

दुस्तांचे तिमिर जावो !

Shikshan Prasarak Mandal's Anadur

# JAWAHAR ART'S, SCIENCE & COMMERCE COLLEGE, ANADUR

Tq. Tuljapur, Dist. Osmanabad-413 603

NAAC GRADE - B++(CUPA 2.81)



President :- Shri. B.F.Kasture

Secretary :- Shri. S.N. Alure Guruji

I/C Principal :- Dr.Smt. M.B. Jadhav(Mob.9960242667)

☎ :- (02471) 246037, 246737

Date: 04/08/2018

## Notice

All the faculty members of Chemistry Department are hereby informed that a meeting of our department will be held on day 04/08/2018 under the chairmanship of our head Dr. M. M. Langade to discuss the following agenda. So everyone should attend on time.

### **Agenda for meeting:**

1. To read and confirm the Proceeding of last meeting.
2. To read and confirm the certificate course.
3. To discuss and design the stricter of certificate course.
4. To prepare and frame the syllabus of certificate course.
5. To formulate the BOS.
6. To prepare the Time-Table of certificate course.
7. To conduct other activities regarding the course.
8. Timely topics with the permission of chairperson.

  
HOD

  
PRINCIPAL  
Jawahar Arts, Science & Commerce  
College, Anadur,  
Tq. Tuljapur, Dist. Osmanabad.

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24/08/2018

## Proceeding of Chemistry Departmental Meeting

Today 04/08/2018 a meeting was held in department of chemistry under the chairperson Dr. M. M. Langde (HOD). In this meeting discussion made on how the conduct the certificate course in Introduction to physical chemistry during this academic year 2018-19. All faculties are unanimously agreed to run this certificate course for all UG students. Discussion was successful regarding to construct the syllabus, timetable, the nature of Question paper and the said course admission form. All faculties assured each other to give healthy contribution for running this course and all other efforts needed. Finally all faculties are firmly decided to construct the syllabus, timetable, sample question paper and admission form and to convey to Hon. Principal for further approval from College Development committee.

- LLM- Dr. M. M Langde
- DNG- Dr. D. N. Gatlewar
- VGM- Dr. V. G. Mane
- PAM- Dr. A. M. Pachpinde

**Principal**  
**Principal**

Jawahar Arts, Science & Commerce College  
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**☎ :- (02471) 246037, 246737**

Date:17/07/2018

To,

Principal.

JASC College, Anadur.

Tq. Tuljapur, Dist. Osmanabad.

Sub: To get the permission to chemistry department to conduct the certificate course in Introduction to physical chemistry for academic year 2018-19.

Dear Sir,

With reference to above cited subject I am kindly informing you that a departmental meeting of chemistry was held on date / / , in this meeting all faculty are unanimously decided to conduct a certificate course in "Introduction to physical chemistry" during this academic year 2018-19. In this meeting we all faculty also make a action plan to run this certificate course with all necessary formalities. So we all the chemistry faculty is requesting to you give us approval for said courses.

Attached:

- ✓ Departmental proceeding
- ✓ Time-Table
- ✓ Syllabus
- ✓ Question Paper Pattern
- ✓ Admission form

Dr. D. N. Gatlwar    Dr. V. G. Mane    Dr. A. M. Pachpinde

  
Head

Dr. M. M. Langade

  
**Principal**  
Principal  
Jawahar Arts, Science & Commerce College  
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## Syllabus of Certificate Course in "Introduction to physical chemistry"

(2018-19)

### 1. Thermodynamics: I

Thermodynamic definitions, the zeroth law of thermodynamics and temperature, the first law of thermodynamics and enthalpy, reversible expansion, and heat capacity.

### 2. Thermodynamics: II

Second law of thermodynamics and entropy, the second law of thermodynamics and spontaneity, the second law of thermodynamics and equilibrium and absolute entropy, and Hess's law.

3. Thermodynamics process: Adiabatic, Isothermal, Isochoric and Isobaric.  
Thermodynamic equilibrium: Electrical equilibrium, Thermal equilibrium, Chemical equilibrium and Mechanical equilibrium.

