



**SNJB (Jain Gurukul's)**  
**K.K.H. Abad Arts, S.M.G. Lodha Commerce & S.P.H. Jain Science College**  
**Neminagar, Chandwad-423101, Dist.-Nashik, Maharashtra**

Establishment  
27/11/1928

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(Affiliated to Savitribai Phule Pune University) Id. No.PU/NS/AC/015/1970

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(02556) Off. 252125 Res.252126 Tel. Fax:02556-252125

• P. O. Box No.: 6 • E-mail : [alccchandwad@yahoo.co.in](mailto:alccchandwad@yahoo.co.in)

• Website : [www.acschandwadcollege.com](http://www.acschandwadcollege.com)

DST-FIST Funded (2018-19)

UGC-NSQF Courses (B.Voc. & CC)

Best College Award by Savitribai Phule Pune University (2015-16)

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## MSc. II Physics

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**T.Y.B.Sc. (Physics) (Sem-V)**  
**PHY-357: Physics Laboratory-3A**

**Lectures: 36**

**(Credits-02)**

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**(General Laboratory, Electromagnetism, Atomic and Molecular Physics, and Optics)**

**(Any Eight)**

**GROUP-I: GENERAL PHYSICS (any FOUR)**

1. Kater's pendulum
2. Moment of Inertia by Bifilar suspension
3. Young's modulus by Koeing method
4. Surface tension of mercury by ripple method
5. Surface tension liquid by Fergusson method
6. Surface tension of mercury by Quincke's method
7. 'Y' by vibration of wooden scale
8. Young's modulus by Newton's rings
9. Determination of wavelength of light by Michelson's interferometer
10. Study of damped oscillations of physical pendulum and finding log decrement

**GROUP-II: ELECTROMAGNETISM (any TWO)**

1. Study of forced oscillations by electromagnetically driven simple pendulum
2. Self-Inductance by Anderson's bridge
3. Core losses in transformers
4. Electromagnetic pendulum
5. Self-Inductance by Maxwell's bridge

**GROUP-III: ATOMIC AND MOLECULAR PHYSICS AND OPTICS (any TWO)**

1. Determination of Rydberg's constant
2. Zeeman Effect
3. Llyod's mirror
4. Determination of Resolving Power of grating
5. Determination of wavelength by Constant deviation spectrometer

**Additional Activities (Any ONE)**

- Demonstrations: Any 2 demonstrations equivalent to 2 experiments
- Study tour with report equivalent to 2 experiments
- Mini project equivalent to 2 experiments
- Computer aided demonstrations (simulations or animations)  
(Any 2 demonstrations equivalent to 2 experiments)

*Note: Students have to perform **ten** experiments or **one** additional activities in addition to **eight** experiments mentioned above. Total laboratory work with additional activities should be equivalent to **ten** experiments.*

