

ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ

(1961 ਦੇ ਪੰਜਾਬ ਐਕਟ ਨੰਬਰ 35 ਤਹਿਤ ਸਥਾਪਤ)

(ਕਾਲਜ ਸੈਕਸ਼ਨ)

ਨੰ. 1316-----/ਕਾਲਜ-3

ਮਿਤੀ 18/4/2009

ਪ੍ਰਿੰਸੀਪਲ,

ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ

ਪਟਿਆਲਾ

ਵਿਸ਼ਾ:- ਗੈਰ-ਮਾਨਕ ਕੋਲ ਫਾਰਮਾਸਿਊਟੀਕਲ ਕੋਰਸ ਦੀ ਪੜ੍ਹਾਈ

ਸ਼ੀਮਾਨ ਜੀ,

ਆਪ ਜੀ ਦੇ ਦਫਤਰ ਦੇ ਪੱਤਰ ਨੰ. 4522 ਮਿਤੀ 6-3-2009 ਦੇ ਹਵਾਲੇ ਵਿਚ ਸੂਚਿਤ ਕੀਤਾ ਜਾਂਦਾ ਹੈ ਕਿ ਵਾਈਸ-ਚਾਂਸਲਰ ਸਾਹਿਬ ਨੇ ਆਪ ਜੀ ਦੇ ਕਾਲਜ ਵਿਖੇ ਸੈਸਨ 2009-10 ਤੋਂ ਤੈਰੇ ਅਰ ਉਰੀਐਂਟਿਡ ਸਕੀਮ ਅਧੀਨ ਫਾਰਮਾਸਿਊਟੀਕਲ ਕੋਰਸ ਦੀ ਪੜ੍ਹਾਈ ਸ਼ੁਰੂ ਕਰਨ ਦੀ ਪ੍ਰਵਾਨਗੀ ਅਕਾਦਮਿਕ ਕੋਲ ਦੀ ਪ੍ਰਵਾਨਗੀ ਦੀ ਆਸ ਵਿਚ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ। ਇਥੇ ਇਹ ਸਪੱਸ਼ਟ ਹੈ ਕਿ ਕਾਲਜ ਤੁਹਾਡੀ ਅਤੇ ਯੂਨੀਵਰਸਿਟੀ ਦੀਆਂ ਸਰਤਾਂ ਦੀ ਪਾਲਣਾ ਕਰਨ ਦਾ ਪਾਬੰਦ ਹੋਵੇਗਾ।

ਵਿਸ਼ਵਾਸਪਾਤਰ,

ਸਹਾਇਕ ਰਾਜਿਸਟਰਾਰ, ਕਾਲਜ

Harjeet Gargal

Principal
Sahibzada Ajit Singh Nagar

TRANSLATED VERSION

PUNJABI UNIVERSITY, PATIALA

(Established under Punjab Act No. 35 of 1961)

(College Section)

No. 1316/college/s-3

Date: 22/4/09

Principal

Government College

Mohali

Subject: Permission to start Add-on course in Pharmaceutical Chemistry

Respected Sir,

In response of this letter no. 9822, date: 6/3/09, it is said that the Vice- Chancellor has given the permission to start "Add-on course in Pharmaceutical Chemistry" under the career oriented scheme in our college from session 2009-10. The permission is given under the anticipatory approval of the Academic Council. Further, it is important to mention that college is bound to abide by the conditions and norms of university and UGC.

Yours faithfully,

Assistant Registrar

(colleges)

To,

The Principal

S.M.H.S. Government College

S.A.S. Nagar Mohali

Respected Ma'am,

We plan to start Add-on Course in Pharmaceutical Chemistry, UGC Sponsored course for B.Sc. (medical) and B.Sc. (non-medical) students. The duration of the course is one year which includes theory and practical classes. Kindly grant us permission to start this course from 1st September 2021.

