

Gokhale Education Society's
R.N.C. Arts, J.D.B. Commerce & N.S.C. Science College, Nashik-Road
Short Term Course (04 credits, 36 hours)

on

Computer Awareness and Its Applications

Notice For T.Y.B.A. / T.Y.B.Com. / T.Y.B.Sc. regular / T.Y.B.Sc. Biotechnology /
T.Y.B.Sc. Computer Science / T.Y.B.B.(C.A.) / T.Y.B.B.A. Students

As per the new Choice Based Credit System (CBCS-2019) pattern of Savitribai Phule Pune University, each student from T.Y.B.A./T.Y.B.Com./T.Y.B.Sc.regular/T.Y.B.Sc. Biotechnology/T.Y.B.Sc. Computer Science/T.Y.B.B.A.(CA) and T.Y.B.B.A. classes should earn **08 mandatory credits from Group 1 to Group 9** for the award of Bachelor's Degree from Savitribai Phule Pune University, Pune. Therefore, all students from T.Y.B.A./T.Y.B.Com./T.Y.B.Sc. Regular/T.Y.B.Sc. Biotechnology/T.Y.B.Sc. Computer Science/T.Y.B.B.A.(CA) and T.Y.B.B.A. classes hereby notified that a short-term course of **03 credits** on "**Computer Awareness and Its Applications**" is organized by our college for all students of above classes from **21st November 2022 to 27th November 2022**. Detailed schedule of the short-term course will be communicated to you through the WhatsApp group of respective classes.

All the students in the above classes should note the following points -

1. The short-term course will be conducted from **21st November 2022 to 27th November 2022** through online mode.
2. The course is mandatory to each student studying in the above classes.
3. The attendance for every lecture is compulsory.
4. The performance of each student participant will be evaluated by an online examination to be held on **28th November 2022 at 1.00 pm to 3.00 pm**.
5. The online examination will be held for 50 marks containing 60 multiple choice questions of 1 mark each. Time duration for online examination will be of 02 hours.
6. Each student should score a **minimum 20 marks** to pass this short-term course and to earn **02 credits for Commerce** and **03 credits for Arts and Science** from this course. If any student fails in this short-term course, he/she will not be eligible for the award of Graduate Degree from Savitribai Phule Pune University, Pune. It should be noted by all students that college is not responsible for such cases.




Dr. M.M. Kulkarni
I/C Principal
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Short Term Course (04 credits, 36 hours)

on

Computer Awareness and Its Applications

T.Y.B.A. / T.Y.B.Com. / T.Y.B.Sc. regular / T.Y.B.Sc. Biotechnology /

T.Y.B.Sc. Computer Science / T.Y.B.B.(C.A.) / T.Y.B.B.A. विद्यार्थ्यांसाठी सूचना

सावित्रीबाई फुले पुणे विद्यापीठाच्या नवीन Choice Based Credit System (CBCS-2019) पॅटर्ननुसार T.Y.B.A./T.Y.B.Com./T.Y.B.Sc. regular /T.Y.B.Sc. Biotech / T.Y.B.Sc. Comp.Science /T.Y.B.B.A.(C.A.) आणि T.Y.B.B.A. या वर्गातील प्रत्येक विद्यार्थ्यांने सावित्रीबाई फुले पुणे विद्यापीठ, पुणेमधून पदवीधर पदवी मिळवण्यासाठी Group 1 ते Group 9 मधील 08 अनिवार्य श्रेयांक मिळविणे आवश्यक आहे. त्यासाठी T.Y.B.A./T.Y.B.Com./T.Y.B.Sc. regular /T.Y.B.Sc. Biotech / T.Y.B.Sc. Comp. Science /T.Y.B.B.A.(C.A.) आणि T.Y.B.B.A. या वर्गातील सर्व विद्यार्थ्यांना सूचित करण्यात येते की आपल्या महाविद्यालयाने वरील वर्गातील सर्व विद्यार्थ्यांसाठी दि. 21 नोव्हेंबर 2022 ते 27 नोव्हेंबर 2022 या कालावधीत "Computer Awareness and Its Applications" या विषयावर 04 श्रेयांक असलेला अल्प-मुदतीचा अभ्यासक्रम आयोजित करण्यात आला आहे. सदर अभ्यासक्रमाचे तपशीलवार वेळापत्रक संबंधित वर्गाच्या WhatsApp ग्रुपद्वारे तुम्हाला कळवले जाईल.

वरील वर्गातील सर्व विद्यार्थ्यांनी खालील बाबी लक्षात घ्याव्यात -

1. "Computer Awareness and Its Applications" अभ्यासक्रम दि. 21 नोव्हेंबर 2022 ते 27 नोव्हेंबर 2022 या कालावधीत ऑनलाइन पद्धतीने आयोजित केला जाईल.
2. वरील वर्गात शिकणाऱ्या प्रत्येक विद्यार्थ्यांसाठी हा अभ्यासक्रम अनिवार्य आहे.
3. प्रत्येक व्याख्यानाला उपस्थिती अनिवार्य आहे.
4. प्रत्येक सहभागी विद्यार्थ्यांच्या कामगिरीचे दि. 28 नोव्हेंबर 2022 रोजी दुपारी 1.00 ते 3.00 या वेळेत होणाऱ्या ऑनलाइन परीक्षेद्वारे मूल्यमापन केले जाईल.
5. ऑनलाइन परीक्षा 50 गुणांसाठी घेतली जाईल ज्यामध्ये प्रत्येकी 1 गुणांचे 60 बहुपर्यायी प्रश्न असतील. ऑनलाइन परीक्षेचा कालावधी 02 तासांचा असेल.
6. हा कोर्स उत्तीर्ण होण्यासाठी आणि कोर्समधून वाणिज्य शाखेकरिता 02 श्रेयांक आणि कला व विज्ञान शाखेकरिता 03 श्रेयांक मिळविण्यासाठी प्रत्येक विद्यार्थ्यांने किमान 20 गुण मिळविले पाहिजेत. या कोर्समध्ये कोणताही विद्यार्थी/विद्यार्थिनी अनुत्तीर्ण झाल्यास, तो/ती विद्यार्थी/विद्यार्थिनी सावित्रीबाई फुले पुणे विद्यापीठ, पुणेकडून मिळणाऱ्या पदवीधर पदवीसाठी पात्र असणार नाही. अशा प्रकरणांना महाविद्यालय जबाबदार राहणार नाही, याची सर्व विद्यार्थ्यांनी नोंद घ्यावी.



M.M. Kulkarni

Dr. M.M. Kulkarni

I/C Principal

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Gokhale Education Society's
R.N.C. Arts, J.D.B. Commerce & N.S.C. Science College, Nashik-Road

Schedule of Short-Term Course (4 credits, 40 hours)

On

Computer Awareness and Its Applications

For

**T.Y.B.A./ T.Y.B.Com./T.Y.B.Sc. regular/T.Y.B.Sc. Biotechnology/
T.Y.B.Sc. Computer Science/ T.Y.B.B.A (C.A.) and T.Y.B.B.A.**

Sr. No.	Day & Date	Timings	Name of the topic	Name of the resource person
1	Monday 21/11/2022	2.15 pm to 2.30 pm	Time for joining the participants	-----
		2.30 pm to 3.00 pm	Opening Ceremony	Dr. Manjusha Kulkarni Principal Dr. Anilkumar Pathare Vice Principal, Arts Faculty Dr. Kalyanrao Takale Coordinator, Science Faculty
2	Monday 21/11/2022	3.00 pm to 4.00 pm	Introduction to computers Historical development of computers * Model questions	Asst. Prof. Sonali Joshi
3	Monday 21/11/2022	4.00 pm to 5.00 pm	Information of computer, mobile/tablet and their applications * Model questions	Asst. Prof. Sonali Joshi
4	Monday 21/11/2022	5.00 pm to 6.00 pm	Computer system components and installation of computer system * Model questions	Asst. Prof. Yogita Sonawane
5	Monday 21/11/2022	6.00 pm to 7.00 pm	Computer system operations * Model questions	Asst. Prof. Nimisha Gujar
6	Tuesday 22/11/2022	3.00 pm to 4.00 pm	Basic operations: How to operate Mouse and keyboard, Start and shut down of computer * Model questions	Asst. Prof. Vishwakarma N. R.
7	Tuesday 22/11/2022	4.00 pm to 5.00 pm	User interface of desktop computer * Model questions	Asst. Prof. Dr. V. J. Joshi
8	Tuesday 22/11/2022	5.00 pm to 6.00 pm	File and folder management * Model questions	Asst. Prof. Amrapali Jadhav

