp	Usern	Email	USN	Name of the St	1.How	2.Oppo	3.Effe	4.Topi	5.Genr	Suggestions
2020/08/3	bharg	bharg	1sg18bt010	BHARGAVI KRIS	4	4	3	4	4	Nothing
2020/08/3	vamsi	vamsi	1SG18BT025	N.VAMSHI PRIY	5	5	5	5	5	Nil
2020/08/3	preeti	preeti	1SG18BT036	Preethi.H.K	4	5	4	5	4	Its nice
2020/08/3	nisha	nisha	1SG18BT030	Nisha K	4	5	4	4	5	No
2020/08/3	dimpl	dimpl	1SG18BT019	Dimple.B.H	5	4	4	5	5	No
2020/08/3	pooja	Pooja	1SG18BT034	Pooja Yallappa	5	5	5	5	5	Explaining with vedios will help us to understand better.
2020/08/3	chinm	chinm	1sg18bt015	Chinmayi J	5	5	4	4	4	Very informative
2020/08/3	bhagy	bhagy	1SG18BT009	Bhagyashree. R	4	4	4	5	4	-
2020/08/3	nancy	nancy	1SG18BT026	Sapthagiri colle	5	5	5	5	5	It was effective
2020/08/3	santhi	santhi	1SG18BT042	Santhosh G K	4	5	4	4	4	The course was little fast.
2020/08/3	kaush	kaush	1SG18BT022	Kaushik PM	5	5	4	5	4	
2020/08/3	vrund	vrund	1SG18BT049	Vrunda patel	3	3	3	3	3	No
2020/08/3	varshi	varshi	1SG18BT048	Varsha.K	4	4	5	4	5	It was good overview on bioanalytical instrumentation ,would li
2020/08/3	shara	shara	1SG18BT043	Sharat S Tavark	5	5	5	5	5	No suggestions
2020/08/3	abhi.k	abhi.k	1SG18BT001	Abhinandan Ka	4	4	4	4	5	NA
2020/08/3	bram	bram	1SG18BT011	Bramari A sheti	5	5	5	5	4	This 7 days was vry infromative session,thank you sir
2020/08/3	chinm	chinm	1sg18bt015	Chinmayi J	5	4	5	4	4	Very informative
2020/08/3	shilpa	Shilpa	1SG18BT044	SHILPA S	5	5	5	5	5	Nothing
2020/08/3	y2kpr	y2kpr	1SG18BT016	Chittoju. Prerar	4	5	4	4	4	It was very informative and learnt a lot! Thank you
2020/08/3	shilpa	shilpa	1SG18BT044	Shilpa S	5	5	5	5	5	Nothing
2020/08/3	harshi	harsh	1SG18BT020	Harshitha P S	5	4	5	4	5	It was very informative.
2020/08/3	aruna	aruna	1SG18BT005	Aruna Mohan	5	5	5	5	5	.
2020/08/3	dimpl	dimpl	1SG18BT019	Dimple.B.H	5	5	5	4	4	No
2020/08/3	pooja	pooja	1SG18BT034	Pooja Y K	5	5	5	5	5	Nothing
2020/08/3	chinm	chinm	1SG18BT015	Chinmayi J	5	5	5	5	5	Nothing
2020/08/3	moni	moni	1SG18BT024	Monisha.S	4	4	4	4	4	No
2020/08/3	kaush	kaush	1SG18BT022	Kaushik PM	3	3	3	3	3	
2020/08/3	nisarg	nisarg	1sg18bt029	Nisarga P	5	5	5	5	5	Good
2020/08/3	sahan	sahar	1SG18BT041	Sahana.sheeli	4	4	5	4	5	.
2020/08/3	shara	Shara	1SG18BT043	Sharat S Tavark	5	5	5	5	5	Nil
2020/08/3	bram	bram	1SG18BT011	Bramari A sheti	4	5	4	4	4	no
2020/08/3	chaitr	chaitr	1SG18BT013	Chaitra v.s	2	3	3	4	3	Good
2020/08/3	yasha	yasha	1SG18BT050	Yashaswini K	5	5	5	5	5	Good

Head of the Department
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2020/08/3: dheer Dhee 15G18BT017 Dheeraj J	4	3	4	4	5
2020/08/3: anika: anika 15G18BT003 Anika anjana gc	4	3	5	4	4 Good
2020/08/3: nancy nancy 15G18BT026 Nancy yadav	5	4	5	5	4


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Suggestions

Its nice

Explaining with vedios will help us to understand better.

