

ਪੰਜਾਬੀ ਪ੍ਰਸ਼ਾਸਨਿਕ ਮੁਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ  
 (1961 ਦੇ ਪੰਜਾਬ ਐਕਟ ਨੰਬਰ 35 ਤਹਿਤ ਸਥਾਪਤ:  
 (ਕਾਲਜ ਸੈਕਸ਼ਨ)

ਨੰ. 1316 ..... ਕਾਲਜ ਮ-3  
 ਨੰਬਰ 22, 4522 - 2000

ਪੰਜਾਬੀ

ਪੰਜਾਬੀ

ਪੰਜਾਬੀ

ਵਿਸਾ:- ਸਾਡੇ ਸਾਡੇ ਕੋਈ ਉਗਣਾ ਨਹੀਂ ਕੀਤਾ ਜਾਂਦਾ

ਹੀਮਨ ਜੀ.

ਆਪ ਜੀ ਦੇ ਦਫ਼ਤਰ ਦੇ ਪੱਤਰ ਨੰ. ੭੪੨੨ ਮਿਤੀ ੬-੩-੨੦੧੫ ਦੇ ਹਵਾਲੇ ਵਿਚ ਦੂਚਿਤ  
 ਕੀਤਾ ਜਾਂਦਾ ਹੈ ਕਿ ਵਾਈਸ-ਚਾਂਸਲਰ ਸਹਿਬ ਨੇ ਆਪ ਜੀ ਦੇ ਕਾਲਜ ਵਿਖੇ ਸੈਸ਼ਨ 2005-06 ਤੋਂ ਕੈਂਟ ਅਤੇ  
 ਉਦੀਐਂਟਿਡ ਸਕੀਮ ਅਧੀਨ ਕੋਈ ਨਹੀਂ ਕੀਤਾ ਜਾਂਦਾ ਦਾ ਵਿਸ਼ਾ  
 ਸ਼ੁਰੂ ਕਰਨ ਦੀ ਪ੍ਰਵਾਨਗੀ ਅਕਾਦਮਿਕ ਕੌਸਲ ਦੀ ਪ੍ਰਵਾਨਗੀ ਦੀ ਆਸ ਵਿਚ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ। ਇਥੇ ਦਿੱਤ  
ਲੋਗੋਫ਼ਟ ਹੈ ਕਿ ਆਲਜ ਜੂਨੀ ਸੀ. ਅਤੇ ਪ੍ਰਸ਼ਾਸਨਿਕ ਦੰਅਾਂ ਸੁਰਤਾਂ ਦੀਆਂ ਪਾਲਣਾ ਕਰਨ ਦਾ ਪਾਛਾਂ ਦੇਵੇਂ

ਵਿਸਵਾਸਪਾਤਰ,

ਸਹਾਇਕ ਰੱਖਿਆਰ ਕਾਲਜ

Harejeet Gujral  
 Principal  
 SMHS Govt. College  
 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 1<sup>st</sup> September 2019.

Thanking you

Yours sincerely

*Harijeet Singh*  
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 2019-20. 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 2019. Classes will commence from 1<sup>st</sup> september 2019 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  
Punjab Govt. College  
Sanibzada Ajit Singh Nagar