9	Tuesday 22/11/2022	6.00 pm to 7.00 pm	Operating MS Word processing package * Model questions	Asst. Prof. Rahul Uplaikar
10	Wednesday 23/11/2022	3.00 pm to 4.00 pm	Window Anatomy: Title bar, menu bar, toolbar and sidebar * Model questions	Dr. Archana Patil
11	Wednesday 23/11/2022	4.00 pm to 5.00 pm	Creating new documents * Model questions	Dr. Rajesh Khatri
12	Wednesday 23/11/2022	5.00 pm to 6.00 pm	Document manipulation and formatting Part-I Document manipulation and formatting, text selection, cut, copy and paste, undo and redo, font, color, style and size selection * Model questions	Asst. Prof. S.S.Alhat
13	Wednesday 23/11/2022	6.00 pm to 7.00 pm	Document manipulation and formatting Part-II Alignment of text, spelling and grammar checking, shortcut keys * Model questions	Dr. Neeta Kedar
14	Thursday 24/11/2022	3.00 pm to 4.00 pm	Introduction to spreadsheet Microsoft Excel and Google sheet * Model questions	Asst. Prof. D.S. Bobade
15	Thursday 24/11/2022	4.00 pm to 5.00 pm	Data entry, copying, moving searching, editing, formatting the data, Applying formula and functions * Model questions	Asst. Prof. Dr. Rajashree D. Naik
16	Thursday 24/11/2022	5.00 pm to 6.00 pm	Conditional formatting, searching and filtering data * Model questions	Asst. Prof. Nilesh Mahajan
17	Thursday 24/11/2022	6.00 pm to 7.00 pm	Charts: learning about charts, creating charts etc * Model questions	Asst. Prof. Dr. Kishori Dhumal
18	Friday 25/11/2022	3.00 pm to 4.00 pm	Working with graphics, clip arts, smart art * Model questions	Asst. Prof. Revathi Reddier
19	Friday 25/11/2022	4.00 pm to 5.00 pm	Introduction to internet: Concept of internet, WWW, website address and URL, Applications and usage of internet * Model questions	Dr. Manish Pawar
20	Friday 25/11/2022	5.00 pm to 6.00 pm	Modes of Connecting Internet (Hotspot, Wi-Fi, LAN Cable, Broadband, USB Tethering) * Model questions	Asst. Prof. Vishal Mane

21	Friday 25/11/2022	6.00 pm to 7.00 pm	Using Web Browsers & Exploring the Internet * Model questions	Dr. Mrs. V.J. Joshi
22	Saturday 26/11/2022	3.00 pm to 4.00 pm	Gmail and Google forms * Model questions	Dr. Meenakshi Rathi
23	Saturday 26/11/2022	4.00 pm to 5.00 pm	Google Drive & Google extensions * Model questions	Dr. Kailas Borase
24	Saturday 26/11/2022	5.00 pm to 6.00 pm	Understanding Financial Literacy * Model questions	Asst. Prof. Nitin Joshi
25	Saturday 26/11/2022	6.00 pm to 7.00 pm	Digital Financial Tools: * Model questions	Asst. Prof. Pranali Pandit
26	Sunday 27/11/2022	2.00 pm to 3.00 pm	Internet Banking and Online Bill Payment * Model questions	Asst. Prof. Ganesh Dilwale
27	Sunday 27/11/2022	3.00 pm to 4.00 pm	Overview of e-Governance Services like Railway Reservation, Passport, e-Hospital [ORS] * Model questions	Asst. Prof. S.S. Alhat
28	Sunday 27/11/2022	4.00 pm to 5.00 pm	Accessing e-Governance Services on Mobile by using "UMANG APP" * Model questions	Dr. Satish Chavan
29	Sunday 27/11/2022	5.00 pm to 5.30 pm	Valedictory Function	Dr. Manjusha Kulkarni Principal Dr. Anilkumar Pathare Vice Principal, Arts Faculty Dr. Kalyanrao Takale Coordinator, Science Faculty
30	Monday 28/11/2022	1.00 pm to 3.00 pm	Online Examination (50 Marks)	Compulsory for all students of above classes



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Prof. Dr. M.M. Kulkarni
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**Online Examination of Short-Term Credit Course
on
"Computer Awareness and Its Applications"**

Important Notice for

**T.Y.B.A. / T.Y.B.Com. /T.Y.B.Sc. regular/T.Y.B.Sc. Biotechnology/
T.Y.B.Sc. Computer Science/T.Y.B.B.(C.A.)/T.Y.B.B.A. Students**

All students of T.Y.B.A./T.Y.B.Com./T.Y.B.Sc.Regular/T.Y.B.Sc. Biotechnology/ T.Y.B.Sc. Computer Science/T.Y.B.B.A.(CA) and T.Y.B.B.A. classes hereby notified that **Online Examination** of Short-term Credit Course on "**Computer Awareness and Its Applications**" will be held on **Monday, 28/11/2022 between 1.00 pm to 3.00 pm.**

All the students in the above classes should note the following points -

1. **Online Examination** of short-term credit course on "**Computer Awareness and Its Applications**" will be held on **Monday, 28/11/2022 between 1.00 pm to 3.00 pm.**
2. The **Online Examination** will be held for 50 marks containing 60 multiple choice questions of 1 mark each. Time duration for online examination will be of two hours.
3. Online Examination is compulsory for all students of T.Y.B.A./ T.Y.B.Com./ T.Y.B.Sc. Regular/ T.Y.B.Sc. Biotechnology /T.Y.B.Sc. Computer Science/ T.Y.B.B.A.(CA) and T.Y.B.B.A. classes.
4. **There will be no separate Online Examination for absent students.**
5. Link of Online Examination will be sent 10 minutes before the scheduled time through the WhatsApp group of respective classes.
6. All students should write **their own Email, Name, Class, Division and Roll number** correctly in the Google form of online examination.
7. Each student should score a **minimum 20 marks** to pass this short-term course and to earn **02 credits for Commerce** and **03 credits for Arts and Science** from this course. If any student fails in this short-term course, he/she will not be eligible for the award of Graduate Degree from Savitribai Phule Pune University, Pune. It should be noted by all students that college is not responsible for such cases.




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R.N.C. Arts, J.D.B. Commerce & N.S.C. Science College, Nashik-Road
Short-Term Credit Course
on

"Computer Awareness and Its Applications" ऑनलाइन परीक्षा

विद्यार्थ्यांसाठी महत्वाची सुचना

T.Y.B.A./T.Y.B.Com./T.Y.B.Sc. Regular/T.Y.B.Sc. Biotechnology/T.Y.B.Sc. Computer Science/T.Y.B.B.A.(CA) and T.Y.B.B.A या वर्गातील सर्व विद्यार्थ्यांना सूचित करण्यात येते की, **Short-term Credit Course "Computer Awareness and Its Applications"** वर आधारित ऑनलाइन परीक्षा सोमवार, 28/11/2022 रोजी दुपारी 1.00 ते 3.00 या वेळेत घेतली जाईल.

वरील वर्गातील सर्व विद्यार्थ्यांनी खालील बाबी लक्षात घ्याव्यात -

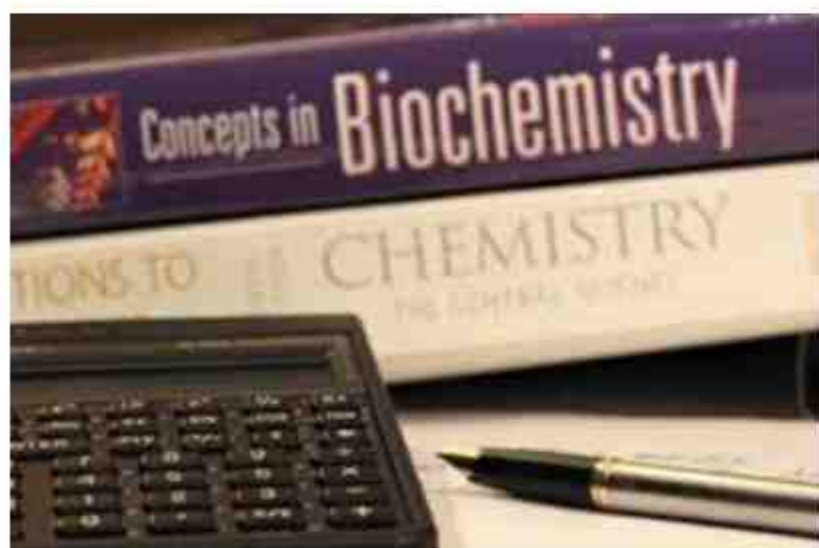
1. **Short-term Credit Course "Computer Awareness and Its Applications"** वर आधारित ऑनलाइन परीक्षा सोमवार, 28/11/2022 रोजी दुपारी 1.00 ते 3.00 या वेळेत होईल.
2. ऑनलाइन परीक्षा 50 गुणांसाठी घेतली जाईल ज्यामध्ये प्रत्येकी 1 गुणांचे 60 बहुपर्यायी प्रश्न असतील. ऑनलाइन परीक्षेचा कालावधी दोन तासांचा असेल.
3. T.Y.B.A./T.Y.B.Com./T.Y.B.Sc.Regular/T.Y.B.Sc.Biotechnology/T.Y.B.Sc.Computer Science/ T.Y.B.B.A.(CA)/ T.Y.B.B.A. या वर्गातील सर्व विद्यार्थ्यांसाठी ऑनलाइन परीक्षा अनिवार्य आहे.
4. गैरहजर विद्यार्थ्यांसाठी वेगळी परीक्षा घेतली जाणार नाही.
5. ऑनलाइन परीक्षेची लिंक संबंधित वर्गाच्या व्हॉट्सअप ग्रुपद्वारे नियोजित वेळेच्या 10 मिनिटे आधी पाठवली जाईल.
6. सर्व विद्यार्थ्यांनी ऑनलाइन परीक्षेच्या Google फॉर्ममध्ये आपला स्वतःचा ईमेल, स्वतःचे नाव, वर्ग, तुकडी आणि रोल नंबर अचूकपणे लिहावा.
7. हा कोर्स उत्तीर्ण होण्यासाठी आणि कोर्समधून वाणिज्य शाखेकरिता 02 श्रेयांक आणि कला व विज्ञान शाखेकरिता 03 श्रेयांक मिळविण्यासाठी प्रत्येक विद्यार्थ्यांनी किमान 20 गुण मिळविले पाहिजेत. या कोर्समध्ये कोणताही विद्यार्थी/विद्यार्थिनी अनुत्तीर्ण झाल्यास, तो/ती विद्यार्थी/विद्यार्थिनी सावित्रीबाई फुले पुणे विद्यापीठ, पुणेकडून मिळणाऱ्या पदवीधर पदवीसाठी पात्र असणार नाही. अशा प्रकरणांना महाविद्यालय जबाबदार राहणार नाही, याची सर्व विद्यार्थ्यांनी नोंद घ्यावी.