Very informative

-

It was effective

It was good overview on bioanalytical instrumentation ,would like to get some more information in furt

This 7 days was vry infromative session,thank you sir

Very informative

It was very informative and learnt a lot! Thank you



Head of the Department
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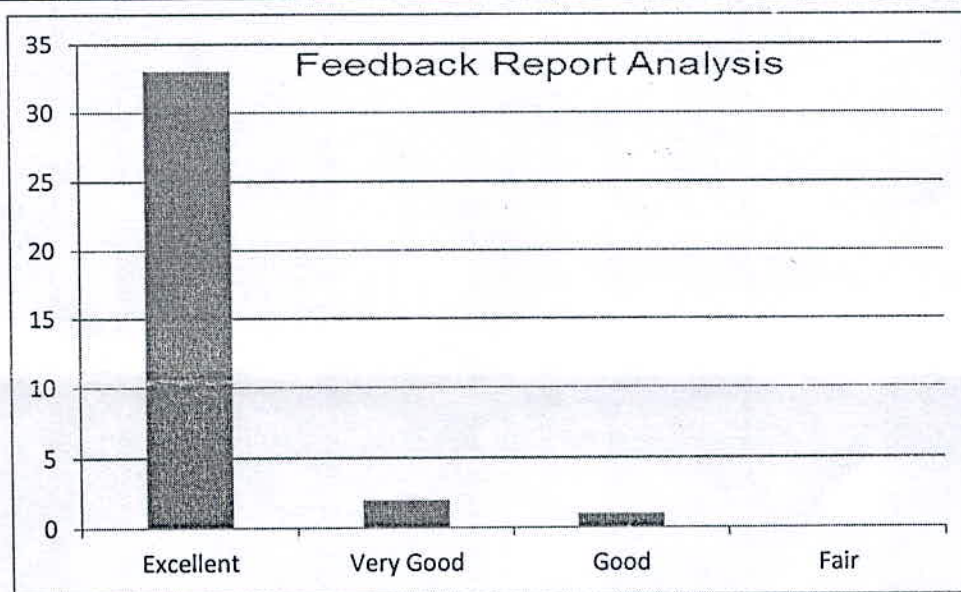


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FEEDBACK ANALYSIS

Bridge Course on: “Basic Science of Electromagnetic radiation”

No. of students participated	Student Feedback			
	Excellent	Very Good	Good	Fair
36	33	2	1	0



Action Report:

95 % of students were completely happy with the certification program and 2% of students felt it was a good program and remaining 1 % students were satisfied with the program.

Action Taken:

The Feedback report which was collected from the students were sent to the principal and he would take necessary actions based on the comments and conduct more programs for the benefit of students.

Program Coordinator

Principal

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Department of Biotechnology

Bridge Course – Basic science of Electromagnetic Radiation

Post Event Report

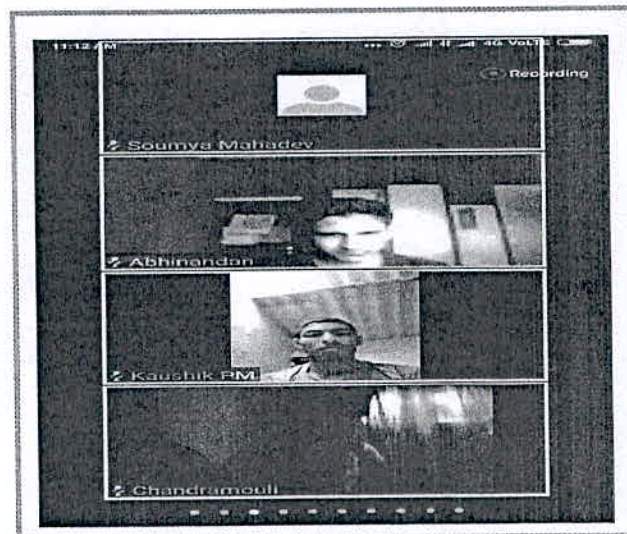
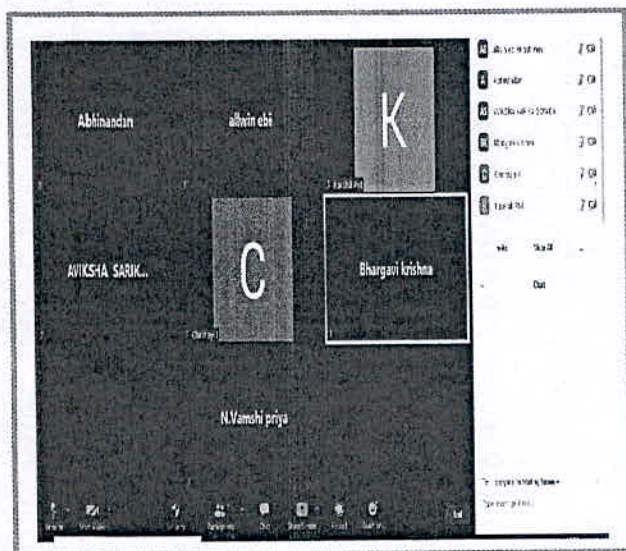
Department of BT conducted Bridge Course on Python Programming from 24th Aug 2020 to 30th Aug 2020

Objective of the Course: The one week course made the students to be familiar with the common uses and applications of Electromagnetic radiation platform for their career. Certificate Course became the vital step to improve the knowledge of students.

