

Shri Sarda Education Society (Trust)'s
Smt. Radhabai Sarda Arts, Commerce & Science College, Anjangaon Surji.
District- Amravati 444705

DEPARTMENT OF PHYSICS

Date: 21/12/2018

To,
The Hon'ble Principal,
Smt. Radhabai Sarda College,
Anjangaon Surji.

Subject: Permission for introducing Certificate Course for session 2018-2019

Respected Sir,

Department of Physic is going to conduct a certificate course entitled '**Basics of Gas Sensor**' for B.Sc. students in current academic session 2018-2019. The course will consist of 30 clock hour's duration including theoretical and practical work. So you are kindly requested to grant permission for the same.

Thanking you in anticipation.

Yours Faithfully,



HEAD
DEPARTMENT OF PHYSICS
SMT. RADHABAI SARDIA COLLEGE
ANJANGAON SURJI

Granted



Principal

Smt. Radhabai Sarda College Of
Arts, Commerce & Science
Anjangaon Surji



Shri Sarda Education Society (Trust)'s
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District- Amravati 444705

DEPARTMENT OF PHYSICS

Notice

Date: 14/12/2018

All the faculty members of Physics department are hereby informed to be present for departmental meeting which is scheduled to be held on **18/12/2018 at 12.30 pm in Physics department** for the discussion on following agendas.

Meeting Agendas:

- 1) To distribute theory and practical syllabus for Sem II, IV and VI and discuss teaching and evaluation plan.
- 2) To discuss internal assessment activities and schedule for Sem II, IV and VI
- ✓ 3) To conduct certificate course for current session.
- 4) To organized programs under MOU with Department of Physics, Shri Shivaji College, Akot.
- 5) To conduct extension activity/field survey for Sem IV.
- 6) To celebrate National Science Day in collaboration with Science Forum.
- 7) To organized guest lecture and study tour for final year students.
- 8) Other points arising at the time of meeting.

Prm
14/12/18
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DEPARTMENT OF PHYSICS

Minutes of meeting

Date: 20/12/2018

Second departmental meeting for the session 2017-2018 was held on 18/12/2018 at 12.30 pm in Physics department for the brief discussion on agendas mentioned in meetings notice. Shri R. B. Mankar (Head), Ku S M More, Ku H K Dhamale, Ku P D Thorat, Ku S S Jambhe and Shri A D Awankar were present for the meeting.

The minutes of meeting are

- 1) Theory and practical syllabus for Sem II, IV and VI were assigned to faculty members and discussion about teaching and evaluation plan was made. Faculty members are informed to submit their theory and practical teaching plan.
- 2) Schedule and in charge for conducting internal assessment was decided.
- ✓ 3) After a brief discussion on different aspects about conducting certificate course, a proposal for conducting certificate course in Gas sensor was forwarded to principal for permission
- 4) Under the conditions of MOU with Department of Physics, Shri Shivaji College, and Akot, competition on demonstration of physics experiments and poster competition were decided to conduct in February 2019
- 5) Extension activity is to be conducted for sem IV students.
- 6) Poster competition is to be organized for student in the celebration of National Science Day.
- 7) Study tour and guest lecture should be organized for sem VI students.

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20/12/18
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DEPARTMENT OF PHYSICS

Date: 22/12/2018

Notice

All the students of Science Faculty are hereby informed that Department of Physics has introduced Certificate Course entitled '**Basics of Gas Sensor**' for session 2018-2019. The course will commence from 1/01/2019 and consists of 30 clock hours. The interested students should forward their names to Shri R. B. Mankar on or before 30/12/2018.

pm.

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pm.

Principal

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Anjangaon Surji





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District- Amravati 444705

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*
Title of Course : *Basics of Gas Sensor*
Session : *2018-2019*

Duration : *30 clock hours*

Syllabus		
Unit I :	Introduction Environmental monitoring Definition and characteristics of gas sensor Applications of gas sensor	[04 Hours]
Unit II :	Classification Classification of gas sensors Electrochemical gas sensor Field effect gas sensor Catalytic and optical gas sensors Semiconductor Metal Oxide Gas Sensor,	[04 Hours]
Unit III :	SMO gas sensor Historical Background Sensing Mechanism Factors affecting sensitivity	[04 Hours]
Unit IV :	Nanomaterial for SMO sensor Advantages of nanomaterial Synthesis techniques for SMO	[06 Hours]
Practical:	Synthesis of ZnO, MgO and SmFeO ₃ metal oxides	[12 Hours]

