IQAC reviews the teaching learning process, structures and methodologies of operations and learning outcomes by introducing several initiatives. Periodically reviews and continuously upgrades the quality of teaching-learning process by the way of enhanced academic research, effective training and timely academic audit for quality assurance.

Review of Teaching-Learning Process **and Attainment of Course Outcomes (COs), Program Outcomes (POs) & Program Specific Outcomes (PSOs) one example subject are attached below:**

1. Review of Teaching-Learning Process - IQAC implementations

Internal Quality Assurance Cell (IQAC) significant contributions for institutionalizing the quality assurance strategies and processes during the year 2020-21

In general, IQAC periodically collects reports from various departments/units holding several discussions with the concerned authorities for preparing AQAR on various criteria of the Teaching-Learning Process. In order to review the teaching-learning process, IQAC verifies some contextual review items periodically to ensure the quality of various academic aspects. The nature of the data collection by IQAC from various institutional departments/units for review is outlined below:

The following reports/information/data items are collected from the each department:

- Course files containing lesson plans in alignment with the Academic Calendar, Time Table,
- Availability of learning resources are collected at the beginning of the semester.
- Syllabus coverage, availability of course materials, number of conducted classes, attendance
- Reports, course assignments, and the respective student performance reports are collected.
- Reports regarding slow-learner and advanced learner are collected for active measures.
- Reports on extracurricular events conducted by the departments and the achievements of the students are also collected.
- Reports on CO, PO & PSO attainment are collected and analyzed.
- CO mapped question papers
- Results of the students at the end of the semester.

Training & Placement Cell (T & P):

The following are collected from T & P cell at the end of the academic session.

- Consolidated report on placement records.
- Report on special training programs for the students conducted by T & P cell.
- Feedbacks of employers.

Research & Development Cell (R & D):

- Reports on R & D activities (publications, patents, funded projects, collaborations, etc.) are collected.

Alumni Association:

- Feedback on the teaching-learning process is collected from Alumni.
- Activity reports of Alumni interactions.

Academic and Administrative Audit:

- IQAC conducts year based Academic and Administrative audits at department level
- On the data collected from various departments/units. Subsequently, the IQAC analyses Academic and Administrative audits report for necessary action.

IQAC works effectively towards quality achievement, enhancement and sustenance by establishing all procedures in curricular aspects are given below

1. Curriculum planning and Implementation

1. Academic Calendar:

Website: www.jntuk.edu.in
Email: dap@jntuk.edu.in

Phone: 0884-2300991

Directorate of Academic Planning
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA-533003, Andhra Pradesh, INDIA
(Established by AP Government Act No. 30 of 2008)

Lr. No. DAP/RAC/ II,III & IV Year /B. Tech/B. Pharmacy/2021 *Date 08.10.2021*

Dr. R. Srinivasa Rao,
Director, Academic Planning
JNTUK, Kakinada

To
All the Principals of Affiliated Colleges,
JNTUK, Kakinada.

Revised Academic Calendar for II, III, IV Year - B. Tech/B. Pharmacy for the AY 2021-22
(As per G.O. Rt. No. 242, Higher Education (U.E) Dept., dated 13.09.2021)

I SEMESTER			
Description	**From**	**To**	**Weeks**
Commencement of Class Work	**01.10.2021**		
I Unit of Instruction	01.10.2021	20.11.2021	7W
I Mid Examinations	22.11.2021	27.11.2021	1W
II Unit of Instructions	29.11.2021	15.01.2022	7W
II Mid Examinations	17.01.2022	22.01.2022	1W
Preparation & Practicals	24.01.2022	29.01.2022	1W
End Examinations	31.01.2022	12.02.2022	2W
Commencement of II Semester Class Work	**14.02.2022**		
II SEMESTER			
I Unit of Instructions	**14.02.2022**	02.04.2022	7W
I Mid Examinations	04.04.2022	09.04.2022	1W
II Unit of Instructions	11.04.2022	28.05.2022	7W
II Mid Examinations	30.05.2022	04.06.2022	1W
Preparation & Practicals	06.06.2022	11.06.2022	1W
End Examinations	13.06.2022	25.06.2022	2W
Commencement of next Year Class Work			
Note: Calendar is prepared with 8 hrs/day hence 7 weeks per instruction period			

R. Srinivasa Rao
Director Academic Planning

Director
Academic Planning
JNTUK Kakinada

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Copy to Director of Evaluation, JNTUK

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Phone: 0884-2300991

Directorate of Academic Planning

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA-533003, Andhra Pradesh, INDIA
(Established by AP Government Act No. 30 of 2008)

Lr. No. JNTUK/DAP/RAC/ II,III,IV & V Years/Pharm D/2021 *Date:08-10-2021*

Dr. R. Srinivasa Rao,
Director, Academic Planning
JNTUK, Kakinada

To
All the Principals of Affiliated Colleges,
JNTUK, Kakinada.

Revised Academic Calendar of II, III, IV and V Year Pharm D for the AY 2021-22
(As per G.O. Rt. No. 242, Higher Education (U.E) Dept., dated 13.09.2021)

Description	From	To	Weeks
Commencement of Class Work	**01.10.2021**		
I Unit of Instruction	01.10.2021	18.12.2021	11W
I Mid Examinations	20.12.2021	25.12.2021	1W
II Unit of Instructions	27.12.2021	12.03.2022	11W
II Mid Examinations	14.03.2022	19.03.2022	1W
III Unit of Instructions	21.03.2022	04.06.2022	11W
III Mid Examinations	06.06.2022	11.06.2022	1W
Preparation & Practical Exams	13.06.2022	18.06.2022	1W
End Examinations	20.06.2022	02.07.2022	2W
Note: Calendar is prepared with 8 hrs/day hence 7 weeks per instruction period			

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Directorate of Academic Planning

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA-533003, Andhra Pradesh, INDIA
(Established by AP Government Act No. 30 of 2008)

Lr. No. DAP/RAC/ II,III & IV Year /B. Arch/2021 *Date 08.10.2021*

Dr. R. Srinivasa Rao,
Director, Academic Planning
JNTUK, Kakinada

To
All the Principals of Affiliated Colleges,
JNTUK, Kakinada.