M.M. Kulkarni

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**CHEMISTRY BEHIND
THE LIFE PROCESSES**

**GOKHALE
EDUCATION
SOCIETYS'
RNC ARTS,JDB
COMMERCE NSC
SCIENCE COLLEGE
NASHIKROAD,
NASHIK**

**DEPARTMENT OF
CHEMISTRY
CERTIFICATE
COURSE**



Gokhale Education Society's
R.N.Chandak Arts, J.D.Byteo Commerce &
N.S.Chandak Science College, Nashik Road – 422 101
ISO 9001:2015 Certified

पुणे विद्यापीठाशी संलग्न (Identification No. : PU/NS/ASC/005(1963))

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Department of Chemistry

Certificate Course

Name of the Course	CHEMISTRY BEHIND THE LIFE PROCESSES
Aim and Objectives	<ol style="list-style-type: none">1. Carbohydrate, Lipid and Amino acid metabolism: The student needs to know the significance of metabolism and energetics.2. Role of ATP and types of other high energy compounds. Individual reactions of the metabolic pathways, various enzymes and coenzymes, energetic and features of the pathway.3. Electron Transport Chain and Oxidative Phosphorylation: The student needs to know the concepts of biological oxidation.4. Types of electron carriers and their location in mitochondria. Formation of proton gradient, Proton motive force and Oxidative Phosphorylation, formation of ATP in the oxysomes.5. Inhibitors and Uncouplers of Mitochondrial ETC.6. Understanding the structures of purines, pyrimidines, nucleosides and nucleotides, structural features of nucleic acid types and their role.7. Central dogma of molecular biology: Experimental procedures that prove DNA as genetic material and its interpretations.
Focus	T.Y.BSc students have already learned the fundamentals of biomolecules and the chemistry that underlie them. This course will assist them in learning about the advances and chemistry that support life processes. This course will also serve as a bridge course for students interested in pursuing their studies in biochemistry.


Other Details	
Contact Hours	30 Hours
No. of students can enrol	50
Fee Structure	10/- (It is only for the hard copy of the certificate) Students need not to pay any fee for the course
Duration	30 Contact Hrs (3 Months) January-March
Timing of the lecture	Self-paced course (Students can watch explanatory videos as per their convenience
Examination Pattern	Marks : 50 Mode: Online Pattern : 50 MCQ
Staffs	Dr. Meenakshi Rathi Dr. Satish Chavan
Books (All books are available in the college library)	<ol style="list-style-type: none"> 1. Lehninger's, Principles of Biochemistry, by Nelson and Cox Macmillan Publisher 4thEdn. 2. Harper's Illustrated Biochemistry, 26th Edition. 3. Biochemistry by U. Satyanarayana 4. Soft copies of self-explanatory notes will be given to the students.

Chemistry behind Life Processes

Name of the topic	Number of Lectures	Syllabus	References
1. Introduction to Metabolism	02	<ol style="list-style-type: none"> 1. Definition of catabolism and anabolism, 2. Types of metabolic reactions, High energy compounds, 3. Significance of ATP. 	Reference: 3 pg 247- 249 pg. 227-230
2. Carbohydrate metabolism	06	<ol style="list-style-type: none"> 1. Aerobic and anaerobic glycolysis 2. Structures of intermediates, various enzymes involved 3. Energetics of Glycolysis 4. Fate of Pyruvate, Pyruvate dehydrogenase complex. 5. TCA cycle- enzymatic reactions and 6. Energetics of TCA Cycle 	Reference: 2 pg. 130-135 pg 136-144
3. Lipid metabolism	05	<ol style="list-style-type: none"> 1. Transportation of fatty acids with the help of carnitine, 2. β-oxidation of palmitic acid in mitochondria 3. Energetics of β-oxidation 4. triacylglycerol synthesis, 5. Ketogenesis. 	Reference: 2, pg 180-189.
4. Amino acid metabolism	04	<ol style="list-style-type: none"> 1. Significance of transamination, 2. Deamination, 3. Decarboxylation reactions of amino acids. 4. Urea cycle. 	Reference: 2, pg 242 - 248
5. Electron Transport Chain and Oxidative Phosphorylation	06	<ol style="list-style-type: none"> 1. Location of Electron carriers, 2. Electron transport chain, 3. Proton gradient, 4. Oxidative phosphorylation 5. Chemiosmotic hypothesis, 6. Inhibitors and Uncouplers of Electron transport chain and Oxidative phosphorylation . 	Reference: 3, pg 230-239.
6. Nucleic acids	07	<ol style="list-style-type: none"> 1. Structures of Purines and Pyrimidines 	Reference: 3, pg 73-83.

		<ol style="list-style-type: none"> 2. Nucleosides, Nucleotides, Polynucleotides. 3. Difference between DNA and RNA. 4. Watson and Crick model of DNA. 5. DNA as genetic material (Macleod and Mcarty, Hershey and Chase experiments). 6. RNA and its types. 7. Central dogma of molecular biology. 	
Total lectures	30		


Course Coordinator
Dr. Meenakshi Rathi


I/c Principal and Head of the Department
Prof. Dr. Manjusha Kulkarni
Head
Chemistry Department
RNC JDB & NSC College
Nashik Road-422 101

RNC ARTS JDB COMMERCE NSC SCIENCE COLLEGE NASHIKROAD

Department of Chemistry

TYBSC CHEMISTRY**CERIFICATE COURSE NAME _CHEMISTRY BEHIND THE LIFE PROCESS 2022-23**

Sr. No	Roll No.	Name of the Student	University No	
1	1	Adgaonkar Pallavi Amol	19952	
2	2	Aher Namrata Narendra	19953	
3	3	Tejaswini Aher Subhash	19954	
4	4	Bagul Pramila Pandharinath	19955	
5	6	Barwkar Sayali Kailas	19956	
6	7	Bhadange Sumit Dhudaku	19957	
7	10	Buwa Rushikesh Arun	19959	
8	12	Chavan Vishakha Sanjay	19960	
9	15	Gaikhe Apeksha Shivaji	19962	
10	19	Kale Shraddha Rajesh	19964	
11	21	Khare Anushka Nilesh	19965	
12	56	Kharwar Poonam Jayprakash	19966	
13	22	Kothule Sakshi Shantaram	19967	
14	24	Kudale Shreya Prakash	19968	
15	25	Kulthe Yash Vijay	19969	
16	24	Kushwaha Nikita Niranjan	19970	
17	26	Lokhande Gayatri Dnyaneshwar	19971	
18	28	Mali Pranali Dipak	19973	
19	31	Pagare Payal Arun	19976	
20	32	Pal Rohit Ambika	19977	
21	34	Pansare Mayur Chindhu	19978	
22	36	Pawar Suresh Rupsing	19981	
23	37	Ramraje Dipika Dharmraj	19982	
24	41	Sayyad Shifa Zulfikar Ali	19984	
25	42	Sayyed Razaali Ferozali	19985	
26	43	Shaikh Ayesha Shahabuddin	19986	
27	45	Shaikh Noor Mohammad Imtiyaz	19987	
28	46	Shaikh Sabeeha Kalimuddin	19988	
29	48	Shinde Sanket Bhausahab	19989	
30	49	Shintre Sakshi Ashok	19990	
31	51	Sonawane Chanda Sadhu	19992	
32	52	Vrushali Zade Rajaram	19993	
33	20	Anam Asif Khan	19996	
34	5	Bairagade Neha Manraj	19997	
35	25	Bodhare Siddhant Rajendra	19998	

RNC ARTS JDB COMMERCE NSC SCIENCE COLLEGE NASHIKROAD
Department of Chemistry
CERIFICATE COURSE NAME CHEMISTRY BEHIND THE LIFE PROCESS

Sr. No	Roll No.	Name of the Student	University No	
36	25	Bodhare Siddhant Rajendra	19998	
37	11	Chaudhari Sushant Prashant	19999	
38	13	Dambale Gauri Ravindra	20000	
39	14	Dolas Mrunali Madhav	20001	
40	16	Gaikwad Sneha Dnyaneshwar	20002	
41	30	Mudaliyar Hareni Govindraju	20003	
42	11	Palkhedkar Shravani Rajendra	20004	
43	38	Samore Akansha Dhyanashwar	20005	
44	39	Sanap Bhushan Ambadas	20006	
45	44	Sanap Vaishnavi Balu	20007	


Dr. Meenakshi Rathi

Certificate Course Coordinator
(CHEMISTRY BEHIND THE LIFE PROCESS)

Settings

Schedule & Details

Basic Information

The nuts and bolts of your course

Organization	Course Number	Course Run
mvrchemistryo	CC_CH_1	2023_T2

Course Summary Page (for student enrollment and access)

<https://mvrchemistryonlinelearning.edunext.io/courses/course-v1:...>

How are these settings used?

