



K.S.R.M COLLEGE OF ENGINEERING

UGC-Autonomous

Kadapa, AP

www.ksrmce.ac.in

Dated: 20-09-2021

Lr./KSRMCE/Principal Office /2021-22/

Principal Office Orders

As per the decisions of the Academic Council meeting held on 09-09-2021 the undersigned members are been appointed as the Board of studies for Biology for a period of 2 years.

S.No.	Name	Designation
1.	Dr. I. Sreevani	Asso.Prof., & HOD H&S, KSRMCE
2.	Prof.Chandramati Shankar	Prof.in Bio-Technology Yogivemana University, Kadapa
3.	Dr.S.P.Venkata Ramana	Asso.Prof.,Stage-III,Dept.of Zoology,YVU,Kadapa
4.	Smt. M. Mary Jasmine	Assistant Prof., KSRMCE
5.	Dr. K.Venkataramana	Assistant Prof., KSRMCE
6.	Smt.B.Prasanthi	Assistant Prof., KSRMCE

The orders will come in to force for with immediate effect.

Cc to:

The Management for information
The HoD of H&S for necessary actions
The Members for Information
The Website Committee for upload

V. S. S. Murthy

Principal

PRINCIPAL



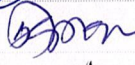

K.S.R.M. COLLEGE OF ENGINEERING
KADAPA-516005, (A.P.)



BOARD OF STUDIES MEETING – 2021-22
K.S.R.M COLLEGE OF ENGINEERING
AUTONOMOUS

Minutes of the Meeting

Date	24-09-2021	Day	Friday
Time	2.00 pm – 4.00 pm	Venue	Virtual meeting: http://meet.google.com/yrn-ebdf-umx
Dept./SS	Humanities and Sciences (Biology)	Convener	Dr. I. Sreevani

Members Present: 06				Members Absent: 00		
S. No	Name	Designation	Signature	S. No	Name	Designation
1.	Dr. I. Sreevani	Associate Prof., HOD, Dept. of H&S, KSRMCE				
2.	Prof. Chandramati Shankar	Professor, Dept. of biotechnology, Yogi Vemana University, Kadapa				
3.	Dr. S. P. Venkata Ramana	Asst. Professor, Stage-III, Dept. of Zoology, Yogi Vemana University, Kadapa				
4.	Smt. M. Mary Jasmine	Assistant Prof., KSRMCE				
5.	Dr. K. Venkata Ramana	Assistant Prof., KSRMCE				
6.	Smt. B. Prashanti	Assistant Prof., KSRMCE				


Dr.I.Sreevani, welcomed all the members to the meeting and presented the agenda of the meeting.

The resolutions are:

	Todo item	Discussion	Resolution	Coordinator/in-charge
1	To finalize the curriculum and syllabus for II Sem AI & ML branch under R20 Regulations.	The Board of Chairman has presented the syllabus designed by the faculty after taking the feedback from all stakeholders and comparing with premier institute syllabus.	The committee suggested few modifications in Biology for engineers syllabus and finally approved the syllabus.	Dr.I.Sreevani

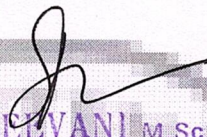
The Head of the Department have proposed the Vote of thanks and concluded the meeting.


Convener


HOD H&S
Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K.S.R.M College of Engineering
KADAPA - 516 005

B.Tech. II Sem (R20UG)

S.No.	Course Code	Course Name	Category	Hours per Week			IM	EM	Credits
				L	T	P	40	60	
1	2023201	Biology for Engineers	BSC	2	0	0	40	60	2
2	20AP202	Applied Physics	BSC	2	0	0	40	60	2
3	2039202	Introduction to machine learning	ESC	1	0	0	40	--	0
4	2039203	Data Structures	ESC	3	0	0	40	60	3
5	2021204	Mathematics for Intelligent Systems	BSC	2	0	0	40	60	2
6	2039205	Object Oriented Programming through Java	ESC	3	0	0	40	60	3
7	2014206	Principles of Measurements & Sensors	ESC	3	0	0	40	60	3
8	2039207	Data Structures Lab	ESC	0	0	3	40	60	1.5
9	2024209	Communication Skills lab	HS	0	0	3	40	60	1.5
10	2039208	Java Programming Lab	ESC	0	0	3	40	60	1.5
11	20MC211	Community work / NSS	MC	2	0	0	40	--	0
Total							440	540	19.5


