

**Padmabhushan Vasantrodada Patil Mahavidyalaya, Kavathe  
Mahankal.**



**DEPARTMENT OF CHEMISTRY**

Date: 23-10-2023

**NOTICE**

All the students in B.Sc. Part II are hereby informed that, Department of Chemistry is arranging **Unit Test** of Physical Chemistry (Paper V) for Continuous Internal Evaluation on 26<sup>th</sup> October All the students are requested be present at lecture hall no 1 on 2:00 pm. Time for unit test is 2:30 to 3:30.

A handwritten signature in blue ink, appearing to be "P. V. P.", written over a faint purple stamp.

**Head  
Department Of Chemistry  
P. V. P. Mahavidyalaya,  
K.Mahankal,Dist-Sangli**

**Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal.**

**DEPARTMENT OF CHEMISTRY**

**Unit Test**

**B.Sc. II Physical Chemistry (Paper V)**

**26 Oct. 2023**

**Q.1. Answer any two of the following**

**20 marks**

- a) Write a note on Hittorff's rule to explain effect of unequal ionic speed on concentration .
- b) Derive the equation for third order rate constant with initial concentration of reactant also find its unit.
- c) Prove that entropy change in reversible reaction is Zero.

**Q.2. Answer any two of the following**

**10 marks**

- a) Derive  $t_{1/2}$  for third order reaction
- b) Explain any two types of conductometric titrations.
- c) Explain any two methods to determine order of reaction.
- d) Explain entropy change in phase transformation.

Shikshan Prasarak Sanstha's

Padmabhushan Vasantrodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF CHEMISTRY

Unit Test

B.Sc. I Physical Chemistry (Paper III)

Date 14/02/2024

Time: 11:00-12:00

**Q.1. Choose the correct alternative and rewrite the sentence.**

**4 marks**

1. Y-value of any point in the graph is called as.....  
(a) ordinate (c) origin (b) abscissa (d) quadrant
2. Efficiency of heat engine is always  
(a) greater than one (b) less than one (c) equal to one (d) In adiabatic process
3. Reactions in which the number of molecules involved is more than one but they still obey the kinetic equation of the first order reactions are called  
(a) pseudo first order reactions (b) second order reactions  
(c) first order reactions (d) third order reactions
4. Inversion of cane sugar is an example of reaction.  
(a) first order (b) second order  
(c) third order (d) pseudo first order

**Q. 2. Answer any four questions.**

**16 marks**

- A. Write a note on factors affecting on rate of reaction.
- B. Write the difference between order and molecularity of reaction.
- C. Write the derivation for rate constant for first order reaction.
- D. Write a note on pseudo first order reaction.
- E. Define adiabatic process, isochoric process, isobaric process, open system.
- F. Write statements and mathematical equations for first law of thermodynamics.
- G. Write any four differences between spontaneous and non-spontaneous process.

Shikshan Prasarak Sanstha's

Padmabhushan Vasantrodada Patil Mahavidyalaya, Kavathe Mahankal.

DEPARTMENT OF CHEMISTRY

Unit Test

B.Sc. I Physical Chemistry (Paper III)

Date 14/02/2024

Time: 11:00-12:00





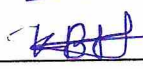

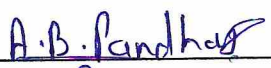
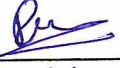
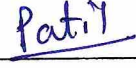


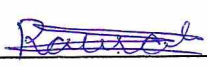

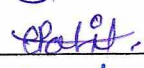






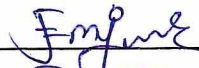
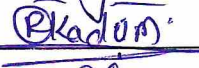

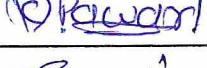


Students Attendance

Sr. No.	Name of student	Marks	Signature
1.	Patil Vishakha Vilas.	20	<u>Patil</u>
2.	Bhosale Dhanashri Sanjerao	20	<u>Dhanashri B.</u>
3.	patole vaishnavi Jagannath	20	<u>Patole</u>
4.	shinde shubhangi Jagannath	20	<u>Shinde</u>
5.	Riya Ravindra Gaikwad	20	<u>R. Gaikwad</u>
6.	Sanjana sambhaji Patole	16	<u>Sanjana Patole</u>
7.	Pranali Balu Patil	15	<u>P.B. Patil.</u>
8.	Gayatri Mahadev Mali	14	<u>G.M. mali</u>
9.	shubhangi Prakash Bhosale	18	<u>Bhosale</u>
10.	Nagane Sheelika Jantish.	14	<u>Nagane</u>
11	shital sambhaji Mane	20	<u>S.S. Mane</u>
12]	kajol Birudev sargar	18	<u>K.B. sargar.</u>
13]	Riya Ravsaheb salunkhe	20	<u>Salunkhe</u>
14]	Sakshi Suresh chavan.	20	<u>Chavan</u>
15]	sneha Anandray chavan.	18	<u>S.A. Chavan</u>
16]	Pratiksha Popat Satpute	17	<u>P.P. Satpute.</u>
17]	swatiya Nabilal Tambali	15	<u>Tambali</u>
18)	Nita Sanjerao Pawar	18	<u>Pawar</u>

