

ਪੰਜਾਬੀ ਪ੍ਰਤੀਵਰਸ਼ਿਟੀ, ਪਟਿਆਲਾ  
(1961 ਦੇ ਪੰਜਾਬ ਐਕਟ ਨੰਬਰ 35 ਤਹਿਤ ਸਥਾਪਤ;  
(ਕਾਲਜ ਸੈਕਸ਼ਨ)

ਨ. - 1316 / ਕਾਲਜ - 3  
ਮਿਤੀ 22/4/2017

ਪਿੰਡੀਪਲ,

ਪਿੰਡੀਪਲ  
ਕਾਲਜ

ਵਿਸ਼ਾ:- ਗੋਬਿੰਦ ਸਿੰਘ ਕੌਰ ਜੀ ਦੀ ਮੁਹੱਲੀ ਅਧਿਕਾਰ ਸੂਚਨਾ

ਸ੍ਰੀਮਨ ਜੀ,

ਆਪ ਜੀ ਦੇ ਦਫਤਰ ਦੇ ਪੱਤਰ ਨੰ. ੭੬੨੨ ਮਿਤੀ ੬-੩-੨੦੧੭ ਦੇ ਹਵਾਲੇ ਵਿਚ ਸੂਚਿਤ ਕੀਤਾ ਜਾਂਦਾ ਹੈ ਕਿ ਵਾਈਸ-ਚਾਂਸਲਰ ਸਾਹਿਬ ਨੇ ਆਪ ਜੀ ਦੇ ਕਾਲਜ ਵਿਖੇ ਸੈਸ਼ਨ 2009-10 ਦੇ ਕੈਰੀਅਰ ਉਦੀਆਂਟਿਡ ਸਕੀਮ ਅਧੀਨ ਕਾਲਜ ਸੈਕਸ਼ਨ ਦਾ ਵਿਸ਼ਾ ਸੁਰੂ ਕਰਨ ਦੀ ਪ੍ਰਵਾਨਗੀ ਅਕਾਦਮਿਕ ਕੌਂਸਲ ਦੀ ਪ੍ਰਵਾਨਗੀ ਦੀ ਆਸ ਵਿਚ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ। ਏਥੇ ਇਹ ਸਾਫਟ ਹੈ ਕਿ ਕਾਲਜ ਕੂਨੀ, ਸੀ. ਅਤੇ ਯੂਨੀਵਰਸਿਟੀ ਦੀਆਂ ਸੁਰਤਾਂ ਦੀ ਪਾਲਣਾ ਕਰਨ ਦਾ ਪਾਛਾਂ ਹੋਵੇਗਾ।

ਵਿਸ਼ਵਾਸਪਾਤਰ,

ਸਹਾਇਕ ਰੱਜਿਸਟਰਾਰ ਕਾਲਜ

Hajjeet Singh  
Principal  
S.S.G.C. College  
Salibzada 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 1<sup>st</sup> September 2020.

Thanking you

Yours sincerely

Hafizel Augra  
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 2020-21. B.Sc. (medical) and B.Sc. (non-medical) students are eligible. The course will be of one year. Students can apply from 15<sup>th</sup> August to 31<sup>st</sup> August 2020. Classes will commence from 1<sup>st</sup> september 2020 in Chemistry Lab.

COURSE OFFERED

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

Principal  
Harjeet Singh  
S.M.H.S Government College, Mohali  
Principal  
SMHS Govt. College  
Sahibzada Ajit Singh Nagar

# LESSON PLAN FOR ADD-ON COURSE IN PHARMACEUTICAL CHEMISTRY

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

**For B.Sc. 1<sup>st</sup> year (Medical and Non-medical) (sem 1 and 2)**

Subject: Add on Certificate course in Pharmaceutical Chemistry

Start of course: 2<sup>nd</sup> week of September 2022

End of course: 1<sup>st</sup> week of May 2023

MONTH	TOPICS COVERED
6 <sup>TH</sup> sep-10 <sup>th</sup> sep	<b>1. Acids &amp; Bases:</b> acid base theory, specification of acidity and basicity
12 <sup>th</sup> - 17 <sup>th</sup> sep	Official inorganic acids (Boric Acid, Hydrochloric Acid, Nitric Acid, Phosphoric Acid). Non-official inorganic acid (Sulphuric Acid),
19 <sup>th</sup> -24 <sup>th</sup> sep	Official inorganic bases (Strong Ammonia Solution, Calcium Hydroxide, Potassium Hydroxide, Sodium Carbonate, Sodium Carbonate, Soda lime).
26 <sup>th</sup> -30 <sup>th</sup> sep	<b>2. Buffers:</b> Theory and Mechanism
1 <sup>st</sup> oct-8 <sup>th</sup> oct	Pharmaceutical Buffer selection, Pharmaceutical buffer systems.
10 <sup>th</sup> -15 <sup>th</sup> oct	<b>3. Essential and Trace Ions:</b> Iron
17 <sup>th</sup> -22 <sup>nd</sup> Oct	Copper, Zinc, Chromium
24 <sup>th</sup> -31 <sup>st</sup> oct	<b>4. Gastrointestinal Agents:</b> Acidifying agents
1 <sup>st</sup> nov- 5 <sup>th</sup> nov	antacids (antacid products: Sodium Bicarbonate, Aluminium containing antacids
7 <sup>th</sup> -12 <sup>th</sup> nov	Aluminium Hydroxide, Tribasic Calcium Phosphate, Magnesium containing Antacids
14 <sup>th</sup> -19 <sup>th</sup> 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 <sup>st</sup> -26 <sup>th</sup> nov	<b>5. Topical Agents:</b> Astringents: Official compounds of Aluminium and Zinc.
28 <sup>th</sup> -30 <sup>th</sup> nov	<b>6. Dental products Anticaries agents:</b> Fluorides, Phosphates
1 <sup>st</sup> dec-3 <sup>rd</sup> dec	<b>7. Nuclear Chemistry:</b> Nuclear composition Practical- 2. Standardization of analytical weights and calibrations of volumetric apparatus.
5 <sup>th</sup> -10 <sup>th</sup> dec	Force and stability, isotopes, radioactive emission, measurement of radioactivity,
12 <sup>th</sup> -17 <sup>th</sup> dec	model of decay, half-life period, artificial radioactivity, application in pharmacy
19 <sup>th</sup> -24 <sup>th</sup> dec	<b>8. Coordination Compounds and Complexation:</b> Theoretical consideration
26 <sup>th</sup> -31 <sup>st</sup> dec	8. Coordination Compounds and Complexation: Theoretical consideration Practical- 3. Acid Base Titrations. Preparation and standardization of acids and bases.
2 <sup>nd</sup> jan-7 <sup>th</sup> jan	8. Coordination Compounds and Complexation: Theoretical consideration

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

Hajiya Gujrat  
Sahibzada Jit Singh Negar

- 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, Realitive strengths of acids and bases, Law of action. Common ion effect, ionic product of water, pH, Hydrolysis of salts. Henderson-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 applicaton in determining the equilibrium constant of a reaction.
11. Theoretical basis of qualitative detection of inorganic cations and anions.
12. Stereochemistry: Introduction, Stereoisomerism, Enatiomerism, 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. Oxiadtion –Reduction Titrations: preparation and standardization of some redox titrants e.g potassium permanganate, potassium dichromate, iodine, sodium thiosulphate.

