Date
21/07/2023

Q1) सांतत्य की जाँच $x=0$ पर कीजिए?

$$f(x) = \begin{cases} \frac{1-\cos x}{x^2} & , x \neq 0 \\ 1 & , x = 0 \end{cases}$$

Q2) सांतत्य की जाँच कीजिए $x=0$ पर

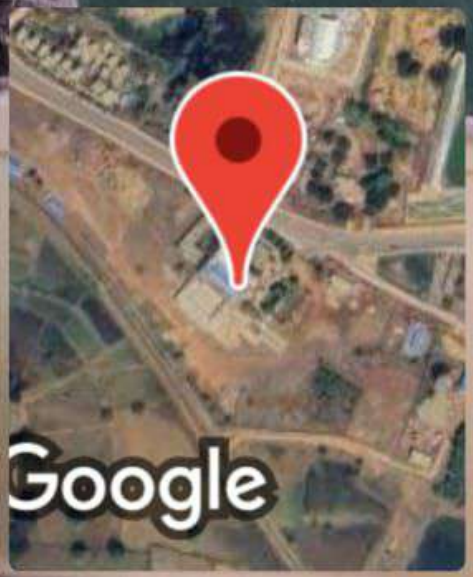
$$f(x) = \begin{cases} \frac{xe^{1/x}}{1+e^{1/x}} & , x \neq 0 \\ 0 & , x = 0 \end{cases}$$

Q3) सांतत्य की जाँच करें-

$$f(x) = \begin{cases} x \sin(\frac{1}{x}) & x \neq 0 \\ 0 & , x = 0 \end{cases}$$

