

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Second Sem. (B. Pharm) midsemester examination 2008-09**  
**Pharmaceutics-II (Theory) 23-03-09**  
**Time- 1 hr** **Full mark-20**

Answer all questions

1. Answer any five questions [2×5]
  - a. Write down four objective of crystallization in field of pharmacy.
  - b. Define nucleation and enumerate how various factors affect the process of nucleation.
  - c. Write down four disadvantages of Mier's supersaturation theory.
  - d. What are the advantages of Swenson walker crystallizer over tank crystallizer?
  - e. Write down four methods of preventing caking of crystals.
  - f. "Crystal hydrates are more water soluble then crystal solvates"- write comment on statement.
  - g. Write importance of polymorphism in pharmaceutical field.
2. Answer any two questions [3×2]
  - a. Define size reduction. Write down four objectives of size reduction.
  - b. Explain the mechanism of size reduction with examples.
  - c. Write short notes on "factors affecting on size reduction process".
3. Write construction principle, construction, working & advantages of fluid energy Mill OR ball mill. [4]

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta.**  
**Dist. – Rajkot, Gujarat.**

**First Internal Examination (Theory) 2008-09.**

**First Year B. Pharm (2<sup>nd</sup> sem.)**

**Subject:-Physical Chemistry**

**Total Marks - 20**

**Dt-24-03-09**

**Time:-11-12pm**

**Note** – Figures to the right of question indicate marks for the question.

**Q-1 Define the following (Any four) 04**

1. Heat of adsorption
2. Refractive index
3. Kinematic viscosity
4. Molar refraction
5. Comment: Half life for a first order reaction is independent of the initial concentration.

**Q-2 Answer the following (Any two) 06**

1. Classify Viscometer's. Explain in brief Ostwald viscometer with suitable diagram.
2. Define Surface tension. Name the various methods for determination of surface tension. Explain any one.
3. Write a note on collision theory and its limitations.

**Q-3 Answer the following (Any five) 10**

1. Derive  $x/k' = (k_p / 1 + k_p)$ .
2. Distinguish by various point Vander Waal's adsorption and chemisorptions.
3. Explain the parallel reaction and reversible reaction with example.
4. Derive the equation  $k = 2.303/t \times \log a/a-x$ .
5. Write a note on transition state theory.
6. Derive the Arrhenius equation and discuss how it is useful to calculate the energy of activation.

**Mts. V B Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Mid-Semester examination (2<sup>nd</sup> Sem. B. Pharm)-2009**

**A.P.H.E.(Theory) 25-03-09**

**Time- 1 hr**

**Full mark-20**

**(Answer all Questions)**

- Q-1 Write down physiology of urine formation? [8]**  
**or**  
**Structure & function of kidney & nephron?**
- Q-2 Explain the role of S.A. node & A.V. node of blood circulation? [4]**
- Q-3 What are the factor that maintain & modify the blood pressure? [4]**
- Q-4 Define the term of Atherosclerosis, write down the name of diseases associated with urinary system? [2]**
- Q-5 Write down difference between artery & vein? [2]**

**Mts. V B Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Mid-Semester examination (2<sup>nd</sup> Sem. B. Pharm)-2009**  
**Pharmacognosy (Theory)**

**Time- 1 hr**

**Full mark-20**

**(Answer any four Questions)**

**Dt-26-03-09**

**Q-1 Define Pharmacognosy. Write down the scope of Pharmacognosy. (1+4)**

**Q-2 Define crude drugs. On what basis crude drugs are classified. Describe in detail about chemical or pharmacological classification with example. (1+1+4)**

**Q-3 what do you mean by adulteration of crude drug. Describe with example various types of adulteration available. (1+4)**

**Q-4 what are advantage of cultivation of crude drug. Enumerate the various factors affecting cultivation of crude drugs. Describe how soil and soil fertility affects cultivation of crude drug. (5)**

**Q-5 How crude drugs are evaluated. Describe in detailed about microscopically evaluation of crude drug. (1+4).**

**Q-6 Write short notes on any two (2.5×2)**

**(a) Polyploidy (b) Auxins (c) Gibberellins**

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Second Sem. (B. Pharm) midsemester examination 2008-09**  
**Physical pharmaceutics (Theory)**

**Time- 1 hr**

**Full mark-20**

Dt-27-03-09

**Answer any four questions (5×4)**

Q-1 Give the definition of following terms with examples.

(a) Vapour pressure (b) Angle of repose (c) Latent heat (d) Eutectic mixtures (e) polymorphism

Q-2 Describe various types of particle size. Enumerate various methods for determining particle size. Explain conductivity method or sedimentation method in detail.