4. Thermodynamic system: Open system, Closed system, Isolated system, Homogenous and Heterogeneous system.

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**I/C Principal :- Dr.Smt. M.B. Jadhav(Mob.9960242667)**

**☎ :- (02471) 246037, 246737**

Date: 22/07/2018

To,

The Head,

Department of Chemistry,

Jawahar ASC College, Anadur,

Tq. Tuljapur, Dist. Osmanabad.

**Subject: Approval to conduct the certified course for students of science.**

As per the decision taken in College Development Committee, you are directed to conduct the Certificate course in Introduction to Physical Chemistry in your department for the students of our college. The course should be of 20 hours and be conducted in the academic year 2018-2019.

Convey your timetable of the said course to the timetable committee so as to avoid any overlapping of lecturers.

  
Principal  
Jawahar Arts, Science & Commerce College  
Anadur, Tal. Tuljapur, Dist. Osmanabad.

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Date: 13 / 07 / 2018

## Notice

All the students of science faculty are hereby informed that the Department of chemistry is going to conduct a value added / skill based certificate course on " Introduction to Physical Chemistry" during this academic year 2018-19 from ~~10/08~~ / 2018 to 30/08 / 2018 (20 hours).

The interested students may enroll their name with Mr. Dilip Chavan at department of chemistry before 28 / 07 / 2018

Co-coordinator

Head

Principal  
Jawahar Arts, Science & Commerce College  
Anadur, Tal. Tuljapur, Dist. Osmanabad.

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**Department of Chemistry**

**Conducting Co-curricular course**

**“Introduction to Physical Chemistry”**

- |                          |  |
|--------------------------|--|
| 1. Name of Department:   | Chemistry  |
| 2. Type of Programme:    | value added / skill based certificate course                                   |
| 3. Title of Programme:   | “Certificate course in “Introduction to physical Chemistry”                    |
| 4. Name of Co-ordinator: | Dr. Dhananjay Narendra Gatlewar  |
| 4. Faculty offered:      | B.Sc   |
| 5. Name of Teachers:     | Dr. M. M Langde<br>Dr. D. N. Gatlewar<br>Dr. V. G. Mane<br>Dr. A. M. Pachpinde |
| 6. Duration:             | 20 hours   |
| 7. Theory:               | 20 Hours   |

  
Head

  
Principal  
Principal  
Jawahar Arts, Science & Commerce College  
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Department of Chemistry  
Jawahar Arts, Science and Commerce College, Andur  
Add on Course on "Introduction to Physical Chemistry"  
Enrollment List of Students 2018-19

Sr. No	Roll Number	Name of Student	Class	Mobile. No
1.	AC-01	Hawale Shubhangi	B.Sc-III	7420838332
2.	AC-02	Jadhav Mahadevi Randhir	B.Sc-III	7057559439
3.	AC-03	Jalkote Someshwar Bhimashankar	B.Sc-III	7057999824
4.	AC-04	Jodbhave Mayuri Dagdu	B.Sc-III	9657668223
5.	AC-05	Kadam Meera Shahuraj	B.Sc-III	7038847545
6.	AC-06	Kadam Pooja Arvind	B.Sc-III	7776913619
7.	AC-07	Kadam Prajakta Dattatrya	B.Sc-III	9096705325
8.	AC-08	Kadam Shubhangi Shivaji	B.Sc-III	8149766841
9.	AC-09	Kage Pandurang Nagnath	B.Sc-III	9146445781
10.	AC-10	Kalake Appasaheb Gundappa	B.Sc-III	9657001040
11.	AC-11	Kambale Akash Sunil	B.Sc-III	9175230464
12.	AC-12	Kamble Nikhil Nagnath	B.Sc-III	9604176093
13.	AC-13	Kamble Raju dhananjay	B.Sc-III	7387986598
14.	AC-14	Kamble Vikas Dayanand	B.Sc-III	8600601959
15.	AC-15	Kapse Trupti Dattatryaya	B.Sc-III	7719992647
16.	AC-16	Kasture Akshay Ajit	B.Sc-III	
17.	AC-17	Koli Tanuja Pandit	B.Sc-III	8421976093
18.	AC-18	Korale Shshil Ambaji	B.Sc-III	9175027574
19.	AC-19	Kore Ram Shivaji	B.Sc-III	9527710514