Reference books:

- 1) Gas Sensor: Principal, Operation & Development by G. Sberveglieri
- 2) Hand book of Gas Sensor Material by G. Korotcenkov
- 3) Semiconductor Gas Sensor by Raivo Jaaniso

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District- Amravati 444705

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*

Title of Course : *Basics of Gas Sensor*

Session : *2018-2019*

Duration : *30 clock hours*

Time Table and Proposed Plan		
Date	Time	Syllabus to be covered
1/01/2019	9.00 am – 11.00 am	Unit I
2/01/2019	9.00 am – 11.00 am	
3/01/2019	9.00 am – 11.00 am	Unit II
4/01/2019	9.00 am – 11.00 am	
5/01/2019	9.00 am – 11.00 am	Unit III
7/01/2019	9.00 am – 11.00 am	
8/01/2019	9.00 am – 11.00 am	Unit IV
10/01/2019	9.00 am – 11.00 am	
11/01/2019	9.00 am – 11.00 am	
12/01/2019	9.00 am – 11.00 am	
14/01/2019	9.00 am – 11.00 am	Practical
15/01/2019	9.00 am – 11.00 am	
16/01/2019	9.00 am – 11.00 am	
17/01/2019	9.00 am – 11.00 am	
18/01/2019	9.00 am – 11.00 am	
19/01/2019	9.00 am – 11.00 am	Examination

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District- Amravati 444705

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*
Title of Course : *Basics of Gas Sensor*
Session : *2018-2019*

Duration : *30 clock hours*

List of Enrolled students

SN	Name of Student	ID No.	Class	Aadhar No.	Signature
1	Mr. Krantichand Ashok Nathe	3772	B.Sc. III	825018405661	K. Nathe
2	Mr. Akash Purushottam Dabhade	3777	B.Sc. III	431204025449	A. P. Dabhade
3	Ku. Amruta Gajanan Umak	3783	B.Sc. III	357961119353	A. Umak
4	Mr. Ashish Devidas Aswar	3753	B.Sc. III	974059547131	A. Aswar
5	Ku. Leenata Ganeshrao Berad	3774	B.Sc. III	244843754551	L. Berad
6	Ku. Monali Shriniwas Patil	3771	B.Sc. III	226960409123	M. Patil
7	Ku. Pooja Prakash Kalpande	3491	B.Sc. III	950416701408	P. P. Kalpande
8	Ku. Priya Subhash Mahulkar	3792	B.Sc. III	661473731927	P. Mahulkar
9	Ku. Rasika Ratanrao Dharme	3764	B.Sc. III	952016790902	R. Dharme
10	Ku. Vaishnavi Jaykumar Kalamkar	3769	B.Sc. III	858716345931	V. Kalamkar
11	Ku. Vaishnavi Gajanan Bhonde	3756	B.Sc. III	344486727071	V. Bhonde
12	Ku. Vaishnavi Santosh Hagone	3758	B.Sc. III	308854787342	V. S. Hagone
13	Mr. Adarsh Gajanan Yeole	5429	B.Sc. II	647097587848	A. Yeole
14	Mr. Akash Rajendra Padole	4984	B.Sc. II	664957275678	A. Padole
15	Ku. Ankita Babanrao Kakad	6719	B.Sc. II	210897448300	A. Kakad
16	Ku. Dipika Sanjay Chavan	5145	B.Sc. II	459675479163	D. Chavan
17	Ku. Farheen Kausar Sk. Nazir	5231	B.Sc. II	790273289405	F. Nazir
18	Ku. Gayatri Anil Hote	6720	B.Sc. II	574497475999	G. Hote
19	Ku. Jayashri Anil Hiwase	5184	B.Sc. II	775399998113	J. Hiwase
20	Ku. Kanchan Vikas Mirage	4979	B.Sc. II	652409069873	K. Mirage

