



**MADANAPALLE INSTITUTE OF
TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS)**

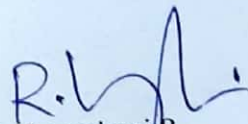
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Recognised Research Center
Accredited by NBA for CSE, ECE, EEE & ME
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Recognised as Scientific & Industrial Research Organization by DSIR of DST

Department of Chemistry

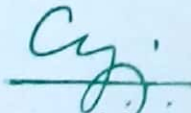
Date: 04-05-2018

Members of the Board of Studies for the academic year 2018-19

Sl. No.	Name of the Member	Composition as per the UGC-Autonomous Guidelines	Designation & Address
1.	Dr. Logudurai R	Head of the Department Concerned (Chairman)	Assistant Professor & Head, Department of Chemistry, MITS.
2.	Dr. Chandrasekar S N	Subject expert nominated by the academic council	Professor Emeritus, Dept. of Organic Chemistry, Indian Institute of Science, Bengaluru 560012, India. Phone: +91-80-22932404; +91-9886088344 scn@orgchem.iisc.ernet.in scn45@yahoo.com
3.	Dr. Jaisankar S N	Subject expert nominated by the academic council	Principal Scientist, Polymer Science & Technology, CSIR-Central Leather Research Institute (CLRI), Adyar, Chennai 600020, Phone: +91-44-24437199 snjsankar@clri.res.in snjaio@yahoo.com
4.	Dr. Saravanan V	Industry expert nominated by the academic council	Assistant Director, Medicinal Chemistry Division, Jubilant - Biosys, Yeshwantpur, Bengaluru - 560 022, India. Phone: +91-80-66628326; +91-9901265909 v.saravanan@jubilantbiosys.com
5.	Dr. G. V. Subba Reddy	Subject expert nominated by	Professor & Vice-Principal, JNTUA college of Engineering, Pulivendula - 516390, YSR Kadapa Dist., AP. Mob: +91-9000551428; +91-9701342401 viceprincipal.cep@jntua.ac.in


Dr. Logudurai R.,
Assistant Professor & Head,
Department of Chemistry,
MITS, Madanapalle.

Head of the Department
Chemistry
Madanapalle Institute of Technology & Science
MADANAPALLE - 517 325


Dr. Yuvaraj C.,
Professor & The Principal,
MITS, Madanapalle.
PRINCIPAL
Madanapalle Institute of Technology & Science
Po.Box No.14, Kadiri Road, ANGALLU
MADANAPALLE-517325, A.P



Madanapalle institute of Technology & Science

(UGC – Autonomous)

Post Box No: 14, Kadiri Road
Angallu (Village), Madanapalle - 517325
Chittoor District, Andhra Pradesh, India.

30th June 2018

Minutes of Board of Studies (BoS) Meeting

The board of studies meeting of the department of chemistry was held on 30/06/2018 at the office room of CEO (WB-302). The following courses were discussed by the Bos Members:

1. Engineering Chemistry (18CHE101)
2. Chemistry Laboratory (18CHE201)
3. Environmental Science (18CHE901)
4. Introduction to Petroleum Industry (18CHE301)
5. Introduction to Nanoscience and Nanotechnology (18CHE302)
6. Green Chemistry and Catalysis for Sustainable Environment (18CHE303)
7. Computational Methods in Materials Science and Engineering (18CHE304)

List of BoS Members:

