

Recognition of college under Section 2(f)/12(B), UGC Act, 1956 Affiliated to Pandit Deendayal Upadhyaya Shekhawati University, Sikar

CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Avinash Bugalia</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - 09/02/2023

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Avinash Bugalia</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

Prof. Chetan Dadheech Head of Department



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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Babita</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Babita</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

Prof. Chetan Dadheech Head of Department



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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Faiza Khatri</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Faiza Khatri</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

Prof. Chetan Dadheech Head of Department



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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Ishika Verma</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Ishika Verma</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

Prof. Chetan Dadheech Head of Department



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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Kalpana Saini</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Kalpana Saini</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Kiran</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Kiran</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

Prof. Chetan Dadheech Head of Department



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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Komal Sain</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Komal Sain</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Lokesh Kumar</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Lokesh Kumar</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

Prof. Chetan Dadheech Head of Department



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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Monika Kumai Saini</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Monika Kumai Saini</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Ms.Monika</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Ms.Monika</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Ms.Nisha Surolia</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Ms.Nisha Surolia</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Ms.Ronak Mahala</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Ms.Ronak Mahala</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Muskan</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Muskan</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Narendra Kumar</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Narendra Kumar</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Nisha</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Nisha</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Nisha Saini</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Nisha Saini</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Nitin Surolia</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

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Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Nitin Surolia</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Pankaj Sharma</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Pankaj Sharma</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Pintu Kumari</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Pintu Kumari</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Pooja Kumari</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Pooja Kumari</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Pramod Saini</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Pramod Saini</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Praveen Kumar Gurjar</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Praveen Kumar Gurjar</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Priyanka Kumari Barjatia</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Priyanka Kumari Barjatia</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Rahul Saini</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Rahul Saini</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

Prof. Chetan Dadheech Head of Department



Recognition of college under Section 2(f)/12(B), UGC Act, 1956 Affiliated to Pandit Deendayal Upadhyaya Shekhawati University, Sikar

CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Rajesh Kumar</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures.

Organic Chemistry: Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Rajesh Kumar</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Rajnish Kumar Saini</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Rajnish Kumar Saini</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Renu Kumari</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Renu Kumari</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Vandana Boyal</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures. **Organic Chemistry:** Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Vandana Boyal</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Vikash Sharma</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures.

Organic Chemistry: Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Vikash Sharma</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

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CERTIFICATE FOR EXPERIENTIAL LEARNING DEPARTMENT OF CHEMISTRY

This certificate is awarded to Student Name - <u>Yogendra Parihar</u> in recognition of successful completion of the M.Sc. (Final) Chemistry Laboratory course Date - <u>09/02/2023</u>

This advanced practical course has further strengthened your knowledge and practical skills in various areas of chemistry, including:

Inorganic Chemistry: Preparing and characterizing inorganic compounds using diverse techniques, including handling air and moisture sensitive compounds, and analyzing them using infrared spectroscopy. Additionally, conducting quantitative analysis of complex mixtures.

Organic Chemistry: Separating, purifying, and identifying components of complex organic mixtures using advanced analytical techniques, performing multi-step syntheses involving diverse reactions, and extracting organic compounds from natural sources.

Physical Chemistry: Conducting in-depth experiments and analyzing data in various areas like thermodynamics, spectroscopy, polarography, and chemical kinetics to determine key parameters like partial molar volumes, enthalpy, activation energy, and reaction kinetics.

<u>Yogendra Parihar</u> has consistently demonstrated exceptional skills in advanced laboratory techniques, a thorough understanding of complex analytical methods, and the ability to apply their knowledge to design and execute experiments in various areas of physical and organic chemistry.

Signature of Instructor

Prof. Chetan Dadheech Head of Department