# LESSON PLAN FOR B.Sc. 2nd year (Diploma course)

MONTH	TOPICS COVERED
6 <sup>th</sup> sep-10 <sup>th</sup> sep	<b>1.Photochemistry</b> Introduction, consequences of light absorption.
12 <sup>th</sup> - 17 <sup>th</sup> sep	The Jablonski diagram, Lambert beer law,
19 <sup>th</sup> -24 <sup>th</sup> sep	Grothus draper law, Photochemical reactions
26 <sup>th</sup> -30 <sup>th</sup> sep	<b>2.Biochemistry</b> Transport processes across cell membrane.
1 <sup>st</sup> oct-8 <sup>th</sup> oct	enzymes: nomenclature, enzyme kinetics & mech. Of action.
10 <sup>th</sup> -15 <sup>th</sup> oct	Mech. Of inhibition, Isozymes, Co-enzymes
17 <sup>th</sup> -22 <sup>nd</sup> Oct	<b>3.Name reactions</b> Aldol condensation, Claisen Schmidt condensation,
24 <sup>th</sup> -31 <sup>st</sup> oct	Grignard reaction, wurtz reaction, wurtz-fittig reaction, Diazotization reaction, Cannizaro's reaction
1 <sup>st</sup> nov- 5 <sup>th</sup> nov	<b>4.Antiulcer drugs-</b> Classification of drugs and structure of omeprazole, pantoprazole, cimetidine
7 <sup>th</sup> -12 <sup>th</sup> nov	<b>5.NSAIDS-</b> Classification of drugs and structure of Aspirin, Ibuprofen.
14 <sup>th</sup> -19 <sup>th</sup> nov	Paracetamol, Nimesulide, Indomethacin, Diclofenac.
21 <sup>st</sup> -26 <sup>th</sup> nov	<b>6.Antihistamines-</b> Classification of drugs and structure of Diphenhydramine, Chlorphenhydramine
28 <sup>th</sup> -30 <sup>th</sup> nov	<b>7.General and local Anaesthetic-</b> Classification of drugs and structure of thiopentone and propofol, benzocaine
1 <sup>st</sup> dec-3 <sup>rd</sup> dec	<b>8.Antiseptics and disinfectants-</b> Classification and structure of povidone-iodine, benzalkonium chloride
5 <sup>th</sup> -10 <sup>th</sup> dec	<b>9.Antihypertensive-</b> Classification of drugs and structure of Propranolol, verapamil
12 <sup>th</sup> -17 <sup>th</sup> dec	<b>10.Chemotherapeutic agents-</b> Classification of antibiotics and structure of tetracycline, amoxicillin
19 <sup>th</sup> -24 <sup>th</sup> dec	<b>11.AntiTB-</b> Classification of drugs and structure of nicotinamide, ethionamide, isoniazid
26 <sup>th</sup> -31 <sup>st</sup> dec	<b>12.Chromatography</b> Thin Layer Chromatography- Introduction, Principle and Application
2 <sup>nd</sup> jan-7 <sup>th</sup> jan	Thin Layer Chromatography- Introduction, Principle and Application
9 <sup>th</sup> -14 <sup>th</sup> jan	Column Chromatography- Introduction, Principle and Application
16 <sup>th</sup> -21 <sup>st</sup> jan	Column Chromatography- Introduction, Principle and Application
23 <sup>rd</sup> -31 <sup>st</sup> jan	<b>13.Advanced analytical techniques</b> <b>1H NMR-</b> General introduction, chemical shift, factors affecting chemical shift
1 <sup>st</sup> feb-4 <sup>th</sup> feb	X-Ray Crystallography- Principle
6 <sup>th</sup> -11 <sup>th</sup> feb	Bragg's law and application
13 <sup>th</sup> -18 <sup>th</sup> feb	IR spectroscopy- Principle
20 <sup>th</sup> -28 <sup>th</sup> feb	Characteristic absorption bands of some organic functional groups Carbonyl, C-C double bond, C-C triple bond, Phenyl ring
1 <sup>st</sup> mar-4 <sup>th</sup> mar	1.To carry out synthesis of Chalcone from Acetophenone and Benzaldehyde 2.Monitoring of Chalcone formation from TLC
6 <sup>th</sup> -11 <sup>th</sup> mar	3.To carry out synthesis of formation of epoxide of Chalcone

	4. Monitoring of epoxychalcone formation from Chalcone by TLC
13 <sup>th</sup> -18 <sup>th</sup> mar	5. To carry out acid catalysis of epoxychalcone and monitoring of reaction by TLC
20 <sup>th</sup> -25 <sup>th</sup> mar	6. To carry out base catalysis of epoxychalcone and monitoring of reaction by TLC 7. To determine the calcium content by complexometric titration using EDTA
27 <sup>th</sup> -31 <sup>st</sup> mar	8. Synthesis of Schiff's bases from Amine and Benzaldehyde
1 <sup>st</sup> apr-8 <sup>th</sup> apr	9. Column chromatography of Dye and spinach
10 <sup>th</sup> -15 <sup>th</sup> apr	10. Introduction to soxhlet apparatus (Demonstration) 11. Introduction to Clevenger apparatus (Demonstration)
17 <sup>th</sup> -22 <sup>nd</sup> apr	12. Various stereochemical (E & Z, Cis & Trans, R & S, Boat and Chair conformations of Cyclohexane)
24 <sup>th</sup> -29 <sup>th</sup> apr	13. General NMR spectrum problems

**SYLLABUS OF  
DIPLOMA COURSE IN PHARMACEUTICAL CHEMISTRY**

For 2016-17, 2017-18 and 2018-19 session

Continued for session- 2019-20, 2020-21, 2021-22, 2022-23

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. Photochemistry**

Introduction, consequences of light absorption, The Jablonski diagram, Lambert beer law, Grothus draper law, Photochemical reactions

**2. Biochemistry**

Transport processes across cell membrane, enzymes: nomenclature, enzyme kinetics & mech. Of action. Mech. Of inhibition, Isozymes, Co-enzymes

**3. Name reactions**

Aldol condensation, Claisen Schimidt condensation, Grignard reaction, wurtz reaction, wurtz-fittig reaction, Diazotization reaction, Cannizaro's reaction

**4. Antiulcer drugs-** Classification of drugs and structure of omeprazole, pantoprazole, cimetidine

**5. NSAIDS-** Classification of drugs and structure of Aspirin, Ibuprofen, Paracetamol, Nimesulide, Indomethacin, Diclofenac.