S. No.	Name of the Member	Designation and Address	Nature of Experts	Signature
1.	Dr. R. Logudurai	Asst. Prof. & HoD, MITS	Chairman	R. Logudurai
2.	Dr. G. V. Subba Reddy	Prof. & Principal, JNTUA-CEP, Pulivendula	Subject Expert - University Nominee	G. V. Subba Reddy
3.	Dr. S. N. Jaisankar	Principal Scientist, CLRI, Chennai.	Subject Expert - Academy	S. N. Jaisankar
4.	Dr. V. Saravanan	Asst. Director, Jubilant Biosys Ltd., Bengaluru.	Subject Expert - Industry	V. Saravanan
5.	Dr. P. P. George,	Asst. Prof., MITS	Internal Member	P. P. George
6.	Dr. D. Arunbabu	Asst. Prof., MITS	Internal Member	D. Arunbabu
7.	Dr. R. Balaji	Asst. Prof., MITS	Internal Member	R. Balaji
8.	Dr. A. Selvaganapathi	Asst. Prof., MITS	Internal Member	A. Selvaganapathi
9.	Dr. K. Chandramohan	Asst. Prof., MITS	Internal Member	K. Chandramohan
10.	Dr. Ch. Venkateswarlu	Asst. Prof., MITS	Internal Member	Ch. Venkateswarlu
11.	Dr. K. Seeni Meera	Asst. Prof., MITS	Internal Member	K. Seeni Meera
12.	Dr. K. Mohan Kumar	Asst. Prof., MITS	Internal Member	K. Mohan Kumar
13.	Dr. B. Renjith	Asst. Prof., MITS	Internal Member	B. Renjith
14.	Dr. M. Balaji	Asst. Prof., MITS	Internal Member	M. Balaji
15.	Mrs. K. Manju Rani	Asst. Prof., MITS	Internal Member	K. Manju Rani

Minutes of BOS Meeting 2018-2019

Chemistry syllabus for I B.Tech 30th June 2018. (Room WB 302)

Chairman : Dr. Logudurai R. , HoD

R.V. [Signature] 30/6/18

Members Attended

External members.

- 1. Dr. G. V. Subba Reddy (University nominee) [Signature] 30/6/18 ✓
- 2. Dr. S. N. Jai Sankar (subject expert) [Signature] 30/6/18
- 3. Dr. V. Saravanan (Industry expert) [Signature]

Internal Members.

- 1. Dr. P. P. George [Signature]
- 2. Dr. Arunbabu D. [Signature]
- 3. Dr. Balaji R. [Signature] 30/6/18
- 4. Dr. A. Selvaganapathi [Signature]
- 5. Dr. K. Chandra Mohan [Signature] 30/6/18
- 6. Dr. K. Mohan Kumar [Signature] 30/6/18
- 7. Dr. K. Seeni Meera [Signature] 30/6/18
- 8. Dr. Ch. Venkateswarlu. [Signature] 30/6/18
- 9. Dr. Renjith Bhaskaran [Signature] 30/6/18

10. Dr. Balaji Mohan.

~~M. Jay~~
30/6/18

11. Mrs. K. Manju Rani

K. Raj
30/6/18

Syllabus for the following courses were discussed.

1. Engineering Chemistry (18CHE101)
2. Chemistry Laboratory (18CHE201)
3. Green Chemistry & Catalysts for sustainable environment (18CHE301)
4. Environmental Science (18CHE901)
5. Introduction to Nanoscience and Nanotechnology (18CHE302)
6. Computational Methods in Materials Science and Engineering (18CHE303)
7. Introduction to Petroleum Industry. (18CHE301)

The board of studies meeting of Department of Chemistry was held on 30/06/2018 at the CEO office room, Room no. WB-302.

30/06/2018

18CHE101

Engineering Chemistry

L	T	P	C
3	0	0	3

The following suggestions were given by the BoS members for this foundation course for 1st year B.Tech students.

- * The word "inorganic" is inserted in course description.

Unit 1

- * The phrase "Impurities present in water:" is inserted at the beginning.
- * The topic "Alkalinity of water (numerical problems)..." is placed after "EDTA method (numerical problems)".
- * The phrase "softening of water" is rephrased as "Softening of water (Ion exchange method)". Further, "Reverse osmosis method" is corrected as "Treatment of brackish water by Reverse Osmosis method".