The Guru Nanak Dev Engineering College  
Sambalpur, Odisha  
Aut 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", 8<sup>th</sup> 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, 3<sup>rd</sup> edition.
5. J.Bassett, R.C.Denny, G.H. Jeffery, J. Mendham, Vogels 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).

Hafizet Aujal  
Pr. Pal Singh  
Shri S. Govt. College  
Sahibzada Ajit Singh Nagar

LIST OF STUDENTS WHO PAID FEES FOR EXAMINATION OF ADD-ON CERTIFICATE COURSE								FEE'S	
G. NO.	ROLL NO.	NAME	FATHER'S NAME	MOTHER'S NAME	CATEGORY	SEX	MEDIUM	COURSE	FEE'S
12-20-350	2711	Aarti Arya	Harish Ram	Kiran	General	F	English	Certificate course	600
12-20-154	2712	Abhishek Sharma	Prem Sharma	Kiran Sharma	General	M	English	Certificate course	600
12-20-353	2713	Amanpreet Kaur	Rajwinder Singh	Sarbjit Kaur	SC	F	English	Certificate course	600
12-20-820	2714	Amrinder Singh	Nirmal Singh	Baljinder Kaur	General	M	English	Certificate course	600
12-20-890	2715	Ankita Kumari	Amol Kumar Verma	Chhavi Verma	General	F	English	Certificate course	600
12-20-891	2716	Arjun Chand	Govind Chand	Meena Devi	General	M	English	Certificate course	600
12-20-355	2717	Avneet Kaur	Amandeep Singh	Rajinder Kaur	General	M	English	Certificate course	600
12-20-155	2718	Ayush Sharma	Kuldeep Kumar	Babli Sharma	General	M	English	Certificate course	600
12-20-381	2719	Damanpreet Singh	Jaswinder Singh	Gurwinder Kaur	General	F	English	Certificate course	600
12-20-148	2720	Ekta	Rajiv Kumar	Anju Rani	BC	F	English	Certificate course	600
12-20-357	2721	Gagandeep Kaur	Sukhdev Singh	Balwinder Kaur	SC	F	English	Certificate course	600
12-20-383	2722	Gaganpreet Kaur	Satwant Singh	Sukhwinder Kaur	BC	F	English	Certificate course	600
12-20-384	2723	Gaganpreet Kaur	Randhir Singh	Baljeet Kaur	BC	F	English	Certificate course	600
12-20-	2724	Gurpreet Kaur	Narain Singh	Narinder Kaur	SC	F	English	Certificate course	600
12-20-388	2725	Harpreet Kaur	Jasvir Singh	Gagandeep Kaur	SC	F	English	Certificate course	600
12-20-389	2726	Harsimranjit Kaur	Malwinder Singh	Kanwaljit Kaur	SC	F	English	Certificate course	600
12-20-360	2727	Himanshi	Rajesh Sehajpal	Anu Bala	General	F	English	Certificate course	600
12-20-391	2728	Jaspal Singh	Joginder Singh	Paramjit Kaur	SC	M	English	Certificate course	600
12-20-136	2729	Jassmeen Kaur	Manpreet Singh	Manjot Kaur	General	F	English	Certificate course	600
12-20-361	2730	Juhu Kumari	Manoj Kumar	Indu Devi	General	F	English	Certificate course	600
12-20-	2731	Kanika	Neeraj Gautam	Neeraj	General	F	English	Certificate course	600
12-20-393	2732	Keshav Vasudev	Birender Mohan	Meena Rani	General	M	English	Certificate course	600
12-20-395	2733	Komalpreet Kaur	Gurdeep Singh	Rekha	BC	M	English	Certificate course	600
12-20-889	2734	Kulbir Singh	Harnek Singh	Jaswinder Kaur	BC	F	English	Certificate course	600
12-20-362	2735	Latasha	Raju	Geeta	SC	M	English	Certificate course	600
12-20-353	2736	Manish Kumar	Ashok Kumar	Babli	SC	M	English	Certificate course	600
12-20-364	2737	Manisha	Dalwinder Singh	Dharmjeet Kaur	SC	F	English	Certificate course	600
12-20-365	2738	Manisha Sharma	Sanjeev Kumar	Anju Sharma	(EWS) General	F	English	Certificate course	600
12-20-400	2739	Naina Sharma	Sanjeev Kumar	Kavita Rani	SC	M	English	Certificate course	600
12-20-401	2740	Naresh Kumar	Subhash Chand	Hardeep Kaur	SC	F	English	Certificate course	600
12-20-368	2741	Navneet Kaur	Amarjit Singh	Jaspreet Kaur	SC	F	English	Certificate course	600
12-20-269	2742	Parmeet Kaur	Avtar Singh	Kuldeep Kaur	OBC	M	English	Certificate course	600
12-20-406	2743	Prince Chauhan	Charnjit Singh	Raj Kaur	SC	M	English	Certificate course	600
12-20-157	2744	Puneet Kumar	Pawanjit	Bholi devi	OBC	M	English	Certificate course	600
12-20-407	2745	Rajesh Kumar Thour	Mohinder Pal	Anita Rani	General	M	English	Certificate course	600
512-20-373	2746	Reet Kaur	Lakhvinder Singh	Harpreet Kaur	SC	F	English	Certificate course	600
512-20-157	2747	Rohit Kumar	Ramesh Kumar	Poonam	OBC	M	English	Certificate course	600
512-20-151	2748	Sandeep Kaur	Amarjeet Singh	Parkasho Devi	SC	F	English	Certificate course	600
512-20-410	2749	Sandeep Singh	Davinder Singh	Kulwinder kaur	SC	M	English	Certificate course	600
512-20-892	2750	Satnam Singh	Harjeet Singh	Maya Devi	BC	M	English	Certificate course	600
512-20-374	2751	Shobha	Vijay Kumar	Seema Rani	General	F	English	Certificate course	600
512-20-152	2752	Simmi Kaur	Baljeet Singh	Manjeet Kaur	SC	F	English	Certificate course	600
512-20-375	2753	Sonia	Raj Kumar	Preeti	General	F	English	Certificate course	600
512-20-376	2754	Tanisha	Sunita	Shambu	General	F	English	Certificate course	600
512-20-413	2755	Vandna Devi	Jaswinder Singh	Dimple Devi	General	F	English	Certificate course	600
512-20-153	2756	Veerpal Kaur	Pritam Singh	Raj Kumari	SC	F	English	Certificate course	600
512-20-371	2757	Prerna	Rakesh Kumar	Sweety Rani	OBC	F	English	Certificate course	600
512-20-351	2753	Amandeep Kaur	Nirmal Singh	Gurmeet Kaur	SC	F	English	Certificate course	600
512-20-	2758	Taranjot							
512-20-	2760	Bhawanpreet Kaur	Parminder Singh	Satnam Kaur		F	English	Certificate course	600