Revised Academic Calendar for II, III, IV Year - B. Arch for the Academic year 2021-22
(As per G.O. Rt. No. 242, Higher Education (U.E) Dept., dated 13.09.2021)

I SEMESTER			
Description	**From**	**To**	**Weeks**
Commencement of Class Work	**01.10.2021**		
I Unit of Instruction	01.10.2021	20.11.2021	7W
I Mid Examinations	22.11.2021	27.11.2021	1W
II Unit of Instructions	29.11.2021	15.01.2022	7W
II Mid Examinations	17.01.2022	22.01.2022	1W
Preparation & Practicals	24.01.2022	29.01.2022	1W
End Examinations	31.01.2022	12.02.2022	2W
Commencement of II Semester Class Work	**14.02.2022**		
II SEMESTER			
I Unit of Instructions	**14.02.2022**	02.04.2022	7W
I Mid Examinations	04.04.2022	09.04.2022	1W
II Unit of Instructions	11.04.2022	28.05.2022	7W
II Mid Examinations	30.05.2022	04.06.2022	1W
Preparation & Practicals	06.06.2022	11.06.2022	1W
End Examinations	13.06.2022	25.06.2022	2W
Commencement of next Year Class Work			
Note: Calendar is prepared with 8 hrs/day hence 7 weeks per instruction period			

R. Srinivasa Rao
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Academic Planning
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Directorate of Academic Planning

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KAKINADA-533003, Andhra Pradesh, INDIA
(Established by AP Government Act No. 30 of 2008)

Lr. No. JNTUK/DAP/RAC/V Year/B. Arch/2020-21 *Date: 08-10-2021*

Dr. R. Srinivasa Rao,
Director, Academic Planning
JNTUK, Kakinada

To
All the Principals of Affiliated Colleges,
JNTUK, Kakinada.

Revised Academic Calendar for V Year B. Arch for the Academic year 2021-22
(As per G.O. Rt. No. 242, Higher Education (U.E) Dept., dated 13.09.2021)

I & II SEMESTER			
Description	**From**	**To**	**Weeks**
Commencement of Practical Training/Instruction period	**01.10.2021**		
Practical Training/Instruction period	01.10.2021	09.07.2022	40W
Preparation Holidays	11.07.2022	16.07.2022	1 W
End Viva-Voce Examination	18.07.2022	23.07.2022	1 W

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Director
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JNTUK Kakinada

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Lesson Plan for Syllabus Completion

Lesson plan is prepared and circulated to all the departments for the smooth conduction of class work as per the schedule given by the University.

Academic Year:

Department:

Class & section:

Subject:

Week(Date to Date)	Topics to be covered	No. of Periods	Regular /Additional	Teaching aids used LCD(PPT)/WB
I week				
II week				
III week				
IV week				
IV week				
V week				
VI week				
VII week				
VIII week				
IX week				
X week				
XI week				
XII week				
XIII week				
XIV week				

Faculty HoD

Sample Lesson Plan

ADITYA COLLEGE OF ENGINEERING
Aditya Nagar, ADB Road - Surampalem

Lesson Plan

Academic Year 2021-22
Reg. : R20

Year & Sem. : II B.Tech I Sem.
Branch : EEE
Subject : Electromagnetic fields (EMF)
Name of the faculty: D Tatarao

Date	Topic to be covered	No. of Periods	Regular /Additional	Teaching aids used (LCD(PPT)/ WB)
I WEEK 01-10-2021 to 09-10-2021	02-10-2021 - Mahatma Gandhi Jayanthi		Reg.	
	Vector analysis and Vector algebra	3	Add.	WB
II WEEK 11-10-2021 to 16-10-2021	**13-10-2021 - Durgastami**			
	15-10-2021 - Vijayadasami			
	Coordinate system: Rectangular, Cylindrical and Spherical system, differential elements	3	Add.	WB
III WEEK 18-10-2021 to 23-10-2021	**19-10-2021 - Eid Miladun Nabi**			
	UNIT – I Electrostatics: Coulomb's Law, Electric Field Intensity (EFI) – EFI due to a line and a surface charge, Work done in moving a point charge in an electrostatic field	5	Reg.	WB
IV WEEK 25-10-2021 to 30-10-2021	Electric potential, Properties of potential function, Potential gradient, Guass's law and its applications, Maxwell's first law, div(D)=ρv	5	Reg.	WB
V WEEK 01-11-2021 to 06-11-2021	**04-11-2021 - Deepavali**			
	Laplace's and Poison's equations and Solution of Laplace's equation in one variable.	4	Reg.	WB/LCD(PPT)
VI WEEK 08-11-2021 to 13-11-2021	UNIT – II Conductors, Dielectrics and Capacitance: Electric dipole, Dipole moment, potential and EFI due to an electric dipole, Torque on an Electric dipole in an electric field Behaviour of conductors in an electric field, Conductors and Insulators and Polarization.	5	Reg.	WB

VII WEEK 15-11-2021 to 20-11-2021	capacitance, capacitance of parallel plates, spherical and coaxial cables with composite dielectrics, Energy stored and energy density in a static electric field, Current density, conduction and Convection current densities, Ohm's law in point form – Equation of continuity	5	Reg.	WB
VIII WEEK 22-11-2021 to 27-11-2021	**I Sessional Exams**			
IX WEEK29-11-2021to04-12-2021	UNIT – III: Magneto statics and Ampere's Law: Biot-Savart's law & its applications - Magnetic field intensity(MFI), MFI due to a straight current carrying filament –MFI due to circular, square and solenoid current,	5	Reg.	WB
X WEEK 06-12-2021 to 11-12-2021	Relation between magnetic flux, magnetic flux density and MFI, Maxwell's second Equation, div(B)=0, Ampere's circuital law and its applications viz. MFI due to an infinite sheet of current and a long filament carrying conductor,	5	Reg.	WB
XI WEEK 13-12-2021 to 18-12-2021	Point form of Ampere's circuital law, Field due to a circular loop, rectangular and square loops, Maxwell's third equation, Curl (H)=J, Magnetic force on moving charges in a magnetic field, Lorentz force equation,	5	Reg.	WB/LCD(PPT)
XII WEEK 20-12-2021 to 25-12-2021	**25-12-2021 - CHRISTMAS**			
	Force on a current element in a magnetic field, Force on a straight and a long current carrying conductor in a magnetic field, Force between two straight long and parallel current carrying conductors.	4	Reg.	WB
XIII WEEK 27-12-2021 to 01-01-2022	**01-01-2022 - New Year**			
	UNIT – IV Self and Mutual inductance: Self and Mutual inductance, determination of self-inductance of a solenoid and toroid		Reg.	WB
XIV WEEK 03-01-2022 to 08-01-2022	Mutual inductance between a straight long wire and a square loop wire in the same plane – energy stored and density in a magnetic field. UNIT – VI Time Varying Fields: Faraday's laws of electromagnetic induction – Its integral and point forms	5	Reg.	WB
XV WEEK 10-01-2022	**13-01-2022 - Bhogi & 14-01-2022 - Sankranthi**			

to 15-01-2022	Maxwell's fourth equation, Curl (E)=-∂B/∂t Statically and Dynamically induced EMFs – Simple problems, Modification of Maxwell's equations for time varying fields, Displacement current, Poynting Theorem and Poynting vector	4	Reg.	WB
XVI WEEK 17-01-2022 to 22-01-2022	**II Sessional Exams**			

Signature of the Faculty

HoD

Subject Preference

Aditya follows systematic rules for allotment of subjects to faculty. HOD of theconcerneddepartmentwillconductsthemeetingandallotthesubjectsbasedonthreemajor parameters. The parameters are past experience, area of specialization and previous result analysis. The sample copy of the faculty subject allotment format is given below.