Thanking you

Yours sincerely

Harjeet Gargal

Principal
SMHS Govt. College
Sahibzada Ajit Singh Nagar

SMHS Govt. College Mohali

Chemistry Department

NOTICE FOR STUDENTS

This is for the information of the students that the college is going to start Add-on course in Pharmaceutical Chemistry , UGC sponsored course for session 2021-22. B.Sc. (medical) and B.Sc. (non-medical) students are eligible. The course will be of one year. Students can apply from 15th August to 31st August 2021. Classes will commence from 1st september 2021 in Chemistry Lab.

COURSE OFFERED

- 1) Certificate course for B.Sc. 1st year
- 2) Diploma course for B.Sc. 2nd year
- 3) Advanced Diploma for B.Sc. 3rd year

ASSESSMENT CRITERIA

Maximum Marks- 100

Theory paper- 40

Theory Internal Assessment- 20

Practical Paper – 30

Practical Internal Assessment- 10

Certificates for this course will be awarded by Punjabi University, Patiala.

Harjeet Arjyal

Principal
SMHS Govt. College
Sahibzada Ajit Singh Nagar

Principal

S.M.H.S Government College, Mohali

LESSON PLAN FOR ADD-ON COURSE IN PHARMACEUTICAL CHEMISTRY

Session- 2018-2019,20,21,22,23

For B.Sc. 1st year (Medical and Non- medical) (sem 1 and 2)

Subject: Add on Certificate course in Pharmaceutical Chemistry

Start of course: 2nd week of September 2022

End of course: 1st week of May 2023

MONTH	TOPICS COVERED
6 th sep-10 th sep	1. Acids & Bases: acid base theory, specification of acidity and basicity
12 th - 17 th sep	Official inorganic acids (Boric Acid, Hydrochloric Acid, Nitric Acid, Phosphoric Acid). Non-official inorganic acid (Sulphuric Acid),
19 th -24 th sep	Official inorganic bases (Strong Ammonia Solution, Calcium Hydroxide, Potassium Hydroxide, Sodium Carbonate, Sodium Carbonate, Soda lime).
26 th -30 th sep	2. Buffers: Theory and Mechanism
1 st oct-8 th oct	Pharmaceutical Buffer selection, Pharmaceutical buffer systems.
10 th -15 th oct	3. Essential and Trace Ions: Iron
17 th -22 nd Oct	Copper, Zinc, Chromium
24 th -31 st oct	4. Gastrointestinal Agents: Acidifying agents
1 st nov- 5 th nov	antacids (antacid products: Sodium Bicarbonate, Aluminium containing antacids.
7 th -12 th nov	Aluminium Hydroxide, Tribasic Calcium Phosphate, Magnesium containing Antacids
14 th -19 th nov	Magnesium Carbonate, Magnesium Hydroxide. Practical- 1. The student should be introduced to the main analytical through demonstrations. They should have a clear understanding of a typical analytical balance, the requirement of good balance, weights, care and use of balance methods of weighing and error on weighing. The student should also be acquainted with general apparatus required in various analytical procedures.
21 st -26 th nov	5. Topical Agents: Astringents: Official compounds of Aluminium and Zinc.
28 th -30 th nov	6. Dental products Anticaries agents: Fluorides, Phosphates
1 st dec-3 rd dec	7. Nuclear Chemistry: Nuclear composition Practical- 2. Standardization of analytical weights and calibrations of volumetric apparatus.
5 th -10 th dec	Force and stability, isotopes, radioactive emission, measurement of radioactivity,
12 th -17 th dec	model of decay, half-life period, artificial radioactivity, application in pharmacy
19 th -24 th dec	8. Coordination Compounds and Complexation: Theoretical consideration
26 th -31 st dec	8. Coordination Compounds and Complexation: Theoretical consideration Practical- 3. Acid Base Titrations: Preparation and standardization of acids and bases.
2 nd jan-7 th jan	8. Coordination Compounds and Complexation: Theoretical consideration

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Sahibzada Ajit Singh Nagar
Sahibzada Ajit Singh Nagar