Your course's schedule determines when students can enroll in and begin a course.

Other information from this page appears on the About page for your course. This information includes the course overview, course image, introduction video, and estimated time requirements. Students use About pages to choose new courses to take.

Course Pacing

Set the pacing for this course

Course pacing cannot be changed once a course has started.

 Instructor-Paced

Instructor-paced courses progress at the pace that the course author sets. You can configure release dates for course content and due dates for assignments.

 Self-Paced

Self-paced courses offer suggested due dates for assignments or exams based on the learner's enrollment date and the expected course duration. These courses offer learners flexibility to modify the assignment dates as needed.

Other Course Settings

[Grading](#)[Course Team](#)[Group Configurations](#)[Advanced Settings](#)

Course Schedule

Dates that control when your course can be viewed

Course Start Date

03/15/2023

First day the course begins

Course Start Time

00:00 (UTC)

Course End Date

07/31/2023

Last day your course is active

Course End Time

00:00 (UTC)

Enrollment Start Date

03/01/2023



Enrollment Start Time

00:00

(UTC)

First day students can enroll

Enrollment End Date

07/31/2023



Enrollment End Time

00:00

(UTC)

Last day students can enroll

Course Details

Provide useful information about your course

Course Language

English



Identify the course language here. This is used to assist users find courses that are taught in a specific language. It is also used to localize the 'From:' field in bulk emails.

Introducing Your Course

Information for prospective students

Course Short Description

T.Y.BSc students have already learned the fundamentals of biomolecules and the chemistry that underlie them. This course will assist them in

Appears on the course catalog page when students roll over the course name. Limit to ~150 characters

Course Overview

```
1 <section class="about">
2 <h2>About This Course</h2>
3 <p>1. Carbohydrate, Lipid and Amino acid metabolism: The student
4 needs to know the significance of metabolism and energetics.
5 2. Role of ATP and types of other high energy compounds. Individual
6 reactions of the metabolic pathways, various enzymes and coenzymes,
7 energetic and features of the pathway.
8 3. Electron Transport Chain and Oxidative Phosphorylation: The student
9 needs to know the concepts of biological oxidation.
10 </p>
11
12 <p>4. Types of electron carriers and their location in mitochondria.
13 Formation of proton gradient, Proton motive force and Oxidative
14 hosphorylation, formation of ATP in the oxysomes.
```

Introductions, prerequisites, FAQs that are used on [your course summary page](#) (formatted in HTML)

Course Card Image

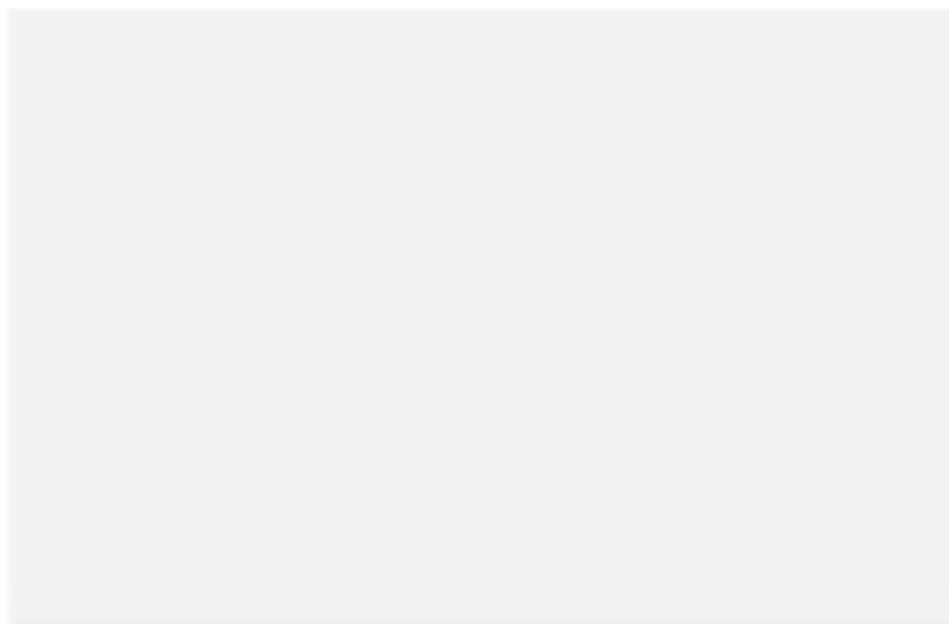


You can manage this image along with all of your other [files and uploads](#).

Please provide a valid path and name to your course image (Note: only JPEG or PNG format supported)

Upload
Course Card
Image

Course Introduction Video



Enter your YouTube video's ID (along with any restriction parameters)

Requirements

Expectations of the students taking this course

Hours of Effort per Week

Time spent on all course work

Prerequisite Course

Course that students must complete before beginning this course

Entrance Exam

Require students to pass an exam before beginning the course.

Course Content License

Select the default license for course content

License Type

All Rights Reserved

Creative Commons

[Learn more about Creative Commons](#)

License Display

The following message will be displayed at the bottom of the courseware pages within your course:

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Gradebook

<input type="text" value="Search students"/>	Test 01	Test 02	Test 03	Test 04	Test Avg	Total
0719	100	90	90	100	95	51
878681529296	70	100	80	60	78	43
aassdd	100	70	90	100	90	56
Abdulmastaan	90	0	0	0	22	2
Anamkhan30	100	30	100	80	77	44
anushka18	100	70	100	90	90	55
Apeksha_21	90	80	100	100	92	59
Ayeshu_01	40	70	70	60	60	48
Bhushan08	80	100	100	100	95	60
Bumarushi	90	50	50	20	52	26
Devyani12	100	70	100	100	92	55
Dipu35	50	100	100	50	75	53
Gaurid023	100	80	100	100	95	48
jassu	50	0	60	70	45	50
Mrunaldolas	90	80	100	100	92	58
Musu786	100	67	90	100	89	56
mvr1234	100	0	0	0	25	3
Namu_21	90	100	80	50	80	47
Neha2001	80	100	100	80	90	47
Nikhu	100	80	100	100	92	58



Gradebook

Search students	Test 01	Test 02	Test 03	Test 04	Test Avg	Total
Pallu123	100	70	100	100	92	53
Payalpagare	100	90	100	80	92	49
poonam_kharwar	70	80	100	100	88	52
Pramila2677	70	80	90	50	72	40
Pranali2001	60	80	80	100	80	47
Preru	60	100	80	80	80	49
Raza_02	100	40	90	100	82	56
Rohitpal_1	100	60	90	100	88	53
SabeehaShaikh-	0	0	0	0	0	0
Sakshi2002	0	0	0	0	0	0
Sakshishintre	100	60	60	70	73	43
Saku123	100	53	100	100	88	55
Sanket22	100	100	100	80	95	60
Saurabh21	60	80	100	100	85	58
Sau_2606	100	80	80	70	82	54
shifa123	100	100	90	100	98	56
Shra123	60	60	80	60	65	39
Shreedarsh	0	0	0	0	0	0
ShreyaD	90	67	80	100	84	49
Siddhant_2002	on	67	100	100	80	55



Gradebook

Search students

	Test 01	Test 02	Test 03	Test 04	Test Avg	Total
Sneha_Gaikwad	100	100	100	100	100	55
Somy	60	80	90	80	77	54
Sumitbhadange5	90	80	100	100	92	49
Suraj4	0	0	0	0	0	0
Surya123	100	70	100	100	92	51
Sushant	100	60	100	100	90	54
Tejaswini12	100	60	70	50	70	53
Vaishu-2002	80	80	90	90	85	52
Vinayakbile	70	70	60	50	62	20
Vishuuu	40	90	90	40	65	40
Vrushh	100	90	80	80	88	55
Yash6423	100	70	100	100	92	58
Noorboxer11	0	0	0	0	0	40

Page 3.0 of 3

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[ChemNext](#) [Online Learning](#)



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Content

Course Outline

[+ New Section](#)
[↑ Collapse All Sections](#)
[View Live](#)

Start Date

[Mar 15, 2023 at 00:00 UTC](#)

Pacing Type

Self-Paced

Checklists

[4/9 completed](#)

Course Highlight Emails

[Enable Now](#)
[Learn more](#)

Creating your course organization

You add sections, subsections, and units directly in the outline.

Create a section, then add subsections and units. Open a unit to add course components.

Reorganizing your course

Drag sections, subsections, and units to new locations in the outline.

[Learn more about the course outline](#)

Setting release dates and grading policies

Select the Configure icon for a section or subsection to set its release date. When you configure a subsection, you can also set the grading policy and due date.