S. No	Name of the Faculty	Subject-1	Subject-2	Subject-3	Subject-4	Lab-1	Lab-2

HOD Principal

Course Register

Course registers are maintained in both theory and lab classes. It consists of following information. A copy of syllabus, Session planner, Daily attendance, Mid marks Lecture dairy

Lecture Diary:

S. No	Date	Number of periods	Unit	Topic covered	Remarks

Course file:

Every faculty member maintained concerned subject course file and it will be updated time to time. Course file consists of the following contents:

1. Vision and Mission of the Institute
2. Vision and Mission of the Department
3. Program Educational Objectives (PEOs)
4. Program Outcomes (POs)
5. Program Specific Outcomes (PSOs)
6. Course Syllabus
7. Academic Calendar
8. Class Time table
9. Lesson Plan
11. List of Gaps within the syllabus
12. List of Gaps beyond the syllabus
13. CO – PO/PSO Mapping including Gaps
14. Gap addressed
15. Brief notes on the importance of the course
16. Lecture Notes - Unit wise including gaps
17. List of Power Point Presentations / Videos along with CD
18. University Question Papers
19. Unit wise short and long answer question bank
20. Unit wise Quiz Questions
21. Class Tests Question Papers mapped with CO and BT with solutions
22. Assignment Question Papers mapped with CO and BT with solutions
23. Internal Question Papers mapped with CO and BT
24. Scheme of evaluation with CO and BT mapping
25. Tutorial topics with evidence both material and attendance
26. Remedial class for slow learners – schedule and contents/materials.
27. Remedial class attendance sheet with delivery record
28. Result Analysis at the end of the course

Syllabus Status Report

Academic Year:

Department:

Class & section:

S. No	Name of the Subject	Name of the Faculty	Syllabus Covered as on date (No. of Units Covered)	Actual Syllabus to be Covered (As per Lesson Plan)	Topic Last Covered	No. of Classes in Leading/Lagging(+)/(-)	Remarks (Reasons for not Covering in time as per Lesson plan)
1							
2							
3							
4							
5							
6							

HOD Principal

Academic and Administrative Audit

- Academic Administrative Audit is conducted once a year at the end of academic year.It plays a key role in the smooth functioning of classes, examinations, other activities like setting up the curriculum, training and placements. The committee's responsibility includes organizing guest lectures by esteemed personalities from the industry, conducting workshops and organizing events - orientation,programmes.

✓ To review, advise on and develop policies on assessment for learning, teaching and learning quality.

✓ To review and formulate policies to enhance students' learning motivation.

✓ To decide the subjects offered and the number of lessons for each form.

✓ To review and formulate policies to cater for student diversity.

✓ To monitor and following up students learning outcomes.

✓ To introduce and promoting different teaching methods.

✓ To set up academic reward systems.

✓ To promote academic activities and creating an atmosphere of learning.

✓ To record students personal data and other learning experience records systematically to help students pursue further studies or develop their career.

✓ To enhance teachers' development through holding different professional development activities and orientations.

✓ To enhance the teaching efficiency through perfecting the appraisal system.

✓ Make regulations regarding the admission of students to different programmers of study in the college keeping in view the policy of the Government.

✓ Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels.

✓ Recommend to the Governing Body proposals for institution of new programmers of study.

✓ Recommend to the Governing Body institution of scholarships, studentships, fellowships, prizes and medals, and to frame regulations for the award of the same.

✓ Advise the Governing Body on suggestions(s) pertaining to academic affairs made by it.

✓ Perform such other functions as may be assigned by the Governing Body.

"Academic and Administrative Audit" of the department format

INFORMATION FOR ACADEMIC AND ADMINISTRATIVE AUDIT OF THE DEPARTMENT

Academic Year:

1. Name of the Department:
2. Year of establishment:
3. Courses offered:

Year	UG	PG

4. Number of teaching posts sanctioned, filled and vacant.

	Sanctioned	Filled
Professor		
Associate Professor		
Assistant Professor		
Total		

7. Faculty profile with name, qualification, designation, experience, nature of appointment (confirmed/ probation/temporary):

S. No.	Name	Designation	Qualification	Teaching Experience	Nature of appointment

8. Programme-wise Student Teacher Ratio: (*Average of 4 Years*):

UG: and PG:

9. Number of academic support staff (technical) and administrative staff sanctioned, filled and vacant:

S. No.	post	Sanctioned Posts	Filled	Actual

10. Thrust areas of research as identified by the department:

11. Special research laboratories sponsored by / created by industry or corporate bodies:

12. Faculty Research Conference papers/Posters:

S. No.	Name of the Faculty as Author	Title of the Paper	Name of the Conference	Dates	Organized by with location	ISBN/ISSN Number

13. Faculty Research Publications (Journals):

S. No.	Name of the Faculty Author	Title of the Paper	Name of the Journal	ISBN/ISSN Number	Vol/Month	Index No UGC/SCOPUS
1						
2						

3						
4						
5						
6						
7						
8						
9						
10						

14. Faculty Patents:

Sl. No.	Name of the Faculty	Patent details	Area of the patents files/ obtained	Status	Filing agency
1					
2					
3					
4					
5					
6					

13. Workshops/ Seminars/ Guest Lectures Organized:

S. No.	Title of Event	Name of the Coordinator	Resource Person Details	Date/s of the event
1				
2				

14. Incentives granted for publications/Conferences attended/memberships:

S. No	Name of the teacher	Name of the Publication/Conference/ Membership	Amount Granted
1			
2			
3			
4			

5			
6			
7			
8			
9			
10			
11			

15. Consultancy services provided, name of the teacher/s and income generated:

16. Details of Industrial/Academic Experts invited as resource persons for Refresher courses, Seminars, Workshops:

17. Details of teachers participated in Refresher courses, Orientation courses, Seminars, Workshops, Conferences at national and international levels. (participant, presented paper, chaired the session):

S.no	Name of the Faculty	FDP/Seminars/Workshops/Orientation courses	Organized by	Place	Duration
1					
2					
3					
4					
5					
6					
7					
8					

18. Awards and Prizes received by students at university, state, national and international level:

S. No	Name of the Student	Achievement	Field/Area/Event
1			
2			
3			

19. Year-wise results of students at UG and PG:

UG/PG	Year	Appeared	Passed	Pass %
UG	II B. Tech I Sem.			
	II B. Tech II Sem.			
	IIIB. Tech I Sem.			
	III B. Tech II Sem.			

