

**REPORT ON THE 'ROLE OF CHEMISTRY IN HIGHER ENGINEERING COURSES'
"RCE-2018" CONDUCTED BY DEPARTMENT OF CHEMISTRY, SAMBHRAM
INSTITUTE OF TECHNOLOGY**

The Department of Chemistry organized one day Workshop on '**Role of Chemistry in Higher Engineering courses**' "**RCE-2018**" for teachers of various engineering colleges across Karnataka affiliated to VTU, Belagavi on 20th January, 2018 at Shri R Venkatesh auditorium. The workshop was specifically meant for engineering college teachers, affiliated to VTU, Belagavi. This workshop is designed to spread birds view of the young teachers importance of Chemistry is the branch of science that deals with the study of composition and properties of matter. So chemistry is relevant to every walk of life. Chemistry is needed everywhere in life. Without a chemical reaction there is no single moment in life.

Chemistry is one of the core subjects in Basic Science group. The Basic science group plays a vital role, in making an engineer of high quality. Among these subjects, chemistry is one of the key subjects, as it defines the nuclear gravity correlation. Having sufficient depth knowledge enable an individual to engineer a material or components.

"Electronic Engineering" is basically depends on manufacturing electrons. Thereby processing conductor, semi-conductor, and insulators. While fabricating these devices knowledge of chemistry assist in selection of suitable material (eg: Gallium nitride) (High power III-V) semi conductor will be back bone during effective electrical grid system. Connect power for high voltage transmission & back again.

"Computer Chip" which generally made of Silicon may be replaced in course time by Hafnia (HfO₂). The computer chip become smaller, faster and more powerful in insulating layer and also robust, currently a limiting factor for semiconductor technology in its traditional monoclinic state can be transformed into desirable tetragonal phase at near room temperature. Presently extensive work under progress to select a right material for low cost solar plants. Processing of material play a major role in developing newer high strength/properties with low weight material such as composite material which in finding extensive usability in various Mechanical Engineering application such as Aerospace, Automobile applications.. Similarly, in Civil Engineering also the knowledge of Chemistry plays a major role in select a heating polymer in self-healing concrete beam. Thus the knowledge of basic science & in particular chemistry plays a vital role in any Engineering application.

The present workshop is intended to enlighten the faculty of basic sciences as well as Engineering field. The importance of chemistry & its role in future engineer field application.

In view of the importance of chemistry in Engineering, it is very much necessary to introduce one or more elective subjects in higher engineering courses. While forming the syllabus we must

- Consult an engineer when designing & teaching a Chemistry course for engineering students.

- Communicating appropriate chemistry to engineering students with different needs for chemistry can be a challenge & growth experience.
- Focus on the engineering students long term needs when teaching chemistry.
- Role model essential skills.
- Don't be constrained by traditional chemistry courses & teaching methods.

Hence it is ideal for experts in the area to address and share their knowledge with the current generation of faculty members to teach advanced/applied chemistry to higher semester engineering students. There were **84** faculty members participated in the workshop.

Details of Participants

Immediately after the workshop was announced, there was a good response from the faculty members from various academic institutions. **84** faculty members from the following colleges attended the workshop.

1. BMS College of Engineering, Bengaluru
2. Sapthagiri College of Engineering, Bengaluru
3. Sri Pillappa College of Engineering, Bengaluru
4. Sir MVIT, Bengaluru
5. Sri Venkateswara College of Engineering, Bengaluru
6. Sai Vidya Institute of Technology, Bengaluru
7. KNSIT, Bengaluru
8. Vemana Institute of technology, Benaluru
9. KSSEM, Bengaluru
10. BNMIT, Bengaluru
11. Rajarajeshwari College of Engineering, Bengaluru
12. SJCIT, Chikaballapura
13. SJBIT, Bengaluru
14. Vivekananda Institute of Technology
15. SKIT, Bengaluru
16. Achary Institute of Technology
17. SEA College of Engineering, Bengaluru
18. Cambridge Institute of technology
19. East West College of Engineering, Bengaluru
20. Gousia College of Engineering, Ramanagar
21. Janna Vikas College of Engineering, Bidadi
22. SSIT, Tumakuru
23. Sridevi Institute of Technology, Tumakuru
24. Vidyavardaka College of Engineering, Mysuru
25. Maharaja Institute of Technology, Mysuru

26. Maharaja Institute of Technology & academe, Mysuru
27. City College of Engineering, Bengaluru
28. SJMIT CTA
29. Dr. Ambedkar Institute of Technology, Bengaluru
30. KLS VDRIT, Haliyal
31. CMRIT, Bengaluru
32. Atria Institute of Technology, Bengaluru
33. ATMECE, Mysuru
34. Global IT, Bengaluru
35. TCE, Gadag
36. T John IT, Bengaluru
37. NIE IT, Mysuru
38. ACS College of Engineering, Bengaluru
39. Kalpataru IT, Tiptur
40. Govt. College of Engineering, Bengaluru
41. SITAR, Channapatna
42. MRIT, Mandya

Inaugural Session

The workshop was formally inaugurated by Dr. K Balaveera Reddy, Former Vice Chancellor, VTU, Belagavi. Dr. M K. Veeraiah, principal, SSIT Tumkuru, Dr. K G Manjunatha, Proferssor & HOD, Chemistry, Gousia College of Engineering, Ramanagara, Dr K N Murthy, Former Principal, Amrutha Institute of Technology & Management, Bidadi. Dr. H G Chandrakanth, Principal of Sambhram Institute of Technology presided over the workshop. Dr. M T Swamy, Professor & HOD- chemistry welcomed the gathering and Dr. Madhurai proposed the vote of thanks.