[Learn more about grading policy settings](#)

Changing the content learners see

To publish draft content, select the Publish icon for a section, subsection, or unit.

To make a section, subsection, or unit unavailable to learners, select the Configure icon for that level, then select the appropriate **Hide** option. Grades for hidden sections, subsections, and units are not included in grade calculations.

To hide the content of a subsection from learners after the subsection due date has passed, select the Configure icon for a subsection, then select **Hide content after due date**. Grades for the subsection remain included in grade calculations.

[Learn more about content visibility settings](#)

1. Introduction to Metabolism

[0 Section Highlights](#)
[▶ 1. Definition of catabolism...](#)
[▶ 2. Types of metabolic reac...](#)
[▶ 3. Significance of ATP.](#)
[▶ Video](#)
[▶ Notes](#)
[+ New Subsection](#)

2. Carbohydrate metabolism

[0 Section Highlights](#)
[▶ 1. Aerobic and anaerobic ...](#)
[▶ 2. Structures of Intermedi...](#)
[▶ 3. Energetics of Glycolysis](#)
[▶ 4. Fate of Pyruvate, Pyruv...](#)
[▶ 5. TCA cycle- enzymatic re...](#)
[▶ 6. Energetics of TCA Cycle](#)
[▶ Videos](#)

▶ Notes



+ New Subsection

3. Lipid metabolism



0 Section Highlights

▶ 1. Transportation of fatty ...



▶ 2. β -oxidation of palmitic ...



▶ 3. Energetics of β -oxidation



▶ 4. Acylglycerol synthesis,



▶ 5. Ketogenesis.



▶ Videos



+ New Subsection

 Saving

4. Amino acid metabolism



0 Section Highlights

▶ 1. Significance of transami...



▶ 2. Deamination,



▶ 3. Decarboxylation reactio...



▶ Video



+ New Subsection

5. Electron Transport Chain a...



0 Section Highlights

▶ 1. Location of Electron car...



▶ 2. Electron transport chain,



▶ 3. Proton gradient,







































 Saving

- ▶ 4. Oxidative phosphorylati...    
- ▶ 5. Chemiosmotic hypothe...    
- ▶ 6. Inhibitors and Uncoupl...    
- ▶ Video    

[+ New Subsection](#)

6. Nucleic acids




0 Section Highlights

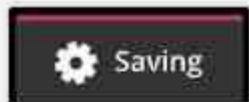
- ▶ 1. Structures of Purines a...    
- ▶ 2. Nucleosides, Nucleotide...    
- ▶ 3. Difference between DN...    
- ▶ 4. Watson and Crick mode...    
- ▶ 5. DNA as genetic material...    
- ▶ 6. RNA and its types.    
- ▶ 7. Central dogma of molec...    
- ▶ Video    
- ▶ Notes    

[+ New Subsection](#)

UNIT TEST

0 Section Highlights

- ▶ TEST 1    
 - ✓ Test
- ▶ Test 2    
 - ✓ Test
- ▶ MidTerm Exam    
 - ✓ Midterm Exam



- ▶ TEST 3
 - ✓ Test
- ▶ TEST 4
 - ✓ Test

+ New Subsection

▼ FINAL EXAMINATION

0 Section Highlights

- ▼ TERM FINAL EXAMINATION
 - ✓ Final Exam
 - MCQ BASED FINAL EXAMINATION

+ New Unit

+ New Subsection

+ New Section

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Instructor Dashboard

[Course Info](#) [Membership](#) [Cohorts](#) [Extensions](#) [Student Admin](#) [Email](#) [Special Exams](#) [Certificates](#)

Course Info

Enrollment Information

Verified	0
Audit	42
Honor	11
Professional	0

Total **53**

Number of enrollees (admins, staff, and students) by track

Basic Course Information

- Course Name: CHEMISTRY BEHIND THE LIFE PROCESSES
- Course Run: 2023_T2
- Course Number: CC_CH_1
- Organization: mvrchemistryonlinelearning
- Course Start Date: Mar 15, 2023 05:30 IST
- Course End Date: Jul 31, 2023 05:30 IST
- Has the course started? Yes
- Has the course ended? No
- Number of sections: 8
- Grade Cutoffs: C: 0.31, B: 0.5, A: 0.6

Pending Tasks


No tasks currently running.

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[ChemNext](#) [Online Learning](#)



Gokhale Education Societys'
RNC ARTS, JDB COMMERECE NSC SCIENCE COLLEGE
NASHIKROAD, NASHIK

Title of the certificate course	CHEMISTRY BEHIND THE LIFE PROCESSES
Department in charge of the course	CHEMISTRY
Course coordinator	Dr. Meenakshi Rathi
Target Group	TYBSC CHEMISTRY
Fees of the course in Rupees	50/-
No. of the participants	45
Total Fees Collected	2250/-
Details of the Expenses/remuneration	Certificate Charges = 900/-
Status of the certificate Course	Completed
List of the Participants	Attached
Attendance of the Participants	Attached
Geotag Photographs	Attached


Dr. Meenakshi Rathi
Course Coordinator.

Gokhale Education Society's
RNC Arts, JDB Commerce and NSC Science College, Nashik Road
Department of Chemistry
Certificate course in
'Chemistry Education and Miracles'

List of Students

Class: SYBSc

Sr No	Roll Number	Seat Number	Surname	First Name	Middle name	PRN	Mobile number
1	02	19849	Ahir	Srushti	Anandkumar	1172101789	9890640241
2	03	19850	Ahire	Drushti	Subhash	1172101869	9699549701
3	06	19853	Bhagat	Tejas	Deelip	1172101795	8080680573
4	07	19854	Bharitkar	Pratiksha	Ganesh	1172101809	7972861454
5	09	19855	Borade	Sanjivani	Somnath	1172101856	8275922736
6	11	19925	Dalavi	Ashwini	Manikdas	1172101798	7385970522
7	17	19864	Gaidhani	Oni	Namdev	1172101881	9307482549
8	20	19869	Gosavi	Geetanjali	Anilpuri	1172101854	9172780104
9	33	19887	Mhaske	Sakshi	Vasant	1172101921	8381044205
10	43	19904	Salve	Akshada	Keshav	1172101894	9699672781
11	52	19916	Shinde	Sanjana	Suryakant	1172101802	9890347459

Dr Sudesh Ghoderao
Course Coordinator
9422257654



GOKHALE EDUCATION SOCIETY

(Founded on : 19-2-1918) Regd. No.: F359 Bom.)

(ISO - 9001 - 2008 Certified)

PRIN. T. A. Kulkarni Vidyanagar, Nasik - 422 005.

Phone & Fax : Nasik 0253-2574682 (O), 0253-2342060 (R) Mumbai 022-24136132 (O)

email : • gokhaleeducation@dataone.in • gokhale_edu@hotmail.com

Chairman

Prin. S. B. Pandit

M. Com.

Secretary

Sir Dr. M. S. Gosavi

Ph.D. (Busi. Admi.) M. Com., B.A., L.L.B. Sahityacharya

Ref. No. GES/RO/1290-1/2022-23

Date : 30.9.2022

To,

The In-charge Principal
RNC Arts, JDB Commerce &
NSC Science College,
Nasik Road.

Reference : Your Letter No. 514/2022-23 dated. 15.9.2022

Madam,

With reference to your letter quoted above, permission is granted to start Certificate Courses in the department Botany, Zoology, Biotechnology and Chemistry only.

Yours faithfully,

(Sir Dr. M. S. Gosavi)
Secretary & Director General

Gokhale Education Society's

**RNC Arts JDB Commerce NSC Science
College
Nashik Road**

DEPARTMENT OF ZOOLOGY

**CERTIFICATE COURSE IN
VERMICOMPOST TECHNOLOGY**

Dr. Mrs. Ashwini G. Ghanbahadur
(*course co-ordinator*)

**RNC Arts JDB Commerce NSC Science College
Nashik Road**

DEPARTMENT OF ZOOLOGY

**CERTIFICATE COURSE IN
VERMICOMPOST TECHNOLOGY**

Introduction:

Vermicomposting technology is known throughout the world. It may be considered a widely spread, though not necessarily popular technology. Vermicompost is considered as a high nutrient biofertilizer. Vermicomposting is the process of conversion of organic wastes into finely degraded substances using earthworms, it is an alternative method for waste management. It plays a major role in improving growth and yield of different field crops, vegetables, flower and fruit crops. Vermicompost is a biofertilizer enriched with all beneficial soil microbes and also contains all the essential plant nutrients like N,P,K. Vermiwash is another important product obtained during vermicomposting, it is the liquid that is collected after the passage of water through a column of worm action. Vermiwash is rich in enzymes, plant growth hormones, vitamins along with micro and macronutrients which increases the resistance power of crops against various diseases and enhances the growth and productivity of crops.

Aims&Objective:

- Students will get proper knowledge of Vermicompost technology.
- Students will get the employment.
- They can generate employment.
- They will also turn towards organic farming.

Focus:

To convert unwanted, organic matter, particularly food material, vegetables, plant waste material into compost.