	Practical- 4. Oxidation–Reduction Titrations: Preparation and standardization of some redox titrants e.g potassium permanganate, potassium dichromate, iodine, sodium thiosulphate
9 th -14 th jan	official products (Calcium Disodium EDTA). Practical- 5. Use of Gravimetric Analysis shall be covered like estimation Nickel and Copper
16 th -21 st jan	9. Acid Base Titrations: Acid base concept. Role of the solvent, Relative strengths of acids and bases
23 rd -31 st jan	Law of action. Common ion effect, ionic product of water, pH, Hydrolysis of salts, Handerson-Hasselbach equation.
1 st feb-4 th feb	Buffer and buffer capacity. Acid Base indicators, Practical- 6. The student should be introduced to the various laboratory techniques through demonstration involving single step synthesis of some selected organic compounds of medicinal importance.
6 th -11 th feb	Theory of Indicators, Choice of indicators. Practical- 7. Identification of Organic compounds having functional group: Acidic, Phenolic, Aldehyde, Ketone.
13 th -18 th feb	Neutralization curves (Strong acid strong base, strong acid weak base, weak acid strong base and weak acid weak base).
20 th -28 th feb	10. Oxidation –Reduction titrations: Concept of oxidation and reaction.
1 st mar-4 th mar	Redox reactions, equivalent weight of oxidizing and reducing agents, electrochemical cells
6 th -11 th mar	Reduction potential, standard reduction potential, Nernst equation
13 th -18 th mar	Cell representations, measurement of electrode potential Practical- 8. Introduction to the use of stereo models. 9. Limit test for Chloride, Sulphate, Lead, Iron
20 th -25 th mar	measurement of electrode potential and its application in determining the equilibrium constant of a reaction.
27 th -31 st mar	11. Theoretical basis of qualitative detection of inorganic cations and anions. Practical- 10. Quantitative Inorganic analysis.
1 st apr-8 th apr	12. Stereochemistry: Introduction, Stereoisomerism, Enantiomerism,
10 th -15 th apr	Diastereoisomerism, optical activity, chiral centre, Racemic modification
17 th -22 nd apr	Meso-structure, Configuration, Reaction involving stereoisomers, Stereospecific reactions.
24 th -29 th apr	13. Add Structure nomenclature Preparation & Reaction of: Alkane, Alkene,
1 st may- 6 th may	Alkynes and their cyclic analogs, Alkyl Halides Benzene

SYLLABUS

CERTIFICATE COURSE IN PHARMACEUTICAL CHEMISTRY

For 2018-19, 2019-20 and 2020-21, 2021-22, 2022-23 session

3Hrs./Week

Max. Time: 3 Hrs.

Max. Marks: 40

Internal Assessment: 20

Total Marks: 60

INSTRUCTIONS FOR THE PAPER SETTERS

The question paper will consist of three sections A, B and C. Section A and B each will have four questions from the respective sections of the syllabus. Each question shall carry 4 marks. Section C will consist of 8 short answer type questions which will cover the entire syllabus uniformly and will carry 16 marks in all.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt three questions each from section A and B. Section C is compulsory

SECTION A

1. Acids & Bases: acid base theory, specification of acidity and basicity, Official inorganic acids (Boric Acid, Hydrochloric Acid, Nitric Acid, Phosphoric Acid). Non-official inorganic acid (Sulphuric Acid), Official inorganic bases (Strong Ammonia Solution, Calcium Hydroxide, Potassium Hydroxide, Sodium Carbonate, Soda lime).
2. Buffers: Theory and Mechanism, Pharmaceutical Buffer selection, Pharmaceutical buffer systems.
3. Essential and Trace Ions: Iron, Copper, Zinc, Chromium.
4. Gastrointestinal Agents: Acidifying agents, antacids (antacid products : Sodium Bicarbonate, Aluminium containing antacids. Aluminium Hydroxide, Tribasic Calcium Phosphate. Magnesium containing Antacids, Magnesium Carbonate, Magnesium Hydroxide.
5. Topical Agents:
Astringents: Official compounds of Aluminium and Zinc.
6. Dental products
Anticaries agents: Fluorides, Phosphates.
7. Nuclear Chemistry: Nuclear composition, Force and stability, isotopes, radioactive emission.