75  
105

Date : 09/05/2022

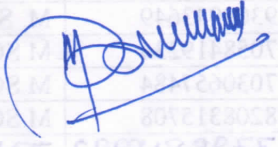
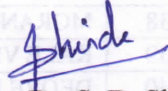
No.	Name of the Student	Gender	Contact Number	Class
1	NERE PALLAVI NARHAR	FEMALE	8232288897	T.Y.B.Sc
2	BHADANE PRIYANKA SATISH	FEMALE	7081212943	T.Y.B.Sc
3	SHINDE VAIBHAV VISHWAS	FEMALE	9902386853	T.Y.B.Sc
4	CHANGHAV TUSHAR ASHOK	MALE	8972681759	T.Y.B.Sc
5	SHINDE VAIBHAV SUBHASH	MALE	9218233882	T.Y.B.Sc
6	THAKARE SEEMA VIKRAM	FEMALE	9921299922	T.Y.B.Sc
7	THAKARE HARSHDA EKNATH	FEMALE	9072717222	T.Y.B.Sc
8	GANGURDE RUTUJA ASHOK	FEMALE	9420823098	T.Y.B.Sc
9	GANGURDE MADHURI BALU	FEMALE	9767230972	T.Y.B.Sc
10	MAHAJAN DAYA TRI VITTHAL	FEMALE	9767230972	T.Y.B.Sc
11	BAGUL TEJAL SHRIKANT	FEMALE	9021224691	T.Y.B.Sc
12	SHELAR GAYATRI CHANDRANATH	FEMALE	7798108621	T.Y.B.Sc
13	KAPSE ASHU TOSH NANDU	MALE	7788034748	T.Y.B.Sc
14	PAWAR VAISHNAVI NISHIKANT	FEMALE	9021224691	T.Y.B.Sc
15	NARSHINGE MAYUK SHIVAJI	MALE	9021224691	T.Y.B.Sc
16	BIDGAR GOPAL GIRISH	MALE	9021224691	T.Y.B.Sc
17	HANDGE SHUBHAM DATTU	MALE	9623236997	T.Y.B.Sc
18	THORKE TEJASWINI NAVAJ	FEMALE	7492747402	T.Y.B.Sc
19	CHAUDHARI SACHIN BHAGWAT	MALE	766990861	T.Y.B.Sc
20	PAWAR SHIVAM BAJRAO	MALE	7442727306	T.Y.B.Sc
21	PAWAR SHIVAM BAJRAO	MALE	7442727306	T.Y.B.Sc
22	PAWAR SHIVAM BAJRAO	MALE	7442727306	T.Y.B.Sc
23	PAWAR SHIVAM BAJRAO	MALE	7442727306	T.Y.B.Sc
24	PAWAR SHIVAM BAJRAO	MALE	7442727306	T.Y.B.Sc
25	PAWAR SHIVAM BAJRAO	MALE	7442727306	T.Y.B.Sc
26	PAWAR SHIVAM BAJRAO	MALE	7442727306	T.Y.B.Sc
27	PAWAR SHIVAM BAJRAO	MALE	7442727306	T.Y.B.Sc
28	PATIL MONALI	FEMALE	7038024691	M.Sc-II
29	THORAT MONIKA UMESH	FEMALE	7038024691	M.Sc-II
30	BACHTHAV VARSHA DHARMARAJ	FEMALE	7038024691	M.Sc-II
31	KALE ANKITA SATISH	FEMALE	8925662020	M.Sc-II
32	THAKARE BRUNALI PRAKASH	FEMALE	7038024691	M.Sc-II
33	SHIBALE ANITA KISAN	FEMALE	9221992222	M.Sc-II
34	SHINDE TEJASWINI VASANT	FEMALE	9284988249	M.Sc-II
35	GANGURDE VARSHA KEDU	FEMALE	8807129259	M.Sc-II
36	PAWAR DNYANESHWARI B	FEMALE	8698029617	M.Sc-II
37	MOHIN TOORA RAJES	FEMALE	9021224691	M.Sc-II
38	NIKAR VIBUL ARUN	MALE	7038024691	M.Sc-II
39	VISHAL RAMNATH	MALE	7038024691	M.Sc-II
40	SHIVAJI	MALE	8208312508	M.Sc-II
41	SHIVAJI	MALE	8208312508	M.Sc-II
42	SHIVAJI	MALE	8208312508	M.Sc-II
43	SHIVAJI	MALE	8208312508	M.Sc-II
44	SHIVAJI	MALE	8208312508	M.Sc-II
45	SHIVAJI	MALE	8208312508	M.Sc-II
46	SHIVAJI	MALE	8208312508	M.Sc-II
47	SHIVAJI	MALE	8208312508	M.Sc-II
48	SHIVAJI	MALE	8208312508	M.Sc-II
49	SHIVAJI	MALE	8208312508	M.Sc-II
50	SHIVAJI	MALE	8208312508	M.Sc-II

To,  
 The Principal/IQAC  
 KKHA Arts, SMGL Comm. & SPHJ Science  
 Chandwad Dist.- Nashik

Sub.: To Avail permission for the educational visit.

Dear Sir,  
 With reference to the subject cited above and as per the curriculum of Savitribai Phule Pune University, Pune for **T. Y. B. Sc, M. Sc- II Physics**. It is compulsory to visit spots of Field visit, Study tours, industrial visit, Participation in curricular/co-curricular competitions- **for 01 credit**. In this regard, we have planned one day visit on 12<sup>th</sup> May 2022 at **Nehru Planetarium, Mumbai**. There are 40 Students and 07 staff members are participating in the visit. Kindly avail the permission and do the needful.