**PRINCIPAL**

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**☎ :- (02471) 246037, 246737**

20.	AC-20	Kutade Suman Mallappa	B.Sc-III	8888554241
21.	AC-21	Landage Dinesh Narsing	B.Sc-III	7038479043
22.	AC-22	Langade Ramanand	B.Sc-III	8177884167
23.	AC-23	Lashkare JivanBalaji	B.Sc-III	8421975173
24.	AC-24	Mahabole Pravin Prakash	B.Sc-III	8421416269
25.	AC-25	Mahabole Sachin Tukaram	B.Sc-III	9665553716
26.	AC-26	Mahabole Vidyali Rajkumar	B.Sc-III	9011132193
27.	AC-27	Malage Somnath Sahadev	B.Sc-III	8888206191
28.	AC-28	Mali Navnath Siddeshwar	B.Sc-III	9921758295
29.	AC-29	Mali Sonali Sommath	B.Sc-III	9921933275
30.	AC-30	Marnur Sagar Utam	B.Sc-III	9890801394
31.	AC-31	Mendhapure Vikky Vijaykumar	B.Sc-III	8866216562
32.	AC-32	Mule Mallinath Revansiddh	B.Sc-III	8975244241
33.	AC-33	Mule Nishigandha Dnyandev	B.Sc-III	7709303906
34.	AC-34	Mule Pradip Madhukar	B.Sc-III	7249783503
35.	AC-35	Mule Priyanka Laxman	B.Sc-III	9960390897

  
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Date: 28/07/2018

## Department of Chemistry

Jawahar Arts, Science and Commerce College, Anadur

Add on Course on Introduction to Physical Chemistry

### Theory Time Table (2018-19) – (First week)

Lecture	Time	Monday	Tuesday	Wednesday	Thursday	Friday
I	03.00 to 04.00	DNG	PAM	VGM	LLM	DNG
II	04.00 to 05.00	DNG	PAM	VGM	LLM	LLM

### Theory Time Table – (Second week)

Lecture	Time	Monday	Tuesday	Wednesday	Thursday	Friday
I	03.00 to 04.30	DNG	PAM	VGM	LLM	DNG
II	04.30 to 06.00	DNG	PAM	VGM	LLM	LLM

### List of Faculty Contributing for this Course

- LLM- Dr. M. M Langde
- DNG- Dr. D. N. Gatilewar
- VGM- Dr. V. G. Mane
- PAM- Dr. A. M. Pachpinde

  
Principal  
Jawahar Arts, Science & Commerce College  
Anadur, Tal. Tuljapur, Dist. Osmanabad.

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☎ :- (02471) 246037, 246737

Ref.No.JASC/Chem/Syll/BOS/2018-19/

Date: 24/07/2018

To,

1} Dr. M. M. Langde

2} Dr. Ramdas Dhokale

Ad-hoc Board in Chemistry

Ad-hoc Board in Chemistry

JASC College, Anadur,

Bhalaghat ASC College, Naldurg.

Tq. Tuljapur, Dist. Osmanabad

Tq. Tuljapur, Dist. Osmanabad.

Mob: 7020023401

Mob: 9423758525

3} Dr. D. N. Gatilewar

4} Dr. V. S. Suryawanshi

Ad-hoc Board in Chemistry

Ad-hoc Board in Chemistry

JASC College, Anadur,

SCS College. Omerga,

Tq. Tuljapur, Dist. Osmanabad.

Tq. Tuljapur, Dist. Osmanabad

Mob: 9420180778

Mob: 8087715094

5}

**Subject: Constitution of Ad-hoc Board in Chemistry (Certificate Courses-Food Chemistry)**

Sir/Madam,

I am to inform you that the Hon'ble Principal is pleased to nominate you as a Member/Chairman on the Ad-hoc Board in Chemistry for this running year 2018-19 as per provision statute-159 of the university act.

While requesting you to accept this invitation to work on the Ad-hoc Board. I do realize your busy moments in your own field. Yet in view of your expertise in the subject. I shall be thankful if you accept the membership of the Ad-hoc Board for enriching the academic standards of the university through your valuable contribution.