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Lambada Apt Singh Nagar

measurement of radioactivity, model of decay, half life period, artificial radioactivity, application in pharmacy.

8. Coordination Compounds and Complexation: Theoretical consideration and official products (Calcium Disodium EDTA).

SECTION B

9. Acid Base Titrations: Acid base concept. Role of the solvent, Relative strengths of acids and bases, Law of action. Common ion effect, ionic product of water, pH, Hydrolysis of salts. Handerson-Hasselbach equation. Buffer and buffer capacity. Acid Base indicators. Theory of Indicators, Choice of indicators. Neutralization curves (Strong acid strong base, strong acid weak base, weak acid strong base and weak acid weak base).
10. Oxidation –Reduction titrations: Concept of oxidation and reaction. Redox reactions. equivalent weight of oxidizing and reducing agents, electrochemical cells. Reduction potential, Standard reduction potential. Nernst equation. Cell representations, measurement of electrode potential and its application in determining the equilibrium constant of a reaction.
11. Theoretical basis of qualitative detection of inorganic cations and anions.
12. Stereochemistry: Introduction, Stereoisomerism, Enantiomerism, Diastereoisomerism. optical activity, chiral centre, Racemic modification, Meso-structure, Configuration. Reaction involving stereoisomers, Stereospecific reactions.
13. Add Structure nomenclature Preparation & Reaction of : Alkane, Alkene, Alkynes and their cyclic analogs, Alkyl Halides Benzene.

LABORATORY

3Hrs./Week

Max. Time: 3 Hrs.

Max. Marks: 40

1. The student should be introduced to the main analytical through demonstrations. They should have a clear understanding of a typical analytical balance, the requirement of good balance, weights, care and use of balance methods of weighing and error on weighing. The student should also be acquainted with general apparatus required in various analytical procedures.
2. Standardization of analytical weights and calibrations of volumetric apparatus.
3. Acid Base Titrations: Preparation and standardization of acids and bases.
4. Oxidation –Reduction Titrations: preparation and standardization of some redox titrants e.g potassium permanganate, potassium dichromate, iodine, sodium thiosulphate.

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Bhoda Ajit Singh Nagar

5. Use of Gravimetric Analysis shall be covered like estimation Nickel and Copper.
6. The student should be introduced to the various laboratory techniques through demonstration involving single step synthesis of some selected organic compounds of medicinal importance.
7. Identification of Organic compounds having functional group: Acidic, Phenolic, Aldehyde, Ketone.
8. Introduction to the use of stereo models.
9. Limit test for Chloride, Sulphate, Lead, Iron.
10. Quantitative Inorganic analysis.

BOOKS RECOMMENDED

1. J.H. Block, E. Roche, T.O. Soine & C.O. Wilson, "Inorganic Medicinal and Pharmaceutical Chemistry". Lea & Febiger, Philadelphia, P.A.
2. L.M. Artherden, Benteley & Drivers, "Textbook of Pharmaceutical Chemistry", 8th edition.. Oxford University Press, Delhi.
3. Pharmacopoeia of India, Govt. of India, Ministry of Health.
4. A.H. Beckett and Stenlake, "Practical Pharmaceutical Chemistry", part 1, 3rd edition.
5. J. Bassett, R.C. Denny, G.H. Jeffery, J. Mendham, Vogel's Textbook of Quantitative Inorganic Analysis including elemental instrumental/ Analysis, the ELBS and Longman. London (Latest edition).
6. F. G. Mann and B.C. Sunders, "Practical organic chemistry". The English Language Book Society and Longman Group London (Latest edition).
7. A.I. Vogel, "A textbook of practical Organic Chemistry", The English Language Book Society and Longman Group London (Latest edition).
8. E.I. Elien, "Stereochemistry of Carbon Compounds". Mc GrawHill Book Company, inc., New York (Latest Edition).