Total Students

① Certificate Course - 50

② Diploma Course - 24

③ Advanced Diploma Course - 11

Principal,  
SMHDSSCV, Govt. Collage,  
Sahibzada Ajit Singh Nagar.

Hauti  
Abhishek  
Amanpreet  
Amrinden  
Ankita  
Arjun  
Avneet  
Ayush  
Guramp.  
Ekta  
Gagandeep  
Gaganpreet  
Gaganpreet  
Gurpreet  
Harpreet  
Hansimran  
Hiransh  
Jasmeen  
Juhu  
Kanika  
Ke shav  
Komalpreet  
Kulbir  
Latasha  
manish  
manisha  
marishai  
Naina  
Naresh  
Naveet  
Pameet  
Prince  
Punet  
Rajesh  
Reet  
Rohit  
Sandeep  
Sandeep  
Satnam  
Sukhla  
Simmi  
Sony  
Tanisha  
Veenpal  
Perej  
Amandeep  
Taranjit  
Bhawan  
preet

ਸੈਟਰ ਨੰਬਰ .....

ਪਰੀਕਸ਼ਾ ਦੁਆਰਾ ਦੇ ਮਹੀਨਿਆ ਲਈ  
ਹੱਦ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ.

ਪ੍ਰਤਿ-ਪਰਚੀ

ਪਰੀਕਸ਼ਾ Date, 14th/10/2021 Nov

ਵਿਸ਼ਾ Pharm. Chem.....

ਪਰਚੀ Certificate (Theory)

ਅਧਿਕਾਰੀ ਅਤੇ 45

ਪਸ ਅਕ 14 .....

ਰੇਲਨੰਬਰ	ਅਕ
27.11	35
27.12	30
27.13	26
27.14	15
27.15	22
27.16	27
27.17	28
27.18	Absent
27.19	26
27.20	34
27.21	27
27.22	36
27.23	28
27.24	33
27.25	17
27.26	21
27.27	32
27.28	27
27.29	37
27.30	25

ਪਸ ..... ਫੇਲ .....

Harpal Gujral  
Sikhs Govt. College  
Sahibzada Ajit Singh Nagar

ਪਰੀਕਸ਼ਾ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

PLP(O)-9095-25200-10-14

ਸੋਟਰ ਨੰਬਰ .....  
ਪਰੀਕਸ਼ਾਕ ਦਾਤਾ ਹੈ ਮਹੀਨਿਆ ਲਈ  
ਹੱਥ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪੁਤਿ ਪਰਚੀ.

ਪੁਤਿ-ਪਰਚੀ

ਪਰੀਕਸ਼ਾ P.M.C., ਮਾਰਚ 2021 May.  
ਵਿਸ਼ਾ Pharmaceutical Chem  
ਪਰਚਾ Certificate Council Theory  
ਅਧਿਕਤਮ ਅੰਕ ..... 40  
ਪਾਸ ਅੰਕ ..... 14

ਕੋਲ ਨੰਬਰ	ਅੰਕ
21) Kanika	30
22) Keshav	29
23) Kornalpreet	27
24) Kulbir	30
25) Latvinder	27
26) Manish	27
27) Mamleshwar (361)	27
28) Manisha Sharma	28
29) Naina Sharma	27
30) Narinder	30
31) Navneet Kaur	26
32) Parmeet Kaur	30
33) Prince	14
34) Purvinder	Absent
35) Rajesh	25
36) Reet	29
37) Rehit	31
38) Sandeep Kaur	25
39) Sandeep Singh	27
40) Satnam	21

ਪਾਸ ..... ਫੇਲ .....

Hajeept Arjpal  
Principal  
SMHS Govt. College  
Sanibzada Ajit Singh Nagar

ਪਰੀਕਸ਼ਾਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

PL/P(O)-9095-25000/10-14

ਸੰਵਰ ਨੰਬਰ .....

ਪਰੀਕਸ਼ਾ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਰੱਖ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ.

ਪ੍ਰਤਿ-ਪਰਚੀ

ਪਰੀਕਸ਼ਾ B.Sc. I, Sem II 2021 May.

ਵਿਸ਼ਾ Pharmaceutical Chem.

ਪਰਚਾ Certificate Course (Theory)

ਅਧਿਕਤਮ ਅੰਕ ..... 40

ਪਾਸ ਅੰਕ ..... 14

ਰੋਲ ਨੰਬਰ	ਅੰਕ
2751	26
2752	28
2753	31
2754	34
2755	23
2756	25
2757	26
2758	27
2759	Absent
2760	Absent

ਪਾਸ ..... ਫੇਲ .....

Hareet Singh  
 Principal  
 SMHHS Govt. College  
 Sector 22A, Air Singh Nagar  
 Sambudha, Jalandhar, Punjab, India

ਪਰੀਕਸ਼ਾ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

PLP(O)-9095-23000-10-14

ਸਨਾਪਤੀ ਨੰਬਰ .....

ਪਰੀਖਿਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਰੱਖਣ ਦੇ ਸਿਰਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

ਪ੍ਰਤਿ-ਪਰਚੀ

ਪਰੀਖਿਕ ਪ੍ਰੈਸ਼ਨ ਵੇਖਣ 200

ਵਿਸ਼ਾ Prism (Chem) .....