Unit 2

- * The phrase "Periodic properties:" is inserted at the beginning of this unit & "Organic Reactions:" in line no. 2 of this unit 2.
- * The phrase "substitution" is modified as "substitution (S_N^1 and S_N^2)" and "Elimination" is changed to "Elimination (E1 and E2)".
- * The phrase "addition" is removed from organic reactions and the topic "polymerization reaction" is changed as "Addition, condensation and free radical polymerization reaction".

Unit 3

- * The topics "Electronic, Fluorescence, Vibrational and Rotational spectroscopy" is renamed as "UV-visible, FT-IR, Raman, Microwave" in the revised version.
- * The phrase "Magnetic resonance imaging" is changed to "Nuclear Magnetic Resonance (NMR) spectroscopy".

Unit 4

- * The title of this unit is changed as "Thermodynamics & Electrochemistry"
- * The phrase "Estimations of entropy in various processes" is changed as "Estimations of entropy in Isothermal, Isobaric, and Isochoric processes".
- * The phrases "Thermodynamics:" & "Electrochemistry:" is inserted at the beginning and line no-3 of the syllabus. The word "emf" is capitalized
- * The atomic symbols "Pb" and "Li" is changed as "Lead" and "Lithium"
- * The fuel-cell Solid oxide is added & the topic "Corrosion" is removed.

Unit 5

- * The phrase "cement materials" is changed as "Engineering materials". The words "Lime" & "Gypsum" is removed & "Cement" is rephrased as "cement materials and manufacturing process". "Classification" & "Extreme pressure lubrication mechanism" is removed. "Structure-Property relationship" "SEM" "Catalysis, Electronics & Tele --- Medicines" are removed. Suggested to include specific examples for application of new materials.

Members attended.

1. Dr. G. V. Subba Reddy.
2. Dr. S. N. Jaisankar
3. Dr. V. Saravanan
4. Dr. P. P. George
5. Dr. Logudurai R.
6. Dr. Arunbabu D.
7. Dr. Balaji R.
8. Dr. A. Selvaganapathi
9. Dr. K. Mohan Kumar
10. Dr. K. Chandra Mohan
11. Dr. K. Seeni Meera
12. Dr. Ch. Venkateswarlu
13. Dr. Renuith Bhaskaran
14. Dr. Balaji Mohan
15. Mrs. K. Manju Rani

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18CHE201

Chemistry Laboratory

L	T	P	C
0	0	3	1-5

The following suggestions were given by the BoS Members for this chemistry laboratory course.

* Prof. G. V. Subba Reddy has suggested to write 12 experiments in the heading. The title has now been rephrased as "Lab experiments (12 Experiments)".

* The external BoS members have suggested to include the following experiments for this laboratory course.

(a) Determination of strength of an acid by pHmetry.

(b) Synthesis of Bakelite using phenol & Formaldehyde.

(c) Gravimetric estimation of Nickel.

Resolution

As per the present lab conditions, the department has decided to include 12 experiments. The above three experiments will be included in future depending on lab conditions.

* Experiment no. 5 ~~has been~~ is rephrased as "Determination of rate constant of Ester hydrolysis (pseudo first order chemical reaction)".

* Experiment no. 6 is changed as "Determination of strength of a strong acid (conc. H_2SO_4) by conductometric titration (Neutralization reaction)".

* Experiment no. 8 is rephrased as "Dissociation constant of weak electrolyte (acetic acid) by conductometry".

The following text books were suggested by the external BoS members.

- * "Laboratory Manual on Engineering Chemistry", by Dr. Sudha Rani, Dhampat Rai Publishing house, 2009.
- * "A Text book on experiments and calculations in Engineering Chemistry" by S S Durai, S chand publications, 2015.
- * "Laboratory Manual of organic Chemistry" by Raj K. Bansal, Wiley Eastern Limited, New age International Limited, 2009.

Members Attended.