Workshop Sessions

The Lecture Workshop had altogether five lecture sessions. Dr. M K. Veeraiah, principal, SSIT Tumakuru, Dr. K N Murthy, Former Principal & Professor of Chemistry Amrutha Institute of Technology & management, Bidadi., Dr. K G Manjunatha, Proferssor & HOD, Chemistry, Gousia College of Engineering, Ramanagara, Dr. G Krishnaiah Prof. & HOD of Chemistry and Dr. Kumar former Professor, R V College of Engineering, Bengaluru were the four resource persons of the workshop.

Dr. M K. Veeraiah, Principal, SSIT Tumkuru, delivered two lectures on importance of Nano –materials & their applications and advanced polymers in the field of Engineering & technology. The lectures were helpful in inculcating a positive attitude towards nano materials and advanced polymers among the participants. The One lecturer by Dr K N Murthy, Former principal & professor of Chemistry, Amrutha Institute of Technology & Management, Bidadi. An importance of Chemistry in aerospace industry helped the participants to have a deep understanding chemistry and their applications in aerospace industry. Dr. K G Manjunatha,

Proferssor & HOD, Chemistry, Gousia College of Engineering, Ramanagara, delivered one lecturer session on recent development in corrosion and its control which helped the participants through understanding of recent developments in corrosion science and finally one lecturer delivered by Dr. Kumar former Professor, R V College of Engineering, Bengaluru on Advanced Engineering materials and their applications in engineering field. All the Five lecture sessions were informative as well as interactive, as reflected from the feedback received from the participants.

Valedictory Session

A short duration feedback cum thanks giving session was arranged on the evening of the final Lecture Workshop. Dr. Ninge Gowda, Professor of Chemistry, Vidyavardaka College of Engineering, Mysuru, Dr. Damodhara, Prof. & HOD of Chemistry, Canara College of Engineering, Bantvala, Ms. Rashmi M Asst. Professor, Department of Chemistry, SKIT, Bengaluru and Mr. Manjunah N K, Asst. Professor, Department of Chemistry, Sri Pillappa College of Engineering, Bengaluru provided feedback about the Lecture Workshop on behalf of the participants. The Resource persons addressed the participants and motivated them to undertake research in the field of Corrosion, nano materials and conducting polymers. The formal vote of thanks on behalf of the Department of Chemistry of Sambhram Institute of Technology was proposed by Mr. Anil Kumar K V.

Conclusion

One day workshop on '**Role of Chemistry in Higher Engineering Courses**' "**RCE-2018**" conducted at Sambhram Institute of Technology was beneficial to all the faculty members who attended, especially the young faculty members. The topics covered were according to the Engineering Chemistry syllabus of the Vivesvaraya Technological University, Belagavi and the feedback from the participants reflected that they were equipped with a deep understanding of the topics covered.

Convener:

Dr. M. T. Swamy Prof. & HOD, Chemistry,
Sambhram Institute of Technology, Bengaluru

PROGRAMME SCHEDULE

20/01/2018 (Saturday)

9.30 am-10.15 am:	Inaugural Session
10.15-11.30 am :	Lecture 1 Resource Person: Dr. M K Veeraiah (Principal, SSIT Tumkuru) Topic: Importance of Nano-materials and their applications
11.30-11.45 am :	Tea Break
11.45 am -1.00 pm :	Lecture 2 Resource Person: Dr K N Murthy (Former principal & professor of Chemistry, Amrutha Institute of Technology & Management, Bidadi) Topics: Importance of Chemistry in aerospace industry
1.00-1.45 pm :	Lunch break
1.45-3.00 pm :	Lecture 3 Resource Person: Dr. M K Veeraiah (Principal, SSIT Tumkuru) Topic: Advanced Polymer in Engineering & Technology
3.00 - 3.15 pm :	Tea Break
3.15 - 4.30 pm :	Lecturer 4 Resource person: Dr. K G Manjunatha (Prof. & HOD, Chemistry, Gousia College of Engineering, Ramanagara) Topic: Recent development in corrosion and its control
4.00 – 5.45 pm:	Lecturer 5 Resource person: Dr. Kumar (Former Professor, Chemistry, RVCE Bengaluru) Topic: Advanced Engineering materials and their applications
5.00 – 5.15Pm:	Valedictory function