Harjeet Arjyal

Principal
Principal College
Nagar

2021-2022

GOVERNMENT COLLEGE, SAHIBZADA AJIT SINGH NAGAR, MOHALI
LIST OF STUDENTS WHO PAID FEES FOR EXAMINATION OF ADD-ON CERTIFICATE COURSE IN PHARMACEUTICAL CHEMISTRY

2021-2022

S. NO.	REG. NO.	ROLL NO.	NAME	FATHER'S NAME	MOTHER'S NAME	CATEGORY	SEX	MEDIUM	COURSE
081	1	612-21-412	860 Tammana (5081)	Sanjeev kumar	Saroj Rani	General	Female	English	Certificate Course
082	2	612-21-806	20003 Saurav (5082)	Des Raj	Satwinder Kaur	BC	Male	English	Certificate Course
083	3	612-21-801	20003 Harshdeep Singh (5083)	Ravinder Singh	Bhupinder Kaur	SC	Male	English	Certificate Course
084	4	612-21-366	658 Manmohan Singh	Surjit Singh	Gurmeet Kaur	SC	Male	English	Certificate Course
085	5	612-21-1056	20009 Rohit Kumar	Sanjeev Kumar	Suman Rani	BC	Male	English	Certificate Course
086	6	612-21-802	20004 Harsimran Kaur	Ranjit Singh	Ranjit Kaur	General	Female	English	Certificate Course
087	7	612-21-821	20004 Radhika Sood	Jagdeep Sood	Jyoti Sood	General	Female	English	Certificate Course
088	8	612-21-820	80009 Priya Rani	Raj Kumar	Salma Rani	BC	Female	English	Certificate Course
089	9	612-21-827	80064 Arshpreet Kaur	Swarn Singh	Rupinderjit Kaur	General	Female	English	Certificate Course
090	10	612-21-811	601 Hiteshi	Rakesh Kumar	Sangeeta Rani	General	Female	English	Certificate Course
091	11	612-21-819	Lovepreet Kaur	Hartript Singh	Surinder Kaur	SC	Female	English	Certificate Course
092	12	612-21-1052	20006 Jasveer Singh	Mangal Singh	Rajinder Kaur	SC	Male	English	Certificate Course

FEES

600 Tamana
600 Saurav
600 Harshdeep Singh
600 Manmohan Singh
600 Rohit Kumar
600 Harsimran Kaur
600 Radhika Sood
600 Priya Rani
600 Arshpreet Kaur
600 Hiteshi
600 Lovepreet Kaur
600 Jasveer

Total Students

- ① Certificate course - 12
- ② Diploma course - 19
- ③ Advanced Diploma - 23

11/04/21
S. H. S. S. C. V., Govt. Coll. Mohali
Sahibzada Ajit Singh Nagar.

ਪਰੀਖਿਅਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ
ਰੱਖਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ.

Certificate Theory

ਪ੍ਰਤਿ-ਪਰਚੀ

परीक्षार्थ By Ist / 2022

विषय Pharmaceutical Chemistry

परचा Certificate Theory

ਅਧਿਕਤਮ ਅੰਕ..... 40

ਪਾਸ ਅੰਕ : 14

ਰੋਲ ਨੰਬਰ	ਅੰਕ
5081	28
5082	27
5083	28
5084	36
5085	29
5086	30
5087	27
5088	27
5089	27
5090	34
5091	28
5092	32

ਪਾਸ 12 ਫੇਲ੍ਹ —

Harjeet Gajjar
Principal
Sri Sri Govt. College
Sahibzada Ajit Singh Nagar
Haryana

Principal
ਪ੍ਰਿੰਸੀਪਲ ਦੇ ਪੁਰੋਹਿਤ
SMHS Govt. College
Sahibzada Ajit Singh
PUP(O)-9095

Certificate
Theory
Int. Ass.

ਪ੍ਰਤਿ-ਪਰਚੀ

ਪਰੀਖਿਆ BS 1st Sem II / 2022

ਵਿਸਾ Phanna. Chemistry

ਪਰਚਾ Certificate
Theory Int. Ass.