ਪਰਚਾ Certificate (Int. Ass.)

ਅਧਿਕਤਮ ਅੰਕ ... 20

ਪਾਸ ਅੰਕ ..... 07

ਰੋਲ ਨੰਬਰ	ਅੰਕ
2711	18
2712	15
2713	14
2714	12
2715	14
2716	17
2717	17
2718	Absent
2719	14
2720	18
2721	15
2722	18
2723	17
2724	17
2725	14
2726	15
2727	16
2728	17
2729	19
2730	18

ਪਾਸ ..... ਫੇਲ ..... 3

Hareet Singh

Principal  
Shri Govt. College  
Sahibzada Ajit Singh Nagar

ਪਰੀਖਿਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

ਨੈਟਰ ਨੈਸ਼ਨ

ਪਰੀਕਸ਼ਾ ਦੁਆਰਾ ਦੇ ਮਹੀਨੀਆਂ ਵ  
ਥੰਭੇ ਦੇ ਸੰਬੰਧ ਲਈ ਪ੍ਰਤਿ ਪਚੜੀ

ਪ੍ਰਤਿ-ਪਚੜੀ

ਪਰੀਕਸ਼ਾ No. I, ਮਈ/2021 ਮਾਂ

ਵਿਸਾ Pharm. Chem. (

ਪਚਾ (Certified) (S.W.A.S.)

ਅਧਿਕਤਮ ਨੰਬਰ 20

ਪਾਸ ਨੰਬਰ 07

ਰੈਲਨੰਬਰ	ਅੰਕ
2731	16
2732	15
2733	15
2734	16
2735	14
2736	14
2737	13
2738	14
2739	13
2740	16
2741	14
2742	16
2743	12
2744	Absent
2745	15
2746	16
2747	17
2748	16
2749	16
2750	14.

ਪਾਸ ..... ਫੇਲ .....

Harjeet Singh  
Principal  
SPHS Govt. College  
Sahibzada Ajit Singh Nagar

ਪਰੀਕਸ਼ਾਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

ਸੈਂਟਰ ਨੰਬਰ.....

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

ਪ੍ਰਤਿ-ਪਰਚੀ

ਪਰੀਕ्षਾ B.Sc.I, ਮਈ/2021 May

## विस्तृत धारणा विज्ञान - रसायन

ਪੜਚਾ Certificate (Int. Ass.)

course 20  
અધ્યક્ષમાર્ગ

..... 0.7

ਪਾਸ ਅਕ ..... ੦।

पास ..... देलु.....

Harijet Singh

Principal  
S.S.S. Govt. College  
Kadwa Ajit Singh Nagar

ਸ਼ਨਾਖਤੀ ਨੰਬਰ .....

ਪਰੀਖਿਅਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਰੱਖਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

ਪ੍ਰਤਿ-ਪਰਚੀ

ਪਰੀਖਿਅਕ B.Sc. I<sup>nd</sup> Sem II /200  
May 2021

ਵਿਸ਼ਾ Pharm. Chem.

ਪਰਚਾ (Certificate (Practical))  
Date \_\_\_\_\_

ਅਧਿਕਤਮ ਅੰਕ ..... 30

ਪਾਸ ਅੰਕ ..... 11

ਰੋਲ ਨੰਬਰ	ਅੰਕ
2711	27
2712	25
2713	24
2714	20
2715	29
2716	24
2717	25
2718	Absent
2719	24
2720	27
2721	24
2722	26
2723	28
2724	22
2725	21
2726	27
2727	26
2728	26
2729	29
2730	24

ਪਾਸ ..... ਫੇਲ ..... .

Hareet Singh  
Principal  
S.M.S Govt. College  
Sahibzada Ajit Singh Nagar

ਪਰੀਖਿਅਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

ਸਨਾਖਤੀ ਨੰਬਰ .....

ਪਰੀਖਿਅਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਰੱਖਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

ਪ੍ਰਤਿ-ਪਰਚੀ

May  
2021

ਪਰੀਖਿਆ P.S.C.I., Jumla / 200

ਵਿਦਾ Pharm. Chemistry .....

ਪਰਚਾ (certificate (First))  
Course

ਅਧਿਕਤਮ ਅੰਕ ..... 30 .....

ਪਾਸ ਅੰਕ ..... 15 .....

ਰੋਲ ਨੰਬਰ	ਅੰਕ
2731	25
2732	26
2733	26
2734	27
2735	24
2736	24
2737	23
2738	25
2739	26
2740	27
2741	26
2742	26
2743	22
2744	Absent
2745	25
2746	27
2747	28
2748	26
2749	26
2750	22

ਪਾਸ ..... ਫੇਲ੍ਹ .....

Haejeet Singh

Principal  
S.N.H.S Govt. College  
Sahibzada Ajit Singh Nagar

ਪਰੀਖਿਅਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

ਸਨਾਖਤੀ ਨੰਬਰ .....

ਪਰੀਖਿਆਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਰੱਖਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

ਪ੍ਰਤਿ-ਪਰਚੀ

ਪਰੀਖਿਆ B.Sc. I Sem II, 2021/200

ਵਿਸ਼ਾ Pharm. Chem.

ਪਰਚਾ Certificate (Hatched) Course

ਅਧਿਕਤਮ ਅੰਕ ..... 30

ਪਾਸ ਅੰਕ ..... 11

ਰੋਲ ਨੰਬਰ | ਅੰਕ

2751 25

2752 26

2753 27

2754 28

2755 24

2756 25

2757 24

2758 26

2759 Absent

2760 Absent

ਪਾਸ ..... ਫੇਲ .....  
.....

Harjeet Singh  
Principal  
Sohna Govt. College  
Sahibzada Ajit Singh Nagar

ਸਨਾਖਤੀ ਨੰਬਰ .....

ਪੰਜਿਅਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਰੱਪਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

ਪ੍ਰਤਿ-ਪਰਚੀ

May  
ਪੰਜਿਅਕ PSC I Sem II 2021/200

ਵਿਸ਼ਾ Phasm. Chem.....

ਪਰਚਾ (Certified Practice  
Int. Ass.)