Sr. No.	Name of student	Marks	Signature
19.	Nayna Sanjay Jadhav.	20	<del>S. Jadhav</del>
20.	Rajnandini Jotiram Surgawanshi	20	R. T. Surgawanshi
21.	Gayatri Ganesh Patil	20	Patil
22.	Prajakta Sanjay Kodag	16	Kodag
23.	Vaishnavi Tukaram Patil	14	Patil
24.	Vaishnavi Kakaso Patil	16	V. K. Patil
25.	Sneha Satish Sapkal	20	<del>Sapkal</del>
26)	Swaphali Subhash Savale	16	<del>Savale</del>
27	Sayali Vishnu Harage	20	Harage
28)	Varada Dattatray Dongare	20	Dongare
29)	Payal Sahebrao Sarvashe	20	Sarvashe
30)	Pooja Pandharinat Patil	20	Patil
31)	Anuradha Ramchandra Chavan	16	A. R. Chavan
32)	Sakshi Vinayak Chougule.	16	<del>S. Chougule</del>
33)	Nikita Nazayan Zapate	17	<del>N. Zapate</del>
34)	Sakshi Anil Gaykward	17	<del>S. Gaykward</del>
35)	Apoena Nathaji Chougule.	19	A. N. Chougule.
36)	Amushka Shammao Udale	20	A. S. Udale
37)	Vaishnavi Bharat Bhosale	20	<del>Bhosale</del>
38)	Sayali Balakrishna Bhosale.	20	Bhosale
39)	Snehal Vitthal Tone	20	<del>S. Tone</del>
40)	Rutuja Shrikant Khobare.	20	<del>R. Khobare</del>
41)	Varsha Vinod Patil	20	Patil
42.	Ashwini Ankush Dukandar.	20	A. A. Dukandar
43.	Snehal Manohar Bhosale	20	Bhosale

Sr. No.	Name of student	Marks	Signature
44.	Vrushali Ramhari Khot	20	<u>Rechoh.</u>
45.	Suvaranjali Sanjay Karande	20	<u>SJK</u>
46.	Shubhangi Gorakhanath Chougule	20	<u>Shubhangi</u>
47.	Varesha Vitthal Kadam	20	<u>VKadam</u>
48.	Trupti Kakaso Mane	20	<u>TJ</u>
49.	Padalkar Sonali Babasaheb.	19	<u>Padalkar</u>
50.	Pranali Uttam Zambare	20	<u>P.U.Z</u>
51.	Amruta Namdev Bhosale	20	<u>ABs</u>
52.	Asmita Eknath Jadhav.	20	<u>AJadhav</u>
53.	Siddhi Balasaheb Ghatage	19	<u>SJ</u>
54.	Sakshi Basveshwar Pupane	18	<u>SP</u>
55.	Priyanka Rupesh Pandhore.	19	<u>P.R.Pandhore.</u>
56.	Pranjal Jaywant Salunkhe	16	<u>PS</u>
57.	Pratiksha Pandurang Pawar	16	<u>Pawar</u>
58.	Mounali Balasaheb Nagare	20	<u>MN</u>
59.	Pranali Jayant Kore	20	<u>Pranali</u>
*60]	Harshada Sanjayar Patil	20	<u>HP</u>
61]	Simean Alam Pakhali	20	<u>Simean</u>
62]	Sandhya Sambhaji Mane	16	<u>Sandhya</u>
63]	Laxmi Babasa Korande.	18	<u>LB Korande</u>
64]	Lazeen Arjay Tamboli	20	<u>LTamboli</u>
65]	prajakta Hanamant Bhasale	20	<u>PJB</u>
66]	Smita Shankar Salunkhe.	18	<u>S.S.Salunkhe.</u>
67]	Anita Sampat Chougule	19	<u>AS</u>
68]	PUJA GOVIND GHODAKE	18	<u>PUJA</u>