**6. Antihistamines-** Classification of drugs and structure of Diphenhydramine, Chlorphenhydramine

**SECTION-B**

**7. General and local Anaesthetic-** Classification of drugs and structure of thiopentone and propofol, benzocaine

8. **Antiseptics and disinfectants-** Classification and structure of povidone-iodine, benzalkonium chloride
9. **Antihypertensive-** Classification of drugs and structure of Propranolol, verapamil
10. **Chemotherapeutic agents-** Classification of antibiotics and structure of tetracycline, amoxicillin
11. **AntiTB-** Classification of drugs and structure of nicotinamide, ethionamide, isoniazid
12. **Chromatography**
  - a. **Thin Layer Chromatography-** Introduction, Principle and Application
  - b. **Column Chromatography-** Introduction, Principle and Application
13. **Advanced analytical techniques**
  - a.  **$^1\text{H}$  NMR-** General introduction, chemical shift, factors affecting chemical shift
  - b. **X-Ray Crystallography-** Principle, Bragg's law and application
  - c. **IR spectroscopy-** Principle, Characteristic absorption bands of some organic functional groups Carbonyl, C-C double bond, C-C triple bond, Phenyl ring

## LABORATORY

### Practical Carries 30 marks +Internal assessment-10

1. To carry out synthesis of Chalcone from Acetophenone and Benzaldehyde
2. Monitoring of Chalcone formation from TLC
3. To carry out synthesis of formation of epoxide of Chalcone
4. Monitoring of epoxychalcone formation from Chalcone by TLC
5. To carry out acid catalization of epoxychalcone and monitoring of reaction by TLC
6. To carry out base catalization of epoxychalcone and monitoring of reaction by TLC
7. To determine the calcium content by complexometric titration using EDTA
8. Synthesis of Schiff's bases from Amine and Benzaldehyde
9. Column chromatography of Dye and spinach
10. Introduction to soxhlet apparatus (Demonstation)
11. Introduction to Clevenger apparatus (Demonstation)
12. Various stereochemical (E & Z, Cis & Trans, R & S, Boat and Chair conformations of Cyclohexane)
13. General NMR spectrum problems

### Books Recommended

1. I.L. Finer, Organic Chemistry, Vol. I & II, The English Language Book Society, London and Longman Group Limited, London (Latest edition).
2. R.T. Morrison and R.N. Royd, Organic Chemistry, 6<sup>th</sup> Edition, Prentice Hall of India, Private Limited, New Delhi (Latest edition).
3. R. N. Acheson, An Introduction to the chemistry of Heterocyclic Compounds, Inter-Sciences Publishers, New York (Latest edition).
4. A. W. Martin, J. Swarbrick and A. cammarata, Physical Pharmacy, 4<sup>th</sup> Edition, Lea and Febiger, Philadelphia, 1993.
5. Remington: The Science and Practical of Pharmacy, Mack Publishing Co., USA, 2005. *Handwritten*

6. M.J. Peleczar, Reid and Chan Microbiology, 4<sup>th</sup> Edition, Tata Mc Graw Hill Publishing Co., New Delhi.
7. S. J. Carter, Cooper and Gunn's Dispensing for Pharmaceutical Students, Pitman Medical Publishing Co., 12<sup>th</sup> Edition, Chapters 20 to 28.
8. A. L. Gennaro, Remington: The Science and Practice of Pharmacy, Lippincott Williams and Wilkins, USA, 2000, 108.
9. S.J. Carter Cooper and Gunn, Tutorial Pharmacy, 6<sup>th</sup> Edition, Pitman Medical, 1972.
10. W.B. hugo and A.D. Russel Pharmaceutical Microbiology, Blackwell Scientific Publications, Oxford, 1987.
11. McCabe and Smith, Unit Operations for Chemical Engineering, 6<sup>th</sup> Edition McGraw Hill N.Y.
12. G. Gunn and S.J. Carter and Gunn's Tutorial Pharmacy, Pitman Medical Publishing Co. London, 1972.
13. L.A. Lachman, H.A. Liberman and J.L. Kanig, The Theory and Practice of Industrial Pharmacy, 3<sup>rd</sup> Edition Lea and Febigar, Philadelphia, USA.
14. Badger Introduction to Chemical Engineering McGraw Hill Co., Interracial Student Edition (Latest Edition).
15. E.A. Rowlinson, Bentley's Text book of Pharmaceutics, Bailliere Tindall and Cox, London (Latest Edition).
16. K. Sambamurthy, Pharmaceutical Engineering New Age Int. Publishers, New Delhi, 2003.
17. T.E. Wallis, Textbook of Pharmacognosy, J & A Churchill Ltd. London, 1967.
18. W.C. Evans, Trease and Evans Pharmacognosy (15<sup>th</sup> Ed.), W.B. Saunders Limited, 2002.
19. V.E. Tyler, L.R. Brady & J.E. Robbers, Pharmacognosy (9<sup>th</sup> Edition) K.M. Varghese Company Bombay, India 1988.
20. C.R. Craig and R.E. Stitzel Modern Pharmacology, Little Brown and Company, 6<sup>th</sup> Edition (2003).
21. Goodman & Gilman's "The Pharmacological basis of Therapeutics", 9<sup>th</sup> edition, Eds. A.G. Gilman, J.G. Hardman, L.E. Limbird, P.B. Molinoff, R.W. Ruddon, Macmillian publishing Co., Inc (2001).
22. B.G. Katzung, Basic and Clinical Pharmacology, Lange Medical Publications, 8<sup>th</sup> Ed. (2000).