ਅਧਿਕਤਮ ਅੰਕ ..... 10

ਪਾਸ ਅੰਕ ..... 04

ਰੋਲ ਨੰਬਰ	ਅੰਕ
2711	7
2712	6
2713	5
2714	8
2715	7
2716	8
2717	6
2718	Absent -
2719	7
2720	8
2721	7
2722	8
2723	6
2724	7
2725	8
2726	7
2727	6
2728	8
2729	9
2730	7

ਪਾਸ ..... ਫੇਲ .....  
.....

Principal  
SMHS Govt. College  
Sahibzada Ajit Singh Nagar  
.....  
ਪੰਜਿਅਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

ਸ਼ਨਾਖਤੀ ਨੰਬਰ .....

ਪਰੀਖਿਅਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਰੱਖਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

ਪ੍ਰਤਿ-ਪਰਚੀ

*May*  
ਪਰੀਖਿਅਕ PSC [July 2011] ..... 2011  
.....

ਵਿਸ਼ਾ Phasw. Chaw .....

ਪਰਚਾ Certificate (Practical)  
Ind. Assessment

ਅਧਿਕਤਮ ਅੰਕ ..... 10 .....

ਪਾਸ ਅੰਕ ..... 04 .....

ਰੋਲ ਨੰਬਰ	ਅੰਕ
2731	9
2732	7
2733	8
2734	8
2735	6
2736	7
2737	8
2738	6
2739	7
2740	7
2741	8
2742	7
2743	6
2744	Absent
2745	7
2746	8
2747	7
2748	6
2749	8
2750	8

ਪਾਸ ..... ਫੇਲ .....  
*Harjeet Gujral*

Principal  
S.G.H.S Govt. College  
Sahibzada Ajit Singh Nagar

ਪੰਜਾਬ ਪ੍ਰੇਸ਼ਨਲ ਕੋਲੇਜ

PUP(O)-8703-5,000/2-07

ਸ਼ਾਬਦੀ ਨੰਬਰ .....

ਪਰੀਖਿਅਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਰੱਖਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

ਪ੍ਰਤਿ-ਪਰਚੀ

11/2021  
ਪਰੀਖਿਅਕ BSC I<sup>st</sup> Sem II /200

ਵਿਸ਼ਾ Phasme Chevvi .....

ਪਰਚਾ (Exhibition (Practical  
Soc. Ass.)

ਅਧਿਕਤਮ ਅੰਕ ..... 10 .....

ਪਾਸ ਅੰਕ ..... 04 .....

ਰੋਲ ਨੰਬਰ	ਅੰਕ
2751	8
2752	7
2753	6
2754	6
2755	8
2756	7
2757	6
2758	8
2759	Absent
2760	Absent
11	
12	6
13	
14	1
15	2
16	1
17	
18	
19	
2	

ਪਾਸ ..... ਫੇਲ .....

Hareet Ajit  
Principal  
SMHS Govt. College  
Sahibzada Ajit Singh Nagar

ਪਰੀਖਿਅਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

PUP(O)-8703-5,000/2-07

2020 - 2021

GOVERNMENT COLLEGE SAHIBZADA AJIT SINGH NAGAR, MOHALI								
S. NO.	REG. NO.	ROLL NO.	NAME	FATHER'S NAME	MOTHER'S NAME	CATEGORY	SEX	MEDIUM COURSE FEES
1	612-20-350	2711	Aarti Arya	Harish Ram	Kiran	General	F	English Certificate course 600
2	612-20-154	2712	Abhishek Sharma	Prem Sharma	Kiran Sharma	General	M	English Certificate course 600
3	612-20-353	2713	Amanpreet Kaur	Rajwinder Singh	Sarbjit Kaur	SC	F	English Certificate course 600
4	612-20-820	2714	Amrinder Singh	Nirmal Singh	Baljinder Kaur	General	M	English Certificate course 600
5	612-20-890	2715	Ankita Kumari	Amol Kumar Verma	Chhavi Verma	General	F	English Certificate course 600
6	612-20-891	2716	Arjun Chand	Govind Chand	Meena Devi	General	M	English Certificate course 600
7	612-20-355	2717	Avneet Kaur	Amardeep Singh	Rajinder Kaur	General	F	English Certificate course 600
8	612-20-155	2718	Ayush Sharma	Kuldeep Kumar	Babli Sharma	General	M	English Certificate course 600
9	612-20-381	2719	Damanpreet Singh	Jaswinder Singh	Gurwinder Kaur	General	M	English Certificate course 600
10	612-20-148	2720	Ekta	Rajiv Kumar	Anju Rani	BC	F	English Certificate course 600
11	612-20-357	2721	Gagandeep Kaur	Sukhdev Singh	Balwinder Kaur	SC	F	English Certificate course 600
12	612-20-383	2722	Gaganpreet Kaur	Satwant Singh	Sukhwinder Kaur	BC	F	English Certificate course 600
13	612-20-384	2723	Gaganpreet Kaur	Randhir Singh	Baljeet Kaur	BC	F	English Certificate course 600
14	612-20-	2724	Gurpreet Kaur	Narain Singh	Narinder Kaur	SC	F	English Certificate course 600
15	612-20-388	2725	Harpreet Kaur	Jasvir Singh	Gagandeep Kaur	SC	F	English Certificate course 600
16	612-20-389	2726	Harsimranjit Kaur	Malwinder Singh	Kanwaljit Kaur	SC	F	English Certificate course 600
17	612-20-360	2727	Himanshi	Rajesh Sehajpal	Anu Bala	General	F	English Certificate course 600
18	612-20-391	2728	Jaspal Singh	Joginder Singh	Paramjit Kaur	SC	M	English Certificate course 600
19	612-20-136	2729	Jassmeen Kaur	Manpreet Singh	Manjit Kaur	General	F	English Certificate course 600
20	612-20-361	2730	Juhil Kumari	Manoj Kumar	Indu Devi	General	F	English Certificate course 600
21	612-20-	2731	Kanika	Neeraj Gautam	Neeraj	General	F	English Certificate course 600
22	612-20-393	2732	Keshav Vasudev	Birender Mohan	Meena Rani	General	M	English Certificate course 600
23	612-20-395	2733	Kornalpreet Kaur	Gurdeep Singh	Rekha	BC	F	English Certificate course 600
24	612-20-889	2734	Kulbir Singh	Harnek Singh	Jaswinder Kaur	BC	M	English Certificate course 600
25	612-20-362	2735	Latasha	Raju	Geeta	SC	F	English Certificate course 600
26	612-20-303	2736	Manish Kumar	Ashok Kumar	Babli	OCB	M	English Certificate course 600
27	612-20-364	2737	Manisha	Dalwinder Singh	Dharmjeet Kaur	OCB	F	English Certificate course 600
28	612-20-365	2738	Manisha Sharma	Sanjeev Kumar	Anju Sharma	General	F	English Certificate course 600
29	612-20-400	2739	Naina Sharma	Sanjeev Kumar	Kavita Rani	(EWS) General	F	English Certificate course 600
30	612-20-401	2740	Naresh Kumar	Subhash Chander	Hardeep Kaur	OCB	M	English Certificate course 600
31	612-20-368	2741	Navneet Kaur	Amarjit Singh	Jaspreet Kaur	SC	F	English Certificate course 600
32	612-20-269	2742	Parmeet Kaur	Avtar Singh	Kuldeep Kaur	OCB	F	English Certificate course 600
33	612-20-406	2743	Prince Chauhan	Charnjit Singh	Raj Kaur	SC	M	English Certificate course 600
34	612-20-157	2744	Puneet Kumar	Pawanjit	Bholi devi	OCB	M	English Certificate course 600
35	612-20-407	2745	Rajesh Kumar Thour	Mohinder Pal	Anita Rani	General	M	English Certificate course 600
36	612-20-373	2746	Reet Kaur	Lakhvinder Singh	Harpreet Kaur	SC	F	English Certificate course 600
37	612-20-157	2747	Rohit Kumar	Ramesh Kumar	Poonam	OCB	M	English Certificate course 600
38	612-20-151	2748	Sandeep Kaur	Amarjeet Singh	Parkash Devi	SC	F	English Certificate course 600
39	612-20-410	2749	Sandeep Singh	Davinder Singh	Kulwinder Kaur	SC	M	English Certificate course 600
40	612-20-892	2750	Satnam Singh	Harjeet Singh	Maya Devi	BC	M	English Certificate course 600
41	612-20-374	2751	Shobha	Vijay Kumar	Seema Rani	General	F	English Certificate course 600
42	612-20-152	2752	Simmi Kaur	Baljeet Singh	Manjeet Kaur	SC	F	English Certificate course 600
43	612-20-375	2753	Sonla	Raj Kumar	Preeti	General	F	English Certificate course 600
44	612-20-376	2754	Tanisha	Sunita	Shambu	General	F	English Certificate course 600
45	612-20-413	2755	Vandna Devi	Jaswinder Singh	Dimple Devi	General	F	English Certificate course 600
46	612-20-153	2756	Veerpal Kaur	Pritam Singh	Raj Kumari	SC	F	English Certificate course 600
47	612-20-371	2757	Prerna	Rakesh Kumar	Sweety Rani	OCB	F	English Certificate course 600
48	612-20-351	2758	Amandeep Kaur	Nirmal Singh	Gurmeet Kaur	SC	F	English Certificate course 600
49	612-20-	2759	Taranjot	Ab				English Certificate course 600
50	612-20-	2760	Bhawanpreet Kaur	Parminder Singh	Satnam Kaur		F	English Certificate course 600