	IV B. Tech I Sem.			
	IV B. Tech II Sem.			
PG	I M. Tech I Sem.			
	I M. Tech II Sem.			

21. Number of students cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give Category wise data.
Year NET/ SET /GATE Other Exams (PGCET):

Year	Civil Services and Defense Services examinations	PGCET	GATE	Others

22. Student progression/ placement record: Number/ percentage of students proceeded for higher studies Number/percentage of students placed:
Year % proceeded for higher studies % of students placed

Year	% proceeded for higher studies	% of students placed

24. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. / D.Lit.:

25. Present details of departmental infrastructural & other facilities with regard to

a) Central Library Books and Journals, etc, relevant to Department: Titles:
Volumes:
Journals:

b) Departmental Library (books, journals etc.):
c) Computers and Internet facilities for staff:
d) Total number of class rooms:
e) Class rooms with ICT facility:
f) Students' laboratory:
g) Research laboratories:
h) Seminar Hall:
i) Smart class room:
j) Any other facility LCDs,

Number of post graduate students getting financial assistance from the university/state / central government: 8

26. Curricular Aspects:

a) Does the faculty take initiative in curriculum development process?

b) Is curriculum suitable to make students globally competitive in the subject?

c) Does the department offer program with sufficient no. of electives options?

d) While developing curriculum, is feed-back taken from stakeholders viz. Students/Alumni/Parents/Employers considered?

e) What is the frequency of curriculum revision? (3/4/5 years or more):

27. Teaching-Learning, Evaluation.

1) Number of teachers preparing & following Academic Teaching plan:
2) How many teachers use the following teaching methods:
a) Interactive lecture method using blackboard, Group discussions, Problem solving, Seminars:
b) Use ICT methods to support lectures:
3) Does the department have any mechanism to ensure that entire syllabus is Completed: YES
4) Do you offer Bridge/Remedial courses? If yes, Give details.

Yes, for students lagging behind the classes we conduct as per the schedule provided.

S. No	Subject Name	Date	Time
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			

5) What is the method for conducting internal evaluation?

28. Teacher Performance:
1) Whether the performance of the teacher assessed by the students? If yes, are the feedback reports analyzed and suggestions communicated to teachers? :

2) Number of teachers getting remarks from students: a) Very Good: 19 b) Good: 11 c) Average: 2

2) Whether any facility available in the department to get suggestions from students on infrastructural facilities available in the department?

4) Are the suggestions received from students used for improvement of facilities? :

5) Do teachers submit Self-Appraisal Reports? Are these reports appraised by HOD and forwarded to the management with comments? :

29. List the distinguished alumni of the department

S.No	Name of the Alumni	Alumni Details	Roll No

30. Give details of student enrichment programmes (special lectures /workshops / seminar) involving external experts.

S. No	Date	Lectures /Workshops / Seminar	Resource Persons

31. State the Innovative practices adopted in the department.

32. High light the participation of students and faculty in extension activities.

33. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

a. Strengths:

b. Weaknesses:

c. Opportunities:

d. Challenges:

34. Future plans of the department:

a. Long term plans-

b. Short term plans –

Head of the Department

AAA Committee

Convener:

Co-Convener:

Principal

PRINCIPAL
Aditya College of Engineering
SURAMPALEM-533 437

ADITYA COLLEGE OF ENGINEERING • SURAMPALEM •

ADITYA COLLEGE OF ENGINEERING

Approved by AICTE, Permanently Affiliated to JNTUK & Accredited by NAAC
Recognized by UGC under section 2(f) of UGC Act 1956
Aditya Nagar, ADB Road, Surampalem - 533 437, E.G.Dist., Ph: 99631 76662.

Standard operating procedure and assessment for slow learners and advanced learners

The Institution organizes induction program for first year students with experts in various areas to enhance the skill set. To identify the knowledge of the students aspecialtestisconductedforassessingtheskillandaccordinglycategorizesthemintoadvancelearnersandslowlearners

Activities for slow learners:

The following activities are conducted for improving academic performance of slow learners

- Remedial classes are conducted beyond the college hours
- Learning materials is provided
- Class room interactions
- Slip test are conducted
- Group discussion
- Brainstorming sessions
- Parent teacher meeting

Activities for advanced Learners:

The following activities are organized for enhancing the academic performance levels and excel their know ledge to upgrade their education and their placements.

- Participationintechnicalactivitiesundertheprofessionalsocietieseventsandtechnica associations
- Aptitude and soft skills training to track the interviews for placements
- T-Hubprogrammeisconductedincollegetoimprovethetechnicalskillsinthestudents
- Theinstitutefacilitatesthestudentswithinfrastructuretodevelopinnovativeprojects
- Studentsarealsodeputedintovariouscollegelevelcommitteestoenhancetheirskillandactivelyparticipateintheactivities.
- The students are supported to appear competitive exams like GATE, GRE,TOFELetc.,andencouragedtoparticipateinprofessionalsocietyactivitieslikeIEEEandISTE.

Principal

PRINCIPAL
Aditya College of Engineering
SURAMPALEM-533 437

ADITYA COLLEGE OF ENGINEERING

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Results and Placements Summary for the Academic Year: 2020-21

Department	Number of students appeared	Number of students passed	Pass percentage	Number of students placed
CE	41	35	85.37	19
EEE	28	16	57.14	23
ME	71	60	84.51	54
ECE	161	117	72.67	115
CSE	109	94	86.24	86
PT	35	34	97.14	10
MBA	42	41	97.61	15

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4. Extracurricular Activities

1. Number of Sports and cultural activities/competitions organized at the institutional level during the year 2020-21

Number of Events(Sports)	Number of Cultural Activities
4	2

2. Number of awards/Medals for outstanding performance in Sports/Cultural at National/International during the year 2020-21: **4**

3. Number of extension and outreach Programmes conducted by the institution through NSS/NCC/Red Cross/YRC etc., (including the programmes such as Swachh Bharat, AIDS awareness, Gender issues etc.) and/or those organized in collaboration with industry, community and NGOs during the year2020-21: **6**

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2. Review of Attainment of Course Outcomes(COs), Program Outcomes(POs) & Program Specific Outcomes (PSOs)-

Example EEE department subject -EMF(2020-21)

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Vision and Mission of the Institute

Vision

To induce higher planes of learning by imparting technical education with

- International standards
- Applied research
- Creative Ability
- Value based instruction and to emerge as a premiere institute.

