

#### SRI SRINIVASA EDUC/TIONAL & CHARITABLE TRUST (E)

# Sapthagiri College of Engineering

(Afiliated to Visvesvaraya Technological University, Belgaum & Approved by AICTE, New Delhi)

#### STUDENTS FEEDBACK ON CURRICULUM

This questionnaire is to collect information relating to your satisfaction towards curriculum for creating conducive atmosphere for teaching and learning. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

Academic Year	2014-2015
Branch	Biotechnology
Name of the Student	Rashnie
USN	ISGIIBTOIS

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	Very good	Good .3	Average	Below Average
		e 5	4	.3	2	1
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	/				
2	How do you rate the allocation of the credits to the courses?		/			
3	Relevance for implementation in projects		1		THE	
4	How do you rate the electives offered in relation to the technological advancements?	/				
5	How do rate the evaluation scheme designed for each of the course?	/				
6	How do you rate the percentage of courses having LAB components?	~				
7	Curriculum is sufficient to make you analyze the engineering problems and its suitable solution		/			

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Suggestions:	Hande	ON	Espain	cue	reguen

Signature Jarohnii

Principal
Principal
Sapthagiri Colloge of Engineerine
Chikkasandra, Hessiagharta Road
Bangalora-560 457



# SRI SRINIVASA EDUCATIONAL & CHARITABLE TRUST (R)

# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belgaum & Approved by AICTE, New Delhi)

#### STUDENTS FEEDBACK ON CURRICULUM

This questionnaire is to collect information relating to your satisfaction towards curriculum for creating conducive atmosphere for teaching and learning. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

Academic Year	2014-2015	
Branch	Blotichnology.	
Name of the Student	vaishmantigoshi	
USN	18411BTO7	

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	Very good	Good	Average	Below Average
CONTRACTOR OF THE PARTY OF THE		-	4	3	2	1
1	How do you rate the sy labus of the courses that you have studied in relation to the competencies expected out of the course?	V				
2	How do you rate the allocation of the credits to the courses?		V			
3	Relevance for implementation in projects	V	1			
4	How do you rate the electives offered in relation to the technological advarcements?		/			
5	How do rate the evaluation scheme designed for each of the course?		/			
6	How do you rate the percentage of courses having LAB components?	V	/			
7	Curriculum is sufficient to make you analyze the engineering problems and its suitable solution		/			

Suggestions: Continuely in syllabur required

Sapthagiri College of Engineering Chikkasandra Hesaragnatta Road Bangslore-560057



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#### STUDENTS FEEDBACK ON CURRICULUM

This questionnaire is to collect information relating to your satisfaction towards curriculum for creating conducive atmosphere for teaching and learning. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

Academic Year	2014-15
Branch .	Biotechnology
Name of the Student	Rohini
USN .	1561187019

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	L'ery good	Good	Average	Below Average
7		5	4	3	2	1
1	How do you rate the syllabus of the courses that you have studied in relation to the competencies expected out of the course?	/				
2	How do you rate the allocation of the credits to the courses?	42.500	/			
3	Relevance for implementation in projects	/				
4	How do you rate the electives offered in relation to the technological advancements?		~			
5	How do rate the evaluation scheme designed for each of the course?	~				
6	How do you rate the percentage of courses having LAB components?	/				
7	Curriculum is sufficient to make you analyze the engineering problems and its suitable solution	~				

Suggestions:

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Signature

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# Sapthagiri College of Engineering

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#### ALUMNI FEEDBACK ON CURRICULUM

We are glad that you have spent valuable years pursuing courses of your choice at SCE. We shall be thankful if you can spare some of your valuable time to fill up this feedback form and give us valuable suggestions for further improvement of the College. Your valuable inputs will be of great use to improve the quality of our academic programs and enhance the credibility of our Institution. Rate the adequacy of following as they were during your tenure as a student

Year of Passing	2014	
Branch	BIOTECHNOLOGY	
Name	BHAVANA ·M	
Status : Work/Study	YGUTZ	
Phone no		