Your Faithfully

(Smt. Dr. S. D. Shinde)

**HEAD**  
 Department of Physics  
 KKHA Arts, SMGL Commerce &  
 SPHJ Science College, Chandwad  
 Dist- Nashik 423 101 Maharashtra



**PRINCIPAL**  
 Karmvir Keshavlal Harakchandji Abao  
 Arts, Shriman Mohan Giridharilalji Lodha  
 Commerce and P.H.Jain Science  
 College, Chandwad Dist. Nashik



**PRINCIPAL**  
 Karmvir Keshavlal Harakchandji Abao  
 Arts, Shriman Mohan Giridharilalji Lodha  
 Commerce and P.H.Jain Science  
 College, Chandwad Dist. Nashik



**Karmveer Keshavlalji Harakchandji Abad Arts,  
Shriman Motilalji Giridharilalji Lodha Commerce  
& Shriman P. H. Jain Science College**

SNJ

**Neminagar, Chandwad, Dist. Nashik - 423 101, Maharashtra**

☎ : (02556) Off. 252125

P. O. Box No. 6

AISHE Code :  
C-42199

Junior College Code No. 13.01.0  
Senior College Code No. 088

E-mail : alccchandwad@yahoo.co.in

Website : acschandwadcollege.com

(Affiliated to Savitribai Phule Pune University, Pune) Id. No. PU/NS/AC/015/1970

NAAC - RE-ACCREDITED - 'B++' With 2.95 CGPA in 3<sup>rd</sup> Cycle

Best College Award - 2015-16 of Savitribai Phule Pune University, Pune

DST-FIST Funded College

Outward No. : ALS/2022-23/55

Dr. G. H. Jain  
Principal

M.Sc., A.D.C.S.A & A, Ph.D.

Chairman - B.O.S. (Physics) S.P.P.U. Pune

Date : 11 / 05 / 2022

To,

Director

Nehru Planetarium, Nehru Centre,

Dr Annie Besant Road, Worli,

Mumbai 400018 India

Phone +91 22 2492 0510 (operator)

Mobile +91 98338 30253 +91 94223 1992

**Subject:** Request to provide the concessional facility to attend the planetarium show "Biography of the Universe".

Dear Sir,

Greeting...., Thanks for your permission for the visit of our Physics Department students at **Nehru Planetarium, Nehru Centre**. As per the communication via email we request you to provide the group concession rate for our college students which wants to attend the planetarium show "Biography of the Universe" between 12:00 noon Hindi on 12 May 2022.

Also, find the list of copy students and faculty visiting to the center attached herewith.

Kind request to the needful.

Thanking you,

With warm regards

*Shinde*  
HEAD

Department of Physics  
KKHA Arts, SMGL Commerce &  
SPHJ Science College, Chandwad  
Dist- Nashik 423 101 Maharashtra

*G. H. Jain*  
PRINCIPAL

Karmveer Keshavlalji Harakchandji Abad  
Arts, Shriman Motilalji Giridharilalji Lodha  
Commerce and Shriman P.H. Jain Science  
College, Chandwad Dist. Nashik



**Karmveer Keshavlalji Harakchandji Abad Arts,  
Shriman Motilalji Giridharilalji Lodha Commerce  
& Shriman P. H. Jain Science College**

SNJ

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☎ : (02556) Off. 252125

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Dr. G. H. Jain

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Principa

Best College Award - 2015-16 of Savitribai Phule Pune University, Pune

M.Sc., A.D.C.S.A & A, Ph.D

DST-FIST Funded College

Chairman - B.O.S. (Physics) S.P.P.U. Pune

Outward No. : ALSC/2022-23/35

Date : 10/05/2022

To,  
The Administrative Officer  
Shree Neminath Jain Brahmacharyashram,  
Chandwad, Dist. Nashik

Sub.: To Avail permission for the educational visit.