1. Dr. G. V. Subba Reddy.
2. Dr. S. N. Jaisankar
3. Dr. V. Saravanan
4. Dr. P. P. George
5. Dr. Logudurai R.
6. Dr. Arunbabu D.
7. Dr. Balaji R.
8. Dr. A. Selvaganapathi
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10. Dr. K. Chandra Mohan
11. Dr. K. Seeni Meera
12. Dr. Ch. Venkateswarlu
13. Dr. Rerijith Bhaskaran
14. Dr. Balaji Mohan
15. Mrs. K. Manju Rani

Dr. G. V. Subba Reddy
30/06/18

Dr. S. N. Jaisankar
30/06/2018

Dr. V. Saravanan
30/06/18

Dr. P. P. George
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Dr. Ch. Venkateswarlu
30/06/18

Dr. Rerijith Bhaskaran
30/06/18

Dr. Balaji Mohan
30/06/18

Mrs. K. Manju Rani
30/06/18

30/06/2018

18CHE303 - Green Chemistry and Catalysis for Sustainable
Environment

L	T	P	C
3	0	0	3

The following suggestions were given by the BOS members for this open elective course.

Unit 1

- * Capitalise the keywords "principles elimination" and suggested to use lower case for "principles".
- * The lecture hours should be increased from six hours to eight hours.

Unit 2

- * The BOS members have suggested to introduce the concept of "Recycling of catalyst" in unit 2.

Unit 3

- * The members have suggested to include the effects of volatile organic compounds in this unit.
- * Also suggested to change "water based coatings" as "water based paints".

Unit 4

- * To include PEMFC and SOFC along with H_2-O_2 fuel cell.
- * They have suggested to rephrase "Advantages of disadvantages faced by photochemical processes" to "Advantages and Challenges of Photochemical Processes".
- * Suggested to remove the phrase "Examples of photochemical reaction" and suggested to place "example - Caprolactum".

Unit 5

- * The title of unit 5 should be changed from "Green processes for green nanoscience" to "Green processes for nanoscience".
- * Suggested to remove "Green" from line 2 of Unit 5.
- * Professor Jai Sankar suggested to add "Environmental Science and Engineering" by Benny Joseph as one of the text book.
- * All the committee members suggested to add two more text books & few reference books alongwith the existing Text and reference books.
- * Prof. Jaisankar suggested to have latest editions for all proposed text and reference books.

Members Attended.

1. Dr. G. V. Subba Reddy.
2. Dr. Jaisankar
3. Dr. V. Saravanan
4. Dr. P. P. George
5. Dr. Logudurai R.
6. Dr. Arunbabu D.
7. Dr. Balaji R.
8. Dr. A. Selvaganapathi
9. Dr. K. Mohan Kumar
10. Dr. K. Chandra Mohan
11. Dr. K. Seeni Meera
12. Dr. Ch. Venkateswarlu
13. Dr. Rengith Bhatkaran
14. Dr. Balaji Mohan
15. Mrs. K. Manju Rani

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18 CHE 901

Environmental ScienceL T P C
2 0 0 0

The BoS members have suggested the following modifications for this mandatory course:

Unit 1

- * The phrase "Overgrazing, effects of modern agriculture, or Fertilizer - pesticide problems" is changed to "overgrazing, effects of modern agriculture - fertilizer and pesticides".

Unit 2

- * The phrase "Structure and functions of an ecosystem -" is changed to "Structure - Functions - Producers ---".
- * The phrase "Structure and function of the following ecosystem: a. Forest ecosystem - - -" is changed to "Structure and function of the following ecosystems: Forest, Desert, and Lake".

Unit 3

- * The topic "Biogeographical zones of India" is added to this unit after "aesthetic value."

Unit 4

- * The phrase "effects and control measures of: a. Air Pollution, b. Water pollution - - -" is changed to "effects and control measures of pollution - Air, water, Soil and Noise."
- * The phrase "Causes" is removed from line 2 of unit 4.

Unit 5

* Members have suggested to include colon (:) after the phrase Case Studies in line 3 of Unit 5.

* The external members have suggested* to include the following three text books:

- (1) "Chemistry for environmental engineering" by C. N. Sawyer
- (2) "Environmental Chemistry" by B. K. Sharma
- (3) "Environmental Studies" by Benny Joseph.