ਅਧਿਕਤਮ ਅੰਕ 20

ਪਾਸ ਅੰਕ 07

ਰੋਲ ਨੰਬਰ	ਅੰਕ
5081	16
5082	16
5083	17
5084	19
5085	17
5086	18
5087	16
5088	17
5089	16
5090	19
5091	16
5092	18

ਪਾਸ 12 ਫੇਲ੍ਹ —

Gomal Singh

ਪਰੀਖਿਅਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

Harjeet

ਸੇਵਾ ਨੰਬਰ

ਪਰੀਖਿਆ ਦੁਆਰਾ ਦਿੱਤੇ ਮਹੀਨਿਆਂ ਲਈ
ਰੋਲ ਤੇ ਸੰਤਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

Certificate Practical
ਪ੍ਰਤਿ-ਪਰਚੀ

ਪਰੀਖਿਆ HSE Ist yr 2022

ਵਿਸ਼ਾ Pharm Chem

ਪਰਚੀ Certificate
(Practical)

ਅਧਿਕਤਮ ਅੰਕ 30

ਪਾਸ ਅੰਕ 10

ਰੋਲ ਨੰਬਰ	ਅੰਕ
5081	24
5082	24
5083	24
5084	29
5085	27
5086	28
5087	25
5088	27
5089	24
5090	29
5091	24
5092	28

ਪਾਸ 12 ਰੋਲ

Harjeet Arjyal

For marks

ਪਰੀਖਿਅਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ
ਰੱਖਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ.

ਪ੍ਰਤਿ-ਪਰਚੀ
ਪਰੀਖਿਆ BSc Ist Year 2022
ਵਿਸ਼ਾ: Pharma chem.
ਪਰਚਾ: Certificate
ਪ੍ਰਾਕਟਿਸਟ ਅੰਕ 10
ਪਾਸ ਅੰਕ 04

ਪਾਸ 12 ਫੰਲੂ —
Penelope
 ਪਰੀਕਿਅਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

Harjeet Singh

Certificate Course (2022)			
No.	Roll-No.	Name	Sign
1.	5081	Tammana Rani	Tammana Rani
2.	5082	Saurav	Saurav
3.	5083	Harshdeep Singh	Harshdeep Singh
4.	5084	Mannohan Singh	Mannohan Singh
5.	5085	Rohit Kumar	Rohit Kumar
6.	5086	Harsimran Kaur	Harsimran Kaur
7.	5087	Radhika Sood	Radhika Sood
8.	5088	Prisha	Prisha
9.	5089	Akshpreet Kaur	Akshpreet Kaur
10.	5090	Hiteshi	Hiteshi
11.	5091	Honepreet Kaur	Honepreet Kaur
12.	5092		

Harejeet Goyal

Principal -
SMHS Govt. College
Sahibzada Ajit Singh

Government College, S. A. S. Nagar, Mohali
Final Theory Examination
UGC Add on course in Pharmaceutical Chemistry
Course: Certificate Course in Pharmaceutical Chemistry
Session: 2021-2022

Max. Marks: 40

Max. Time: 3:00 hrs

SECTION A

This section carries 5 short answer type questions of 4 marks each and all are compulsory.

- Q.1) Explain radio-active decay. Mention units of radioactivity.
- Q.2) Explain the following acid-base concepts:
- a) Arrhenius Concept
 - b) Bronsted- Lowry Concept
- Q.3) What is optical activity? Explain it by giving examples.
- Q.4) Explain the terms:
- a) Buffer solutions
 - b) Buffer Capacity
 - c) Standard Buffer Solutions
- Q. 5) Explain half- life in detail.

SECTION B

Each section B, C, D and E carries 2 long answer type questions of 5 marks each. Attempt any one of them from each section.