Total Students

① Certificate course - 50

② Diploma course - 24

③ Advanced Diploma course - 11

Principal,  
SMHPSSC, Govt. College,  
Sahibzada Ajit Singh Nagar.

Government College, S. A. S. Nagar, Mohali

Final Theory Examination

UGC Add on course in Pharmaceutical Chemistry

Course: Certificate Course in Pharmaceutical Chemistry

Subject: Pharmaceutical Chemistry

Session: 2020-2021

Max. Marks: 40

Max. Time: 2:00 hrs

SECTION A

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

Q. 1) What are Chelating Agents? Give examples.

Q. 2) Explain radio-active decay? Mention units of radioactivity.

Q. 3) Define half-life.

Q. 4) Explain the terms:

a) Buffer solutions

b) Law of mass action

c) Neutralization curves of strong acid- strong base

Q. 5) Explain the followings :

a) Arrhenius Concept

b) Bronsted- Lowry Concept

SECTION B

This section carries 2 long answer type questions of 5 marks each. Attempt any one of them.

Q. 6) Explain the following terms (in detail):

a) Buffer capacity

b) common-ion effect

c) Ionic product of water

d) pH

Harijeet Arjpal  
Principal  
S.A.S. Govt. College  
Sandzada Ajit Singh Nagar

OR

- Q. 7) What are gastrointestinal agent? Explain the following:
- a) Aluminium Hydroxide gel
  - b) Tribasic Calcium phosphate

SECTION C

This section carries 2 long answer type questions of 5 marks each. Attempt any one of them.

- Q. 8) What are anticaries agents and role of fluorides in preventing dental caries? 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) Potassium Hydroxide
  - d) Boric Acid

SECTION D

This section carries 2 long answer type questions of 5 marks each. Attempt any one of them.

- Q. 10) Explain the following:
- a) Optical Activity
  - b) Racemic and Meso-compounds
  - c) Stereoisomerism
  - d) Difference between Diastereomers and Enantiomers

OR

- Q. 11) What are topical agents? Explain the followings:
- a) Alum
  - b) Zinc Sulphate
  - c) Aluminium sulphate

Harejot Singh  
Principal  
S.G.S Govt. College  
Sangha Ait Singh Nagar

SECTION E

This section carries 2 long answer type questions of 5 marks each. Attempt any one of them.