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	Very good	Good	Average	Below Average
		5	4	3	2	1
1	When you compare yourself with other counterparts from other Institution, you feel that you got most of all the facilities which is not available in other Institution					
2	Learning value (in terms of skills, concepts, knowledge, analytical abilities or broadening perspectives)	/			**	
3	Curriculum is sufficient to make you analyze the engineering problems and its suitable solution		1			
4	How do you rate the learning experience in terms of their relevance to the real life application					
5	Ability to work in teams		11111			
6	Ability to link theory to practice					2179
7	How do you rate the course/curriculum content that you have learnt in relation to your current job		_			
8	Compatibility with industry standards					

Suggestions:

Signature M

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#### FACULTY FEEDBACK ON CURRICULUM

This questionnaire is intended to collect information relating to your satisfaction towards the curriculum, teaching, learning and evaluation. The information provided by you will be kept confidential and will be used as important feedback for quality improvement of the program of studies/institution.

Academic Year	2014-15
Branch	Biotechnology
Name of the Faculty	Solonya.C)
Designation	Assistant Professor
Subject/Sub. code	Genonius & Proceduice

Rate the curriculum/syllabus on the following Points

SL NO	Statements	Excellent	Very good	Good -	Average	Below Average
	AND THE PROPERTY OF THE PROPER	5	4	3	2	1
1	Do you feel that the curriculum is defined in a way to clarify your teaching goals and what you expect your students to learn?	/				
2	Is the curriculum suffcient to bridge the gap between industry standards /current global scenarios and academics?	2	/			
3	Is the timely coverage of curriculum possible in the mentioned number of hours?					
4	Suffcient reference material and books are available for the topics mentioned in the curriculum?					
5	The evaluation methods mentioned in the curriculum are suffcient for providing proper assessment?		_			
6	Curriculum is suitable to the course					
7	The curriculum/course of this subject increased my knowledge and perspective in the subject area					

Suggestions: To the Benefit of Student Comer programe shop

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# Department of Biotechnology

#### CIRCULAR

Date: 25/05/2015

Academic committee members meeting for analyzing curriculum syllabus of Academic Year 2015-16. This is to inform that there will be a meeting of Academic committee members for analyzing curriculum syllabus of academic year 2015-16. The meeting is scheduled on 26/05/2015 at 12.30 pm in HOD's chamber.

SI No.	. Faculty Name	Designation	Signature
1	Dr.Ananda S	HOD,Professor	Anandas
2	Dr. Rohit K C	Assistant Professor	d
3	Prof. Prashanth Kumar H P	Assistant Professor	(3805)
4	Prof. Soumya C	Assistant Professor	er al
5	Prof. Shobha G	Assistant Professor	B

Head of HOD schnole 39
Dept. of Bic Schnole 39
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Principal
Principal
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# Department of Biotechnology

Date: 26/05/2015

#### MINUTES OF MEETING

With reference to circular dated on 25/05/2015, the academic committee member assembled in HODs chamber for addressing the following agenda.

#### Agenda:

- Reviewing department curriculum syllabus of Academic Year 2015-16
- Reviewing the feedback analysis of various stake holders of the academic year 2014-15
- Identifying the gaps
- Action to be taken for the identified gaps.

During the meeting the following members were present

SI No.	Faculty Name	Designation	Signature
1	Dr.Ananca S	HOD,Professor	Anando
2	Dr. Rohit K C	Assistant Professor	5
3	Prof. Prashanth Kumar H P	Assistant Professor	68 DOS
4	Prof. Soumya C	Assistant Professor	l-in
5	Prof. Shooha G	Assistant Professor	18

The following points were discussed in the meeting

- 1. The committee members reviewed the analysis of department curriculum syllabus.
- 2. The committee members discussed about the feedback of department curriculum syllabus.
- 3. The members identified the gaps based on the analysis.
- 4. The following actions were taken for the gaps that are identified.

ge of Engineering Chikkasandra, Hasaraghatta Road Bangalore-560 057



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# Department of Biotechnology

SL.NO	SEM	Course Title	Identified Gap
1	II. Sem	Upstream processing	Lack of practical
	V Sem	*	Implementation

#### Action Taken:

Based on the feedback obtained from Students, Faculties and Alumni and analysis of syllabus by department academic committee members, it was decided to conduct certification course to overcome the gaps identified in the curriculum/syllabus.