- Q. 6) Explain the following terms:
- a) Law of mass action
 - b) common-ion effect
 - c) Acid- Base indicators
 - d) pH

OR

- Q. 7) What are topical agents? Explain the followings:
- a) Aluminium chloride
 - b) Zinc Sulphate

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Sahibzada Ajit Singh Nagar

c) Alum

SECTION C

Q. 8) Define anti caries agents? Explain the following compounds with method of preparation, properties and their uses:

a) Stannous Fluoride

b) Sodium Fluoride

OR

Q. 9) Explain the following:

a) Lewis Concept

b) Conjugate Acid-Base pairs

c) Strong Ammonia solution

d) Phosphoric Acid

SECTION D

Q. 10) Explain the following in detail:

a) Difference between Diastereomers and Enantiomers

b) Stereoisomerism

c) Meso- compounds

OR

Q. 11) Explain the following terms with example:

a) Essential elements

b) Any three reactions of Alkanes and Alkynes

SECTION E

Q. 12) What are gastrointestinal agent? Explain the following:

a) Tribasic Calcium Phosphate

b) Magnesium Carbonate heavy

OR

Q. 13) Explain the following terms:

a) Nernst Equation

b) Redox Reactions

c) Standard Electrode Potential

Dec 2021

BSc 1st year

Part on course in Pharmacy
Community (Certificate)

Dec 2021

December 2021

		Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21	Dec/01/21
601	M. K. Kaur	P	P	P	P	P	P	P	P	P	P	P	P
6008	Harpreet Kaur	P	P	P	P	P	P	P	P	P	P	P	P
6009	Priya Rani	P	P	P	P	P	P	P	P	P	P	P	P
6016	Ashpreet Kaur	P	P	P	P	P	P	P	P	P	P	P	P
6018	Radhika Goud	P	P	P	P	P	P	P	P	P	P	P	P
6001	Pooja Kumari						P	P	P	P	P	P	P
6003	Harshdeep Singh						P	P	P	P	P	P	P
6015	Harshdeep Singh						P	P	P	P	P	P	P
6000	Harshdeep Singh						P	P	P	P	P	P	P
6008	Harshdeep Singh						P	P	P	P	P	P	P
6006	Harshdeep Singh						P	P	P	P	P	P	P
6004	Harshdeep Singh						P	P	P	P	P	P	P

Harshdeep Singh

1st original

Jan 2022

BSc 3rd year

Practical course in
Pharmaceutical Chemistry

ਸਰੋਤਿਓਂ ਡਾ. ਸਿ. ਸਿ. ਕੇ. 52

ਰਾਜਸਰੀ ਅਸਿਸਟਰ - January 2022

ਰੋਲ ਨੰਬਰ	ਨਾਂ	12/1/22	13/1/22	14/1/22	15/1/22	16/1/22	17/1/22	18/1/22	19/1/22	20/1/22	21/1/22	22/1/22	23/1/22	24/1/22	25/1/22	26/1/22	27/1/22	28/1/22	29/1/22	30/1/22
860	Tamara Rani	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2002	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
861	Rina Rani	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
862	Rohit Kumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
863	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
864	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
865	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
866	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
867	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
868	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
869	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
870	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
871	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
872	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
873	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
874	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
875	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
876	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
877	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
878	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
879	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
880	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
881	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
882	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
883	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
884	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
885	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
886	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
887	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
888	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
889	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
890	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
891	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
892	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
893	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
894	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
895	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
896	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
897	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
898	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
899	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
900	Harshdeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Foratph...

Harjeet Arjial

Principal
2045 Govt. College
44 Ait Singh Nar

BSc 1st year
BSc 1st year
Feb 2022

Chemistry (Certificate Course)

February 2022

	1/2/2022	2/2/2022	3/2/2022	4/2/2022	5/2/2022	7/2/2022	8/2/2022	9/2/2022	10/2/2022	11/2/2022	12/2/2022	14/2/2022
601 Hiteshi	P	P	P	P	P	P	P	P	P	P	P	P
6008 Anupreet	P	P	P	P	P	P	P	P	P	P	P	P
6009 Priya	P	P	P	P	P	P	P	P	P	P	P	P
6016 Anshu	P	P	P	P	P	P	P	P	P	P	P	P
6010 Radhika	P	P	P	P	P	P	P	P	P	P	P	P
6009 Rohit	P	P	P	P	P	P	P	P	P	P	P	P
20003. Harshdeep	P	P	P	P	P	P	P	P	P	P	P	P
658 Manmohan	P	P	P	P	P	P	P	P	P	P	P	P
860 Tamanna	P	P	P	P	P	P	P	P	P	P	P	P
20008 Saurav	P	P	P	P	P	P	P	P	P	P	P	P
60006 Jasveer	P	P	P	P	P	P	P	P	P	P	P	P
20004 Harshman	P	P	P	P	P	P	P	P	P	P	P	P