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Course Title	ENVIRONMENTAL CHEMISTRY					B. Tech. AL & ML (I Sem)		
Course Code	Category	Hours/Week			Credits	Maximum Marks		
2023103	BS	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		3	0	0	3	40	60	100
Mid Exam Duration: 2Hrs					End Exam Duration: 3Hrs			
Course Objectives: <ul style="list-style-type: none">To provide the fundamental knowledge concerning the chemical-physical characteristics of air, water and soilAble to understand the main environmental pollutants present & control measures								
Course Outcomes: On successful completion of this course, the students will be able to								
CO 1	Understand the interconnections between different sectors of the environment like soil, water, atmosphere.							
CO 2	Explain basic chemical composition of water & factors that influence the quality of water							
CO 3	Describe waste water treatment processes and the practical approach for testing water quality involved.							
CO 4	Analyze the different types of pollutions such as Soil & Radioactive pollution which influence the environment							
CO 5	Better realization about the causes of Industrial pollution & sustainable development by applying Green Chemistry.							

Unit-1: Introduction to Environment & Atmosphere Chemistry:

Introduction to environment, Atmosphere, environmental segments, Components of environment, earth's radiation balance, particulates, ions, radicals and their formation. Air pollution: Introduction, Sources-oxides of C, N, S, their effects & control measures. Climatic changes- acidrain, Photo chemical smog formation, Green-house effect, global warming and ozone depletion

Learning Outcomes

- Explain the importance of environment
- List the various effects on environment

Unit-2: Hydrosphere:

Water; Sources of water & its distribution in environment, Chemical composition of water bodies-lakes, streams, rivers, sea, estuaries etc., hydrological cycle. Water pollution-inorganic, organic pesticides, industrial and radioactive materials, oil spills and oil pollutants, eutrophication, Biomagnification, Water borne diseases.

Learning Outcomes

- Understand different sources of water & chemical composition
- List the causes of water pollution & its effects

Unit-3: Water Quality parameters and its Analysis:

Various water quality parameters- drinking & industrial water. Experimental methods for measuring Hardness of water by EDTA method, DO by Winkler's method, Chlorides, Alkalinity, & TDS. Waste water treatment; domestic waste water-aerobic and anaerobic treatment, and industrial waste water treatment- Open Pond system.

Learning Outcomes:

- List various parameters for water quality analysis
- Explain water analysis methods
- Outline the waste water treatment methods

Unit-4: Soil Pollution

Soil pollution - agricultural pollution - use of chemical fertilizers - Organic chemicals and environment-Agrochemicals-Pesticides, insecticides and herbicides, effects of various pesticides in agriculture on excessive use.

Learning Outcomes:

- Explain the different types of chemicals responsible for soil pollution
- Understand the merits and demerits of agrochemicals

Unit-5: Environmental Pollution and Control

Effects of Air pollution, Water pollution, Soil pollution & Radioactive pollution and their control measures. Solid waste disposal - methods - solid waste from mining and metal production and its disposal - electro-coagulation and flocculation.