Mission

Achieving academic excellence by providing globally acceptable technical education by forecasting technology through

- Innovative Research And development
- Industry Institute Interaction
- Empowered Manpower

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Department Vision, Mission

Vision:

To be a leading department of Electrical Engineering Education and Research

Mission:

- Produce quality engineers by providing state of the art engineering facilities
- Impart skill based education and enhance knowledge on electric vehicles
- Organize professional, cultural and social activities with collaborations
- Promote training with institution and industry collaborations

KMK Reddy

Head of the Department
Head of the Department
Electrical & Electronics Engineering
Aditya College of Engineering
SURAMPALEM-533 437

PROGRAM OUTCOMES (PO s)

1. Engineering Knowledge:
Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. Problem Analysis:
Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. Design/development of solutions:
Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. Conduct investigations of complex problems:
Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern tool usage:
Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society:
Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. Environment and sustainability:
Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. Ethics:
Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work:
Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication:
Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project management and finance:
Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning:
Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

KMK Reddy
Head of the Department
Electrical & Electronics Engineering
Aditya College of Engineering
SURAMPALEM-533 437

Head of the Department

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Department of Electrical and Electronics Engineering

PROGRAM SPECIFIC OUTCOMES (PSO s)

On completion of the B.E. (Electrical and Electronics Engineering) degree the graduates will be able to

PSO1 Apply the fundamental knowledge of mathematics, science, electrical and electronics engineering to analyze and solve the complex problems in electrical, electronics and allied interdisciplinary areas.

PSO2 Design, develop and implement electrical and electronics and allied interdisciplinary projects to meet the demands of industry and to provide solutions to the current real time problems.

K M K Reddy

HOD-EEE

Head of the Department
Electrical & Electronics Engineering
Aditya College of Engineering
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Department of Electrical and Electronics Engineering

Programme Educational objectives (PEOs)

PEO1 To Excel in professional career by acquiring knowledge in Mathematics , Basic Sciences, Basic Electrical Sciences, Power Systems, Power Electronics and Electrical Drives

PEO2 To induce the students to design electrical, electronic and computing systems that are innovative and socially acceptable

PEO3 To Exhibit professionalism, ethical attitude, communication skills, team work in their profession and adapt to current trends in technology.

K MK Reddy

HOD-EEE

Head of the Department
Electrical & Electronics Engineering
Aditya College of Engineering
SURAMPALEM-533 437

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE STRUCTURE-R19

II Year – I SEMESTER		L	T	P	C
		3	0	0	3
	ELECTROMAGNETIC FIELDS				

Preamble:

Electromagnetic field theory is the pre-requisite for most of the subjects in the gamut of electrical engineering. The study of this subject enables students to understand and interpret the phenomenon pertinent to electrical engineering using microscopic quantities such as electric and magnetic field intensities, scalar and vector potentials.

Learning objectives:

- To study the production of electric field and potentials due to different configurations of static charges.
- To study the properties of conductors and dielectrics, calculate the capacitance of different configurations. Understand the concept of conduction and convection current densities.
- To study the magnetic fields produced by currents in different configurations, application of Ampere's law and the Maxwell's second and third equations.
- To study the magnetic force and torque through Lorentz force equation in magnetic field environment like conductors and other current loops.
- To develop the concept of self and mutual inductances and the energy stored.
- To study time varying and Maxwell's equations in different forms and Maxwell's fourth equation for the induced EMF

UNIT – I:
Electrostatics
Scalar and vector fields, overview of coordinate system, calculus of scalar and vector fields in Cartesian coordinates – Coulomb's Law – Electric Field Intensity (EFI) – EFI due to a line and a surface charge, work done in moving a point charge in an electrostatic field, electric potential – properties of potential function – potential gradient, Guass's law –Laplace's and Poison's equations.

UNIT – II:
Conductors – Dielectrics and Capacitance
Electric dipole – dipole moment – potential and EFI due to an electric dipole, Torque on an Electric dipole in an electric field conductors and Insulators – their behaviour in electric field.
Polarization, boundary conditions between conductors to dielectric.Capacitance of parallel plates, spherical and coaxial cable, energy stored and energy density in a static electric field, equation of continuity.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE STRUCTURE-R19

UNIT – III:
Magneto statics and Ampere's Law
Biot-Savart's law, Magnetic Field Intensity (MFI) – MFI due to a straight current carrying filament, MFI due to circular, square and solenoid current – carrying wire – relation between magnetic flux, magnetic flux density and MFI. Maxwell's second Equation, div(B)=0, Ampere's circuital law and its applications viz. MFI due to an infinite sheet of current and a long filament carrying conductor, point form of Ampere's circuital law, field due to a rectangular loops, Maxwell's third equation, Curl (H)=J.
Magnetic force, moving charges in a magnetic field – Lorentz force equation, force on a current element in a magnetic field, force on a straight and a long current carrying conductor in a magnetic field, force between two straight long and parallel current carrying conductors, magnetic dipole and dipole moment – a differential current loop as a magnetic dipole – Torque on a current loop placed in a magnetic field.

UNIT – IV:
Self and mutual inductance
Self and mutual inductance – determination of self-inductance of a solenoid and toroid and mutual inductance between a straight long wire and a square loop wire in the same plane – energy stored and density in a magnetic field.

UNIT – V:
Time Varying Fields
Time varying fields: Faraday's laws of electromagnetic induction – its integral and point forms, Maxwell's fourth equation, Curl (E)=-∂B/∂t, statically and dynamically induced EMF.

Learning outcomes:
After the completion of the course the student should be able to:
- determine electric fields and potentials using Guass's law or solving Laplace's or Possion's equations, for various electric charge distributions.
- calculate and design capacitance, energy stored in dielectrics.
- calculate the magnetic field intensity due to current, the application of Ampere's law and the Maxwell's second and third equations.
- determine the magnetic forces and torque produced by currents in magnetic field
- determine self and mutual inductances and the energy stored in the magnetic field.
- calculate induced EMF, understand the concepts of displacement current and Poynting vector.

Text Books:
1. "Engineering Electromagnetics" by William H. Hayt & John. A. Buck Mc. Graw-Hill Companies, 7th Editon.2006.

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COURSE STRUCTURE-R19

Reference Books:

1. " Principles of Electro Magnetics" by Sadiku, Oxford Publications,4th edition
2. "Introduction to Electro Dynamics" by D J Griffiths, Prentice-Hall of India Pvt.Ltd, 2nd edition
3. "Electromagnetic Field Theory" by Yaduvir Singh,Pearson.
4. Fundamentals of Engineering Electromagnetics by Sunil Bhooshan,Oxford higher Education.