Saur
Jasveer
28-2/22

Principal

Harjeet Garg

Principal
Sri Ganga College
Sahibzada Ajit Singh Nagar

March 2022 BSc 1st year

Add on course in
Pharmaceutical Chemistry
(Certificate Course)

12.03.22

March 2022

	25/3/2022	26/3/2022	28/3/2022	29/3/2022	30/3/2022	31/3/2022
Hiteshi	.	.	P	.	.	.
Lonepreet	P	P	P	P	P	P
Priya	P	P	P	P	P	P
Arshpreet	P	P	P	P	P	P
Radhika	P	.	P	.	P	P
Rohit	P	P	P	P	P	.
Harshdeep	.	P	.	.	.	.
Hannichan	.	.	.	.	.	.
Tamanna	.	.	.	.	.	.
Saurav	.	.	.	.	.	.
Jasveer	P	P	P	P	P	P
Harsimran	P	P	.	.	P	.

Finalized

Harjeet Singh

Principal
Govt. College
Ajit Singh

April 2022

BSc Ist year Add on course in the
central Chemistry
(Certificate course)

ਸਹਿਯੋਗੀ ਕਾਲਜ ਫਿ ਰੋ ਐ. 52

ਅਗਸਤੀ ਰਜਿਸਟਰ April 2022

ਵਾਹਨ

		1/4/2022	4/4/2022	5/4/2022	6/4/2022	13/4/2022	14/4/2022	22/4/2022	26/4/2022	27/4/2022	28/4/2022	29/4/2022	30/4/2022
501	Hiteshi	.	P	P	.	P	P	P	.	.	P	P	.
5008	Lonepreet	P	P	P	P	P	P	P	P	P	P	P	P
5009	Priya	.	P	P	P	P	P	P	.	P	P	P	.
5016	Anshpreet	P	P	P	.	P	P	P	.	P	P	P	.
5010	Radhika	P	P	P	.	P	P	P	.	P	.	P	.
5009	Rohit	.	P	P	P	.	.	P	.	.	.	.	.
20003	Harshdeep	.	.	.	.	.	.	.	.	.	.	P	.
658	Manmohan	.	.	.	.	.	.	.	.	.	.	P	.
830	Tamanna	P	.	.	.	.	.	.	.	.	.	.	.
20008	Saurav	.	.	.	.	.	.	P	.	P	.	P	.
0006	Jasveer	.	P	P	P	.	.	P	.	P	.	P	.
20009	Harsimran	.	.	.	.	.	P	.	.	.	.	.	.

Finalizing

Harjeet Goyal
Principal
SMHS Govt. College
Sahibzada Ajit Singh Nagar

May 2022 BSc 1st year

(Certificate course)

May 2022

		5/5/2022	6/5/2022	9/5/2022	11/5/2022	13/5/2022	16/5/2022	17/5/2022	18/5/2022	19/5/2022	20/5/2022	23/5/2022	24/5/2022
80010	Radhika	P	P	P	P	P	P	P	P	P	P	P	P
0016	Ashwini	P	P	P	P	P	P	P	P	P	P	P	P
80008	Ashwini			P	P	P	P	P	P	P	P	P	P
0009	Priya				P	P			P	P	P		P
20008	Ashwini				P								
601	Kirti				P	P		P	P	P		P	
00006	Jasveer					P						P	
20004	Harsimran												
860	Tamanna												
658	Mannohan												
00009	Rohit												
20003	Haideep												

Poonam

Harpal Singh
Principal
SMHS GO
Sahibzar