Learning Outcomes:

- Explain the effects of air, water and soil pollution
- Outline the solid waste disposal methods

Textbooks:

1. Perspectives in Environmental Studies – Anubha Kaushik, C. P. Kaushik, New Age International Publishers
2. Fundamental Concepts of Environmental Chemistry- Sodhi G S – Oxford University
3. Environmental Chemistry- Anil Kumar De-Wiley Publications
4. Environmental Science & Engineering, Glynn Henry J, Heinke Gary W, Pearson publications
5. Environmental Studies by Benn Joseph, Mc Graw Hill publications

Reference Books:

1. Environmental Science & Engineering, 2nd Edition, P. Yoganath, R. Kumaravelan, Scitech Publication(India), Pvt.Ltd.
2. Air pollution-M.N. Rao, HVN Rao- Mc Graw Hill publications
3. Environment Impact Assessment- Larry W. Canter- Mc Graw Hill publications
4. Environmental Science, A Global Concerns, William P. Cunningham, Mary Ann Cunningham, Mc Graw Hill publications.



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Fundamental of Engineering Materials

Certification Course

(30 Hrs)

Course Objectives:

1. The aim is to introduce students the overview of the properties of materials used in engineering manufacturing process.
2. Able to understand the classification of various engineering materials, Chemical bond characteristic & their applications.

Course Outcomes:

C01: **Understand** the different types of ceramics and their applications in real time engineering

C02: **Demonstrate** the process of manufacturing of refractories

C03: **Acquire** the fundamental knowledge in chemical composition of different forms of cement and their applications

C04: **Develop** awareness on different forms of abrasives and factors that influence adhesive action.

C05: **Describe** various uses of Composite materials

Unit-1: Ceramics & Glass:

Ceramics-Introduction, properties & applications of different types of ceramics.
Glass-Introduction, Manufacture of Glass, Types of glasses- Soda-lime glass, Potash glass, Lead glass-Properties & applications.

Unit-2: Refractories:

Introduction, Classification of refractories, Properties of refractories, Manufacture of refractories, some of the common Refractory bricks- Silica bricks, fireclay bricks, High-alumina bricks -Properties & uses.

Unit-3: Cement:

Introduction, Classification of cement, Manufacture of Portland cement, Chemical composition of cement, Setting & Hardening of Portland Cement, Special Cements- Aluminous cements, White cement, Water-proof cement, Quick setting cement.

Unit-4: Abrasives & Adhesives:

Abrasives Introduction, Classification of abrasives- Natural & Artificial abrasives- Calcium carbide, diamond. Adhesives- Introduction, Classification of Adhesives and factors that influence adhesive action, , Advantages & limitations,

Unit-5: Composite Materials:

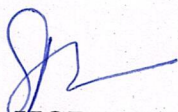
Introduction, Classification of Composite materials, Constituents of Composites, Particulate and Structural Composites. Advantages and applications of Composites.

Text Books:

1. Jain and Jain, Engineering Chemistry, 16/e, Dhanpat Rai, 2013.
2. Peter Atkins, Julio de Paula and James Keeler, Atkins' Physical Chemistry, 10/e, Oxford University Press, 2010.

Reference Books:

1. G.V.Subba Reddy, K.N.Jayaveera and C. Ramachandraiah, Engineering Chemistry, Mc Graw Hill, 2020


HOD. H&S
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Course Title	Agriculture for Engineers & Field Activity					B. Tech. AL & ML (I Sem)		
Course Code	Category	Hours/Week			Credits	Maximum Marks		
20AG106	BS	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		0	0	3	3	40	60	100
					End Exam Duration: 3Hrs			
Course Objectives: <ul style="list-style-type: none">To provide the fundamental knowledge concerning the agriculture related materials								
Course Outcomes: On successful completion of this course, the students will be able to								
CO 1	Identify various types of soils and their mineral content							
CO 2	Estimate the amount of Dissolved oxygen and PH in water sample							
CO 3	Understand the Traditional & Conventional methods used in farming							
CO 4	Analyze the use of drip irrigation method in farming							
CO 5	Apply the analyzed skills of students in preparation of farming lands & harvesting crops							