Principal



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SN	Name of Student	ID No.	Class	Aadhar No.	Signature
21	Ku. Pranjali Rajendra Borode	4960	B.Sc. II	807434323684	<u>Borode</u>
22	Ku. Pratiksha gajanan Bayakar	5687	B.Sc. II	386209965647	<u>Bayakar</u>
23	Ku. Raksha Nandakishor Rekhate	5561	B.Sc. II	777996505481	<u>Rekhate</u>
24	Ku. Sakshi Vasantrao Kadu	5070	B.Sc. II	584246472511	<u>Kadu</u>
25	Ku. Sharayu Rameshwar Bhonde	5026	B.Sc. II	837376664520	<u>Bhonde</u>
26	Ku. Shrutika ganesh Deshmukh	4958	B.Sc. II	722416510135	<u>Deshmukh</u>
27	Ku. Shubhangi Ashokrao Aswar	5688	B.Sc. II	686356972476	<u>Aswar</u>
28	Ku. Swapnil Anil Dhivar	4986	B.Sc. II	750406221192	<u>Dhivar</u>
29	Ku. Swati Vijay Wankhade	5138	B.Sc. II	512558912814	<u>Wankhade</u>
30	Ku. Prachi Shriram Borkar	5716	B.Sc. II	504924036746	<u>Borkar</u>

pm

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Shri Sarda Education Society (Trust)'s
Smt. Radhabai Sarda Arts, Commerce & Science College, Anjangaon Surji. District- Amravati 444705

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*
Title of Course : *Basics of Gas Sensor*

Session : *2018-2019*
Duration : *30 clock hours*

Attendance Sheet

SN	Name of Student	Class	1/1/2019	2/1/2019	3/1/2019	4/1/2019	5/1/2019
1	Mr. Krantichand Ashok Nathe	B.Sc. III	KANathe	KANathe	KANathe	KANathe	KANathe
2	Mr. Akash Purushottam Dabhade	B.Sc. III	APDabhe	APDabhale	APDabhale	APDabhale	APDabhale
3	Ku. Amruta Gajanan Umak	B.Sc. III	Amak	Amak	Amak	Amak	Amak
4	Mr. Ashish Devidas Aswar	B.Sc. III	Aswar	Aswar	Aswar	Aswar	Aswar
5	Ku. Leenata Ganeshrao Berad	B.Sc. III	LBerad	LBerad	LBerad	LBerad	LBerad
6	Ku. Monali Shriniwas Patil	B.Sc. III	MSPatil	MSPatil	MSPatil	MSPatil	MSPatil
7	Ku. Pooja Prakash Kalpande	B.Sc. III	P.P.kalpande	P.P.kalpande	P.P.kalpande	P.P.kalpande	P.P.kalpande
8	Ku. Priya Subhash Mahulkar	B.Sc. III	PMahulkar	PMahulkar	PMahulkar	PMahulkar	PMahulkar
9	Ku. Rasika Ratanrao Dharme	B.Sc. III	RRDharme	RRDharme	RRDharme	RRDharme	RRDharme
10	Ku. Vaishnavi Jaykumar Kalamkar	B.Sc. III	VKalamkar	VKalamkar	VKalamkar	VKalamkar	VKalamkar
11	Ku. Vaishnavi Gajanan Bhonde	B.Sc. III	VBhonde	VBhonde	VBhonde	VBhonde	VBhonde
12	Ku. Vaishnavi Santosh Hagone	B.Sc. III	V.S.Hagone	V.S.Hagone	V.S.Hagone	V.S.Hagone	V.S.Hagone
13	Mr. Adarsh Gajanan Yeole	B.Sc. II	Ayeole	Ayeole	Ayeole	Ayeole	Ayeole
14	Mr. Akash Rajendra Padole	B.Sc. II	ARPadole	ARPadole	ARPadole	ARPadole	ARPadole
15	Ku. Ankita Babanrao Kakad	B.Sc. II	Bakad	Bakad	Bakad	Bakad	Bakad