Q4) $x=1$ पर अवकलनीयता की जाँच कीजिए।

$f(x) = |x| + |x-1|$



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RUSA 2018-19 75
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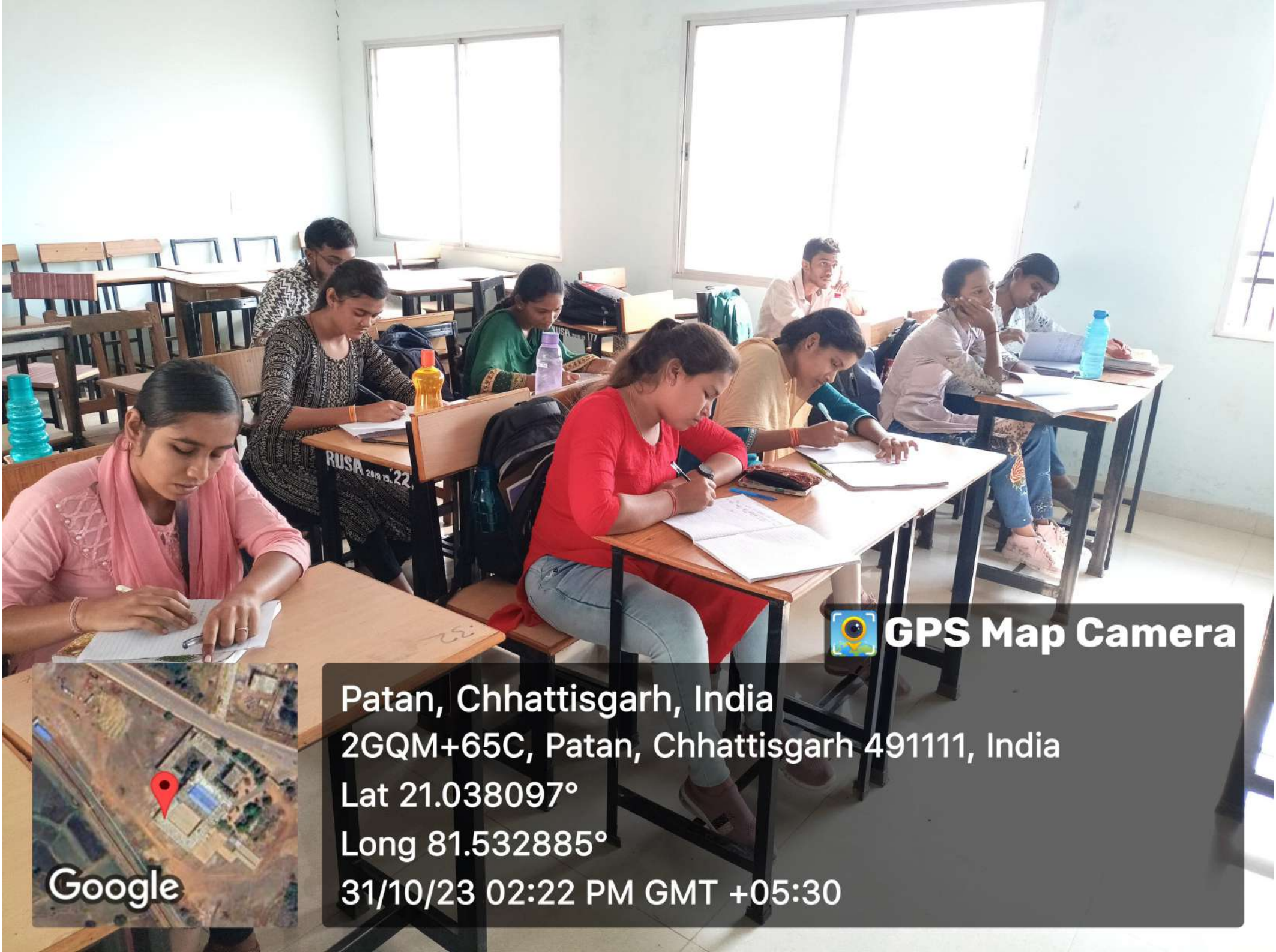
Unit - Test - II
Q. ① Derive an expression for rotational constant for diatomic molecules
② Briefly explain the classification of molecules in terms of their internal rotational mechanism
(OR)
Q. ① How pure rotational spectrum is obtained? Explain line spacing obtained in spectrum
② Discuss in details about selection rule for rotational spectrum of rigid diatomic molecules
RUSA 2018-19 15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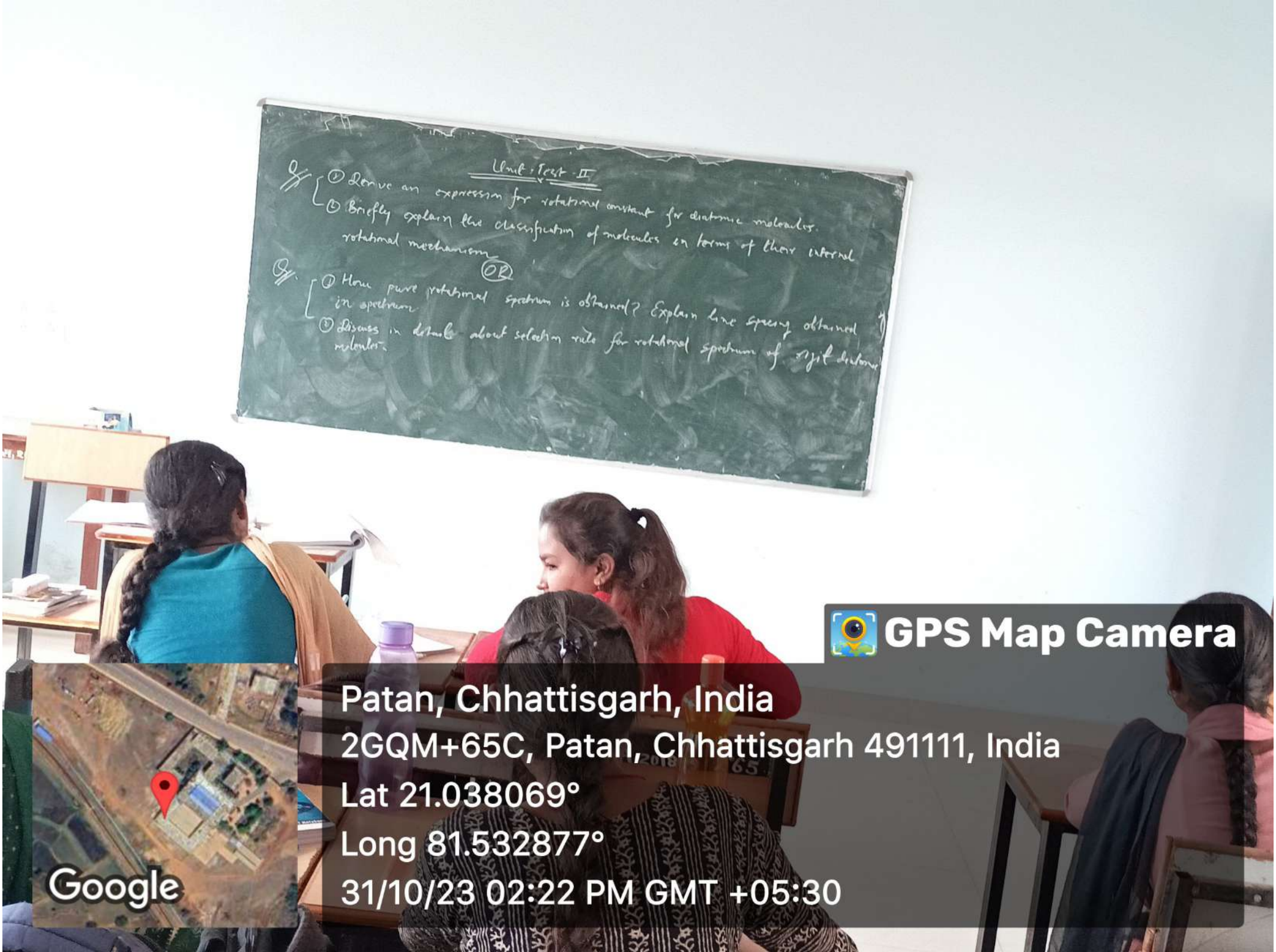
Unit Test - II
Q. (a) Derive an expression for rotational constant for diatomic molecules.
(b) Briefly explain the classification of molecules in terms of their internal rotational mechanisms.
OR
Q. (a) How pure rotational spectrum is obtained? Explain line spacing obtained in spectrum.
(b) Discuss in details about selection rule for rotational spectrum of rigid diatomic molecules.
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Unit - Test - II
Q. ① Derive an expression for rotational constant for diatomic molecules
② Briefly explain the classification of molecules on terms of their external rotational mechanism