Resource Person: Dr. J S S Allwin Ebinesar, Associate Professor, Department of Biotechnology, Sapthagiri College of Engineering.

Duration of the course: One week from 24th Aug 2020 to 30th Aug 2020

Student Participants in Bridge course Program



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Bengaluru - 560 057

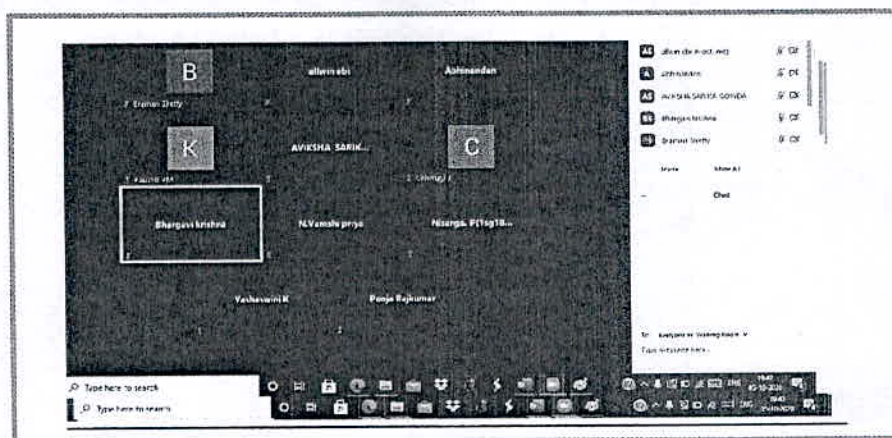
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Department of Biotechnology



Dates	Report
24/08/2020	Electromagnetic waves and properties Problems solving class
25/08/2020	UV rays, properties and applications Problems solving class
26/08/2020	2020 Infrared rays, properties and applications Problems solving class
27/08/2020	Microwaves and radio waves properties and applications Problems solving class
28/08/2020	X-rays and applications Problems solving class
29/08/2020	Difference between Electron beam and X-rays and its applications
30/08/2020	Problems solving class and Test for 1.5 hrs

Conclusion: These programs prepare students to complete a specific task or allow them proficiency in one of the particular aspect of their field. Students were benefit with common uses and applications of Electromagnetic radiation platform for their career. Students pursue certificates in order to get ahead in the professional field of their interest.


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HOD
Head of the Department
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No. 57/1, Chikkasandra,
Hesaraghatta Main Road,
Bangalore -57



**BRIDGE COURSE
ON
BASIC SCIENCE OF ELECTROMAGNETIC
RADIATIONS**

This is to certify that

Mr./Ms.....

**of V semester Biotechnology has successfully completed Bridge
Course on “Basic Science of Electromagnetic Radiation” organized
by Department of Biotechnology, Sapthagiri College of
Engineering, Bengaluru-57 from 24-Aug-2020 to 30-Aug-2020.**

**Course
Coordinator**

**Head
Department of BT**

**Vice Principal
SCE**

**Principal
SCE**

Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesarghatta Main Road
Bengaluru - 560 057



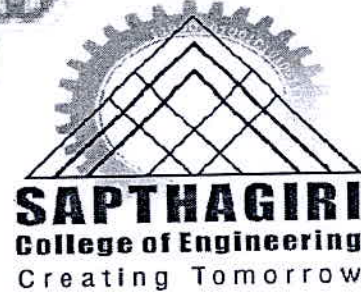
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**BRIDGE COURSE
ON
BASIC SCIENCE OF ELECTROMAGNETIC
RADIATIONS**

This is to certify that

Mr./Ms. KAUSHIK P M

**of V semester Biotechnology has successfully completed Bridge
Course on "Basic Science of Electromagnetic Radiation" organized
by Department of Biotechnology, Sapthagiri College of
Engineering, Bengaluru-57 from 24-Aug-2020 to 30-Aug-2020.**

Coordinator

Department of BT

Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesarghatta Main Road
Bengaluru - 560 057

**Vice Principal
SCE**

**Principal
SCE**



**BRIDGE COURSE
ON
BASIC SCIENCE OF ELECTROMAGNETIC
RADIATIONS**

This is to certify that

Mr./Ms. CHANDRAMOULI

**of V semester Biotechnology has successfully completed Bridge
Course on “Basic Science of Electromagnetic Radiation” organized
by Department of Biotechnology, Sapthagiri College of
Engineering, Bengaluru-57 from 24-Aug-2020 to 30-Aug-2020.**

Coordinator

Department of BT

**Vice Principal
SCE**

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**Principal
SCE**