Your appointment shall be governed by and subject to the provisions of the Maharashtra Public University Act, 2016 as amended from time to time.

Kindly communicate your acceptance at the earliest.

  
Principal  
Jawahar Arts, Science & Commerce College  
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Date: 27/07/2018


## BOS Meeting Proceeding

As per requested all BOS member are gathered together to discuss regarding the syllabus of certificate course in food chemistry going to conduct by department of chemistry during the academic year 2021-22. In this meeting under the chairperson of head of department Dr. M. M. Langde, discussion made on designing syllabus as well as how to implement the said course smoothly and fruitful. All members put their view and finally decided the syllabus, duration of one month regular with day to day activities. After vote of thanks expressed by Dr. D. N. Gatlewar, the said meeting is over.

Dr. Ramdas Dhokale

Dr. Y. V. Suryawanshi

Dr. D. N. Gatlewar

  
Head  
Dr. M. M. Langde

  
Principal  
Jawahar Arts, Science & Commerce College  
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Date: 23/08/2018

## Notice

All the students enrolled in certificate course in food chemistry run by department of chemistry are hereby informed that the Department of chemistry is going to conduct a final test on "Food Chemistry" during this month on

### Time-Table for Exam 2018-19

Sr. No	Roll Number	Name of Student	Class
1.	AC-01	Hawale Shubhangi	04
2.	AC-02	Jadhav Mahadevi Randhir	
3.	AC-03	Jalkote Someshwar Bhimashankar	
4.	AC-04	Jodbhave Mayuri Dagdu	
5.	AC-05	Kadam Meera Shahuraj	
6.	AC-06	Kadam Pooja Arvind	
7.	AC-07	Kadam Prajakta Dattatrya	
8.	AC-08	Kadam Shubhangi Shivaji	
9.	AC-09	Kage Pandurang Nagnath	
10.	AC-10	Kalake Appasaheb Gundappa	
11.	AC-11	Kambale Akash Sunil	
12.	AC-12	Kamble Nikhil Nagnath	
13.	AC-13	Kamble Raju dhananjay	
14.	AC-14	Kamble Vikas Dayanand	
15.	AC-15	Kapse Trupti Dattatryaya	
16.	AC-16	Kasture Akshay Ajit	
17.	AC-17	Koli Tanuja Pandit	

  
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18.	AC-18	Korale Shshil Ambaji	05
19.	AC-19	Kore Ram Shivaji	
20.	AC-20	Kutade Suman Mallappa	
21.	AC-21	Landage Dinesh Narsing	
22.	AC-22	Langade Ramanand	
23.	AC-23	Lashkare JivanBalaji	
24.	AC-24	Mahabole Pravin Prakash	
25.	AC-25	Mahabole Sachin Tukaram	
26.	AC-26	Mahabole Vidyal Rajkumar	
27.	AC-27	Malage Somnath Sahadev	
28.	AC-28	Mali Navnath Siddeshwar	
29.	AC-29	Mali Sonali Somnath	
30.	AC-30	Marnur Sagar Utam	
31.	AC-31	Mendhapure Vikky Vijaykumar	
32.	AC-32	Mule Mallinath Revansiddh	
33.	AC-33	Mule Nishigandha Dnyandev	
34.	AC-34	Mule Pradip Madhukar	
35.	AC-35	Mule Priyanka Laxman	

Co-coordinator

Head

Department of Chemistry

Principal

Jawahar Arts, Science & Commerce College  
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Jawahar Arts, Science and Commerce College, Anadur

Add on Course on "Introduction to Physical Chemistry"

Question Paper – 2019

Date: 23/08/2018

All questions are necessary

Each Ques. Carry 2 marks.