Harijeet Singh  
Principal  
SMTS Govt. College  
Sahibzada Ajit Singh Nagar

GOVERNMENT COLLEGE SAHIBZADA AJIT SINGH NAGAR, MOHALI									
LIST OF STUDENTS WHO PAID FEES FOR EXAMINATION OF ADD-ON DIPLOMA COURSE (2019-2020)									
NO.	ROLL NO.	NAME	FATHER'S NAME	MOTHER'S NAME	CATEGORY	SEX	MEDIUM	COURSE	FEES
18-239	5540	Abhilasha Rathore	Kuldip Singh	Sonu	General	F	English	Diploma Course	600
18-959	5541	Jasmeen Kaur	Anoop Singh	Narinder Kaur		F	English	Diploma Course	600
18-279	5542	Jasmeet Kaur	Sukhvinder Singh	Jasvir Kaur	OBC	F	English	Diploma Course	600
18-280	5543	Kamalpreet Kaur	Bhupinder Singh	Rajinder kaur	OBC	F	English	Diploma Course	600
8-955	5544	Karamjot kaur Kang	Joga Singh kang	Kamaljit Kaur	General	F	English	Diploma Course	600
8-250	5545	Kiranpreet Kaur	Sukhwinder Singh	Kuldeep Kaur		F	English	Diploma Course	600
8-281	5546	Kiranpreet Kaur	Kanwaljit Singh	Mandeep Kaur		F	English	Diploma Course	600
8-832	5547	Manisha Shukla	Satpal	Banita	General	F	English	Diploma Course	600
8-254	5548	Manpreet Kaur	jaswinder Singh	Davinder kaur	General	F	English	Diploma Course	600
8-284	5549	Mehak	Satpal Singh	Krishna	General	F	English	Diploma Course	600
8-957	5550	Prabhjot Sarao	Manmohan Singh	Manpreet Kaur	SC	F	English	Diploma Course	600

Hemant  
Principal,  
SMHPSSCV, Govt. College,  
Sahibzada Ajit Singh Nagar.

Abhilasha Rathore  
Samreen Tariq  
Jasmeet Kaur  
Kamalpreet Kaur  
Karamjot Kaur  
Kiranpreet Kaur  
Kiranpreet Kaur  
Manisha Shukla  
Mehak  
Prabhjot Sarao

## ਸੈਟਰ ਨੰਬਰ

ਪਹੀਥਿਆਕ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਚੁੱਖਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ.

ਪ੍ਰਤਿ-ਪਰਚੀ

ਪੰਜਾਬ ਪ੍ਰਸ਼ਾਸਨ ਬੱਦੀ 1901-12

## दिप्लोमा Diploma Courses

## परमाणुकीय रसायन (Teory)

अधिकारम् अवि..... (Page) ४०

14

ਪਾਸ ॥ ਫੇਲ —

~~For sub-junior~~  
ਪਰੀਕਸ਼ਾਕ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

Hafsat Ajijah

Principal  
SMHS Govt. College  
Sahibzada Ajit Singh Nagar

## સીટર નેથર

ਪਰੀਮਿਅ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆ ਲਈ  
ਗੁਪਣ ਤੇ ਸੰਭਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ।

ਪੁਤਿ-ਪਰਚੀ

ਪੜੀਖਿਆ ..... 120/-

सिंगा *Diploma leonis*

ਪਰਚਾ *Magnolia champaca*

अधिकारम् अधि..... 20 .....

प्राचीन अवृत्ति ०७

ਚੇਲਨੰਬਰ	ਮੌਕਾ
55410	19
55411	17
5542	19
5543	16
5544	18
5545	17
5546	18
5547	16
5548	17
5549	18
5550	17

ਪਾਸ ॥ ਫੇਲ ।

~~ਪਰਾਕਿਆਕ ਦੇ ਪੂਰੇ ਹਸਤਾਬਰ~~

## ਪਾਖੜੀ ਨੰਬਰ

ਪਰੀਪਿਆਕ ਚੁਆਹਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਗੱਟ ਹੋ ਸੀਜ਼ਾਲਟ ਲਈ ਪ੍ਰਤਿ ਪਰਚੀ

ਪੰਜਾਬ

प्रतिपाद्य वर्ष II, शतमान IV... २८०

## Ferr. Phen. Chemistry

## प्राचीर Diploma (Practical)

અપ્રીચતમ અંશ 30

ਪਸ ਅਵ .....