Dear Sir,

With reference to the subject cited above and as per the curriculum of Savitribai Phule Pune University, Pune for T. Y. B. Sc, M. Sc- II Physics. It is compulsory to visit spots of Field visit, Study tours, industrial visit, Participation in curricular/co-curricular competitions- **for 01 credit**. In this regard, we have planned one day visit on 12<sup>th</sup> May 2022 at Nehru Planetarium, Mumbai. There are 40 Students and 07 staff members are participating in the visit. Kindly avail the permission and do the needful.

Your Faithfully

(Dr. G. H. Jain)

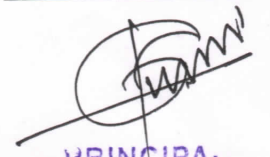
PRINCIPAL

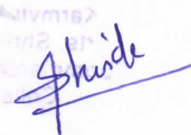
Karmveer Keshavlalji Harakchandji Abad  
Arts, Shriman Motilalji Giridharilalji Lodha  
Commerce and Shriman P.H. Jain Science  
College, Chandwad Dist. Nashik

26 F  
17 5

Sr. No.	Name of the Student	Gender	Contact Number	Class
✓ 1	NERE PALLAVI NARHAR	FEMALE ✓	8275588897	T.Y.B.Sc
✓ 2	BHADANE PRIYANKA SATISH	FEMALE ✓	7083375943	T.Y.B.Sc
✓ 3	DEORE ANISHA VISHWAS	FEMALE ✓	9960286853	T.Y.B.Sc
✓ 4	GHANGHAV TUSHAR ASHOK	MALE ✓	8975681759	T.Y.B.Sc
✓ 5	SHINDE VAIBHAV SUBHASH	MALE ✓	9518533882	T.Y.B.Sc
✓ 6	THAKARE SEEMA VIKRAM	FEMALE ✓	9921596935	T.Y.B.Sc
✓ 7	THAKARE HARSHDA EKNATH	FEMALE ✓	9075713752	T.Y.B.Sc
✓ 8	GANGURDE RUTUJA ASHOK	FEMALE ✓	9420829018	T.Y.B.Sc
✓ 9	GANGURDE MADHURI BALU	FEMALE ✓	9763575089	T.Y.B.Sc
✓ 10	MAHAJAN GAYATRI VITTHAL	FEMALE ✓	7499437388	T.Y.B.Sc
✓ 11	BAGUL TEJAL SHRIKANT	FEMALE ✓	9028841982	T.Y.B.Sc
✓ 12	<del>SHELAR GAYATRI CHANDRAKANT</del>	FEMALE	9921754691	T.Y.B.Sc ✗
✓ 13	KAPSE ASHUTOSH NANDU	MALE ✓	7798108631	T.Y.B.Sc
✓ 14	PAWAR VAISHNAVI NISHIKANT	FEMALE ✓	7888034748	T.Y.B.Sc
✓ 15	NARSHINGE MAYUR SHIVAJI	MALE ✓	8668490769	T.Y.B.Sc
16	BIDGAR GOPAL GIRISH	MALE ✓	7083651762	T.Y.B.Sc
17	HANDGE SHUBHAM DATTU	MALE ✓	9637536997	T.Y.B.Sc
18	THOKE TEJASWINI NAVAL	FEMALE ✓	7499274702	T.Y.B.Sc
✓ 19	CHAUDHARI SACHIN BHAGWAT	MALE ✓	7666960861	T.Y.B.Sc
✓ 20	PAWAR SHIVAM BAJRAO	MALE ✓	7447273706	T.Y.B.Sc
✓ 21	BHAVAR JYOTI	FEMALE ✓		T.Y.B.Sc
22	<del>KAKADE RUSHALI</del>	<del>FEMALE</del>		T.Y.B.Sc ✗
23	WANKHEDE VISHAL	MALE ✓	8806634485	T.Y.B.Sc
✓ 24	TOPE KAVERY	FEMALE ✓	9067743907	T.Y.B.Sc
✓ 25	BHAVAR PRERANA	FEMALE ✓	8668737162	T.Y.B.Sc
✓ 26	CHAVAN DHANSHRI	FEMALE ✓	9766566648	T.Y.B.Sc
✓ 27	LAMKHEDE ASHWINI	FEMALE ✓	9850943563	T.Y.B.Sc
✓ 28	PATIL MONALI	FEMALE ✓		T.Y.B.Sc ✗
✓ 29	THORAT MONIKA UMESH	FEMALE ✓	7038034691	M. Sc-II ✓
✓ 30	BACHHAV VARSHA DHARMRAJ	FEMALE ✓	7038926398	M. Sc-II ✓
✓ 31	KALE ANKITA SATISH	FEMALE ✓	8975662050	M. Sc-II ✓
32	THAKARE PRANJAL PRAKASH	FEMALE ✓	7030545113	M. Sc-II ✓
33	SHEWALE ANITA KISAN	FEMALE ✓	9321995355	M. Sc-II
✓ 34	KOLHE TEJASWINI VASANT	FEMALE ✓	9284988549	M. Sc-II
✓ 35	GANGURDE VARSHA KEDU	FEMALE ✓	8807129759	M. Sc-II
✓ 36	PAWAR DNYANESHWARI B.	FEMALE ✓	8698059617	M. Sc-II
37	MOMIN TOOBA RAEES	FEMALE ✓	9309943649	M. Sc-II ✗
✓ 38	MORANKAR VIPUL ARUN	MALE ✓	7058419234	M. Sc-II
✓ 39	KALE VISHAL RAMNATH	MALE ✓	7030657484	M. Sc-II
✓ 40	DEORE RAKESH VIJAY	MALE ✓	8208315708	M. Sc-II
41	Aware Gaurav	MALE ✓	7798818992	T.Y.B.Sc ✓
42	Alfa Nishant	✓	7378349190	✗