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Department of Electrical and Electronics Engineering
Course Outcome mapping with PO's and PSO's

Course Name:	Electromagnetic fields	Class	II year
Faculty Name:	D. Tatarao	Regulation	R19
Academic Year:	2020-21	Semester	I

COURSE OUTCOMES (COs): Upon completion of the course, students will be able to:

CO's	Course Outcomes	Blooms taxonomy level
C214.1	Determine the Electric field intensity, Electric flux density and Electric potential due to different configurations of static charges using Guass's law.	Understand & Apply
C214.2	Calculate the capacitance of different capacitors and energy density in the electrostatic field	Apply
C214.3	Determine the magnetic field intensity, magnetic flux density due to different configurations using Biot-Savart's law & Ampere's circuital law.	Apply
C214.4	Determine the magnetic force and torque produced by the currents in magnetic field and energy density in the magnetic field.	Apply
C214.5	Calculate the self and mutual inductances of different electromagnetic coils.	Apply
C214.6	Formulate the statically and dynamically induced EMF using Faraday's laws and analyze the Maxwell's equations in different forms for time varying fields.	Apply & Analyze

CO-PO/PSO matrix:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PS 01	PS O2
C214.1	3	3	3	2								2	3	
C214.2	3	2	2	1								1	3	
C214.3	3	3	3	2									2	
C214.4	3	2	1	2								1	2	
C214.5	3	2	1	1								1		
C214.6	3	2	1	1										
Course	3	2.33	1.83	1.5								0.833	2.5	

Verbs to be used for writing Course Outcomes with taxonomy:

Taxonomy Level Descriptor	Verbs to be used in the Course Outcome statement
Remember	List, define, write, state, identify, describe, tell, duplicate, tabulate, quote, label, enumerate, name, cite, recall, repeat, reproduce, Arrange, order, match, etc.
Understand	demonstrate, explain, express, explain, differentiate, interpret, discuss, review, summarize, rearrange, recognize, contrast, illustrate, compare etc.
Apply	Calculate, compute, solve, apply, choose, determine, use, show, model, experiment, operate, experiment, test etc.
Analyse	Analyse, sketch, infer, categorize, characterize, select, choose, classify, differentiate, relate, compare/contrast, subdivide, etc.
Evaluate	Assess, appraise, decide, evaluate, rank, grade, rate, critic, recommend, convince, argue, support, conclude, decide, judge, justify, predict etc.
Create	Design, formulate, assemble, integrate, develop, build, invent, create, compose, set-up, generate, prepare, synthesize, construct etc.

PO1	Engineering Knowledge	PO7	Environment & Sustainability
PO2	Problem Analysis	PO8	Ethics
PO3	Design / Development of Solutions	PO9	Individual & Team Work
PO4	Conduct Investigations of complex problems	PO10	Communication Skills
PO5	Modern Tool usage	PO11	Project Management & Finance
PO6	Engineer & Society	PO12	Life-long Learning

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Department of Electrical and Electronics Engineering
Gap analysis based on CO-PO mapping

Course Name:	Electromagnetic fields	**Class**	II year
Faculty Name:	D. Tatarao	**Regulation**	R19
Academic Year:	2020-21	**Semester**	I

Gaps identified based on the CO-PO mapping:

S. No.	Gap	Action taken	Relevance to POs
1	Vector analysis and Vector algebra: These topics give the idea of unit vector, magnitude of vector position and distance vector in the electrostatic fields. These concepts are very important but missing in the syllabus. **Topics covered:** Coulomb's Law, Electric Field Intensity (EFI) and EFI due to a line and a surface charge,	The various topics are addressed by lecture classes and by solving numerical problems.	PO1, PO2, PO3 & PO12
2	Line, surface & volume integrals: these integrals are very useful in evaluating different properties of electromagnetic field, but not mentioned in the syllabus. **Topics covered:** line integral along a curve, line integral along a closed contour i.e. circulation, surface integral or flux, surface integral over a closed surface i.e. net outward flux, volume integral.	The various topics are addressed by lecture classes and by solving numerical problems.	PO1, PO2
3	Differential and integral operations: This topic gives the idea of differential elements like differential length, surface and volume in the electrostatic fields. These concepts are very important but missing in the syllabus. **Topics covered:** differential charge and charge densities of discrete charges like line, surface and volume charges.	Additional lecture classes are organized to cover the topics.	PO 1, PO2, PO3, PO4, PO12

Revised Mapping considering the gaps:

	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2
C214.1	3	3	3	2								2	3	
C214.2	3	3	2	2								1	3	
C214.3	3	3	3	2									2	
C214.4	3	2	2	2								1	2	
C214.5	3	2	2	1										
C214.6	3	2	1	1										
Course	3	2.5	2.16	1.66								1.33	2.5	

PO1	Engineering Knowledge	PO7	Environment & Sustainability
PO2	Problem Analysis	PO8	Ethics
PO3	Design / Development of Solutions	PO9	Individual & Team Work
PO4	Conduct Investigations of complex problems	PO10	Communication Skills
PO5	Modern Tool usage	PO11	Project Management & Finance
PO6	Engineer & Society	PO12	Life-long Learning

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Course Name:	Electromagnetic fields	Class	B.Tech II year EEE
Faculty Name:	D. Tatarao	Regulation	R19
Academic Year:	2020-21	Semester	I

Gap Addressed Report:

Vector analysis and Vector algebra: These topics give the idea of unit vector, magnitude of vector position and distance vector in the electrostatic fields. These concepts are very important but missing in the syllabus.

Topics covered: Coulomb's Law, Electric Field Intensity (EFI) and EFI due to a line and a surface charge. Various topics are addressed by **lecture classes and by solving numerical problems.**

Line, surface & volume integrals: Topics covered: line integral along a curve, line integral along a closed contour i.e. circulation, surface integral or flux, surface integral over a closed surfacei.e. net outward flux, volume integral. Various topics are addressed by **Guest lecture/ student seminar**

Differential and integral operations: These integrals are very useful in evaluating different properties of electromagnetic field, but not mentioned in the syllabus.This topic gives the idea of differential elements like differential length, surface and volume in the electrostatic fields. These concepts are very important but missing in the syllabus. Additional lecture classes are organized to cover the topics.