ਰੇਲ ਨੰਬਰ	ਅੰਕ
5540	27
5541	27
5542	26
5543	25
5544	27
5545	26
5546	28
5547	27
5548	25
5549	26
5550	28

ਪਾਸ ..... ਫੇਲ

Hajeeb Anjhal

Engineering College

P. T. A. Govt. College  
Sahibzada Ajit Singh Nagar PUP(O)-8703-5,000/2-07

ਪਰੀਖਿਅਕ ਦੇ ਪੁਰੇ ਹਸਤਾਖਰ

## ਪਾਲਾਪਤੀ ਨੰਬਰ .....

ਪਹੀਅਖ ਦੁਆਰਾ ਛੇ ਮਹੀਨਿਆਂ ਲਈ  
ਗੱਭਣ ਤੇ ਸਿਵਾਲਣ ਲਈ ਪ੍ਰਤਿ ਪਰਦ

ufg-utst

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Wastwater Bact. Survey. 120c

## विषय Pharmaceutical Chemistry

ਪਰਚਾ<sup>1</sup> Diploma (Practical)  
T. M. S. S. S. S.

अधिकतम अव 10

04

ਪਾ ਅਤ .....

ਪਾਸ ..... ਫੇਲ੍ਹ .....

Hajjat Arijah

principal

Principal  
SMHS Govt. College  
Nizamada Ajit Singh

Principal  
SMHS Govt. College  
Sahibzada Ajit Singh Nagar PUP(O)-8703-5,000/2-07

ਪੰਜਾਬ ਦੇ ਪੂਰੇ ਹਸਤਾਖਰ

LIST OF STUDENTS WHO PAID FEES FOR EXAMINATION OF ADD-ON DIPLOMA COURSE (2019-2020)									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
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7	612-18-281	5546	Kitanpreet Kaur	Kanwaljit Singh	Mandeep Kaur		F	English	Diploma Course	600
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11	612-18-957	5550	Prabhjot Sarao	Manmohan Singh	Manpreet Kaur	SC	F	English	Diploma Course	600

Harsimran Singh  
Principal,  
SMHPSSCV, Govt. College,  
Sahibzada Ajit Singh Nagar.

Abhilasha  
Jasmeen  
Jasmeet  
Kamalpreet  
Karamjot  
Kiranpreet  
Manisha  
Manpreet  
Mehak  
Prabhjot

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

Final Theory Examination

UGC Add on Course in Pharmaceutical Chemistry

Course: Diploma course in Pharmaceutical Chemistry

Subject: Pharmaceutical Chemistry

Session: 2019-2020

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) Explain Jablonski diagram.

Q. 2) What is chemical shift? What are the factors affecting chemical shift?

Q. 3) Explain the different types of transport processes across a cell membrane.

Q. 4) What are anti TB agents? Give any 2 examples of anti TB agents.

Q. 5) Explain Lambert's Beer law.

Section A, B, C, D and E carries 2 long answer type questions of 5 marks each. Attempt only one of them.

