

ज्ञान विज्ञान विद्युत्सरो

UNIVERSITY GRANTS COMMISSION
35-FEROZSHAH ROAD
NEW DELHI-110 001

31 MAR 2013

March, 2013

F. No. 4-149/2013(GOC)

The Under Secretary (FD-III),
University Grants Commission,
New Delhi-110002

Sub: - Release of Grant-in-aid to Sahyadri Science College, Shimoga, Dist. Shimoga-577203, Karnataka under the UGC scheme of Career Oriented Courses-reg.

Sir,

With reference to the proposal submitted by Sahyadri Science College, Shimoga, Dist. Shimoga-577203, Karnataka under the UGC scheme of Career Oriented Courses, I am directed to convey the approval of the University Grants Commission for starting the following Career Oriented Courses in the above mentioned College from the academic year 2013-14.

Courses Approved	Seed Money approved (Rs. in lakh)	Grant released (90%)
Science 1. Micropropagation Techniques for Commerical Crops	10.00 lakh	9,00,000/-
Total	10.00 lakh	9,00,000/-

I am also directed to convey the sanction of the University Grants Commission for payment of Rs. 9,00,000/- (Rupees Nine lakh only) to the Principal, Sahyadri Science College, Shimoga, Dist. Shimoga-577203, Karnataka as 90% grant (Seed Money) under the scheme of Career Oriented Courses.

Rajan

PRINCIPAL

SAHYADRI SCIENCE COLLEGE

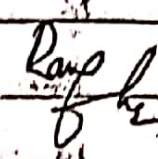
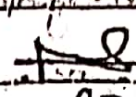
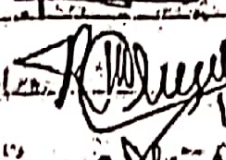
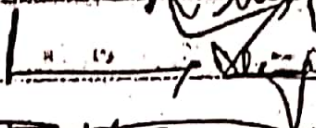
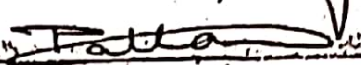

(Constituent College of Kuvempu University)

SHIMOGA, Karnataka State.

BOS meeting on U.G. BIOTECHNOLOGY

Date: 17.5.2013

Members Present:

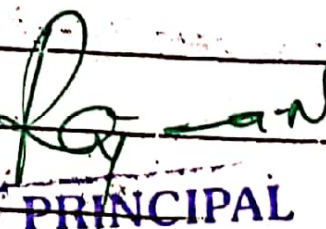
- 1) Dr. Ramesh C.K. 
- 2) Dr. Prabhakar B.T. 
- 3) Prof. Riaz Mahmood 
- 4) Mrs. Umme Nazma 
- 5) Mrs. Pallavi M. 
- 6) Mr. Hanumanthappa Makari 

Members Absent:

Nil

Resolution:

1. The meeting started at 10:30 AM and the chairman BOS, Dr. Ramesh C.K. welcomed the members heartily.
2. The theory and practical syllabus for ^{Autonomous Scheme} I and II Sem was discussed in detail and a final draft ^{prepared & approved} was ~~recommended~~.
3. Panel of examiners for B.Sc. Biotechnology and Add on course is prepared and approved.
4. Regulations, Syllabus for career oriented add on course in Micropropagation Techniques for commercial crops is prepared & approved.


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SAHYADRI SCIENCE COLLEGE
(Constituent College of Kuvempu University)
SHIMOGA, Karnataka State.