List of experiments for Agriculture Engineering

1. Identification of Various soil types
2. Soil testing – moisture, Mineral testing
3. Water sample testing PH
4. BOD
5. COD
6. Identifying various weeds and other insects that harm the agriculture.
7. Preparation of farm land
8. Sowing of seeds and water supply
9. Observation of plant growth and removal of weeds
10. Visit of nearby farms and Krishi Vigyan Kendra understating the traditional and conventional methods
11. Using of sprinklers / drip irrigation
12. Harvesting of the crop

Reference books:

1. Laboratory Manual Engg. Chemistry, Anupma Rajput, Dhanpat Rai & Co.
2. Vogel's Text book of Quantitative Chemical Analysis, J. Mendham et.al., Pearson Education, Sixth Edition, 2012.
3. *Farm Mechanics Text and Handbook* (Danville, IL: The Interstate, 1946), by Glen Charles Cook, L. L. Scranton, and H. F. McColly (page images at HathiTrust)
4. *Agricultural Process Engineering* (first edition; New York: J. Wiley and Sons; London: Chapman and Hall, 1955), by S. M. Henderson and R. L. Perry (page images at HathiTrust)
5. *Farm Shop Work, Practical Manual Training* (New York et al: American Book Company, c1915), by Gerald Brace and D. D. Mayne, contrib. by Charles A. Prosser (multiple formats at archive.org)


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Course Title		BIOLOGY FOR ENGINEERS				B. Tech. AI & ML – II-Sem		
Course Code	Category	Hours/Week			Credits	Maximum Marks		
2023201	BSC	L	T	P	C	Continuous Internal Assessment	End Exams	Total
		2	--	--	2	40	60	100
Mid Exam Duration: 90 mins					End Exam Duration: 3Hrs			
Course Objectives: <ul style="list-style-type: none">• Introduction to Basics of Biology which includes cell, the unit of life, Different types of cells and classification of living organisms.• Understanding what are biomolecules present in a cell, their structure function and their role in a living organism. Application of certain bio molecules in Industry.• Brief introduction to human physiology, which is essential for bioengineering field.• Understanding the hereditary units, that is genes and genetic materials (DNA and RNA) present in living organisms and how they replicate and pass and preserve vital information in living organisms.• How biology can be applied in our daily life using different technology, for production of medicines to transgenic plants and animals to designing new biotechnological products								
Course Outcomes: On successful completion of this course, the students will be able to								
CO 1	Define the cells, its structure and function, and Different types of cells and basis for Classification of living organisms.							
CO 2	Explain about biomolecules its structure and function and their role in a living organism How biomolecules are useful in Industry & explain about human physiology.							
CO 3	Demonstrate the concept of biology and its uses in combination with different technologies for production of medicines and production of transgenic plants and animals.							
CO 4	Illustrate about genes and genetic materials (DNA & RNA) present in living organisms and how they replicate, transfer & preserve vital information in living organisms.							
CO 5	Understand importance of transgenic plants and animals in synthesis of proteins.							

UNIT-I

Introduction to Basic Biology

Cell:

Cell theory, Cell shapes, structure of a Cell, The Plant Cell and animal Cell, Cell cycle, types of chromosomes, prokaryotic and eukaryotic Cell, Plant Tissue and Animal Tissue. Brief introduction to classification of Kingdoms- kingdom classification by Linnaeus

UNIT-II

Introduction to Bio-molecules

Classification of Bio Molecules-Introduction, Classification of carbohydrates- Monosaccharide's, Disaccharides, Oligosaccharides- Sources & their uses, Proteins-Amino Acid-Classification based on

Structure, Sources & their uses, Lipids-Definition, sources & their uses. Nucleic acid -DNA and RNA- Structure & their types. Large scale production of enzymes by Fermentation.

UNIT-III

Human Physiology

Nutrition -Classes of nutrients or food substances-Micronutrients & Macronutrients-Sources, uses & their deficiency disorders, Digestive Systems-Structure & its mechanism, Respiratory system (two kinds of respiration – aerobic and anaerobic), Respiratory Organs-Structure & functions, Excretory System-Structure & functions.