Q. 12) Explain the following terms:

a) Nernst Equation

b) Types of isomerism in coordination compounds

c) Electrode Potential

OR

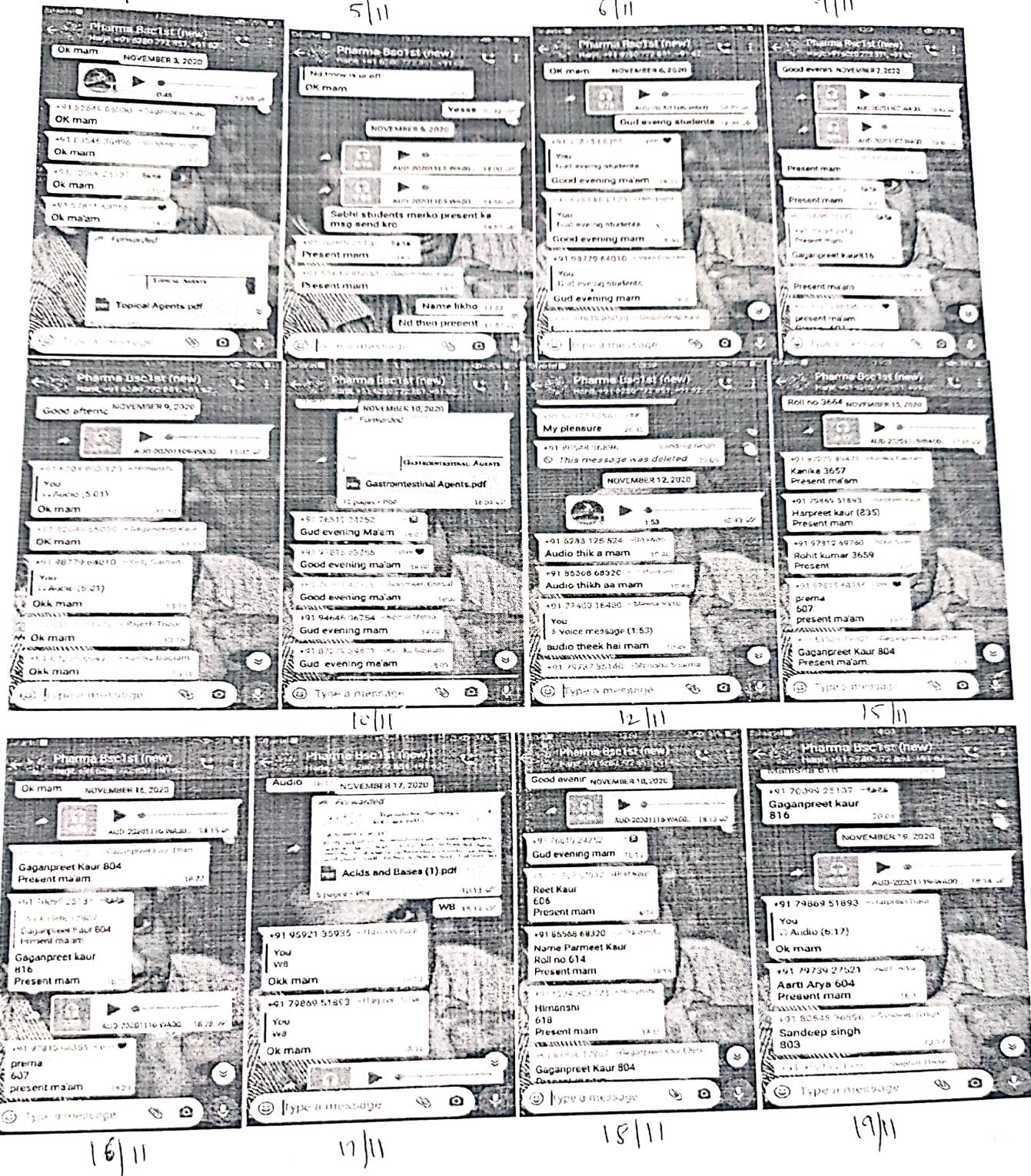
Q. 13) Explain (in detail) the followings with example:

a) Any two Essential trace elements

b) Any three reactions of Alkanes and Alkenes

2/11

Hajeeet Ajit  
Principal  
SHHS Govt. College  
Sahibzada Ajit Singh Nagar



*Hajeeet Gujral*  
Principal  
SMHS Govt. College  
Sahibzada Ajit Singh Nagar  
*Faculty*

Dec 2020

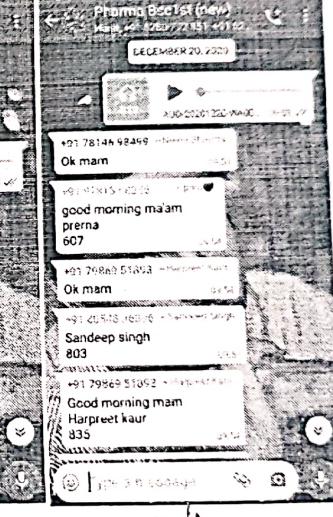
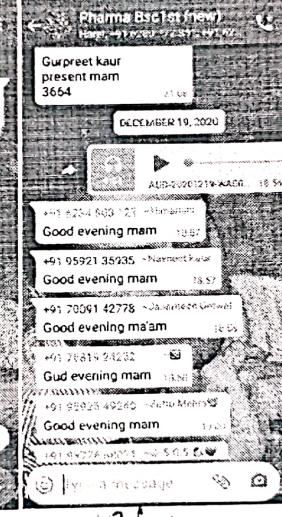
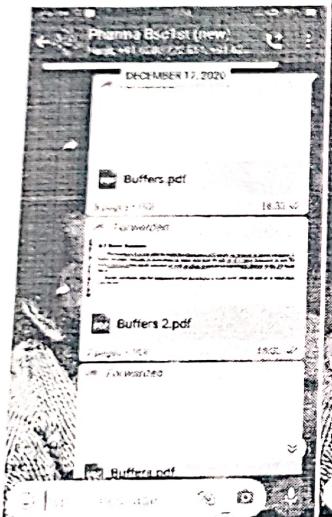
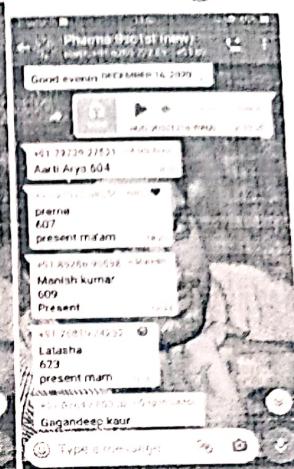
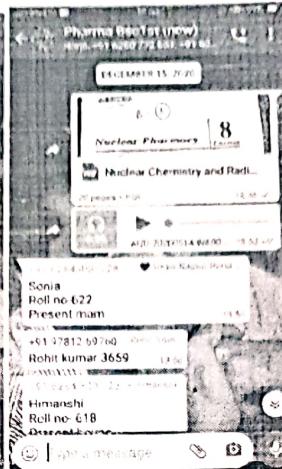
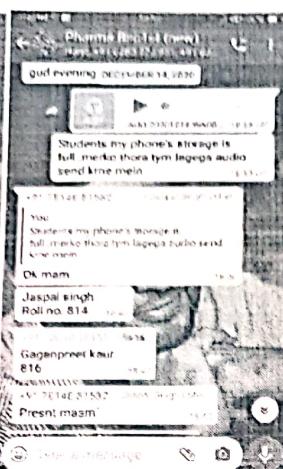
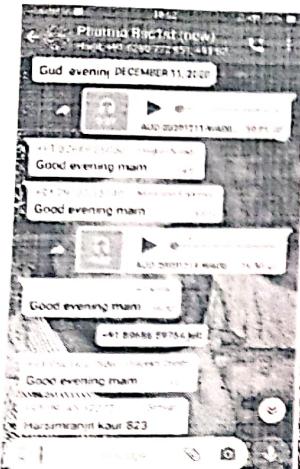
BSC I.