Q-3 Define sublimation. Explain it with example giving phase diagram.

Q-4 what is colloids .Enlist the application of colloids. Discuss about the protective colloidal action.

Q-5 Discuss briefly about the different parameter involved in the instability of emulsion.

Q-6 Write a short note on isotonic solution.



*Peoples Welfare Society Sanchalit*  
*Shree V. B. Manwar College of Pharmacy*



Applied Mathematics

(Biostatistics) Dt-28-03-09

Mid Semester Examination

Full Marks: 20.

Duration-1hour

Attempt any four

- (1) Eight items of a sample have the following values :  
47, 50, 52, 48, 47, 49, 53, 51  
Does the mean of the 8 observations differ significantly from the assumed population mean of 48 ? Use 5% level of significance.  
[  $t_{7, 0.05} = 2.36$  ]

- (2) Thirty micrograms of vitamin B<sub>12</sub> were given intramuscularly every fourth week to six patients of pernicious anemia during period of remission. The results are given below. Do the data indicate improvement in homoglobin level ? ( $t_{5, 0.05} = 2.57$ )

Individual Number	Homoglobin g%	
	Before Therapy	After fourth week of Therapy
1	12.2	13.0
2	11.3	13.4
3	14.7	16.0
4	11.4	13.6
5	11.5	14.0
6	12.7	13.8

- (3) Compute correlation coefficient for the following data and interpret it :

x	4	5	9	14	18	22	24
y	16	22	11	16	7	3	17

- (4) The competitors in a beauty contest are ranked by three judges in the following order.

1st Judge	1	5	4	8	9	6	10	7	3	2
2nd Judge	4	8	7	6	5	9	10	3	2	1
3rd Judge	6	7	8	1	5	10	9	2	3	4

Use rank correlation coefficient to discuss which pair of judges has nearest approach to beauty.

- (5) From the following data calculate two equations of line of regression.

	X	Y
Mean	60	67.5
Standard deviation	15	13.5

Correlation coefficient between X and Y is 0.50. Also estimate the value of Y for X = 72 using the appropriate regression equation.

- (6) A pharmaceutical company wishes to test whether its three salesmen A, B and C tend to make sales of the same size or whether they differ in their selling ability as measured by the average size of their sales. The following are the weekly sales record of three salesmen.

A	B	C
20 units	50 units	60 units
30 units	20 units	20 units
20 units	20 units	30 units
40 units	30 units	50 units
30 units	40 units	40 units

Determine whether the average sales of three salesmen differ in size.

- (7) Find the lines of regression of Y on X, if  $n = 9$ ,  $\Sigma x = 30.3$ ,  $\Sigma y = 91.1$ ,  $\Sigma xy = 345.09$  and  $\Sigma x^2 = 115.11$ . Also find the values of variable Y when X = 1.5 and X = 5.0.

## **PRACTICAL QUESTION PAPER**

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Second Sem. (B. Pharm) midsemester examination 2008-09**  
**Pharmaceutics-II (Practical) Group-A**

**Time- 3 hr**

**Full mark-20**

Dt-23-03-09

All questions are compulsory

1. **Experiment:**

[8]

Construct mier's supersaturation curve taking 25ml different concentration of  $\text{CuSO}_4$  as given below in table and proof that how it deviate when agitated and seeding condition are maintained.

	A	B	C	D	E
1	62%	60%	64%	66%	62%
2	66%	64%	68%	70%	70%
3	70%	68%	72%	74%	74%
4	74%	72%	76%	78%	80%

2. Write synopsis on

a. Define the following terms with suitable examples

[3]

Crystallization, Polymorphism, Caking of Crystals

b. Write principle, construction & working of agitated batch crystallizer. [3]

3. Viva

[6]

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Second Sem. (B. Pharm) midsemester examination 2008-09**  
**Pharmaceutics-II (Practical) Group-B**

**Time- 3 hr**

**Full mark-20**

Dt-24-03-09

All questions are compulsory

**1. Experiment:**

[8]

Construct mier's supersaturation curve taking 20ml of different concentration of  $\text{NaNO}_2$  as given below in table and proof that how it deviate when agitated and seeding condition are maintained.