UNIT-IV

Genes, Replication of DNA, And Introduction to recombinant DNA Technology:

Prokaryotic gene and Eukaryotic gene structure, DNA replication, Gene Expression-Transcription and Translation in Prokaryote and Eukaryote. Recombinant DNA technology (Insulin production), Mutation-definition, uses & its applications.

UNIT-V

Application of Biology

Genetic Engineering-production of vaccines, its components, types of vaccines, Enzymes and their application in industry, type of antibodies, transgenic plants (BT cotton) and animal (Dolly), Biosensors-characteristic, basic principles, biological applications. Tissue-engineering-objective/goals, components, applications. Bio engineering- introduction to bio engineering & its applications, Bio fuels –Types and uses.

Textbooks:

1. Applied cell and Molecular Biology for Engineers, 1ST Edition, Gabi Nindl Waite, Lee R. Waite ISBN-13:978-0071472425, ISBN-10:0071472428.
2. Biology for Engineers, S. ThyagaRajan, N. Selvamurugan, M.P. Rajesh, R.A.Nazeer, Richard W. Thilagaraj, S.Barathi, M.K.Jaganathan. McGraw Hill custom publishing, ISBN-13:978-1-12-143993-1.
3. Biology for Engineers, 2nd Edition, Arthur T. Johnson, CRC press Taylor & Francis group.
4. Biology for Engineers, Wiley precise Textbook series ISBN :9788126576340.

Reference Books:

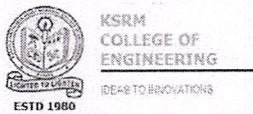
1. Cell and Molecular Biology-P.K. Gupta, Rastogi publications, 2005. ISBN 9788171338177
2. Alberts Et. Al. The molecular biology of the cell, 6/e, Garland Science, 2014
3. John Enderle and Joseph Bronzino Introduction to Biomedical Engineering, 3/e, 2012
4. Introductory Microbiology. 1995, by Trevor Gross.


HOD/H&S

Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K S R M College of Engineering

05/05/2022, 22:51

KSRM College of Engineering Mail - KSRMCE- Virtual Joint BOS-22-09-2021



HOD H&S <hod.hs@ksrmce.ac.in>

KSRMCE- Virtual Joint BOS-22-09-2021

8 messages

KSRMCE Principal <principal@ksrmce.ac.in>
To: heads.all@ksrmce.ac.in

Tue, Sep 21, 2021 at 3:13 PM


Sir/madam,

Greetings from KSRM College of Engineering, Kadapa. I am hereby sharing the meeting link for the Joint Board of Studies meeting, to be held on 22/09/2021 at 10.30 AM. I am here with sharing you the agenda for the meeting, Principal's presentation for your reference. From 11.30 AM onwards the individual boards will meet. Respective board chairmans will share the meeting link.

Meeting link: meet.google.com/raw-uzxk-ojn

Forward this mail to your Departmental BoS members


With Regards,
Principal, KSRMCE,
Kadapa

 **KSRMCE - Joint BOS meeting - agenda (22.09.21).pdf**
675K

HOD H&S <hod.hs@ksrmce.ac.in>
To: faculty.hs@ksrmce.ac.in

Tue, Sep 21, 2021 at 4:48 PM

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675K

HOD H&S <hod.hs@ksrmce.ac.in>
To: "Prof. G.V. Subba Reddy" <gopireddy.chemistry@jntua.ac.in>

Tue, Sep 21, 2021 at 4:50 PM

----- Forwarded message -----
From: **KSRMCE Principal** <principal@ksrmce.ac.in>
Date: Tue, 21 Sep, 2021, 15:13
Subject: KSRMCE- Virtual Joint BOS-22-09-2021
To: <heads.all@ksrmce.ac.in>

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675K

HOD H&S <hod.hs@ksrmce.ac.in>
To: agdamu01@gmail.com

Tue, Sep 21, 2021 at 4:51 PM