SN	Name of Student	Class	1/1/2019	2/1/2019	3/1/2019	4/1/2019	5/1/2019
16	Ku. Dipika Sanjay Chavan	B.Sc. III	<u>Sehachan</u>	<u>Sehachan</u>	<u>Sehachan</u>	<u>Sehachan</u>	<u>Sehachan</u>
17	Ku. Farheen Kausar Sk. Nazir	B.Sc. III	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>
18	Ku. Gayatri Anil Hote	B.Sc. III	<u>Hote</u>	<u>Hote</u>	<u>Hote</u>	<u>Hote</u>	<u>Hote</u>
19	Ku. Jayashri Anil Hiwase	B.Sc. III	<u>Hiwase</u>	<u>Hiwase</u>	<u>Hiwase</u>	<u>Hiwase</u>	<u>Hiwase</u>
20	Ku. Kanchan Vikas Mirage	B.Sc. III	<u>Birize</u>	<u>Birize</u>	<u>Birize</u>	<u>Birize</u>	<u>Birize</u>
21	Ku. Pranjali Rajendra Borode	B.Sc. III	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>
22	Ku. Pratiksha gajanan Bayakar	B.Sc. III	<u>Bayake</u>	<u>Bayake</u>	<u>Bayake</u>	<u>Bayake</u>	<u>Bayake</u>
23	Ku. Raksha Nandakishor Rekhate	B.Sc. III	<u>Rekhate</u>	<u>Rekhate</u>	<u>Rekhate</u>	<u>Rekhate</u>	<u>Rekhate</u>
24	Ku. Sakshi Vasantrao Kadu	B.Sc. III	<u>Kadu</u>	<u>Kadu</u>	<u>Kadu</u>	<u>Kadu</u>	<u>Kadu</u>
25	Ku. Sharayu Rameshwar Bhonde	B.Sc. III	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>
26	Ku. Shrutika ganesh Deshmukh	B.Sc. III	<u>Deshmukh</u>	<u>Deshmukh</u>	<u>Deshmukh</u>	<u>Deshmukh</u>	<u>Deshmukh</u>
27	Ku. Shubhangi Ashokrao Aswar	B.Sc. III	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>
28	Ku. Swapnil Anil Dhivar	B.Sc. II	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>
29	Ku. Swati Vijay Wankhade	B.Sc. II	<u>Wankhade</u>	<u>Wankhade</u>	<u>Wankhade</u>	<u>Wankhade</u>	<u>Wankhade</u>
30	Ku. Prachi Shriram Borkar	B.Sc. II	<u>PSBorkar</u>	<u>PSBorkar</u>	<u>PSBorkar</u>	<u>PSBorkar</u>	<u>PSBorkar</u>

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Shri Sarda Education Society (Trust)'s
Smt. Radhabai Sarda Arts, Commerce & Science College, Anjangaon Surji. District- Amravati 444705

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*

Session : *2018-2019*

Title of Course : *Basics of Gas Sensor*

Duration : *30 clock hours*

Attendance Sheet

SN	Name of Student	Class	7/1/2019	8/1/2019	10/1/2019	11/1/2019	12/1/2019
1	Mr. Krantichand Ashok Nathe	B.Sc. III	KANathe	KANathe	KANathe	KANathe	KANathe
2	Mr. Akash Purushottam Dabhade	B.Sc. III	APDabhade	APDabhade	APDabhade	APDabhade	APDabhade
3	Ku. Amruta Gajanan Umak	B.Sc. III	AGumak	AGumak	AGumak	AGumak	AGumak
4	Mr. Ashish Devidas Aswar	B.Sc. III	ASwar	ASwar	ASwar	ASwar	ASwar
5	Ku. Leenata Ganeshrao Berad	B.Sc. III	LGberad	LGberad	LGberad	LGberad	LGberad
6	Ku. Monali Shriniwas Patil	B.Sc. III	MSPatil	MSPatil	MSPatil	MSPatil	MSPatil
7	Ku. Pooja Prakash Kalpande	B.Sc. III	P.P.kalpande	P.P.kalpande	P.P.kalpande	P.P.kalpande	P.P.kalpande
8	Ku. Priya Subhash Mahulkar	B.Sc. III	PMahulkar	PMahulkar	PMahulkar	PMahulkar	PMahulkar
9	Ku. Rasika Ratanrao Dharme	B.Sc. III	RRDharme	RRDharme	RRDharme	RRDharme	RRDharme
10	Ku. Vaishnavi Jaykumar Kalamkar	B.Sc. III	VJKalamkar	VJKalamkar	VJKalamkar	VJKalamkar	VJKalamkar
11	Ku. Vaishnavi Gajanan Bhonde	B.Sc. III	VBhonde	VBhonde	VBhonde	VBhonde	VBhonde
12	Ku. Vaishnavi Santosh Hagone	B.Sc. III	V.S. Hagone	V.S. Hagone	V.S. Hagone	V.S. Hagone	V.S. Hagone
13	Mr. Adarsh Gajanan Yeole	B.Sc. II	AYeole	AYeole	AYeole	AYeole	AYeole
14	Mr. Akash Rajendra Padole	B.Sc. II	APadole	APadole	APadole	APadole	APadole
15	Ku. Ankita Babanrao Kakad	B.Sc. II	AKakad	AKakad	AKakad	AKakad	AKakad