Sr.No.	Faculty Name	Gender	Contact Number
1	Dr. Smt. S. D. Shinde	Female	9420827860
2	Dr. G. E. Patil	Male	9403021344
3	Dr. A.B.Gite	Male	9423435839
4	Mr. Y. B. Kavde	Male	9823658266
5	Miss. Huda Imran Ahmad	Female	9028745463
6	Mr. Y. B. Aher	Male	9503735239
7	Miss. Pooja A. Nikam	Female	9158522025

  
**PRINCIPAL**  
 Karmvir Keshavlalji Harakchandji Abao  
 rts. Shriman Motilal Girharilalji Locha  
 mmerce and Shri. P.H. Jain Science  
 College, Chandwad, Dist. Nashik

  
 Shinde

श्री. नेमीनाथ जैन प्रसवधर्मश्रम (जैन गुरुकुल)  
 क.के.इ.आवड कला, श्रीमान. मो.गी.लोढा वाणिज्य आणि मी.एच.जैन विज्ञान (टीरेड) आणि  
 श्रीमान. पे.इ.सुराणा कला, वाणिज्य आणि विज्ञान (कनिष्ठ) महाविद्यालय, चांदवड, जि. नाशिक.

- १) विद्यार्थ्यांचे नांव :- विपुल अक्षय मोरठाकर  
 २) तुकडी :- MGC-II ३) इयत्ता :- MGC-II  
 ४) जन्म तारीख :- 02/06/1999 ५) वय :- 122  
 ६) रोल नं :- 18

Damkar  
 विद्यार्थ्यांची सही

पालकाचे संमती पत्र

माझा पालक श्री/कु. विपुल अक्षय मोरठाकर

वर्ग MGC-II तुकडी Physics महाविद्यालयातर्फे आयोजित केलेल्या वैज्ञानिक/शैक्षणिक सहलीत सहभागी होण्यास मी परवानगी देत असून तो शारिरीकदृष्ट्या सक्षम असून त्याला माझा वैयक्तिक जबाबदारीवर सहलीत पाठवित आहे. आपण त्यास सहलीत सहभागी करून घ्यावे ही विनंती. सहलीत नियम व शिस्त याबाबत त्यास कल्पना दिलेली आहे. याचे तो तंतोतंत पालन करेल. कुठल्याही प्रकारचा बेशिस्तपणा करणार नाही.

पालकांचे संपूर्ण नांव :- अक्षय विठ्ठल मोरठाकर

पत्ता: गांव: साठगा पोस्ट: साठगा

पालका: बाबासाय

सोबोईल नं. 