Members Attended

1. Dr. G. V. Sitta Reddy.
2. Dr. S. N. Jaisankar
3. Dr. V. Saravanan
4. Dr. P. P. George
5. Dr. Logudurai R.
6. Dr. Arunbabu D.
7. Dr. Balaji R.
8. Dr. A. Selvagopalathi
9. Dr. K. Mahan kumar
10. Dr. K. Chandan Mohan
11. Dr. K. Sani Meera
12. Dr. Ch. Venkateswarlu
13. Dr. Renjith Bhaskaran
14. Dr. Balaji Mohan
15. Mrs. K. Manju Rani

Signature

S. N. Jaisankar 30/06/2018

R. V. Saravanan

K. S. Sani Meera
30/6/18

Ch. Venkateswarlu
30/6/18

M. S. Manju Rani
30/6/18

K. S. Sani Meera
30/6/18

18CHE 304

Computational Methods in Materials Science
and Engineering.

1	T	P	C
3	0	0	3

The Board of Studies has recommended the following changes in the syllabus made for this elective course.

Unit 1

- * The phrase "--software to (a) deal with data, (b) understand concepts, and (c) solve problems of engineering interest" is now being corrected to as
"software to: data handling, understand concepts and solve problems of engineering interest".

Unit 2

- * The original sentence "short tutorial introductions to the 'C' programming language; open source software for numerical computations and visualization --- Latex" is corrected as "Introductions to the advanced concept C programming language; open source software for numerical computations and visualization --- Latex".

Unit 3

- * The original sentence "Classification of Data, understanding the data properties, Demonstration on data plotting, fit data to given functional forms, interpolate data, and integrating ---" is now being modified as
"Classification of Data, ^{and} understanding ^{the} data properties, Demonstrate data handling - plotting, fitting, functional forms, interpolation, and integration ---".

Unit 4

- * "Materials properties" is now corrected as "materials"
- * "concepts of molecular dynamics and their applicability" is corrected as "Concept of molecular dynamics and its application using Quantum Espresso".
- * The topics of "Mole Carlo simulation methods and their applicability" is removed from the syllabus.

Unit 5

- * "The custom-made program codes for easy calculation and simulations" are removed from the syllabus.

Members attended

1. Dr. G. V. Subba Reddy
2. Dr. S. N. Jaisankar
3. Dr. V. Saravanan
4. Dr. P. P. George
5. Dr. Loganathan R.
6. Dr. Arunbabu D.
7. Dr. Balaji R.
8. Dr. A. Selvaganapathi
9. Dr. K. Mohan Kumar
10. Dr. K. Chandra Mohan
11. Dr. K. Seeni Meera
12. Dr. Ch. Venkateswarlu
13. Dr. Rengith Bhaskaran
14. Dr. Balaji Mohan
15. Mrs. K. Manju Rani

Amulya
30/6/18

R. V. S.
30/6/18

Dr. S.
30/6/18

D. S.
30/6/18

A. S.
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K. S.
30/6/18

Ch. Venkateswarlu
30/6/18

R. S.
30/6/18

M. S.
30/6/18

18 CHE 301

Introduction to Petroleum Industry (L T P C)
3 0 0 3

The following modifications are made for this open elective course by the BOS members.

Unit 1

- * Include the abbreviation for "Effluent treatment plants" as RTP.
- * The sentence "Properties and quality control of fuel:" is now inserted before "Density, viscosity, pour point---".
- * The members has suggested to expand the abbreviations MCRT, SARA, HFRR and also remove the word "etc." from the syllabus.

Unit 2

- * The title for unit 2 "Chemicals and their importance in petroleum industry" is corrected as "Chemical additives in petroleum industry".
- * The following changes are made for the listed keywords
 - "viscosity improvers" as "viscosity modifiers"
 - "Lubricity improvers" as "Lubrication modifiers"
 - "Antifoam additives" as "Antifoam agents"
 - "Dispersants and their applications" as "Dispersants"
- * The topic "Types of Catalysts used in the refinery" is removed from the syllabus as this will be discussed in Unit 4.