SECTION B

Q. 6) What are anti-ulcer drugs? Explain any two anti-ulcer drugs in detail.

OR

Q. 7) Explain general and local anaesthetic drugs and classify them by giving examples of each with structure.

SECTION C

Q. 8) What are NSAIDS? Explain any two NSAIDS agents in detail.

OR

Q. 9) Explain in detail:

a) Thin layer chromatography

b) Column chromatography

Harijeet Singh  
Principal  
SMHS Govt. College  
Sahibzada Ajit Singh Nagar

SECTION D

Q. 10) Explain X-Ray chromatography with principle and its applications. What is Bragg's law?

OR

Q. 11) Explain the following named reactions: a) Claisen-Schmidt condensation

b) Cannizaro's reaction

c) Grignard's reaction

d) Wurtz- Fittig reaction

SECTION E

Q. 12) Explain anti hypertensive agents and anti histamines by giving one example of each agents in detail.

OR

Q. 13) Explain IR spectroscopy in detail.

Harmeet Singh  
Principal  
SMHS Govt. College  
Sahibzada Ajit Singh Nagar

ਸਟੋਰਿਓ ਡਾ. ਸਿ. ਵਿ. ਨੰ: 52

Diploma

ਗਜ਼ਗੀ ਨਿਸ਼ਤਰ Certificate Course in Pharma ਕਾਲਜ

C.C. Mchali

Roll No.	Name	Marks													
		76	77	31	4	5	6	7	8	9	10	11	12	13	14
815	Kiranpreet Kaur	P	P	P											
814	Kamalpreet K.	A	P	P											
811	Jasmeet K.	P	A	P											
818	Mehak	P	A	P											
601	Abhilasha Rathore	A	P	P											
602	Ankita	P	P	P											
614	Manpreet Kaur	P	A	P											
685	Manisha Shukla	P	P	P											
628	Kirandeep Kaur	P	P	P											
607	Jashanpreet Kaur	A	A	P											
618	Sukhjot Kaur	A	P	A											
3657	Zusmeen Kaur	A	A	A											
3652	Karamjeet K. Kany	A	A	A											
3660	Simranjeet Kaur	A	A	A											
3663	Heena	A	A	A											
3655	Prabhjot Saini	N	A	A											
856	Harmanpreet K.	P	A	A											
694	Kamalpreet Kaur	A	P	P											
Total Marks															
Date: 20/07/2023															
Guru Nanak Dev University, Amritsar															
Principal: Mr. S. S. Govt. College Cohibzada Ajit Singh Nagar															

Approved by  
Principal

S.S. Govt. College  
Cohibzada Ajit Singh Nagar

ਸਾਈਰਿੰਡ ਫਾ. ਸਿ. ਫ. ੫. ੫੨

Diploma

ਜਾਤੀ ਨਿਸ਼ਾਨ Certificate Course in Pharma ਵਾਲੇ G.C.M.

No Sl	Name	26	27	31	4	5	6	10	24	9	10	11	12
		01	01	01	01	01	08	08	08	08	08	08	08
815	Kirandeep Kaur	P	P	P		P	P	P	P				
814	Kamalpreet K.	A	P	P		P	A	A	A				
811	Jasmeet K.	P	A	P		P	P	P	P				
818	Mehak	P	A	P		A	A	A	A				
601	Abhilasha Rathore	A	P	P		P	A	P					
602	Ankita	P	P	P		A	A	A	A				
614	Manpreet Kaur	P	A	P		P	A	A					
625	Manisha Shukla	P	P	P		P	P	A					
628	Kirandeep Kaur	P	P	P		A	A	P					
607	Jashpreet Kaur	A	A	P		P	P	P					
618	Sukhjot Kaur	A	P	A		A	A	A					
3657	Taumaran Kaur	A	A	A		P	A	P					
3652	Karamjeet K. Kary	A	A	P		A	P	A					
3660	Simranjeet Kaur	A	A	A		P	A	A					
3663	Heena	A	A	P		P	P	P					
3655	Prabhjot Saini	A	A	A		A	A	A					
556	Harmanpreet K.	P	A	A		P	P	P					
624	Kamalpreet Kaur	F	P	P		P	P	P					

Original  
Signature  
Guru Nanak Dev Institute of Technology  
Panjab University College  
Jalandhar, Distt. Jalandhar, Punjab, India  
Affiliated to Panjab University, Chandigarh  
Approved by AICTE, New Delhi

Add  $\int^{\text{late course}}$

## (DIPLOMA COURSE)

ਸਾਹੋਰਿਓ ਛਾ. ਸਿ. ਵਿ. ਨੰ: 52

# BSc Third year [ Add-on course in Pharmaceutical chemistry ]

ਹਾਜ਼ਰੀ ਭਜਿਸਟਾਂ February, 2020

-५४-

## Theory

BSC II year

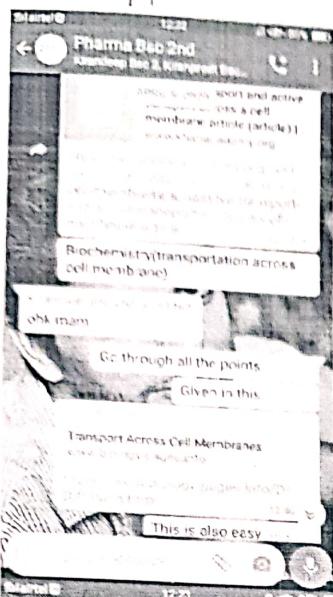
March, 2020.

वार्षा

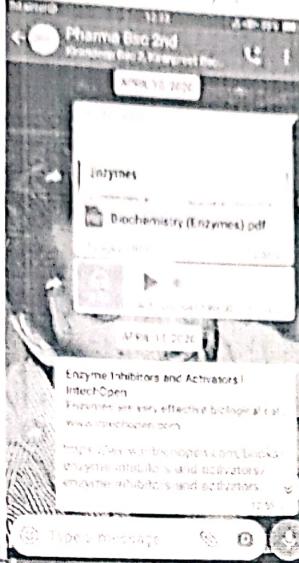
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654		P	P	P	A	A	P	A	A	P	P	A	
659		A	A	A	P	P	P	P	P	A	A	P	
669		P	P	P	P	P	P	P	P	A	A	P	
673		P	A	A	P	A	P	A	A	P	P	A	
857		P	P	P	P	P	A	P	P	P	P	P	
858		A	P	A	P	P	A	A	P	A	P	A	
860		P	A	P	P	A	P	A	A	P	A		
862		A	P	P	P	P	P	A	P	P	P	A	
3702		A	A	A	A	P	A	A	A	A	A	A	
3704		A	A	A	A	P	A	A	A	A	A	A	
3706		A	A	A	A	P	A	A	A	A	A	A	
		<i>Practical subject</i>											
		<i>S.S.G.N.T. College</i>											
		<i>Sahibzada Milt Singh</i>											