	A	B	C	D	E
1	62%	60%	64%	66%	62%
2	66%	64%	68%	70%	70%
3	70%	68%	72%	74%	74%
4	74%	72%	76%	78%	80%

**2. Write synopsis on**

- a. Define the following terms with suitable examples [3]  
Nucleation, Amorphous, Caking of Crystals
- b. Write principle, construction & working of fluid energy mill. [

**3. Viva [6]**

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Second Sem. (B. Pharm) midsemester examination 2008-09**  
**Pharmaceutics-II (Practical) Group-C**

**Time- 3 hr**

**Full mark-20**

**Dt-25-03-09**

All questions are compulsory

**1. Experiment:**

[8]

Construct mier's supersaturation curve taking 24ml of different concentration of  $\text{CuSO}_4$  as given below in table and proof that how it deviate when agitated and seeding condition are maintained.

	A	B	C	D	E
1	62%	60%	64%	66%	62%
2	66%	64%	68%	70%	70%
3	70%	68%	72%	74%	74%
4	74%	72%	76%	78%	80%

**2. Write synopsis on as given below in table**

- a. Define the following terms with suitable examples [3]  
Crystal hydrates, Polymorphism, Crystal habits
- b. Write short notes on theory of crystallization. [3]

**3. Viva [6]**

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta.**

**Dist. – Rajkot, Gujarat.**

**Mid-semester examination (Practical) 2008-09.**

**2<sup>nd</sup> semester B. Pharm**

**Subject:-Physical Chemistry**

**Total Marks - 20**

**Dt-23-03-09**

**Note** – Figures to the right of question indicate marks for the question.

**Batch B**

**Q-1** Synopsis 05

- 1) Differences between Order of Reaction and Molecularity of Reaction.
- 2) Derive the units of rate constants of second order reaction.
- 3) Define Viscosity. And write down the units of viscosity.
- 4) Half- life of a second order reaction is depends on initial concentration.

**Q-2** To determine the reaction rate constant of ethyl acetate in sodium hydroxide solutions at room temperature when the initial concentration of the both reactants are the same. 10

**Q-3** Viva Voice 05

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta.**

**Dist. – Rajkot, Gujarat.**

**Mid-semester Examination (Practical) 2008-09.**

**2<sup>nd</sup> semester B. Pharm**

**Subject:-Physical Chemistry**

**Total Marks - 20**

**Dt-24-03-09**

**Note** – Figures to the right of question indicate marks for the question.

**Batch A**

**Q-1** Synopsis

05

- 1) Derive the equation for first order reaction. 02
- 2) Define the adsorption, adsorbent, adsorbate. 01
- 3) Define Surface tension. How is surface tension determined? 01
- 4) Half- life of a first order reaction is independent on initial concentration. 01

**Q-2** To determine the reaction rate constant of ethyl acetate in sodium hydroxide solutions at room temperature when the initial concentration of the both reactants are the same. 10

**Q-3** Viva Voice

05

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta.**

**Dist. – Rajkot, Gujarat.**

**Mid-semester Examination (Practical) 2008-09.**

**B. Pharm (2<sup>nd</sup> sem.)**

**Subject:-Physical Chemistry**

**Total Marks - 20**

**Dt-25-03-09**

**Note** – Figures to the right of question indicate marks for the question.

**Batch C**

**Q-1 Synopsis**

05

- |  |    |
|--|----|
| 1) Freundlich isotherm is not applicable at high pressures.        | 01 |
| 2) What are units of viscosity? How does it vary with temperature? | 01 |
| 3) Define Surface tension and viscosity.                           | 01 |
| 4) Derive the equation for second order rate reaction.             | 02 |

**Q-2** To determine the reaction rate constant of ethyl acetate in sodium hydroxide solutions at room temperature when the initial concentration of the both reactants are the same. 10

**Q-3 Viva Voice**

05

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Mid-Semester examination (2<sup>nd</sup> Sem. B. Pharm)-2009**  
**APHE (Practical) Group-B**

**Time- 1 hr**

**Full mark-20**

Dt-23-03-09

- Q.1. Write down synopsis on G.F.R. ? [6]
- Q.2. Perform experiments on arterial & venous system? [7]
- Q.3. Viva-voice [5]
- Q.4. Journal [2]

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Mid-Semester examination (2<sup>nd</sup> Sem. B. Pharm)-2009**  
**APHE (Practical) Group-A**

**Time- 1 hr**

**Full mark-20**  
**Dt-24-03-09**

- |  |     |
|--|-----|
| Q.1. Write down synopsis on <u>blood circulation</u> ? | [6] |
| Q.2. Perform experiments on arterial & venous system?  | [7] |
| Q.3. Viva-voice  | [5] |
| Q.4. Journal   | [2] |