All those topics covered above, relevant to PO1, PO2, PO3, PO4 & PO12.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Course Name:	Electromagnetic fields	Class	B.Tech II year EEE
Faculty Name:	D. Tatarao	Regulation	R19
Academic Year:	2020-21	Semester	I

Course PO & PSO mapping

POs&PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Course	3	2.33	1.83	2								0.833	2.5	

Justification for CO – PO and CO-PSO mapping:

PO1 is highly mapped with all COs, it is required basic Engineering knowledge inElectromagnetic fields

PO2 is highly mapped with all COs, it is required little bit Problem analysis in Electromagnetic fields

PO3 is moderately mapped with few COs, it is little bit required Conduct Investigations of Complex problems in Electromagnetic fields

PO4 is moderatelymapped with all COs, it is requiredConduct Investigations of complex problems in Electromagnetic fields

PO12 is lightly mapped with few COs, it is little bit requiredLife-long Learning inElectromagnetic fields.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Lesson plan

Course Name:	Electromagnetic fields	Class	B.Tech II year EEE
Faculty Name:	D. Tatarao	Regulation	R19
Academic Year:	2020-21	Semester	I

S.No.	Topic to be covered	No. of hours	Reference	Teaching method
1	Scalars and vectors	2	T1	C&T
2	Vector analysis	2	T1	C&T
3	Vector algebra	2	T1	C&T
4	Numerical problems	2	R4	S/P
5	Coordinate system: Rectangular, Cylindrical and Spherical system	2	T1	S/P
6	Differential elements- Differential length, surface and volume	2	T1	SEM
7	**Unit-1:** Electrostatics: Coulomb's Law	1	T1	C&T
8	Electric Field Intensity (EFI)	1	T1	C&T
9	Electric Field Intensity (EFI) due to a line charge	1	T1	C&T
10	Electric Field Intensity (EFI) due to a surface charge	1	T1	C&T
11	Electric flux and flux density	1	T1	C&T
12	Numerical problems	2	R4	C&T
13	Guass's law and its applications	2	T1	C&T
14	Work done in moving a point charge in an electrostatic field	1	T1	S/P
15	Electric potential and potential difference	1	T1	C&T
16	Numerical problems	2	R4	C&T
17	Properties of potential function and Potential gradient, ,	1	T1	C&T
18	Maxwell's first law, div(D)=ρv	1	T1	S/P
19	Laplace's and Poison's equations and Solution of Laplace's equation in one variable.	1	T1	S/P
20	**Unit-2:** Electric dipole, Dipole moment	1	T1	PD
21	Potential and EFI due to an electric dipole & Torque on an Electric dipole	1	T1	S/P
22	Behaviour of conductors and Insulators in an electric field,	1	R2	S/P
23	Polarization and Concept of capacitance	1	T2	S/P
24	Capacitance of parallel plates, spherical and coaxial cables with composite dielectrics	2	T1	S/P
25	Numerical problems	2	T1	S/P

26	Energy stored and energy density in a static electric field	1	T1	C&T
27	Current density, conduction and Convection current densities	1	T1	C&T
28	Ohm's law in point form and Equation of continuity	1	T1	C&T
29	Numerical problems	2	T1	C&T
30	**Unit-3:** Biot-Savart's law & its applications	1	T1	C&T
31	Magnetic field intensity(MFI)MFI due to a straight current carrying filament	1	T2	C&T
32	MFI due to circular, square and solenoid current,	2	T2	C&T
33	Relation between magnetic flux, magnetic flux density and MFI,	1	T2	C&T
34	Maxwell's second Equation, div(B)=0,	1	T2	S/P
35	Numerical problems	2	R2, R4	C&T
36	Ampere's circuital law and its applications viz. MFI due to an infinite sheet of current and a long filament carrying conductor	2	T2	C&T
37	Point form of Ampere's circuital law, Field due to a circular loop, rectangular and square loops	2	T2	C&T
38	Maxwell's third equation, Curl (H)=J	1	T2	S/P
39	Numerical problems	2	R2, R4	C&T
40	Magnetic force on moving charges in a magnetic field, Lorentz force equation	1	T1	PD
41	Force on a current element in a magnetic field, Force on a straight and a long current carrying conductor in a magnetic field and Force between two straight long and parallel current carrying conductors.	2	T1	C&T
42	**Unit-4:** Self and Mutual inductance	1	T1	C&T
43	Determination of self-inductance of a solenoid and toroid	1	T1	C&T
44	Inductance in series and parallel & Coefficient of coupling	1		
45	Mutual inductance between a straight long wire and a square loop wire in the same plane	2	T1	C&T
46	Energy stored and density in a magnetic field.	1	T1	C&T
47	Numerical problems	2	T1	C&T
48	**Unit-5:** Faraday's laws of electromagnetic induction & its integral and point forms	1	T1	C&T
49	Statically and Dynamically induced EMFs	1	T1	C&T
50	Maxwell's fourth equation, Curl (E)=-∂B/∂t	1	T1	C&T
51	Maxwell's equations	1	R2	Video
52	Modification of Maxwell's equations for time varying fields,	1	T1	C&T
53	Displacement current and current density	1	T1	S/P

Teaching Methods: C&T:-Chalk & Talk; S/P:-Slides/PPT; Videos; SEM: Seminar; DEMO; CHART; ET/GL: Expert Talk/Guest Lecture; QUIZ; GD:-Group discussion; RTCS: Real time case studies; JAR:-Journal article review; PD:-Poster design; OL:-Online lecture/Google class room.

Text Books:

1. "Engineering Electromagnetics" by William H. Hayt& John. A. Buck Mc. Graw-Hill, 7 th Editon.2006.
2. "Principles of Electro Magnetics" by Sadiku, Oxford Publications, 6th edition, 2015.

Reference Books:

1. Introduction to Electro Dynamics by D J Griffiths, Prentice-Hall of India Pvt. Ltd, 2 nd edition
2. Electromagnetic Field Theory by Yaduvir Singh, Pearson India, 1st edition, 2011.
3. Fundamentals of Engineering Electromagnetics by Sunil Bhooshan, Oxford University Press,2012.
4. Electromagnetics by Joseph A. Edminister, Schaum's Outline,4th Edition,2014

Web reference:

1. https://nptel.ac.in/courses/117/103/117103065/
2. https://stemez.com/subjects/technology_engineering/1LElectromagnetics/1LElectromagnetics.php
3. https://eng.libretexts.org/Under_Construction/Electromagnetic_Field_Theory%3A_A_Problem_Solving_Approach_(Zahn)
4. https://ocw.mit.edu/resources/res-6-002-electromagnetic-field-theory-a-problem-solving-approach-spring-2008/textbook-contents/
5. #OnlineVideoLectures #EkeedaOnlineLectures #EkeedaVideoLectures
6. https://www.youtube.com/watch?v=hJD8ywGrXks

KMK Reddy

Faculty Signature

ADITY.. COLLEGE OF ENGINEERIN.