Practical subject  
S.S.G.N.T. College  
Sahibzada Milt Singh

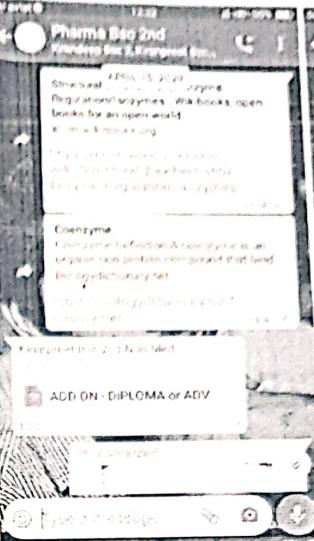
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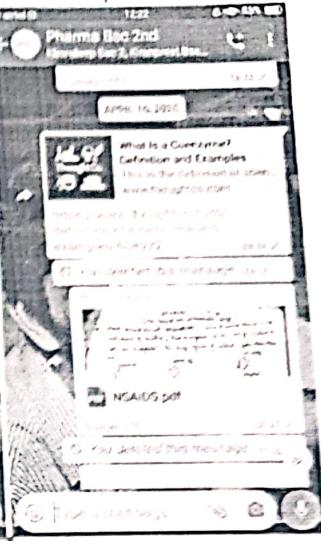
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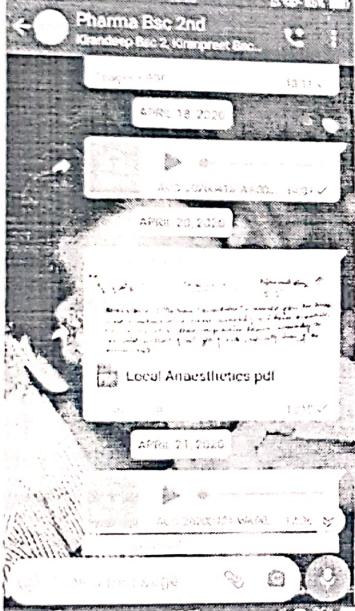
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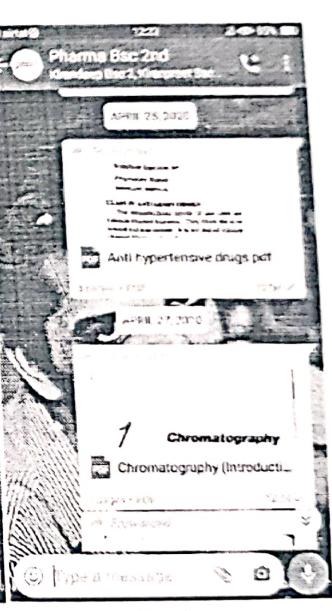
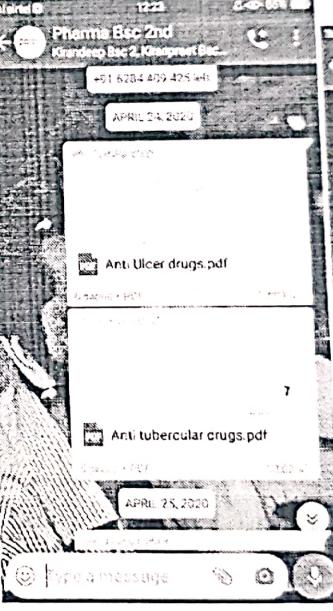
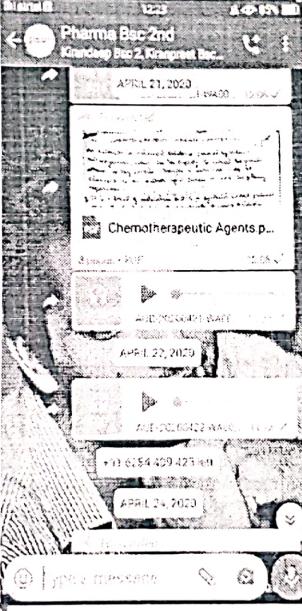
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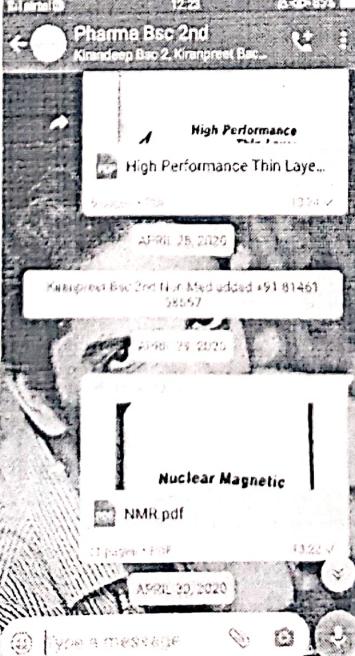