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Head of the Department
Dept. of Bio Tachnoli
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Bangalore -57

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# Department of Biotechnology

Date: 29/05/2015

To

**IQAC** Coordinator Sapthagiri College of Engineering Bengaluru-560 057

Respected sir/madam,

Subject: Requisition for concuction of certification course and approval from Governing Council.

With respect to the Academic committee members meeting was held for analyzing department curriculum/syllabus for the academic year 2015-16. The committee members identified few gaps after analyzing the syllabus and feedback from the stakeholders. To bridge the gaps identified in the curriculum, the committee members decided to conduct a certification course Callus Culture Techniques from 20th July 2015 to 25th July 2015 for the academic year 2015-16. So, I request you to forward and get the approval from the governing council for the same.

Thanking You,

Enclosure: Budget Proposal

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Head of the Department Dept. of BEODechnold, y Sapthagiri College of Engineering No. 57/1, 31/1 Hesaraghadat

Bangalore .57



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# Department of Biotechnology

Date: 29/05/2015

To

IQAC Coordinator Sapthagiri College of Engineering Bengaluru-560 057

Respected sir/madam,

Subject: Budget Proposal for conduction of certification program on "Callus Culture Techniques"

The Budget Proposal for conduction a certificate program on Callus Culture Techniques from 20<sup>th</sup> July 2015 to 25<sup>th</sup> July 2015 is hereby enclosed for your kind consideration and approval.

The details of the recurring budget are given as follows:

#### Recurring Amount:

Sl. No.	Description	Quantity	Amount in Rs.
1	Bouquet	1	200
2	Certificates	Students	2000
3	Others		1800
	Total		4000

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# Department of Biotechnology

07/07/2015

#### CIRCULAR

This is to inform that the following Curriculum Board members are requested to attend the meeting on 08/07/2015 at 10.30 AM in the HODs chamber to decide the syllabus and lesson plan for the certification program on Callus culture Techniques.

SI No.	Faculty Name	Designation	Signature
1	Dr.Ananda S	HOD, Professor	Arrand
2	Dr. Rohit K C	Assistant Professor	-
3	Prof. Prashanth Kumar H P	Assistant Professor	3905
4	Prof. Soumya C	Assistant Professor	S1
5	Prof. Shobha G	Assistant Professor	W/S

HOD Engineering
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Hesaraghatta Main Road
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Sapthagiri College of Engineer --Chikkasandre, Hesaraghatta Ros
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# Department of Biotechnology

Date: 07-07-2015

To.

Mr.Rohith Raj Managing Partner Chlorbios Pvt.Ltd. Yalahanka Bangalore.

Respected Sir,

Subject: Invitation as a "Guest Speaker" in certification program and to attend meeting to discuss about the certification program

Department of Biotechnology have planned to conduct a certification program titled 'Callus Culture Techniques' for 3rd and 5th semester students from 20th July 2015 to 25th July 2015. In this connection, we are privileged to invite you as a guest speaker on the above mentioned topic.

Thanking you for your kind acceptance to our request on phone. We request you to attend the meeting to discuss about the conduction of certification course on 08/07/2015 at 10.30 AM .We look forward to welcome you at SCE.

Thanking you

Principal Dept. of Bio -Technolic -y

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Principal Engine Philosophic College Di Engine ening
Hesaraghatta M. In Road

Bangalore - 57

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# Department of Biotechnology

### Minutes of Meeting

A meeting was conducted on 08-Jul-2015 in BT HoD's Chamber to discuss and approve the syllabus and schedule of the one week Certification Course for 3<sup>rd</sup> & 5<sup>th</sup> semester BT Students.