Name of the course: Certificate Course in Vermicompost technology

Type: Multidisciplinary

Duration: 30 Hours

Enrollment-Minimum -20 maximum -50 students

Fee structure-Rs 200/student

Available infrastructure: Well-equipped laboratory, vermiculture unit with 02 pits in garden.

Examination:

At the end of course the examination will be conducted and grades will be given. Pattern will MCQ and Short answers.

TIME-TABLE

WEDNESDAY-PRACTICAL TIMING-8 TO 9.30am

THURSDAY-THEORY -8 TO 9.15am

FRIDAY-THEORY-8 TO 9.15am

NUMBER OF STAFF TO BE APPOINTED-TEACHING 03

1. DR.A.G GHANBAHADUR
2. DR.K.T.DHUMAL
3. C.H.B STAFF

NON-TEACHING -01 SHRI-ARIF PATHAN

Syllabus

Theory Course (15 hrs)

Sr.no.	Topic	Hours
1	Introduction to Vermicomposting	2hrs.
2	Biology of Earthworms	1 hrs
3	Methods of Vermicomposting	2 hrs
4	Material required for Vermicomposting	1 hrs
5	Bed preparation steps	2 hrs
6	Inoculation of Earthworms	1 hrs
7	Control measures for predator attack	1 hrs
8	Harvesting of Vermicompost	1 hrs
9	Post-harvest procedures	2hrs
10	Benefits of Vermicomposting and how to use it	2 hrs
	Total	15 hrs

Syllabus Practical Course (15 hrs)

Sr. No.	Topic	Hours
1.	Study of Habit Habitat systematic position and external characters of Earthworm	2 hrs
2.	Key to the Identification of different species of earthworm	1 hr
3.	Study of life cycle and development of earthworm	2 hrs
4.	Study of vermiculture Technology	3 hrs
5.	Study of vermicomposting equipment's	1 hr
6.	Preparation of vermibed and its maintenance	3 hrs
7.	Earthworm diseases and enemies	1 hr
8.	Harvesting, Packing and storage of vermicompost	2hrs
	Total	15Hrs

Reference books to be purchased-

1. Bhatt J.V. & S.R. Khambata (1959) "Role of Earthworms in Agriculture" Indian Council of Agricultural Research, New Delhi
2. Dash, M.C., B.K.Senapati, P.C. Mishra (1980) " Worms and Vermicomposting" Proceedings of the National Seminar on Organic Waste Utilization and Vermicomposting Dec. 5-8, 1984, (Part B), School of Life Sciences, Sambalpur University, Jyoti Vihar, Orissa.
3. Edwards, C.A. and J.R. Lofty (1977) "Biology of Earthworms" Chapman and Hall Ltd., London.
4. Lee, K.E. (1985) "Earthworms: Their ecology and Relationship with Soils and Land Use" Academic Press, Sydney



Course Co-Ordinator

(Prof.Dr.A.G.Ghanbahadur)



I/c Principal

(Prof.Dr.M.M.Kulkarni)

Gokhale Education Society's
RNC Arts, JDB Commerce and NSC Science College Nasik Road

Department of ZOOLOGY

Certificate Course in Vermicompost Technology

Sr.no.	Content	Details
1	Student enrollment	Minimum 25 Maximum 50 students
2	Fees structure	200/-per student
3	Duration	30Hrs
4	Timing of lecture & practical	Theory -8am to 9.15am (3lect in a week) Practical-Saturday 8am to9.30am(2 Pract in a week)
5	Examination pattern	MCQ
6	Books to be purchased	01Vermiculture and Vermicompost by Dr.Himandri Panda
7	Staff -Teaching	Prof.Dr.A.G Ghanbahadur Dr.K.T Dhumal
8	Staff- Non teaching	Mr.Arif Pathan
9	Budget	1.Cowdung 1 small trolley.(approx.Rs. 5000/-) 2.Books-Rs 1500/ 3.Large sieve 01(Rs 1000) 4.Gunny bags20(Rs250) TOTAL-Rs 7750/

Deficit make up-If minimum students are not enrolled for this course we can sale Vermicompost and manage deficit.



Course co-ordinator
Prof.Dr.A.G.Ghanbahadur

Head

Department of Zoology,

RNC Arts, JDB Commerce & NSC Science College,
Nashik Road - 422101

GOKHALE EDUCATION SOCIETYS
RNC ARTS JDB COMMERCE AND NSC SCIENCE COLLEGE
NASHIK ROAD

ADMISSION FORM FOR CERTIFICATE COURSE

(Vermicompost technology/Horticulture/Stevia Tissue culturing/Chemistry
education and miracles/Chemistry behind the Life Processes)

Name of the course Vermicompost technology

Name of the student Sanket Rajendra Shilawat

E-mail Sanketshilawat99@gmail.com

Class Sy. BSc

Date of birth 31-05-2003

Nationality _____

Gender Male (Male/Female)

Residential Address Manali Park Adke Nagar 2
Jai Bhawani Rd. Nashik Road.

Mother tongue Marathi

Fathers Occupation child-development officer Z.P.

Contact number 9970809969




Signature of student

Class: BSc. S.Y.
 Teacher's Name: D. A. G. Gnanabhadur



GOKHALE EDUCATION SOCIETY'S
 R. N. Chandak Arts, J. D. Bytco Commerce &
 Department of H.S.C.

N. S. Chandak Science College, Nasik Road
 Vocational Courses

Course: Practical @ hrs
 Semester: _____

Certificate course

Roll No.	Name of the Student	Month: <u>May-2023</u>														16	17	18	19	20	21	22	24	25	26	27	28	29	31	TOTAL	Remarks					
		22	23	24	25	26	27	28	29	30	31																									
1	A. Kshoda Salve	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
2	Aleena Khan	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
3	Ashita Palde	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
4	Dalvi Ashwini	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
5	Khushi Shrinik	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
6	Moham Shela	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
7	Sakree Manoj	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
8	Sakshi Mhaskar	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
9	Sakshi Patil	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
10	Sakshi Wagh	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
11	Ganpura Shrinika	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
12	Ganpat Ghilaw	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
13	Wagh Tanuja	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present				
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	No. of Absent Students																																			
	Initials																																			

Study of Hosts, Habitat, Extent of epizootic
 key for identification of different types of earthenware
 Life Cycle & death of rabies virus
 Study of Veterinary post technology

Head,
 Department of Zoology
 Nasik Road College.

18/06/2023

NOTICE

All the students enrolled in Certificate course on Vermicompost technology are hereby informed that their examination will be conducted on 25th June 2022 at 11.30am in department of Zoology. Those who fail to appear for examination will not be given certificate.



Dr.A.G Ghanbahadur
(Course Co-ordinator).

Head
Department of Zoology,
RNC Arts, JDB Commerce & NSC Science College,
Nashik Road - 422101

RNC Arts, JDB Commerce and NSC Science College, Nasik Road

Department of Zoology

Certificate course in Vermicomposting

Time: 1 hour

Course end exam 2022-23

Marks 35

Choose the correct answer:

1. The use of earthworms to convert organic waste into fertilizer is known as:
a. Vermiculture b. Composting c. Vermicomposting d. None of these
2. Which of the following are benefits of vermicomposting?
a. Improve soil texture b. Improve water holding capacity
c. Reduce erosion d. All of these
3. What percentage of moisture level is required for vermicomposting operations?
a. Below 30% b. 40-50% c. 20-100% d. 70-80%
4. Vermicompost is used as a bio-fertilizer because it is rich in:
a. Calcium b. Nitrogen c. Phosphorus d. All of these
5. What is the role of earthworms in vermicomposting?
a) To break down organic matter
b) To provide oxygen to the compost pile
c) To prevent moisture buildup in the compost pile
d) To regulate the temperature of the compost pile
6. What is the maximum temperature required for vermicomposting?
a. 20C to 25C b. 25C to 30C
c. 35C to 40C d. 30C to 35C
7. What is known as black gold in vermicomposting?
a. Worm oil c. Worm casts b. Black worms d. Red worms
8. Which of the following earthworm species is not recommended for vermicomposting?
a. *Eudrilus eugeniae*
b. *Eisenia fetida*
c. *Perionyx excavates*

9. Which of the following are the common pests in vermiculture unit.
- a. Ants and Mites
 - b. Birds
 - c. Centipedes, Millipedes
 - d. All of these
10. Which of the following form the first layer of compost?
- a. Dried Leaves, twigs
 - b. cow dung
 - c. Grass clipping
 - d. Kitchen scrap
11. What type of bin is best for vermicomposting?
- a. Plastic
 - b. Wood
 - c. Metal
 - d. All of these.
12. Vermicompost can be stored for a period of:
- a. 6 months
 - b. One year
 - c. Three years
 - d. Five years
13. How long will it take for the worm population to double for vermiculture?
- a. Two months
 - b. Three months
 - c. One month
 - d. Three weeks
14. How long does it typically take for vermicomposting to produce compost?
- a) 1 week
 - b) 1 month
 - c) 6 months
 - d) 1 year.
15. What is the pH range that is suitable for vermicomposting?
- a) 1-3
 - b) 4-6
 - c) 7-9
 - d) 10-12
16. What is the recommended method for harvesting vermicompost?
- a) Removing the top layer of compost and using it for gardening
 - b) Emptying the entire contents of the bin and sifting through it
 - c) Using a mesh screen to sift the compost from the worms
 - d) All of the above
17. What is the recommended method for introducing earthworms to a vermicomposting bin?
- a) Sprinkling them on top of the bedding material
 - b) Mixing them into the bedding material
 - c) Placing them in a separate container until they acclimate to the bin
 - d) All of the above
18. Which of the following is a sign that the vermicomposting process is working properly?
- a) Foul Odors
 - b) Presence of flies
 - c) Presence of earthworms
 - d) Mold growth