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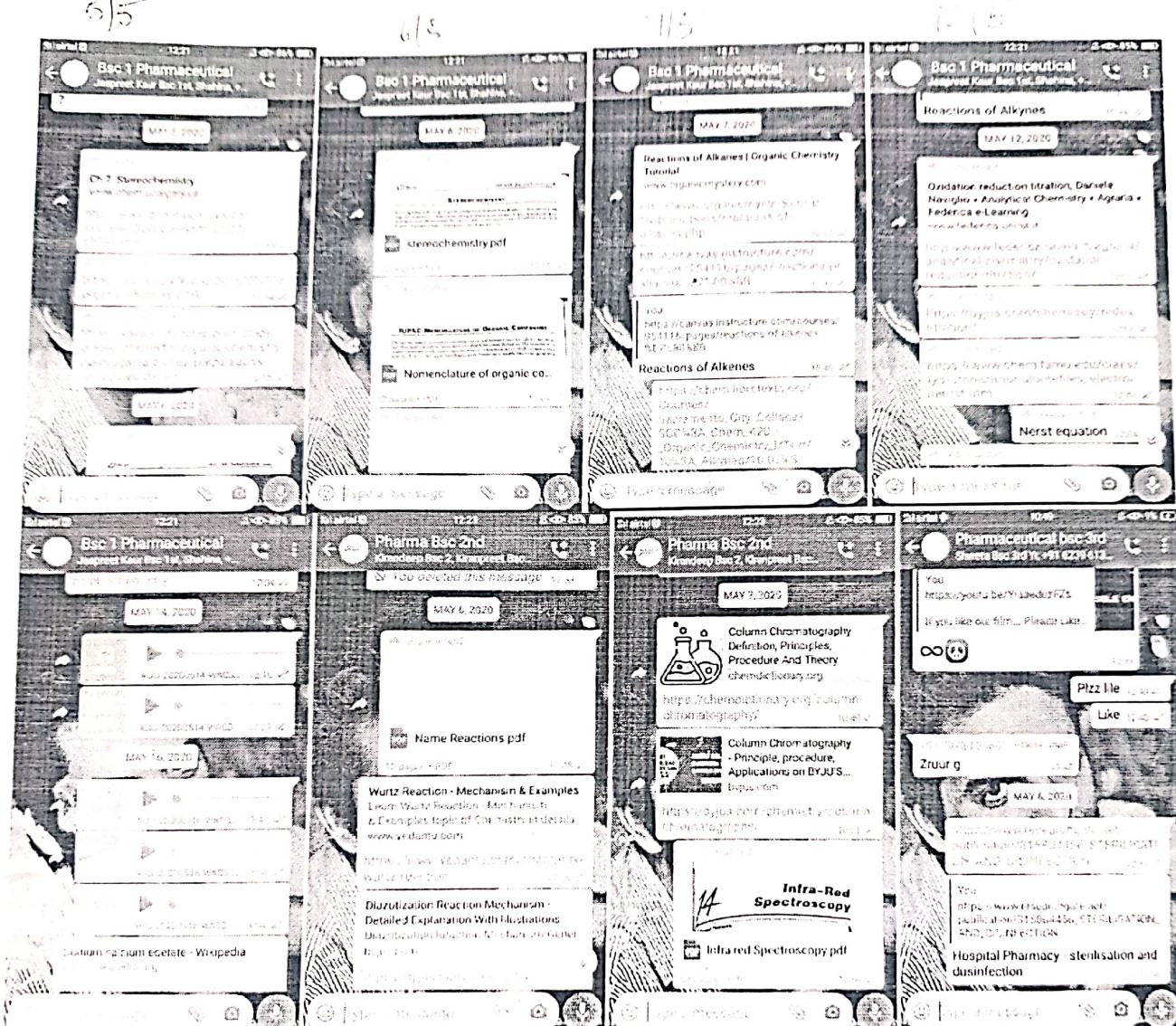
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Hajee Ajit  
Envi Principal  
SMHS Govt. College  
Sahibzada Ajit Si

(Exchange)

May 2020



(Incomplete)

~~Amritpal Singh~~

Harijeet Singh  
Principal  
SMHS Govt. College  
Sahibzada Ajit Singh...ya