Add on Course (Career Oriented Programme)

MICROPROPAGATION TECHNIQUES FOR COMMERCIAL CROPS

I year- Certificate course

Syllabus

UNIT 1: Introduction - Importance, History and Developments of Plant Tissue Culture. Contribution of Haberlandt, Murashige & Skoog, Razdan Cocking and Maheshwari. Total hrs - 90
03hrs

UNIT 2: Laboratory Organization- General Requirements, Aseptic Conditions. Sterilization- Types and agents of sterilization used in tissue culture labs, Pre-treatment of explants. Culture media- Composition and Preparation of MS media. Growth regulators: structure and properties of natural and synthetic auxins and cytokinines. 10hrs

UNIT 3: Principle of tissue culture: Totipotency, expression of totipotency in culture, importance of totipotency in plant tissue culture. 05hrs

UNIT 4: Callus culture: principle of callus culture, protocol for callus culture, morphology, cytology of callus culture. Significance of callus culture. 05hrs

UNIT 5: Micropropagation - Methods, Stages and Advantages

A) **Organogenesis:** introduction, Direct and indirect organogenesis; Direct Organogenesis Auxiliary bud proliferation, single node, and shoot tip culture; Indirect Organogenesis through callus - factors affecting cytodifferentiation and differentiation of organs, applications of organogenesis.

B) **Somatic embryogenesis** - embryonic potential cells, types, protocol and importance of somatic embryogenesis. Artificial seeds. Advantages of micropropagation in the improvement of agricultural, horticultural and medicinal plants.

Hardening of *in-vitro* regenerated plants. 15hr

UNIT 6: Organ Culture: Culture protocols and importance of Root, Meristem, Flower and Ovule Culture 05hrs

UNIT 7: Haploid Culture: introduction, Principle of androgenesis, protocol for anther, pollen and Ovule culture. Homozygous diploids and their importance, Significance and uses of haploids 05hrs


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Practicals

1. Plant tissue culture laboratory organization.
2. Sterilization techniques for plant tissue culture.
3. Preparation of Plant Tissue Culture Media – MS media.
4. Callus Culture- preparation of Callus culture from *Asparagus/ Ginger/ Aloe vera/ Centella asiatica/ Bacopa monnieri/Beetlevine*.
5. Study of Morphology and Cytology of Callus.
6. Induction of Rhizogenesis and Caulogenesis from the callus.
7. Induction of somatic embryoids from *Rauwolfia serpentine/ Bacopa monnieri/ Centella asiatica/ Asparagus/ Ginger/ Aloe vera/Beetlevine*.
8. Preparation of Synthetic Seeds using somatic embryoids.
9. Study of Shoot tip Culture in *Asparagus/ Bacopa monnieri/ Rauwolfia serpentina*.
10. Isolation and culture of embryo from ground nut.
11. Study of Anther Culture.
12. Study of Hardening of *In Vitro* generated plants
13. Isolation of plant genomic DNA by CTAB method
14. Isolation of plasmid DNA from *Agrobacterium*.
15. Analysis of purity of DNA
16. Induction of transformed shooty teratomas using wild specialized strains of *Agrobacterium tumefaciens*
17. Production of secondary metabolites from transformed callus
18. Induction of transformed hairy roots using wild strains of *Agrobacterium rhizogenes*
19. Production of secondary metabolites from transformed hairy root culture.
20. Suspension culture:
 - Initiation of suspension culture from callus
 - Monitoring the growth of suspension culture
 - Measurement of cell viability by Evan's blue dye exclusion method.
 - Genetic transformation of suspension cultured cells


Dr. RAMESH.C.K.M.Sc.,Ph.D
Co-ordinator
UGCADD-ON PROGRAMME
Sahyadri Science College
Shimoga-577 203

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SHIMOGA, Karnataka State.

Sahyadri Science College, Shimoga
Dept. of Biotechnology
ADD-ON Course
"Micropropagation Techniques for Commercial Crops"