19. Which of the following chemicals is used for protecting vermi-bed from ants?

- (a) DDT (b) Griseofulvin (c) Chloramphenicol (d) Chlorpyriophosphate

20. Which of the following is a commonly used earthworm species for the vermicomposting process?

- (a) Eisenia fetida (b) Perionix excavates (c) Both (a) and (b) d) None of the above

21. Which of the following are the best worms used for composting?

- (a) Maggots
(b) Pink worms
(c) Red wigglers
(d) All of the above

22. Which of the following procedures are used by the farmers to multiply the earthworms?

- (a) By adding cow dung
(b) By adding plant materials
(c) By mixing more amount of biodegradable wastes
(d) All of the above

23. Combination of vermiculture and vermicomposting is called as

- a) Vermitechnology
b) Wriggle Teachnology
c) Black gold teachnology
d) None of the above

24..Earthworm belongs to Phylum

- a) Annelida b) Cnidaria c) Porifera d) Arthropoda

25. Which of the following worms are used for vermicomposting?

- a. Flatworm b. Roundworm c. Redworm d. Pinworm

26. Which method of vermicomposting is used in our campus?

27. Which of the following is/are natural enemies of vermiculture?

- a) Ants b) Termites c) Birds d) All of the above

28. Which of the following is the product of vermicomposting

- a) Castings b) Vermiwash c) Both A&B d) None of the above

29. What is vermicompost also known as

- a) King of compost b) Queen of compost
c) Brown Gold d) Garbage

30. Vermicompost is a/an

- a) Toxic Material
b) Organic biofertilizer
c) Inorganic fertilizer
d) Synthetic fertilizer

31. Cocoon is formed from

- a) Clitellum b) Intestine c) Hindgut d) Mouth

32. In earthworm _____ segments are present

- a) 100-120 b) 50-60 c) 70-80 d) 200-300

33. Faeces of earthworm are called as

- a) Castings b) Manure c) Compost d) All of the above

34. Which of the following form the first layer of compost?

- a. Branches and twigs
b. Leaves
c. Grass clipping
d. Kitchen scraps

35. Earthworm is _____ in habitat

- a) Terrestrial b) Aquatic c) Both A&B d) None of the above

RNC ARTS JDB COMMERCE NSC SCIENCE COLLEGE NASHIKROAD

Department of Zoology

S.Y.BSC ZOOLOGY

CERIFICATE COURSE RESULT_VERICOMPOST TECHNOLOGY 2022-23

Sr. No	Roll No.	Name of the Student	University No	Grade
1		Akshada Keshav Salve	19904	A+
2		Khushi Shalkh	19910	O
3		Mosami Rajendra Shelar	19913	A
4		Sanket Shilawat	19914	A
5		Sakshi Gorakh Mane	19886	A+
6		Sanjana Suryakant Shinde	19916	A+
7		Sakshi Parasram Wagh	19921	A+
8		Tanaya Wagh	19922	A
9		Ashwini Manikdas Dalavi	19925	A+
10		Khan Aleena Lal	19934	A+
11		Sakshi Vasant Mhaske	19887	A
12		Arpita Palde	19893	A
13		Sakshi Pali	22258	A

Professor Dr. Ashwini .Ghanbahadur

Certificate Course Coordinator
(VERMICOMPOST TECHNOLOGY)

Gokhale Education Society's
RNC ARTS, JDB COMMERECE NSC SCIENCE COLLEGE
NASHIKROAD, NASHIK

NOTICE

All the coordinators are requested to submit the details of the certificate course in the following given format before the dt:

Title of the certificate course	CERTIFICATE COURSE IN STEVIA TISSUE CULTURING
Department in charge of the course	ASST Prof. Pranali . C. Pandit
Course coordinator	ASST Prof Pranali . C. Pandit
Target Group	SY BSC BIOTECHNOLOGY
Fees of the course in Rupees	500/- FIVE HUNDRED RUPEES
No. of the participants	09
Total Fees Collected	4500/-
Details of the Expenses/remuneration	4500/-
Status of the certificate Course	Completed/Not completed ✓
List of the Participants	
Attendance of the Participants	
Geotag Photographs	



GOKHALE EDUCATION SOCIETY

(Founded on : 19-2-1918) Regd. No.: F359 Bom.)

(ISO - 9001 - 2008 Certified)

PRIN. T. A. Kulkarni Vidyanagar, Nasik - 422 005.

Phone & Fax : Nasik 0253-2574682 (O), 0253-2342060 (R) Mumbai 022-24136132 (O)

email : • gokhaleeducation@dataone.in • gokhale_edu@hotmail.com

Chairman

Prin. S. B. Pandit

M. Com.

Secretary

Sir Dr. M. S. Gosavi

Ph.D. (Busi. Admi.) M. Com., B.A., L.L.B. Sahityacharya

Ref. No. GES/RO/1290-1/2022-23

Date : 30.9.2022

To,

The In-charge Principal
RNC Arts, JDB Commerce &
NSC Science College,
Nasik Road.

Reference : Your Letter No. 514/2022-23 dated. 15.9.2022

Madam,

With reference to your letter quoted above, permission is granted to start Certificate Courses in the department Botany, Zoology, Biotechnology and Chemistry only.

Yours faithfully,

(Sir Dr. M. S. Gosavi)
Secretary & Director General

GE Society's
RNC Arts, JDB Commerce & NSC Science College, Nashik Road
Department of Biotechnology

Certificate Course in Stevia Tissue culturing

List of Students

Sr. No	Name of Student	Signature
1	Tanishka Jadhav	Tanishka Jadhav
2	Asmita Yadav	A-Yadav
3	Suyog Mahale	Suyog M.
4	Mayur Gaikwad	M.G.
5	Sheetal Kumari	Sheetal Kumari
6	Rutuja Shirsath	Rutuja Shirsath
7	Jayant Kushwaha	Jayant
8	Anchal Kumari	Anchal Kumari
9	Snehal Bhandare	Snehal

For Department
Head / coordinator
Dep. of Biotechnology.

GE Society's
RNC Arts, JDB Commerce & NSC Science College, Nashik Road
Department of Biotechnology

Certificate course in Stevia Culturing

Attendance

Sr. No	Name of Student	15/5/23	16/5/23	17/5/23	18/5/23	19/5/23	20/5/23	22/5/23
1	Tanishka Jadhav	Tanishka	Tanishka	Tanishka	Tanishka	Tanishka	Tanishka	Tanishka
2	Asmita Yadav	A.Yadav	A.Yadav	A.Yadav	A.Yadav	A.Yadav	A.Yadav	A.Yadav
3	Suyog Mahale	Suyog M	Suyog M	Suyog M	Suyog M	Suyog M	Suyog M	Suyog M
4	Mayur Gaikwad	M.G	M.G	M.G	M.G	M.G	M.G	M.G
5	Sheetal Kumari	Sheetal	Sheetal	Sheetal	Sheetal	Sheetal	Sheetal	Sheetal
6	Rutuja Shirsalkar	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja
7	Jayant Kushwaha	Jayant	Jayant	Jayant	Jayant	Jayant	Jayant	Jayant
8	Anchal Kumari	Anchal Kum	Anchal Kum	Anchal Kum	Anchal Kum	Anchal Kum	Anchal Kum	Anchal Kum
9	Snehal Bhandare	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal	Snehal

Snehal

Signature of Coordinator



Gokhale Education Society's
R.N.Chandak Arts, J.D.Bytco Commerce &
N.S.Chandak Science College, Nashik Road - 422 101
ISO 9001:2015 Certified
पुणे विद्यापीठाशी मंलग्र (Identification No. : PU/NS/ASC/005(1963))
Ph.Off. (0253) 2461548 Fax No.: (0253) 2469342
Website :-www.cbccollege.in E-mail : ebcnashikroadecollege@gmail.com