Name of Student	Class	7/12/2019	8/11/2019	10/11/2019	11/11/2019	12/11/2019
Ku. Dipika Sanjay Chavan	B.Sc. III	<u>Dehavan</u>	<u>Dehavan</u>	<u>Dehavan</u>	<u>Dehavan</u>	<u>Dehavan</u>
Ku. Farheen Kausar Sk. Nazir	B.Sc. III	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>
Ku. Gayatri Anil Hote	B.Sc. III	<u>Hote</u>	<u>Hote</u>	<u>Hote</u>	<u>Hote</u>	<u>Hote</u>
Ku. Jayashri Anil Hiwase	B.Sc. III	<u>Jeiwase</u>	<u>Jeiwase</u>	<u>Jeiwase</u>	<u>Jeiwase</u>	<u>Jeiwase</u>
Ku. Kanchan Vikas Mirage	B.Sc. III	<u>Bhinge</u>	<u>Bhinge</u>	<u>Bhinge</u>	<u>Bhinge</u>	<u>Bhinge</u>
Ku. Pranjali Rajendra Borode	B.Sc. III	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>
Ku. Pratiksha gajanan Bayakar	B.Sc. III	<u>Bayakar</u>	<u>Bayakar</u>	<u>Bayakar</u>	<u>Bayakar</u>	<u>Bayakar</u>
Ku. Raksha Nandakishor Rekhate	B.Sc. III	<u>Rekhate</u>	<u>Rekhate</u>	<u>Rekhate</u>	<u>Rekhate</u>	<u>Rekhate</u>
Ku. Sakshi Vasantrao Kadu	B.Sc. III	<u>Kadu</u>	<u>Kadu</u>	<u>Kadu</u>	<u>Kadu</u>	<u>Kadu</u>
Ku. Sharayu Rameshwar Bhonde	B.Sc. III	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>
Ku. Shrutika ganesh Deshmukh	B.Sc. III	<u>Geshmukh</u>	<u>Geshmukh</u>	<u>Geshmukh</u>	<u>Geshmukh</u>	<u>Geshmukh</u>
Ku. Shubhangi Ashokrao Aswar	B.Sc. III	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>
Ku. Swapnil Anil Dhivar	B.Sc. II	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>
Ku. Swati Vijay Wankhade	B.Sc. II	<u>Swankhade</u>	<u>Swankhade</u>	<u>Swankhade</u>	<u>Swankhade</u>	<u>Swankhade</u>
Ku. Prachi Shriram Borkar	B.Sc. II	<u>PSBorkar</u>	<u>PSBorkar</u>	<u>PSBorkar</u>	<u>PSBorkar</u>	<u>PSBorkar</u>

pm
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Shri Sarda Education Society (Trust)'s
Smt. Radhabai Sarda Arts, Commerce & Science College, Anjangaon Surji. District- Amravati 444705

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*
Title of Course : *Basics of Gas Sensor*

Session : *2018-2019*
Duration : *30 clock hours*

Attendance Sheet

SN	Name of Student	Class	14/1/2019	15/1/2019	16/1/2019	17/1/2019	18/1/2019
1	Mr. Krantichand Ashok Nathe	B.Sc. III	KANathe	KANathe	KANathe	KANathe	KANathe
2	Mr. Akash Purushottam Dabhade	B.Sc. III	A.P. Dabhade	A.P. Dabhade	A.P. Dabhade	A.P. Dabhade	A.P. Dabhade
3	Ku. Amruta Gajanan Umak	B.Sc. III	A. Umak	A. Umak	A. Umak	A. Umak	A. Umak
4	Mr. Ashish Devidas Aswar	B.Sc. III	A. Aswar	A. Aswar	A. Aswar	A. Aswar	A. Aswar
5	Ku. Leenata Ganeshrao Berad	B.Sc. III	L. Berad	L. Berad	L. Berad	L. Berad	L. Berad
6	Ku. Monali Shriniwas Patil	B.Sc. III	M. Patil	M. Patil	M. Patil	M. Patil	M. Patil
7	Ku. Pooja Prakash Kalpande	B.Sc. III	P. P. Kalpande	P. P. Kalpande	P. P. Kalpande	P. P. Kalpande	P. P. Kalpande
8	Ku. Priya Subhash Mahulkar	B.Sc. III	P. Mahulkar	P. Mahulkar	P. Mahulkar	P. Mahulkar	P. Mahulkar
9	Ku. Rasika Ratanrao Dharme	B.Sc. III	R. Dharme	R. Dharme	R. Dharme	R. Dharme	R. Dharme
10	Ku. Vaishnavi Jaykumar Kalamkar	B.Sc. III	V. Kalamkar	V. Kalamkar	V. Kalamkar	V. Kalamkar	V. Kalamkar
11	Ku. Vaishnavi Gajanan Bhonde	B.Sc. III	V. Bhonde	V. Bhonde	V. Bhonde	V. Bhonde	V. Bhonde
12	Ku. Vaishnavi Santosh Hagone	B.Sc. III	V. S. Hagone	V. S. Hagone	V. S. Hagone	V. S. Hagone	V. S. Hagone
13	Mr. Adarsh Gajanan Yeole	B.Sc. II	A. Yeole	A. Yeole	A. Yeole	A. Yeole	A. Yeole
14	Mr. Akash Rajendra Padole	B.Sc. II	A. Padole	A. Padole	A. Padole	A. Padole	A. Padole
15	Ku. Ankita Babanrao Kakad	B.Sc. II	A. Kakad	A. Kakad	A. Kakad	A. Kakad	A. Kakad