11/12

14/12

15/12 (P)

16/12 (P)

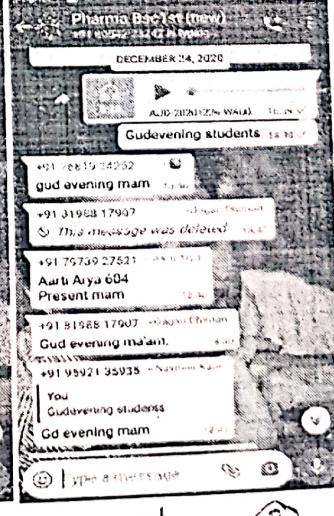
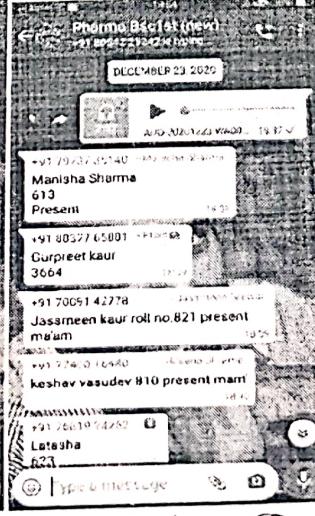
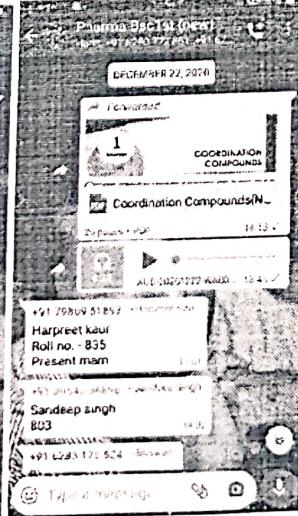
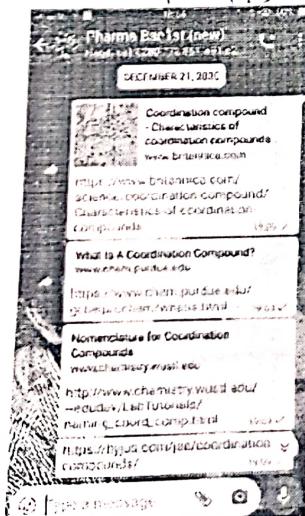


17/12 (P)

18/12 (P)

19/12

20/12



21/12 (P)

22/12 (P)

23/12 (P)

24/12 (P)

Hajeeet Singh

Principal  
SMHS Govt. College  
Wadala Ajit Singh Nagar  
*[Signature]*

Min. 21/12

BSC Ist year

Certificate issued in  
Presidential Ministry.

प्रतीक्षा दिनांक

जानवरी २०२१

	1/1/21	2/1/21	3/1/21	4/1/21	5/1/21	6/1/21	7/1/21	8/1/21	9/1/21	10/1/21	11/1/21	12/1/21	13/1/21	14/1/21	15/1/21	16/1/21	17/1/21	18/1/21	19/1/21	20/1/21	
601 Karti Kanya	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
602 Akhilesh Kumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
603 Amritpal Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
605 Amritpal Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Aminder Singh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
629 Anjita Kumari	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
630 Gurpreet Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
603 Arneet Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3662 Avish Sharma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3655 Bhawna Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
824 Damandeep Singh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3652 Ekta	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
816 Gagandeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3664 Gurpreet Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
610 Jagandeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
809 Jagandeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
835 Harpreet Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
523 Harshmanjeet	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
615 Himanshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
811 Jarpal Singh	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
821 Jassmeen Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
608 Jubi Kumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6307 Kavika	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
810 Kishan	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
827 Komalpreet	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
632 Kulbir	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
623 Latasha	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
616 Manisha	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

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Sahibzade Ali Singh Nagar

Feb 2021

# Diploma Course in Pharmaceutical Chemistry.

BSC 2nd year

ਸਾਈਰਿਊ ਝਾ. ਸਿ. ਵਿ. ਨੰ: 52

February.

हाज़री रजिस्टर - Barwadih - 2021

- १४ -

March 2021

BSc 1st year

Certificate Course in  
Pharmaceutical Chemistry

March, 2021

	11/3/2021	12/3/2021	13/3/2021	14/3/2021	15/3/2021	16/3/2021	17/3/2021	18/3/2021	19/3/2021	20/3/2021	21/3/2021	22/3/2021	23/3/2021	24/3/2021	25/3/2021	26/3/2021	27/3/2021	28/3/2021	29/3/2021	
603 Avneet Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
604 Sartijya	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
605 Amneet	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
606 Reet Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
607 Prema	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
608 Juhu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
609 Manisha Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
610 Jagandeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
611 Preeti	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
613 Manisha Sheema	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
614 Paameet	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
616 Manisha G	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
617 Shobha	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
618 Himanshi	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
620 Amandeep	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
622 Sania	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
623 Latasha	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
624 Tanisha	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
626 Navneet	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
629 Anrita	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
630 Aisqur Chand	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
631 Sathnam	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
632 Kulbir	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
801 Vandna	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
803 Sandeep Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
804 Gaganjeet Kaur	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
807 Kavish Thour	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
809 Prince	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Fees: Rs. 100/-  
 Principal  
 SMTS Govt. College  
 Sahibzada Jit Singh Nagar  
 31/3/2021

April 2021

Certificate course in  
Pharmaceutical Chemist

B.Sc. 1st year

April 2021

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
603	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
604		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
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608	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
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611	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
613	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
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622	P	P	D	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
623	P	P	.	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
624	P	•	•	,	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
625	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
629	P	•	•	,	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
630	P	P	•	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
631	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
632	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
801	P	P	•	P	P	•	•	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
803	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
804	•	•	•	P	P	•	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
807	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
809	P	•	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

Principal P. G. H. College  
Sohailzada Aliit Singh Nagar

Go-alphay

May 2021  
BSC 1st year

Certification course in  
Microcontroller Electronics

May 2021

6/5/21

603	P
604	.
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632	P
521	P
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804	P
807	P
809	.

Harsheel Singhpal

Sri Guru Govt. College  
Sahibzada Ajit Singh Nagar

Bhavesh Ch.