Sr. No.	Name of student	Marks	Signature
69]	Sanika Dashrath Daingade	17	S.D. Daingade
*70]	Sumit Shivkumar bansode		<del>Sansode</del>
71]	Omkar Vishwas Karande	20	Omkar Karande
72]	Sushant Sanjay Khairnar	20	SK
73]	Rohit Balu Bhosale	20	R.B. Bhosale
74]	Batej Vitthal Pawar	17	S.V. Pawar
75]	Swapnil Chandrakant Patil	20	S.C. Patil
76]	Azaruddin Badruddin Parekar	11	A.B. Parekar
77]	Pavankumar Maruti Mali	20	PMali
78]	Sourabh Kundlik Navare	20	SKNavare
79]	Digvijaysinh Ajitsinh Pawar	20	<del>Pawar</del>
80]	Vishwajeet Kiran Bhosale	20	V.Bhosale
81]	Suyash Santosh Gadade	20	S.Gadade
82]	Omkar Gajanan Patil	20	OPatil
83]	Yash Dilip Pawar	20	YPawar
84]	Makrand Hanmantao Zure	19	MZure
85]	Bandgar Prakash Suryaba	20	PSBandgar
86]	Prathamesh Chandrakant Shinde	20	P.C. Shinde
87]	Shreyash Balaso Kumbhar	14	SK
88]	Jaywardhan Vijay Lakhane	19	JL
89]	Sushant Sukumar Desai	20	S.S. Desai
90]	Abhishek Akaram Lohar	19	A.A. Lohar
91]	Vijay Pandurang Bhosale	18	V.P. Bhosale
92]	Vikas Balu Gadade	19	V.Gadade
93]	Pitambar Gajanan Kalpankar	20	PK

Sr. No.	Name of student	Marks	Signature
94]	Kundan Pramod Mirajkar	20	
95)	Abhishek shrimant shinde	20	
96]	Pranav Anil Patil	16	
97)	Sumit Bhimrao Suryawanshi	12	
98)	Karan Dhagawan Hulwan	20	
99	Ishwar Sharanappa Kore	20	
*100)	Akshay Bhagavan Pandhore	15	
101)	Prathmesh Deepak Pawar	18	
102)	prathmesh Dattatray Patil	20	
103)	Balasaheb Anu Rupanur	19	
104)	Atharv Poobhakar Suryawanshi	19	
105)	Prathmesh Ravasa Pawar	14	
106)	Mangesh Sampat Rao Suryawanshi	18	
107)	Tushar Baburao Patil	17	
108)	Satyajit Pratap Bhosale	18	
109)	Bhosale Sudarshan Sanjay	20	
110	hari arvind Kambale	12	
111)	sandesh sanjaykumar shinde	20	
*112	Prathmesh sambhaji masal	18	
113	Om Shrikant Bajale	20	
114)	Rajiv Jadhav Mujawar	20	
115]	Ritesh Ravindra Kadam	18	
116]	Om Sanjay Jadhav	14	
117)	chetan Dadaso Pawar	18	
118]	Tejashri Ravsa Jadhav	20	
119]	Ashwini Ankush Dhale	16	

**P.V.P. MAHAVIDYALAYA KAVATHE MAHANKAL**  
**B. Sc. (Part-I) (Semester-II) Internal Exam**  
**CHEMISTRY (Paper-IV)**  
**ANALYTICAL CHEMISTRY**

**Time: 1 hrs.**

**Date: 14/02/2024 & 12.00 pm – 1.00 pm**

**Marks: 20**

**Q.1 Multiple choice questions.**

**[ 4 ]**

1) The positive & negative errors of the same ----- are equally likely to occurs.

- a) Frequency    ~~b) Magnitude~~    c) Both a) & b)    d) None of these

2) How many significant numbers of the following value a) **1.0072**, b) **0.02765**.

- a) 3 & 4            b) 3 & 6            c) 5 & 6            ~~d) 5 & 4~~

3) Soap forms curd/scum in hard water by reacting acylate ion with -----.

- a)  $\text{Na}^+$             b)  $\text{K}^+$             ~~c)  $\text{Ca}^{+2}$  or  $\text{Mg}^{+2}$~~             d) all of these

4) Antioxidants added to increase -----.