Total Marks: 50

1. A change in the state of gas during which the pressure of the gas remains constant is called .....change.  
A) Adiabatic    B) isothermal    C) isobaric    D) isochoric
2. A change in the state of gas during which the pressure of gas remain constant is called.....change.  
A. Adiabatic    B. isothermal    C. isobaric    D. isochoric
3. The energy store in the substance or system is known as it's .....energy  
A. internal    B. potential    C. kinetic    D. pressure
4. A change in the state of gas during which the volume of gas remains constant is called .....change.  
A. Adiabatic    B. isothermal    C. isobaric    D. isochoric
5. When there is no temperature difference between the part of system or between the system and it's surrounding then it is said to be in a state of.....  
A. electrical equilibrium    B. thermal equilibrium    C. chemical equilibrium  
D. mechanical equilibrium
6. If two system are separately in thermal equilibrium with the third system then they themselves are in the thermal equilibrium with each other. This is .....  
A. first law of thermodynamics    B. second law of thermodynamics  
C. law of equilibrium    D. Zeroth law of thermodynamics
7. when there is no unbalanced force acting on any part of the system for the system as a whole it is said to be in state of.....  
A. electrical equilibrium    B. thermal equilibrium    C. chemical equilibrium  
D. mechanical equilibrium
8. A system which exchange both mass and energy with and its surrounding is called.....  
A. closed system    B. open system    C. isolated system    D. equilibrium system

PRINCIPAL

Jawahar Arts, Science & Commerce  
College, Anadur

11/08/2018

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9. All natural processes are.....

- A reversible                      B isothermal                      C irreversible                      D none of the above

10. Isothermal change for a perfect gas takes place at

- A. constant pressure              B. constant volume              C. none of these              D. constant temperature

11. A system which neither exchange energy nor matter with its surrounding is known as.....

- A. open system              B. isolated system              C. closed system              D. none of the above

12. The adiabatic relation between pressure and temperature of gas is

- A.  $P^\gamma T^\gamma = \text{CONST}$               B.  $P V^\gamma = \text{CONST}$               C.  $P^\gamma T^{\gamma-1} = \text{CONST}$               D.  $T^\gamma / P^{\gamma-1} = \text{CONST}$

13. The adiabatic relation between Volume and temperature of gas is

- A.  $T^{\gamma-1} V^\gamma = \text{CONST}$               B.  $T V^\gamma = \text{CONST}$               C.  $T V^{\gamma-1} = \text{CONST}$               D.  $T^\gamma / V^{\gamma-1} = \text{CONST}$

14. The first law of thermodynamics is

- A.  $PdV = RdT$               B.  $C_p - C_v = R$               C.  $P V^\gamma = \text{CONST}$               D.  $dQ = dU + dW$

15. Carnot cycle is a reversible cycle

- A. true              B. both are correct              C. false              D. both are incorrect

16. A reversible cycle has following processes

- A. 4 isothermal processes              B. 4 adiabatic process              C. 2 isothermal and 2 adiabatic processes              D. none of the mentioned

17. The correct sequence of the processes taking place in a carnot cycle is.....

- A. adiabatic- adiabatic- isothermal- isothermal  
B. adiabatic- isothermal- adiabatic\_ isothermal  
C. isothermal-isothermal adiabatic -adiabatic  
D. isothermal -adiabatic isothermal-adiabatic.

18. The reversed heat engine takes hit from a..... temperature body then discharges it to a..... temperature body and .....an inward flow of network.

- A. high, low, receives  
B. low, high, receives  
C. high,low,gives  
D. low , high , gives



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NAAC GRADE - B++(CUPA 2.81)



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Secretary :- Shri. S.N. Alure Guruji

I/C Principal :- Dr.Smt. M.B. Jadhav(Mob.9960242667)

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19. Example of reverse heat engine is.....

- A. heat pump                      B. refrigerator                      C. both of the mentioned                      D. none of the mentioned

20. The efficiency of all reversible heat engines operating between the same heat reservoirs is.....

- A. Same                      B. independent of the nature of the working substance                      C. independent of the amount of working substance                      D. all of this

21. Efficiency of reversible heat engine is.....

- A.  $1-(T_1/T_2)$                       B.  $1-(T_2/T_1)$                       C.  $(T_1/T_2)-1$                       D.  $(T_2/T_1)-1$

22. Integral of  $DQ/T$  of a reversible heat engine is given by...

- A.  $S_i - S_f$                       B.  $S_f - S_i$                       C.  $S_i + S_f$                       D.  $-S_i - S_f$