Students List 2016-17

Sl. No	Register number	Name of the Students
1.	CRT17001	Akshitha S
2.	CRT17002	Archana S
3.	CRT17003	Ayesha Ahmed
4.	CRT17004	Bi Bi Sumaiya
5.	CRT17005	Chaithra C
6.	CRT17006	Chaithra C T
7.	CRT17007	Deepthi S
8.	CRT17008	Divya K
9.	CRT17009	Ibtesim
10.	CRT17010	Inchara B S
11.	CRT17011	Karthik TD
12.	CRT17012	Narendra H S
13.	CRT17013	Nethravathi A M
14.	CRT17014	Pavan K J
15.	CRT17015	Pavan Kumar K H
16.	CRT17016	Pooja G O
17.	CRT17017	Pooja M
18.	CRT17018	Ravi Kumar K C
19.	CRT17019	Rudresh JC
20.	CRT17020	Sachin KC
21.	CRT17021	Shabrin Taj T M
22.	CRT17022	Shivakumar V B
23.	CRT17023	Suma S R
24.	CRT17024	Varuna Prasad K M


Principal
Sahyadri Science College
(Constituent College of Kuvempu University)
SHIMOGA, Karnataka State.


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Sahyadri Science College, Shimoga
Dept. of Biotechnology
ADD-ON Course
"Micropropagation Techniques for Commercial Crops"

Students List 2017-18

Course - code
CRT 16
C)

Sl. No	Register number	Name of the Students
1.	CRT18001	Aakansha
2.	CRT18002	Aditya M S
3.	CRT18003	Akshith C
4.	CRT18004	Bhoomika S Rao
5.	CRT18005	Bindu M
6.	CRT18006	Chinmaye K L
7.	CRT18007	Dhanalakshmi CY
8.	CRT18008	Harshitha M S
9.	CRT18009	Hemamavathi
10.	CRT18010	Kavyashree M
11.	CRT18011	Meghana HM
12.	CRT18012	Meghana V
13.	CRT18013	Priyanka T
14.	CRT18014	Ramyashree A
15.	CRT18015	Sanjana C S
16.	CRT18016	Shilpa R
17.	CRT18017	Sneha S G
18.	CRT18018	Soumya M
19.	CRT18019	Sowmya C R
20.	CRT18020	Vinitha R
21.	CRT18021	Yogesh N



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Co-ordinator
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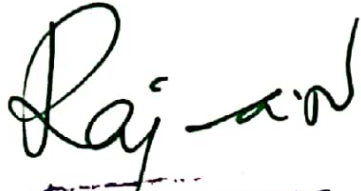

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6

Sahyadri Science College, Shimoga
Dept. of Biotechnology
ADD-ON Course
"Micropropagation Techniques for Commercial Crops"

Assessment Procedure

- The Career Oriented Add On Course in Micropropagation Techniques for Commercial Crops was offered as one year certificate programme to the graduate students of Sahyadri Science College.
- The course duration was one year.
- The students were taught 03 hours theory and practical's per week.
- The performance of the students was assessed for internal assessment comprising assignment and test for a total of 20 marks.
- Semester End Exam was conducted for 80 marks whereas practical examination was conducted for 50 marks. Therefore the students were assessed for a total of 150 marks.
- Passing criteria was 40 in Theory including Internal Assessment.


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UGC ADD-ON PROGRAMME
Sahyadri Science College
Shimoga 577 203

Sahyadri Science College, Shimoga
Dept. of Biotechnology
ADD-ON Course
"Micropropagation Techniques for Commercial Crops"

Summary Report 2016-17

• Course Offered	Certificate Course in "Micropropagation Techniques for Commercial Crops"
• No. of students Completed the Course	24
• Grants Utilized for the year	Rs. 1,15,642
• Instruments Procured if any	1. Microscope Labomed make with LED illumination 2. Water bath with PID temp Controller
• Books Purchased	1. Culture of Plant Cell and Tissues and Organs 2. Plant Breeding and Biotechnology 3. Hi tech Horticulture 4. Biotechnology
• No. of Theory Classes held	90
• No. of practical's held	11


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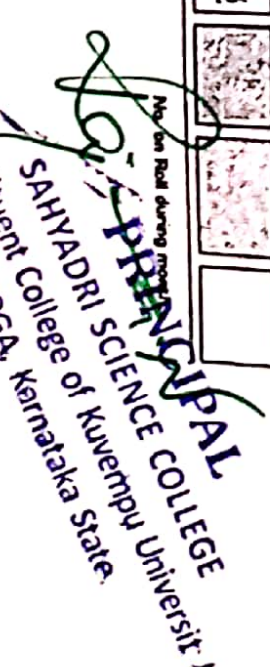