7	0	5	8	4	1	9	2	3	4
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APL  
 पालकाची सही

श्री. नेमीनाथ जैन प्रसवधर्मश्रम (जैन गुरुकुल)  
 क.के.इ.आवड कला, श्रीमान. मो.गी.लोढा वाणिज्य आणि मी.एच.जैन विज्ञान (टीरेड) आणि  
 श्रीमान. पे.इ.सुराणा कला, वाणिज्य आणि विज्ञान (कनिष्ठ) महाविद्यालय, चांदवड, जि. नाशिक.

- १) विद्यार्थ्यांचे नांव :- सचिन चौधरी  
 २) तुकडी :- -  
 ४) जन्म तारीख :- 08/05/2001 ५) वय :- 21  
 ६) रोल नं :- 27

Chhabhai  
 विद्यार्थ्यांची सही

पालकाचे संमती पत्र

माझा पालक श्री/कु. सचिन अश्विन चौधरी

वर्ग T.Y.BSc तुकडी - महाविद्यालयातर्फे आयोजित केलेल्या वैज्ञानिक/शैक्षणिक सहलीत सहभागी होण्यास मी परवानगी देत असून तो शारिरीकदृष्ट्या सक्षम असून त्याला माझा वैयक्तिक जबाबदारीवर सहलीत पाठवित आहे. आपण त्यास सहलीत सहभागी करून घ्यावे ही विनंती. सहलीत नियम व शिस्त याबाबत त्यास कल्पना दिलेली आहे. याचे तो तंतोतंत पालन करेल. कुठल्याही प्रकारचा बेशिस्तपणा करणार नाही.

पालकांचे संपूर्ण नांव :- अश्विन पांडुरंग चौधरी

पत्ता: गांव: कुठलाव पोस्ट: -

पालका: साहेंबर

सोबोईल नं. 

7	6	6	6	9	6	6	8	6	1
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Chhabhai  
 पालकाची सही

## EDUCATIONAL TOUR REPORT [12 , MAY 2022 ]

SNJB's college institute of physics department conducted an educational visit on 12 may 2022 for TY B.S.C & M. SC 2<sup>nd</sup> about 40 student and 6 faculty members .the main purpose of the tour was to study of ultimate universe ,astronaut and also watching sky theatre at nehru planetarium Mumbai.

We were gathered in our college campus at 4:30 am .our journey was started at 5.00 am and we had breakfast at 8:00 am again our journey was started and we were reached on 11:00 am at nehru planetarium .

### NEHRU PLANETARIUM MUMBAI :

Mumbai is the capital city of Indian state of Maharashtra and the financial centre of india mumbai is famous for 3 heritage site : the elephanta caves , chhatrapati Shivaji terminus ,and also for nehru planetarium .nehru planetarium are named after india's 1<sup>st</sup> prime minister , Jawaharlal nehru .one of the major attractions of this place this place is the soyuz T-10 which carried india's 1<sup>st</sup> cosmonaut rakesh sharma to space along with his space suit and mission journal .

Alternative names	Nehru planetarium
Location	Nehru centre ,Dr annie besant road ,lotus colony warli ,Mumbai Maharashtra .
Founded	Nehru planetarium was established in 1977 and inaugurated by smt.indira Gandhi on 6 february 1984
Highlight	Planetarium ,art gallery discovery of india .
Timing	10: 30 am to 5:00 am (open all days except Sunday )

### THE STUDY ELEMENT OF THE TOUR :

At 11:00 am we visited nehru planetarium science laboratory .the lab incharge Sir at laboratory provided very well information about the basic science demonstration and and experiment .it was very interesting .then we attached series of video show in sky theatre on "stars and wonders of the universe "



while the projector displays about solar system the evolution of our planet and other mysteries in our universe .

After the video session we visited nehru memorial museum .it was very interesting .after that we had some delicious refreshment after that refreshment we started our journey back to chandwad and then we finally reached our college campus at 1:00 am .

**Conclusion :**

the tour is very important for the student . they can easily know about the nature and can take the educational element from the nature . after discussing all the point we .we have come to know that ,study tour is educational and refreshment tour for both teachers and student .the studious attitudes and efforts got completed successfully .