Department of Biotechnology

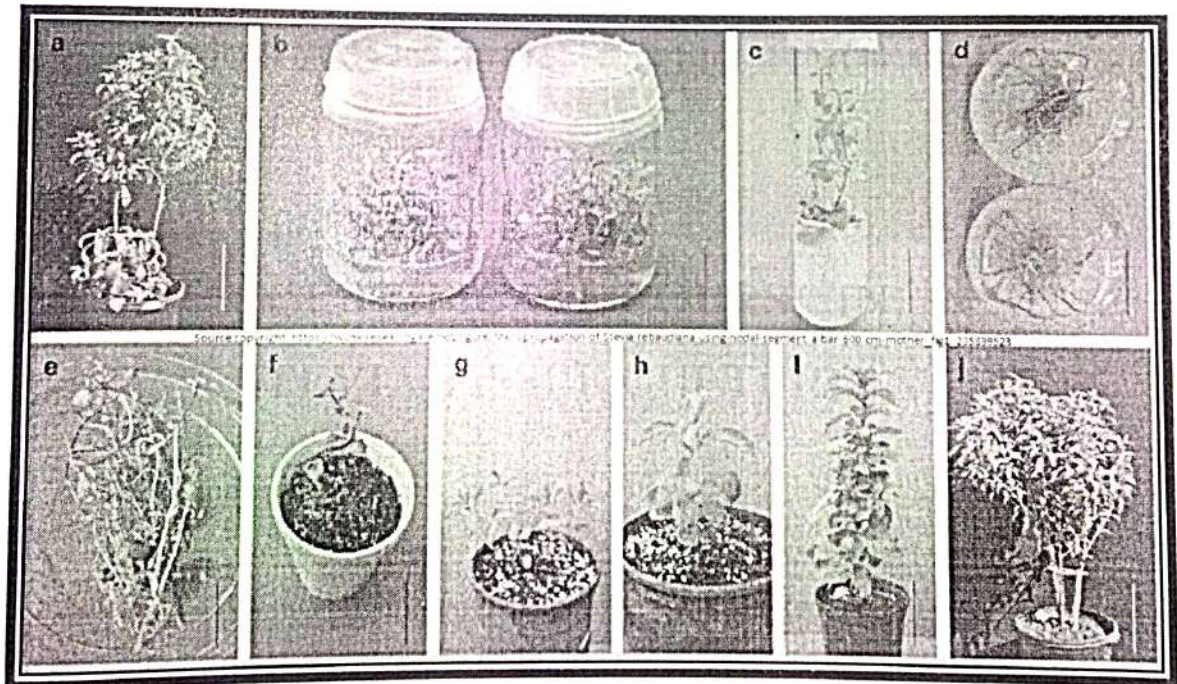
Certificate Course

NAME OF THE COURSE	CERTIFICATE COURSE IN STEVIA TISSUE CULTURING
Aim and Objectives	<ol style="list-style-type: none">1. Students will get proper knowledge of plant tissue culture.2. Students will get the employment.3. Students can become entrepreneur.4. Students can turn towards technology based farming of cash crop.5. Students can setup their own Plant tissue culture laboratory.6. Students can generate their revenue.
Focus	To make the beneficiary self-reliant and setup their own plant tissue culture laboratory.
Course Number	BBtCC-1
Level	Certificate
Type	Interdisciplinary
Contact Hours	33 Hours
Available infrastructure	Well-equipped laboratory, Plant tissue culture laboratory
Examination	At the end of course the examination will be conducted and grades will be given.

Gokhale Education Society's
RNC Arts, JDB Commerce, and NSC Science
College, Nashik Road

DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE COURSE IN
STEVIA TISSUE CULTURING



RNC Arts, JDB Commerce, and NSC Science College
Nashik Road

DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE COURSE IN STEVIA TISSUE CULTURING

Introduction:

Stevia, a natural sweetener, comprises of 200 species of herbs and shrubs from the family *Asteraceae* (Composite). Stevia contains ent-kaurene, a diterpene glycoside commonly known as stevioside which is 150–300 times than sweeter sugar. Among different chemical constituents, stevioside has a potential mode of actions in controlling type 2 diabetes.

Plant tissue culture involves excising plant tissues and growing them on nutrient media. It is used rather broadly to include several variations, such as meristem culture for propagation of virus-free plants, protoplast culture, cell suspension culture, tissue and organ culture, and anther or pollen culture for producing haploid plants.

Plant tissue culture can play an important role in the commercial production of stevia. A large amount of disease-free stevia plants can be produced throughout the year using tissue culture technique. The plant and tissue cultures have enabled us to increase our knowledge in many areas including differentiation, cell division, cell nutrition, and cell preservation, but today, cells are cultivated in vitro in bulk or as clone from single cells to grow whole plants from isolated meristem. then induce callus, and develop complete plantlets by organogenesis or by embryogenesis.18 Tissue culture is the only rapid process for the mass propagation of stevia.

Stevia can be added to tea and coffee, cooked or baked goods, processed foods and beverages, fruit juices, tobacco products, pastries, chewing gum, and sherbets. Stevia-enriched food products bring several benefits to human society.

Commercial marketing of products stevia in different form such as leaf powder, liquid and fresh leaves has become a potential adventure for many biotechnological companies because of its large demand.

Theory Syllabus

Name of the topic	Syllabus	Number of Lectures
1. Introduction and Importance of Plant tissue culture.	<ol style="list-style-type: none"> 1. Definition of Plant tissue culture, 2. History of plant culture, 3. Laboratory Operations, 4. Significance and importance of plant. 	02
2. Biology of Stevia.	<ol style="list-style-type: none"> 1. Introduction and classification of stevia, 2. Life cycle of stevia, 3. Anatomy of Stevia, 4. Importance of stevia, 5. Bioactive compound present in Stevia. 	04
3. Micro propagation of Stevia.	<ol style="list-style-type: none"> 1. Methods of Stevia culturing, 2. Material Required for Stevia culturing, 3. Media, 4. Aseptic Manipulation, 5. Preparation of Explant, 6. Callus culturing. 	05
4. Artificial seed	<ol style="list-style-type: none"> 1. Callus differentiation into embryo, 2. Encapsulation of embryo, 3. Preservation of artificial seeds, 4. Transportation of artificial seeds. 	04
5. Hardening of plantlet	<ol style="list-style-type: none"> 1. Shooting and rooting. 2. Hardening and acclimatization of Plantlets. 3. Polyhouse and Green house. 	03
6. Economic and Marketing of Stevia	<ol style="list-style-type: none"> 1. Market value of stevia, 2. Market outlet. 	02
Total lectures		20

Practical Syllabus

Sr. No.	Topic	Number of Lectures
1.	Study of Sampling techniques. Study of Surface sterilization of explant. Study of Media Preparation and its sterilization	03
2.	Study of Appropriate growth condition for Stevia culture. Study of Callus Culturing. Study of Sub-Culturing.	05
3.	Study of shooting and rooting using plant hormones. Study of hardening and acclimatization of Bamboo plantlets. Study of Polyhouse and Green house.	05
Total lectures		13
Total course (Theory + Practical)		33

Gokhale Education Society's
RNC Arts, JDB Commerce, and NSC Science College, Nashik Road
DEPARTMENT OF BIOTECHNOLOGY
CERTIFICATE COURSE IN
STEVIA TISSUE CULTURING

Clarification about certificate course details

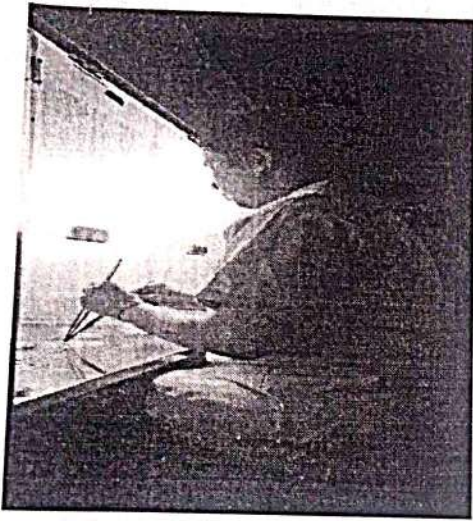
Sr. No	Content	Details	Maximum	
1	Student Enrollment	Minimum 30	50	
2	Fees Structure	1500/-		
3	Duration of Course	33 hours		
4	Timing of the Lecture	10am – 1pm		
5	Examination Pattern	MCQ		
6	Books to be purchased	An Introduction to Plant Tissue Culture ; Author, Kalyan Kumar De		
7	Staff Details	Name of Staff		Number of staffs 04
		Theory	Practical	
		Priya R. Sonawani Surabhi B. Aher	Pranali C. Pandit Revathi V. Reddier	
8	Budget of certificate Course	Requirments	Quantity	Price
		Alcohol	2lit	190
		Mercuric Chloride	10gm	540
		Ammonium Nitrate	50gm	1062
		Potassium Nitrate	50 gm	323
		Magnesium Sulphate	50gm	300
		Di Potassium Phosphate	50gm	500
		Calcium Chloride	50gm	171
		Manganese Sulphate	1kg	35
		Zinc Sulphate	1 kg	48
		Boric acid	25gm	30
		Potassium Iodide	1kg	76
		Sodium Molybdate	100gm	1120
		Copper Sulphate	100gm	26
		Cobalt Chloride	100gm	53
		Sodium EDTA	10gm	37
		Ferric Sulphate	10gm	10
		Thaimine HCL	10gm	25
		Pyriodoxine HCL	10gm	15
		Nicotinic Acid	10gm	10
Myo-inositol	10	50		
2,4-D	10gm	300		
IAA	10gm	300		
Sucrose	1kg	400		

		File	2	25
		Register	2	100
		Electricity Bill		2000
		Certificate		500
		Total		8246/-

Deficit Makeup: If minimum number of students is not enrolled then,

- a. Our budget is minimum against the minimum student enrolment i.e, 8246/- against 45000/-. Therefore, minimum Students should be 10 to manage the deficit against the budget.
- b. We can sale our product and the money obtained can manage the deficit incurred during course.

Certificate Course Images



Students working in Plant tissue culture lab