SN	Name of Student	Class	14/1/2019	15/1/2019	16/1/2019	17/1/2019	18/1/2019
16	Ku. Dipika Sanjay Chavan	B.Sc. III	<u>Sehavan</u>	<u>Sehavan</u>	<u>Sehavan</u>	<u>Sehavan</u>	<u>Sehavan</u>
17	Ku. Farheen Kausar Sk. Nazir	B.Sc. III	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>	<u>Farheen</u>
18	Ku. Gayatri Anil Hote	B.Sc. III	<u>Chote</u>	<u>Chote</u>	<u>Chote</u>	<u>Chote</u>	<u>Chote</u>
19	Ku. Jayashri Anil Hiwase	B.Sc. III	<u>Jeicoase</u>	<u>Jeicoase</u>	<u>Jeicoase</u>	<u>Jeicoase</u>	<u>Jeicoase</u>
20	Ku. Kanchan Vikas Mirage	B.Sc. III	<u>Birige</u>	<u>Birige</u>	<u>Birige</u>	<u>Birige</u>	<u>Birige</u>
21	Ku. Pranjali Rajendra Borode	B.Sc. III	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>	<u>RBorode</u>
22	Ku. Pratiksha gajanan Bayakar	B.Sc. III	<u>Bajake</u>	<u>Bajake</u>	<u>Bajake</u>	<u>Bajake</u>	<u>Bajake</u>
23	Ku. Raksha Nandakishor Rekhat	B.Sc. III	<u>Rekhat</u>	<u>Rekhat</u>	<u>Rekhat</u>	<u>Rekhat</u>	<u>Rekhat</u>
24	Ku. Sakshi Vasantrao Kadu	B.Sc. III	<u>Kady</u>	<u>Kady</u>	<u>Kady</u>	<u>Kady</u>	<u>Kady</u>
25	Ku. Sharayu Rameshwar Bhonde	B.Sc. III	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>	<u>Bhonde</u>
26	Ku. Shrutika ganesh Deshmukh	B.Sc. III	<u>Deshmukh</u>	<u>Deshmukh</u>	<u>Deshmukh</u>	<u>Deshmukh</u>	<u>Deshmukh</u>
27	Ku. Shubhangi Ashokrao Aswar	B.Sc. III	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>	<u>SAAswan</u>
28	Ku. Swapnil Anil Dhivar	B.Sc. II	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>	<u>Dhivar</u>
29	Ku. Swati Vijay Wankhade	B.Sc. II	<u>Wankhade</u>	<u>Wankhade</u>	<u>Wankhade</u>	<u>Wankhade</u>	<u>Wankhade</u>
30	Ku. Prachi Shriram Borkar	B.Sc. II	<u>PSBorkar</u>	<u>PSBorkar</u>	<u>PSBorkar</u>	<u>PS. Borkar</u>	<u>PS. Borkar</u>


HEAD
 DEPARTMENT OF PHYSICS
 SMT. RADHABAI SARDA COLLEGE
 ANJANGAON SURJI




Principal
 mt. Radhabai Sarda College O1
 Arts, Commerce & Science
 Anjangaon Surji

Smt Radhabai Sarda Arts, Commerce & Science College
Anjangaon Surji, Dist Amravati - 444705

Application Form for Course Work

(Academic Session: 2018-2019)

Application Form No.: **000297**

Applicant's Name: Krantichand Ashok Nathe

Father's Name: Ashok Nathe

Permanent Address: maliperra, Anjangaon Surji



District: Amravati State: Maharashtra Pin Code: 444705

Email ID: Krantinathe@gmail.com

Phone No./Mobile No.:

7	0	3	0	2	3	2	1	4	9
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Gender: Male ☒ Female ☐

Date of Birth: 17/01/1998

Aadhaar Card No.