- ~~a) Soap durability~~    b) Detergency to soap    c) Foam formation    d) Water softener

**Q.2 A) Attempt any two of the following.**

**[6]**

- a) Define the Qualitative, Quantitative analysis, Analyte & Significant figure?
- b) Define Errors & explain its types?
- c) Why perfumes are added in soap preparation?
- d) What are the raw material of syndets?

**B) Attempt any Two of the following.**

**[10]**

- a) Give the classification of analytical methods of analysis. Describe in details?
- b) Explain the preparation of soap by hot process?
- c) The % of constituent A in compound AB are 22.61, 22.64, 22.54 & 22.53 %. Calculate the mean deviation & relative mean deviation?
- d) Describe the absolute & relative errors? With suitable example (problem).

Shikshan Prasarak Sanstha's

Padmabhushan Vasantodada Patil Mahavidyalaya, Kavathe Mahankal.



DEPARTMENT OF CHEMISTRY

Unit Test

B.Sc. I Analytical Chemistry (Paper IV)

Date 14/02/2024

Time: 12:00-01:00



Students Attendance

Sr. No.	Name of student	Signature
1)	Vansha Vitthal Kadam	
2)	Trupti Kakaso Mane	
3)	Padalkar Gonali Babasaheb.	
4)	Pranali Uttam Zambare.	
5)	Amruta Namdev Bhosale	
6)	Asmita Eknath Jadhav.	
7)	Siddhi Balasaheb Ghatage	
8)	SAKSHI BASVESHWAR PUPANAR	
9)	Priyanka Rupesh. Pandhare	P. R. Pandhare
10)	Pranjal Jaywant Salunkhe	
11)	Pratiksha Pandurang Pawar	
12)	Mrunali Balasaheb Nagane	
13)	Pranali Jayant Kere	
14)	Simran Alam Pakhali	
15)	Harshada sanjerav patil	
16)	Sandhya Sambhaji Mane	
17)	Laxmi Babaso Karande	L. B. Karande
18)	Prajakta Hanamant Bhosale.	

Sr. No.	Name of student	Signature
19)	Lazeena Afjal Tamboli	<u>A. Tamboli</u>
20)	Smita Shankar Salunkhe.	<u>S.S. Salunkhe</u>
21)	Anita Sampat Chougule	<u>A. Chougule</u>
22)	Sanika Dushrath Daingade.	<u>S.D. Daingade.</u>
23)	PUTA GOVIND GHODAKE	<u>P. Ghodake</u>
24)	Vaishnavi Kakaso Patil	<u>V.K. Patil</u>
25)	Vaishnavi Tukaram Patil	<u>V. Patil</u>
26)	Prajakta Sanjay Kodag	<u>P. Kodag</u>
27)	Gayatri Ganesh Patil	<u>G. Patil</u>
28)	Rajnandini Jotiram suryawanshi	<u>R.J. suryawanshi.</u>
29)	Nayna Sanjay Jadhav.	<u>N. Jadhav</u>
30)	Sneha Satish Sapkal	<u>S. Sapkal</u>
31)	Swapnali Subhash Salunkhe	<u>S. Salunkhe</u>
32)	Sayali Vishnu Haroge	<u>S. Haroge</u>
33)	Varada Dattatray Dongare	<u>V. Dongare</u>
34)	Payal Sahebrao Savvashe	<u>P. Savvashe</u>
35)	Pooja Pandhominath Patil	<u>P. Patil</u>
36)	Sakshi Vinayak Chougule	<u>S. Chougule.</u>
37)	Nikita Naagyan Zapate	<u>N. Zapate.</u>
38)	Sakshi Anil Gaykward.	<u>S. Gaykward</u>
39)	Aparna Nathaji Chougule	<u>A.N. Chougule</u>
40)	Anushka Shomroo Udale	<u>A.S. Udale.</u>
41)	Vaishnavi Bharat Bhosale	<u>V. Bhosale</u>
42)	Sayali Balkrishna Bhosale	<u>S. Bhosale.</u>
41)	Snehal Vitthal Tone	<u>S. Tone.</u>