23. Entropy is a.....


- A. path function, intensive property                      B. path function, extensive property                      C. point function intensive property                      D. point function extensive property

24. For reversible process,

- A.  $dS = dQ/T$                       B.  $dS > dQ/T$                       C.  $dS < dQ/T$                       D. none of the mentioned

25. The entropy of an isolated system can never,

- A. increase                      B. decrease                      C. be zero                      D. none of the mentioned

  
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Department of Chemistry

Jawahar Arts, Science and Commerce College, Anadur

Add on Course on Food Chemistry. Mark List – 2019

Sr. No	Roll. Number	Name of Student	Class	Obtained Marks	Out of Marks
1	AC-01	Hawale Shubhangi	B.Sc-III	40	50
2	AC-02	Jadhav Mahadevi Randhir	B.Sc-III	42	50
3	AC-03	Jalkote Someshwar Bhimashankar	B.Sc-III	38	50
4	AC-04	Jodbhave Mayuri Dagdu	B.Sc-III	36	50
5	AC-05	Kadam Meera Shahuraj	B.Sc-III	40	50
6	AC-06	Kadam Pooja Arvind	B.Sc-III	41	50
7	AC-07	Kadam Prajakta Dattatrya	B.Sc-III	38	50
8	AC-08	Kadam Shubhangi Shivaji	B.Sc-III	45	50
9	AC-09	Kage Pandurang Nagnath	B.Sc-III	42	50
10	AC-10	Kalake Appasaheb Gundappa	B.Sc-III	36	50
11	AC-11	Kambale Akash Sunil	B.Sc-III	42	50
12	AC-12	Kamble Nikhil Nagnath	B.Sc-III	39	50
13	AC-13	Kamble Raju dhananjay	B.Sc-III	41	50
14	AC-14	Kamble Vikas Dayanand	B.Sc-III	36	50
15	AC-15	Kapse Trupti Dattatryaya	B.Sc-III	39	50
16	AC-16	Kasture Akshay Ajit	B.Sc-III	41	50
17	AC-17	Koli Tanuja Pandit	B.Sc-III	38	50
18	AC-18	Korale Shshil Ambaji	B.Sc-III	43	50
19	AC-19	Kore Ram Shivaji	B.Sc-III	35	50
20	AC-20	Kutade Suman Mallappa	B.Sc-III	45	50
21	AC-21	Landage Dinesh Narsing	B.Sc-III	41	50
22	AC-22	Langade Ramanand	B.Sc-III	42	50
23	AC-23	Lashkare JivanBalaji	B.Sc-III	40	50
24	AC-24	Mahabole Pravin Prakash	B.Sc-III	42	50
25	AC-25	Mahabole Sachin Tukaram	B.Sc-III	40	50
26	AC-26	Mahabole Vidyali Rajkumar	B.Sc-III	42	50
27	AC-27	Malage Somnath Sahadev	B.Sc-III	40	50
28	AC-28	Mali Navnath Siddeshwar	B.Sc-III	37	50
29	AC-29	Mali Sonali Somnath	B.Sc-III	36	50
30	AC-30	Marnur Sagar Uttam	B.Sc-III	36	50
31	AC-31	Mendhapure Vikky Vijaykumar	B.Sc-III	35	50

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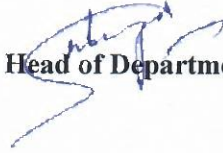
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32	AC-32	Mule Mallinath Revansiddh	B.Sc-III	37	50
33	AC-33	Mule Nishigandha Dnyandev	B.Sc-III	38	50
34	AC-34	Mule Pradip Madhukar	B.Sc-III	36	50
35	AC-35	Mule Priyanka Laxman	B.Sc-III	36	50

  
Co-ordinator  
(Dr. D. N. Gatlewar)


  
Head of Department

  
Principal

~~Date~~

**Certificate Course Final Report**  
On "Introduction to Physical Chemistry-2018-19"

Total 35 students enrolled and completed this certificate course. During this students got clear idea & create much curiosity about this course. After completion this course, the certificates are delivered to students by arranging a function.

  
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