8	2	5	0	1	8	4	0	5	6	6	1
---	---	---	---	---	---	---	---	---	---	---	---

Name of the Department: physics

Class: BSc-III Section: _____

Course Applied For: Value Added/Certificate/Bridge Course/Add-on Program

Date of Admission in College: 30-7-2018

ID Number: 3772

Category: OPEN ☐ OBC ☒ SC ☐ ST ☐ NT ☐ VJ ☐ SBC ☐

Languages Known: Marathi ☒ Hindi ☒ English ☒

Title of the Course: Basics of Gas Sensor

Smt Radhabai Sarda Arts, Commerce & Science College
Anjangaon Surji, Dist Amravati - 444705

Application Form for Course Work

(Academic Session: 2018-2019)

Application Form No.: **000326**

Applicant's Name : Ku. Prachi Shriram Borkar

Father's Name: Shriram Borkar

Permanent Address: Anjangaon Surji,

Tq. Anjangaon Surji

District: Amravati State: Maharashtra Pin Code: 444705

Email ID: prachiborkar451@gmail.com

Phone No./Mobile No.:

9 7 6 7 3 1 6 3 9 1

Gender:

Male

☐

Female

☒

Date of Birth: 18/08/2000

Aadhaar Card No.

5 0 4 9 2 4 0 3 6 7 4 6

Name of the Department: Physics

Class: B.Sc. II

Section: _____

Course Applied For: Value Added/Certificate/Bridge Course/Add-on Program

Date of Admission in College: 31-08-2018

ID Number: 5716

Category:

OPEN

☐

OBC

☒

SC

☐

ST

☐

NT

☐

VJ

☐

SBC

☐

Languages Known:

Marathi

☐

Hindi

☐

English

☐

Title of the Course: Basics of Gas Sensor

N.B.: I Certify that the information I have given in this application is complete and correct. I am aware that false



Shri Sarda Education Society (Trust)'s
Smt. Radhabai Sarda Arts, Commerce & Science College, Anjangaon Surji.
District- Amravati 444705

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*
Title of Course : *Basics of Gas Sensor*
Session : *2018-2019*

Duration : *30 clock hours*

Question Paper

Time: 2 Hours

Max. Marks: 30

Q. Attempt any six

- 1) Explain need of environmental monitoring (5)
- 2) Define gas sensor. Give its characteristics (5)
- 3) Explain electrochemical gas sensor with principal and working (5)
- 4) Explain sensing mechanism involved in SMO gas sensor (5)
- 5) What are the factors affecting the sensitivity of SMO based gas sensor? (5)
- 6) Explain sol gel method for the synthesis of semiconductor metal oxides (5)
- 7) What are the advantages of use of nanomaterial in gas sensor? (5)
- 8) Explain different fields of operation of gas sensors, (5)
- 9) Explain various steps involved in thin film formation (5)

-----End-----


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DEPARTMENT OF PHYSICS
SMT. RADHABAI SARDAR COLLEGE
ANJANGAON SURJI




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Anjangaon Surji

Shri Sarda Education Society (Trust)'s
Smt. Radhabai Sarda Arts, Commerce & Science College, Anjangaon Surji.
District- Amravati 444705

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*
Title of Course : *Basics of Gas Sensor*
Session : *2018-2019*

Duration : *30 clock hours*

Result Sheet

SN	Name of Student	Class	Marks Obtained out of 30	
			In Fig.	In Words
1	Mr. Krantichand Ashok Nathe	B.Sc. III	21	Twenty One
2	Mr. Akash Purushottam Dabhade	B.Sc. III	20	Twenty
3	Ku. Amruta Gajanan Umak	B.Sc. III	22	Twenty two
4	Mr. Ashish Devidas Aswar	B.Sc. III	24	Twenty Four
5	Ku. Leenata Ganeshrao Berad	B.Sc. III	20	Twenty
6	Ku. Monali Shriniwas Patil	B.Sc. III	20	Twenty
7	Ku. Pooja Prakash Kalpande	B.Sc. III	21	Twenty One
8	Ku. Priya Subhash Mahulkar	B.Sc. III	23	Twenty Three
9	Ku. Rasika Ratanrao Dharme	B.Sc. III	25	Twenty Five
10	Ku. Vaishnavi Jaykumar Kalamkar	B.Sc. III	20	Twenty
11	Ku. Vaishnavi Gajanan Bhonde	B.Sc. III	21	Twenty One
12	Ku. Vaishnavi Santosh Hagone	B.Sc. III	19	Nineteen
13	Mr. Adarsh Gajanan Yeole	B.Sc. II	25	Twenty Five
14	Mr. Akash Rajendra Padole	B.Sc. II	19	Nineteen
15	Ku. Ankita Babanrao Kakad	B.Sc. II	20	Twenty
16	Ku. Dipika Sanjay Chavan	B.Sc. II	20	Twenty
17	Ku. Farheen Kausar Sk. Nazir	B.Sc. II	20	Twenty
18	Ku. Gayatri Anil Hote	B.Sc. II	20	Twenty
19	Ku. Jayashri Anil Hiwase	B.Sc. II	25	Twenty Five
20	Ku. Kanchan Vikas Mirage	B.Sc. II	21	Twenty One