OR
Q. ① How pure rotational spectrum is obtained? Explain line spacing obtained on spectrum
② Discuss in details about selection rule for rotational spectrum of rigid diatomic molecules
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Unit Test – 1
M.Sc. IV Semester (Chemistry)
Unit IV : Atomic Absorption Spectroscopy
(Total Marks 20)
1. Explain the principle, instrumentation, and applications of atomic absorption spectroscopy. (10)
(OR)
What is hyphenated technique, describe the principle, instrumentation, and applications of any one hyphenated technique.
2. Describe the principle, instrumentation, and applications of GC-MS . (10)
(OR)
Write short notes on (Any two)
1. Graphite furnace 2. Cold vapors atomizer 3. Hallow cathode lamp.
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Unit Test – 1
M.Sc. IV Semester (Chemistry)
Unit IV : Atomic Absorption Spectroscopy
(Total Marks 20)
(OR)
(OR)
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(i) डील्स एल्डर अभिक्रिया पर टिप्पणी लिखिए।

(ii) डाइ-ईन का वर्गीकरण कर प्रत्येक को उदाहरण सहित समझाइये।

(iii) मारकोनीकाफ के नियम को क्रियाविधि सहित समझाइये।

(iv) ऐसीटीलीन के अम्लीय स्वभाव को समझाइये

(v) संयुग्मित डाइ-ईनो में इलेक्ट्रोफिलिक योग एवं मुक्त मूलक योग को क्रियाविधि सहित समझाइये।


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