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Sahyadri Science College
Shimoga-577 203

ADD ON PROGRAM MICROPROPAGATION TECHNIQUES FOR COMMERCIAL CROPS: 2016-17
REGISTER OF ATTENDANCE & FEES FOR THE MONTH OF NOV - JUNE 2017

Name of the Institute: SAHYADRI SCIENCE COLLEGE, Jajbhnd Section: SHIMOGA Place: SHIMOGA

Sl. No.	Admission No.	NAMES	Date																															No. of days present	FEE	Total			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
1		Nelkavathi, A.M	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P					
2		Chaitanya, C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
3		Pooja, M	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
4		Suma, S.R.	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
5		Tuchasa, B.C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
6		Shabana, Taj T.M	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
7		Akshita, S	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
8		Pooja, G.O.	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
9		Chaitanya, C.T	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
10		Acepthi, S	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
11		Atchanna, S	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
12		Bibi Sumaiya,	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
13		Ayeta Ahmed	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
14		Tybetina	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
15		Sachin K.C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
16		Ravikumar K.C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
17		Rudra, J.C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
18		Masanda, H.S	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
19		Chirakumar, Y.B	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
20		Pavan, K.T	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
21		Kaathik, T.D	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
22		Divya, K	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
23		Yasuna Prasad, K.M	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				
24		Pavay Kumar, K.H.	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P				

No. on Roll at the beginning of month, Admitted during the month, Left No. on Roll at end of month, No. of Working days, Average Attendance during the month, No. on Roll during the month



ADD ON PROGRAM: MICROPROPAGATION TECHNIQUES FOR COMMERCIAL CROPS 2017-18

REGISTER OF ATTENDANCE & FEES

FOR THE MONTH OF _____ 2017-18

Name of the Institute SAHYADRI SCIENCE COLLEGE

Section _____ Place SHIMOGA

37kshar THEORY

Sl. No.	Admission No.	NAMES	Attendance												No. of days present	FEES		Date of payment
			1	2	3	4	5	6	7	8	9	10	11	12		Rs.	P.	
1		Akanksha	1	2	3	4	5	6	7	8	9	10	11	12				
2		Aditya M.S	1	2	3	4	5	6	7	8	9	10	11	12				
3		Akshita C	1	2	3	4	5	6	7	8	9	10	11	12				
4		Rhooneka S Rao	1	2	3	4	5	6	7	8	9	10	11	12				
5		Bindu M	1	2	3	4	5	6	7	8	9	10	11	12				
6		Chinmayee KI	1	2	3	4	5	6	7	8	9	10	11	12				
7		Shanalakshy C	1	2	3	4	5	6	7	8	9	10	11	12				
8		Hasshitha MS	1	2	3	4	5	6	7	8	9	10	11	12				
9		Hemavathi	1	2	3	4	5	6	7	8	9	10	11	12				
10		Kavyashree M	1	2	3	4	5	6	7	8	9	10	11	12				
11		Meghana H.M	1	2	3	4	5	6	7	8	9	10	11	12				
12		Meghana V	1	2	3	4	5	6	7	8	9	10	11	12				
13		Priyanka T	1	2	3	4	5	6	7	8	9	10	11	12				
14		Ramyaashree A	1	2	3	4	5	6	7	8	9	10	11	12				
15		Sanjana CS	1	2	3	4	5	6	7	8	9	10	11	12				
16		Shitpa R	1	2	3	4	5	6	7	8	9	10	11	12				
17		Sncha S G	1	2	3	4	5	6	7	8	9	10	11	12				
18		Saumya M	1	2	3	4	5	6	7	8	9	10	11	12				
19		Saumya CR	1	2	3	4	5	6	7	8	9	10	11	12				
20		Vinutha P	1	2	3	4	5	6	7	8	9	10	11	12				
21		Yogesh N.	1	2	3	4	5	6	7	8	9	10	11	12				

