

Guru Angad Dev TEACHING LEARNING CENTRE A Centre under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), MHRD, Govt. of India.

SRI GURU TEGH BAHADUR KHALSA COLLEGE UNIVERSITY OF DELHI



Ref No.: GAD-TLC/Tek-Chem/241

Date: 20-Jun-2020

To Whomsoever It May Concern

This is to certify that **Dr. Rekha Yadav** of **Sri Venkateswara College, DU** has contributed in the development of **Teacher's e-Kit** (e-content in Four Quadrants Format) in Chemistry at GAD-TLC of MHRD under the PMMMNMTT scheme as per the details given below:

Module Title	Study the 200-500 nm absorbance spectra of KMnO4 and K2Cr2O7 (in 0.1 M		
	H2SO4) and determine the λ max values. Calculate the energies of the two		
	transitions in different units (J molecule-1, kJ mol-1, cm-1, eV).		
Level (UG/PG)	UG Level as per CBCS		
Theory/ Practical	Practical		
Author(s)	Dr. Rekha Yadav		
Reviewer	Dr. Renu Parashar, Associate Professor, Hansraj College, DU		

These Teacher's e-Kits are National level *Open Educational Resources(OERs)* for Chemistry Theory/Practical Teaching so that teachers can adopt Blended Learning in their teaching-learning process.

This is further certified that no amount has been paid for this contribution.

-sd-Dr. Vimal Rarh Project Head & Joint Director, GAD-TLC

(This is a computer generated certificate. Hence, requires no signature)

Teacher's e-Kit : Teacher's Manual (e-Lab)

This is one of the part of this e-Content in Four Quadrant Format. Refer to other parts for complete module.

CHEMISTRY

Programme: B.Sc. (Hons) Chemistry

PAPER: CC XII: PHYSICAL CHEMISTRY V (as per Model CBCS curriculum)

Study the 200-500 nm absorbance spectra of KMnO₄ and K₂Cr₂O₇ (in 0.1 M H₂SO₄) and determine the λ_{max} values. Calculate the energies of the two transitions in different units (J molecule⁻¹, kJ mol⁻¹, cm⁻¹, eV).

Developed at



Guru Angad Dev Teaching Learning Centre

A centre of MHRD, Govt. of India under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) SGTB Khalsa College, University of Delhi, Delhi, India

Version: March, 2020

Contact us at: Guru Angad Dev Teaching Learning Centre A Centre of MHRD, Govt. of India Auditorium Building, First Floor, SGTB Khalsa College, University of Delhi, North Campus, Delhi- 110007

Teacher's e-Kit MODULE: CREDITS

Core Team for conceptualizing, designing and coordinating the development of Teacher's e-Kit for Practical Courses

Role in Development of e-Kit	Name & Institution
Project Head	Dr. Vimal Rarh Joint Director, Guru Angad Dev Teaching Learning Centre (GAD-TLC), SGTB Khalsa College, University of Delhi vimalrarh@gmail.com
Co-Project Head	Dr. Jaswinder Singh Director, Guru Angad Dev Teaching Learning Centre (GAD-TLC) and Principal, SGTB Khalsa College, University of Delhi
Chairman	Prof. A K Bakhshi Vice Chancellor, PDM University and Professor, Dept. of Chemistry, University of Delhi

Subject Contributors

Role in Development of e-Kit	Name & Institution	Contact Details
Paper Coordinator	Dr. Rekha Yadav, Department of Chemistry, Sri Venkateswara College	
First Author	Dr. Rekha Yadav Department of Chemistry Sri Venkateswara College	Email Id: <u>vadavrekha89@gmail.com</u> Phone No9711694467
Second Author	-	-
Reviewer	Dr. Renu Parashar Associate Professor Department of Chemistry Hansraj College	Email Id: <u>renu.hrc@gmail.com</u> Phone No8860377477

DISCLAIMER BY GAD-TLC:

This output is a part of activity to develop Quality OER for Chemistry Practical Teaching so that teachers can adopt Blended Learning in Practical Teaching of Chemistry. No amount has been given to any of the contributors.

The conceptualization of the template for this unique format of Teacher's e-Kit in Four Quadrant Format by integrating Chemistry, ICT and Pedadgogy is IP of Dr Vimal Rarh.

The IP for the content related to specific experiment is the IP of the author/ co-authors. This content has been reviewed by a Chemistry Expert as mentioned in the credits above. Publication of any sort cannot be done without the consent of Dr Vimal Rarh and author/co-authors.