Department of Electrical and Electronics Engineering

CO Attainment

Course Name:	**ELECTROMAGNETIC FIELDS**	**Academic Year:**	**2020-21**
Faculty Name:	**D TATARAO**	**Year & Semester:**	**II Year I Semester**
Course Code:	**R1921024**	**Branch & section:**	**EEE**

		Internal Examination-1								Internal Examination-2										
	ROLL NO	1a	1.b	2	3	Total	Assignment	Quiz	Total	1a	1.b	2	3	Total	Assignment	Quiz	Total	Internal	End Semester grade	Grade point
Maximum Marks		5	5	10	10	10	5	10	25	5	5	10	10	10	5	10	25	25	O	10
1	19MH1A0201	4	3	8	8	8	4	4	16	3	2	8	2	5	4	2	11	15	D	5
2	19MH1A0203	5	4	8	2	7	5	3	15	5	5	10	0	7	4	3	14	15	F	0
3	19MH1A0204	5	5	10	10	10	5	4	19	5	5	9	10	10	4	4	18	19	B	7
4	19MH1A0205	4	3	10	0	6	5	5	16	0	0	5	5	4	4	6	14	16	D	5
5	19MH1A0206	5	1	10	0	6	3	3	12	0	0	10	5	5	4	4	13	13	AB	0
6	19MH1A0208	4	4	1	0	3	2	3	8	2	5	7	0	5	4	4	13	12	C	6
7	20MH5A0201	3	4	2	0	3	2	4	9	3	3	5	4	5	4	4	13	13	C	6
8	20MH5A0202	5	0	3	0	3	2	3	8	0	0	0	0	0	4	A	4	8	D	5
9	20MH5A0203	5	5	10	0	7	5	4	16	0	0	10	5	5	4	6	15	16	C	6
10	20MH5A0204	3	4	10	0	6	5	2	13	0	0	6	0	2	5	3	10	13	F	0
11	20MH5A0205	4	3	7	3	6	5	4	15	3	2	6	10	7	5	3	15	15	A	8
12	20MH5A0206	5	2	2	0	3	5	4	12	1	0	0	1	1	3	4	8	12	D	5
13	20MH5A0207	5	2	10	0	6	5	4	15	2	2	5	10	7	4	5	16	16	C	6
14	20MH5A0208	5	5	0	0	4	1	4	9	3	3	10	8	8	3	2	13	13	D	5
15	20MH5A0209	5	0	1	0	2	5	2	9	1	0	5	1	3	3	2	8	9	D	5
16	20MH5A0210	4	4	10	6	8	5	3	16	5	0	10	10	9	4	4	17	17	B	7
17	20MH5A0211	4	4	10	0	6	2	1	9	5	0	6	6	6	5	3	14	13	F	0
18	20MH5A0212	5	5	1	1	4	5	4	13	0	1	8	8	6	4	2	12	13	C	6
19	20MH5A0213	5	4	8	5	8	5	3	16	5	5	6	8	8	5	4	17	17	B	7
20	20MH5A0214	5	2	4	2	5	5	4	14	3	3	8	2	6	5	6	17	17	B	7
21	20MH5A0215	5	5	6	2	6	5	6	17	5	5	10	10	10	5	5	20	20	C	6
22	20MH5A0216	3	3	8	2	6	5	3	14	3	5	8	6	8	5	4	17	17	F	0
23	20MH5A0217	4	4	8	2	6	2	4	12	0	1	5	5	4	4	6	14	14	D	0
24	20MH5A0218	5	5	2	0	4	5	3	12	5	0	5	5	5	4	2	11	12	B	7
25	20MH5A0219	4	4	2	0	4	5	5	14	5	5	10	3	8	5	6	19	18	C	6
Class Average Mark		4.4	3.4	6.0	1.7	5.5	4.1	3.6	13.0	2.6	2.1	6.9	5.0	5.8	4.2	3.9	13.7	14.5	D	4.6
Student Scored above average mark		14	15	14	10	15	17	14	12	14	10	13	15	13	8	15	14	13	20.0	
Students attempted the question		25	25	25	25	25	25	25	24	25	25	25	25	25	25	24	25	25	25	

% students scored above average mark	56	60	56	40	60	68	56	50	56	40	52	60	52	32	62.50	56	52	80	
Attainment level	2	2	2	1	2	3	2	1	2	1	1	2	1	1	2	2	1	3	

																	Internal	University Exam	Overall
C224.1	2	2				3	2										2.25	3	2.51
C224.2			2	1		3	2										2	3	2.45
C224.3						3	2										2.5	3	2.58
C224.4									2	1				1	2		1.5	3	2.33
C224.5											1	2		1	2		1.5	3	2.33
C224.6														1	2		1.5	3	2.33
Overall Course attainment																			2.42
Set target for course attainment																			2.00
Status of the course attainment (Yes/No)																			Yes

C224.1	Determine the Electric field intensity, Electric flux density and Electric potential due to different configurations of static charges using Guass's law.
C224.2	Calculate the capacitance of different capacitors and energy density in the electrostatic field
C224.3	Determine the magnetic field intensity, magnetic flux density due to different configurations using Biot-Savart's law & Ampere's circuital law.
C224.4	Determine the magnetic force and torque produced by the currents in magnetic field and energy density in the magnetic field.
C224.5	Calculate the self and mutual inductances of different electromagnetic coils.
C224.6	Formulate the statically and dynamically induced EMF using Faraday's laws and analyze the Maxwell's equations in different forms for time varying fields.

Base Target taken for CO: Class average Mark

Rubrics:

>65% students	3
55 to 65% students	2
<55 % students	1

Best performing Course Outcome:	C224.1 & C424.2
Least performing Course Outcome:	C224.6

Plan of Action for improvement:

1. Need to focus on practicing more numerical examples
2. More tutorial classes to improve the subject skills
3. With the help of giving assignment, improve the subject.

Faculty

KMK Reddy

HOD

ADITYA COLLEGE OF ENGINEERING

Approved by AICTE, Permanently Affiliated to JNTUK & Accredited by NAAC
Recognized by UGC under Sections 2(f) and 12(B) of UGC Act, 1956
Aditya Nagar, ADB Road, Surampalem - 533 437.

Department of Electrical and Electronics Engineering
PO Attainment

CLASS	II B.TECH I-SEM EEE		AY	2020-21
NAME OF THE COURSE & CODE	ELECTROMAGNETIC FIELDS & R1921024	NAME OF THE FACULTY	D TATARAO	

CO-PO MAPPING:

Course	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
C224.1	3	3	3	2								2	3	
C224.2	3	3	2	2								1	3	
C224.3	3	3	3	2									2	
C224.4	3	2	2	2								1	2	
C224.5	3	2	2	1										
C224.6	3	2	1	1										
	18	15	13	10								1	10	

CO ATTAINMENT

Course Name	Attainment
C224.1	2.51
C224.2	2.45
C224.3	2.58
C224.4	2.33
C224.5	2.33
C224.6	2.33

PO ATTAINMENT :

POs	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
Overall PO Attainment	2.42	2.44	2.45	2.44								2.45	2.47	

Faculty Signature