HEAD




Principal

SN	Name of Student	Class	Marks Obtained out of 30	
			In Fig.	In Words
21	Ku. Pranjali Rajendra Borode	B.Sc. II	23	Twenty Three
22	Ku. Pratiksha gajanan Bayakar	B.Sc. II	26	Twenty Six
23	Ku. Raksha Nandakishor Rekhate	B.Sc. II	21	Twenty One
24	Ku. Sakshi Vasantao Kadu	B.Sc. II	24	Twenty Four
25	Ku. Sharayu Rameshwar Bhonde	B.Sc. II	24	Twenty Four
26	Ku. Shrutika ganesh Deshmukh	B.Sc. II	20	Twenty
27	Ku. Shubhangi Ashokrao Aswar	B.Sc. II	26	Twenty Six
28	Ku. Swapnil Anil Dhivar	B.Sc. II	19	Nineteen
29	Ku. Swati Vijay Wankhade	B.Sc. II	20	Twenty
30	Ku. Prachi Shriram Borkar	B.Sc. II	20	Twenty


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DEPARTMENT OF PHYSICS
SMT. RADHABAI SARDA COLLEGE
ANJANGAON SURJI


Principal
Smt. Radhabai Sarda College Of
Arts, Commerce & Science
Anjangaon Surji





Shri Sarda Education Society (Trust)'s
Smt. Radhabai Sarda Arts, Commerce & Science College,
Anjangaon Surji, District- Amravati (Maharashtra)

Certificate

This is to certify that Shri/Ku. Mr. Krantichand Ashok Nuthe
Class B. SC III has completed a Certificate Course entitled "Basics of Gas Sensor" conducted
by Departments of Physics from 1/1/2019 to 19/1/2019 and ranked 6th.

Shri R B Mankar
Convener

Dr Bashisth Choubey
Principal



Shri Sarda Education Society (Trust)'s
Smt. Radhabai Sarda Arts, Commerce & Science College,
Anjangaon Surji, District- Amravati (Maharashtra)

Certificate

This is to certify that Shri/Ku. Prachi Shiram Borkar
Class B SC II has completed a Certificate Course entitled "Basics of Gas Sensor" conducted
by Departments of Physics from 1/1/2019 to 19/1/2019 and ranked 7th.

Shri R B Mankar
Convener

Dr Bashisth Choubey
Principal

DEPARTMENT OF PHYSICS

Name of Course : *Certificate Course*
Title of Course : *Basics of Gas Sensor*
Session : *2018-2019*

Duration : *30 clock hours*

Summary Report

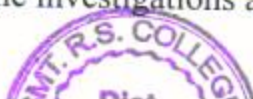
Certificate Course entitled "Basics of Gas Sensor" was conducted by Department of Physics between 1/01/2019 to 19/01/2019 for B.Sc. students. The objective behind conducting this course was to make students familiar with basics principles of gas sensor and its necessity for environmental monitoring. Total 30 students from B.Sc. part II and III were interestingly participated in the above course of 30 clock hours. After the exposure of theoretical knowledge followed by practical work, students were evaluated through written examination. With the successful completion of the course students acquired the described course outcomes with specific knowledge.

Course Outcomes

After completing the certificate course entitle "Basics of Gas Sensor",

- 1) Students are aware about need of environmental monitoring and the various available techniques for environmental monitoring.
- 2) Students have understanding of working principle of various gas sensors especially SMO based gas sensor.
- 3) Students have knowledge of techniques for preparation of nanocrystalline metal oxides for gas sensor
- 4) Students are able to undertake the investigations and draw the conclusions.

Pm



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