Number present M
Date E

Initial M
E

No. on roll at the beginning of month

No. of Working days

Average Attendance during the month

No. on roll during month

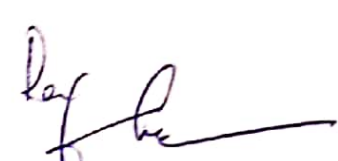


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SAHYADRI SCIENCE COLLEGE

(Constituent College of Kuvempu University)

SHIMOGA, Karnataka State.



Dr. RAMESH.C.K.M.Sc.,Ph.D.

Co-ordinator

UGC ADD-ON PROGRAMME

Sahyadri Science College

Shimoga-577 203

ಕುವೆಂಪು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ
KUVEMPU UNIVERSITY



ಸಹ್ಯಾದ್ರಿ ವಿಜ್ಞಾನ ಕಾಲೇಜು (ಸ್ವಾಯತ್ತ) ಶಿವಮೊಗ್ಗ - 577 203
SAHYADRI SCIENCE COLLEGE, SHIMOGA - 577 203
(Constituent Autonomous College of Kuvempu University)



STATEMENT OF MARKS

SSC (A)No: 38242



Certificate (Add-on) Course [Under Career Oriented Programme] Examination
August-2016

Register No. : CRT16004

Name : CHAITHRA M

Sl. No.	Course Title	Theory / Practical		Internals / Record		Total		Remarks
		Max.	Sec.	Max.	Sec.	Max.	Sec.	
01	Micropropagation Techniques for Commercial Crops	080	045	020	018	100	063	Pass
	Micropropagation Techniques for Commercial Crops Practical	045	041	005	005	050	046	Pass
Total						0150	0109	First Class

In Words : One Hundred Nine Only

Min. to Pass:- 40% including IA in Theory & 40% including Record, Viva in Practical.

Date : 13/10/2017

PRINCIPAL

Chandrashekar M.N.

CONTROLLER OF EXAMINATIONS

PRINCIPAL

SAHYADRI SCIENCE COLLEGE

(Constituent College of Kuvempu University)

SHIMOGA, Karnataka State.

ಕುವೆಂಪು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ
KUVEMPU UNIVERSITY

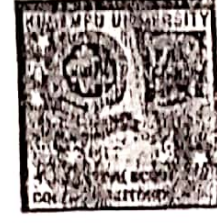


ಸಹ್ಯಾದ್ರಿ ವಿಜ್ಞಾನ ಕಾಲೇಜು (ಸ್ವಾಯತ್ತ) ಶಿವಮೊಗ್ಗ - 577 203
SAHYADRI SCIENCE COLLEGE, SHIMOGA - 577 203
(Constituent Autonomous College of Kuvempu University)



SSC (A)No: 38487

STATEMENT OF MARKS



Certificate (Add-on) Course [Under Career Oriented Programme] Examination
January-2018

Register No. : CRT17001

Name : AKSHITHA S

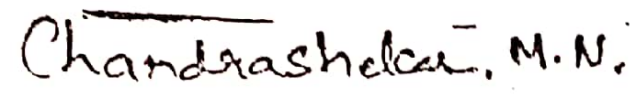
Sl. No.	Course Title	Theory / Practical		Internals / Record		Total		Remarks
		Max.	Sec.	Max.	Sec.	Max.	Sec.	
01	Micropropagation Techniques for Commercial Crops	080	070	020	019	100	089	Pass
	Micropropagation Techniques for Commercial Crops Practical	045	042	005	004	050	046	Pass
Total						0150	0135	Distinction

In Words : One Hundred Thirty Five Only

Min. to Pass:- 40% including IA in Theory & 40% including Record, Viva in Practical.

Date : 02/07/2018


PRINCIPAL


CHANDRASHELKA, M.N.
CONTROLLER OF EXAMINATIONS


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