Unit 3

- * The word "Objectives" is removed from unit 3.
- * The sentence "Design concepts, New design for Fluidized-Bed Catalytic Cracking Units" is changed as "Design for Fluidized-Bed Catalytic Cracking units".

Unit 4

- * The word "and" is inserted between catalysts, bioprocesses in the title of unit 4.
- * The following keywords were changed -
 "Design of catalyst, selection of catalyst" as "Design and selection of catalyst"
 "Introduction to biotechnology" as "Bioprocesses: Introduction"
 "p-Propenal" as "isopropenal".
- * The topic "oil recovery from reservoirs" is now removed from the unit.

Unit 5

- * The title of unit V is changed from "Health, Environment ---" to "Safety and management in petroleum industry".
- * The words "precaution safety" is changed as "safety measures" and "Occupational Safety ---" is changed as "Different elements & their role in Occupational Safety & Management".

Members Attended

1. Dr. G. V. Subba Reddy.
2. Dr. S. N. Jaisankar
3. Dr. V. Saravanan
4. Dr. P. P. George
5. Dr. Logudunuri R.
6. Dr. Arunbabu D.
7. Dr. Balaji R.
8. Dr. A. Selvaganapathi
9. Dr. K. Mahankumar
10. Dr. K. Chandra Mohan
11. Dr. K. Seeni Meera
12. Dr. Ch. Venkateswarlu
13. Dr. Raghith Bhaskaran
14. Dr. Balaji Mahan
15. Mrs K. Manju Bai

[Handwritten signatures and dates]
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18CHE302

Introduction to Nanoscience and Nanotechnology

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The following changes are made for this open elective course by the BOS members.

Unit 1

- * The topics "History of emergence (Feynman to present) ---" and "Challenges in Nanotechnology" is moved to beginning of the unit.
- * The word nano is removed from the phrase "defects in nano crystals".

Unit 2

- * The phrase "Top-down and Bottom-up approaches" is placed after "Nano scale building blocks".
- * "Electrochemical" synthesis of Nanomaterials is removed from the syllabus. In the addition, "hydrothermal" method is also removed.
- * "Emulsion synthesis" is rephrased as "Emulsion polymerization (polymer and Organic NPs)".
- * The phrase "Template based synthesis" is removed from the syllabus and "Role of plants in Nanoparticle (NP) synthesis" is modified as "Green synthesis of Nanoparticle (NP)".

Unit 3

- * The phrase "composites" is rephrased as "nanocomposites".
- * "Relationship between surface effects on the properties of nanomaterials" is rephrased as "Effect of size and shape on the properties of nanomaterials".

Unit 4

- * The phrase "Crystal-structure-XR" is renamed as

"Structure : Powder XRD (SAXS) "

* The topic "Thermal : TGA-DTA" is inserted after "composition: XPS".

* The topics "Scanning probe microscope", "Scanning tunneling microscope" were removed from this unit.

Unit 5

* The topic "LED applications" is placed after "Molecular electronics and nano-electronics".

* The phrase "Biological applications" is modified as "Biological (anti-bacterial, anti-fungal, anti-microbial) applications" in the revised syllabus.

* The reference book "Chemistry of Nanostructured Materials" by P. Yang is added in the revised version.

Members Attended

1. Dr. G. V. Subba Reddy
2. Dr. S. N. Jaisankar
3. Dr. V. Saravanan
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Subba Reddy 30/6/18

Jaisankar 30/6/18

Saravanan 30/6/18

George 30/6/18

Logudurai R. 30/6/18

Arunbabu D. 30/6/18

Balaji R. 30/6/18

Selvaganapathi 30/6/18

Mohan Kumar 30/6/18

Ch. Venkateswarlu 30/6/18

Renjith Bhaskaran 30/6/18

Balaji Mohan 30/6/18

Mrs. K. Manju Rani 30/6/18