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Mid-Semester examination (2<sup>nd</sup> Sem. B. Pharm)-2009**  
**APHE (Practical) Group-C**

**Time- 1 hr**

**Full mark-20**  
**Dt-25-03-09**

- |   |     |
|---|-----|
| Q.1. Write down synopsis on <u>diseases of urinary system</u> ? | [6] |
| Q.2. Perform experiments on arterial & venous system?           | [7] |
| Q.3. Viva-voice   | [5] |
| Q.4. Journal  | [2] |

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Mid-Semester examination (2<sup>nd</sup> Sem. B. Pharm)-2009**  
**Physical Pharmaceutics (practical)**

**Time- 1 hr**

**Group-A**

**Full mark-20**

**Dt-28-03-09**

Q.1. To determine the relative viscosity of the unknown given liquid sample.(10)

Q.2. Synopsis on [5]

(a) Physical instabilisation of emulsion (3)

(b) Classification of suspension (2)

Q-3 Viva-Voice and Journal [5]

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Mid-Semester examination (2<sup>nd</sup> Sem. B. Pharm)-2009**  
**Physical Pharmaceutics (practical)**

**Time- 1 hr**

**Group-B**

**Full mark-20**

**Dt-26-03-09**

Q.1. To determine the relative viscosity of the unknown given liquid sample.(10)

Q.2. Synopsis on

(a) Describe Stoke's law (2)

(b) Derived properties of powder.(3)

Q-3 Viva-Voice and Journal

[5]

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta, Rajkot**  
**Mid-Semester examination (2<sup>nd</sup> Sem. B. Pharm)-2009**  
**Physical Pharmaceutics (practical)**

**Time- 1 hr**

**Full mark-20**

**Group-C**

**Dt-27-03-09**

Q.1. To determine the relative viscosity of the unknown given liquid sample. (10)

Q.2. Synopsis on

(a) Define emulsion and classify it. (2)

(b) Define porosity angle of repose and bulk density (1.5)

© Define Mcromeritics and give its application in pharmacy (1.5)

Q-3 Viva-Voice and Journal

[5]

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta.**

**Dist. – Rajkot, Gujarat.**

**Midsemester Examination (Practical) 2008-09.**

**B. Pharm (2<sup>nd</sup> semester)**

**Subject:-Pharmacognosy-I**

**Total Marks - 20**

**Dt-27-03-09**

**Note** – Figures to the right of question indicate marks for the question.

**Batch A**

<b>Q-1. Synopsis</b>	<b>05</b>
I) Give answer in one sentence.	02
a) Role of safranin solution	
b) Unorganized crude drug	
II) Write a note on “LEAF CONSTANTS & STOMATA”.	03
<b>Q-2. To Study the Morphology and Microscopy of the given sample of MAIZE LEAF.</b>	<b>10</b>
<b>Q-3 Viva Voice</b>	<b>05</b>

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta.**

**Dist. – Rajkot, Gujarat.**

**Midsemester Examination (Practical) 2008-09.**

**B. Pharm (2<sup>nd</sup> sem.)**

**Subject:-Pharmacognosy-I**

**Total Marks - 20**

**Dt-28-03-09**

**Note** – Figures to the right of question indicate marks for the question.

**Batch B**

<b>Q-1. Synopsis</b>	<b>05</b>
I) Give answer in one sentence.	03
a) Role of Fluoroglucinol & HCl solution.	
b) Stomata Index (S.I.)	
c) Anisocytic stomata	
II) Differentiate between Organized & Unorganized crude drug.	02
<b>Q-2. To Study the Morphology and Microscopy of the given sample of MAIZE ROOT.</b>	<b>10</b>
<b>Q-3. Viva Voice</b>	<b>05</b>

**Mts. V. B. Manvar College of Pharmacy, Dumiyani, Upleta.**

**Dist. – Rajkot, Gujarat.**

**Midsemester Examination (Practical) 2008-09.**

**B. Pharm (2<sup>nd</sup> sem.)**

**Subject:-Pharmacognosy-I**

**Total Marks - 20**

**Dt-26-03-09**

**Note** – Figures to the right of question indicate marks for the question.

**Batch C**

<b>Q-1. Synopsis</b>	<b>05</b>
I) Give answer in one sentence.	02
a) Palisade ratio	
b) Organized crude drug	
II) Write a short note on “Anatomy of LEAF”.	03
<b>Q-2. To Study the Morphology and Microscopy of the given sample of MAIZE STEM.</b>	<b>10</b>
<b>Q-3. Viva Voice</b>	<b>05</b>