Sr. No.	Name of student	Signature
42)	Rutuja Shrikant Khobare	<u>Rutuja</u>
43)	Varsha Vinod Patil	<u>VPatil</u>
44)	Ashwini Ankush Dukandara	<u>A.A. Dukandara</u>
45)	Snehal Manohar Bhosale	<u>SBhosale</u>
46)	Vrushali Ramhari Khot	<u>VKhot</u>
47)	Sudhanjw Sanjay Karunde	<u>SKarunde</u>
48)	Shubhangi Georakhanath Chougule	<u>SChougule</u>
49)	Vishakha Vilas Patil.	<u>VPatil</u>
50)	Dhanashri Sanjivao Bhosale	<u>DBhosale</u>
51)	shubhangi Jagannath shinde.	<u>SShinde</u>
52)	Voishnavi Jagannath patole.	<u>VPatole</u>
53)	Riya Ravindra Gaikwad	<u>RGaikwad</u>
54)	sanjana sambhaji Patole	<u>SPatole</u>
55)	Gayatri Mahadev Mali	<u>G.m.mali</u>
56)	Pranali Balu Patil.	<u>P.B.Patil.</u>
57)	shubhangi Prakash Bhosale.	<u>SBosale</u>
58)	Shevika Satish Nagane	<u>SNagane</u>
59)	Kajol Bivudev sargar	<u>K.B.sargar.</u>
60)	shital sambhaji mane	<u>S.S.mane.</u>
61)	Riya Rajsabab Salunke	<u>RSalunke</u>
62)	SAKSHI SURESH CHAVAN	<u>SChavan</u>
63)	sneha Anandrav chavan	<u>S.A.Chavan</u>
64)	Pratiksha Papat satpute	<u>P.P.satpute</u>
65)	Nita Sanjivao Pawar	<u>NPawar</u>
66)	Swatiya Nabilal Tamboli	<u>STamboli</u>

Sr. No.	Name of student	Signature
69.	Hari arvind Kamble	<u>H.A. Kamble</u>
70.	Bhosale Suddhan Gamiy	G.S. Bhosale
71.	Satyajit Pratap Bhosale	<u>Bhosale</u>
72.	Tushar Baburao Patil	<u>Patil</u>
73.	Mangesh Gampatrao Suryawanshi	<u>Suryawanshi</u>
74.	Prathmesh Ravaso Pawar	<u>Pawar</u>
75.	Atharv Pambhakar Suryawanshi	<u>Suryawanshi</u>
76.	Balasaheb Anu Rupanur	<u>Balasaheb</u>
77.	Prathamesh Dattatray Patil	<u>Patil</u>
78]	Sandesh Sanjay Kumar Shinde	<u>Sandesh</u>
79]	Om Sanjay Jadhav	<u>Om</u>
80]	Om Shrikant Bajvale	<u>Om</u>
81]	Praj Jabbur Mujawar	<u>Praj</u>
82]	Prathmesh Sambhaji Masur	<u>P.S.M</u>
83]	Ritesh Ravindra Kadam.	<u>R.Kadam</u>
84]	Jash Dilip Pawar	<u>J.Pawar</u>
85]	Makrand Hanmantao Zure	<u>M.Zure</u>
86.	Bondgar Prakash susyaba	<u>P.Bondgar</u>
87]	prathamesh chandrakant Shinde	<u>P.C. Shinde</u>
88]	shreyash Balaso kumbhar	<u>S.Kumbhar</u>
89]	Jaywardhan vijay lokhane	<u>J.Lokhane</u>
90]	Sushant Sukumar Desai.	<u>S.S. Desai</u>
91]	Abhishek Akram Icharat.	<u>A. Akram</u>
92]	Vijay Pandurang Bhosale.	<u>V.P. Bhosale</u>
93]	Vikas Balu Gadade	<u>B.Gadade</u>

Sr. No.	Name of student	Signature
94]	Pitambar Gajanan Kalyankar	
95]	Karan Pramod Mirajkar	
96]	Abhishek shrimant shinde	
97]	Pranav Anil Patil	
98]	Sumit Bhimrao Sunyawanshi	
99]	Karan Bhagawan Hulwan	
100]	Ishwar Sharanappa Kore	
101]	Akshay Bhagavan Pandhure	
102]	Prashmesh Deepak Pawar	
103]	Sumit Shivkumar bansode	
104]	Omkar Vishwas Karande	
105]	Satej Vitthal Pawar	
106]	Rohit Balu- Bhosale	
107]	Sushant Sanjay Khanderkar	
108]	Swapnil Chandrakant Patil	
109]	Digvijaysinh Ajitsinh Pawar	
110]	Vishuheet Kiran Bhosale	
111]	Azharuddin Badruddin Parekar	
112]	Suyash Santosh Gadade	
113]	Sourabh Kundlik Wavare	
114]	Omkar Gajanan Patil	
115]	Pavan Kumar Maruti Mali	
116]	chetan Dadaso Pawar	
117]	Tejashri Ravso Jadhav	
118]	Ashwini Ankush Dhale	