- Course Title: Callus Culture Techniques
- Resource Personnel: Mr.Rohith Raj, CEO Chlorbios Pvt.Ltd. Yalahanka Bangalore.
- Course Duration & Date: One week from 20<sup>th</sup> July 2015 to 25<sup>th</sup> July 2015

Syllabus and schedule of the certification Program

Date	Time	Topics
20-7-2015	8:30 AM - 10:15 AM	Introduction to Callus culture and its application
	10:30 AM - 12:30 PM	Media used in callus production
	1:30PM - 4.30PM	Hands on preparation of different types of media for plant cell culture
21-7-2015	8:30 AM - 10:15 AM	Callus culture techniques, stages of callus culture
21-7-2015	·10:30 AM – 12:30 PM	Physical appearance of callus, Development of aseptic callus culture
	1:30PM - 4.30PM	Hands on session inoculation of explants
	8:30 AM - 10:15 AM	Introduction to organ culture
22-7-2015	10:30 AM 12:30 PM	Types of organogenesis, metre
	1:30PM - 4.30PM	Hands on session on grown measurement of callus culture, Sub culture of callus culture
23-7-2015	8:30 AM - 10:15 AM	Plant regeneration, Histological study
	10:30 AM - 12:30 PM	Plant morphogenesis
	1:30PM - 4.30PM	Hands on session on adventitious spoot and root formation
W	8:30 AM - 10:15 AM	Embryogenesis
24-7-2015	10:30 AM - 12:30 PM	Advantage of embryogenesis
	1:30PM - 4.30PM	Hands on session on checking Physio-chemical parameters affecting somatic embryos, nesis  Hairy root culture
	8:30 AM - 10:15 AM	Hairy root culture

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# Department of Biotechnology

25-7-2015	.10:30 AM - 12:30 PM	Methodology of hairy root culture, Advantage of hairy root culture
23-7-2013	1:30PM - 4.30PM	Hands on session on Methodology of hairy root culture.

The following Curriculum board members were present in the meeting and the syllabus and lesson plan for the certification program has been decided

SI No.	Faculty Name	Designation	Signature
1	Dr.Ananda S	HOD,Professor	Ananda
2	Dr. Rohit K C	Assistant Professor	4
3	Prof. Prashanth Kumar H P	Assistant Professor	634c5
4	Prof. Soumya C	Assistant Professor	Q-De
5	Prof. Shobha G	Assistant Professor	B
6.	Mr.Rohith Raj	Guest Speaker	Route

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# Department of Biotechnology

Date:10/07/2015

# **NOTICE**

As a part of programming skill development Department of Information Science and Engineering is conducting one week Certification Course on "Callus Culture Techniques" from 20<sup>th</sup> July 2015 to 25<sup>th</sup> July 2015. All the 3<sup>rd</sup> & 5<sup>th</sup> SEM BT students must attend the course compulsorily.

HSignature of HOD to Dept. of Bio - Technology Sapting College of Engineering No B.T. department.

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Principal

Sapthagiri College of Engineer Chikkasandra, hesaraghatta h

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# Department of Biotechnology

# Certification Program on "Callus culture Techniques" Academic Year 2015-16 **Students Enrollment**

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6         1SG13BT007         CHETA           7         1SG13BT008         DEEPT           8         1SG13BT009         DIVYA           9         1SG13BT010         DIVYA           10         1SG13BT011         DIVYA           11         1SG13BT012         GOWT           12         1SG13BT012         GOWT           12         1SG13BT013         JAIKR           13         1SG13BT014         KRUTI           14         1SG13BT015         LAVAI           15         1SG13BT016         LIJIN K           16         1SG13BT017         MADH           17         1SG13BT018         MOHA           18         1SG13BT019         MUZZZ           19         1SG13BT020         SPOOR           20         1SG13BT022         PAREE           21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAN           24         1SG13BT026         PREET           25         1SG13BT028         RAKSH           27         1SG13BT030         S D SIR           29         1SG13BT031         <	GAVI DUBEY J
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9 1SG13BT010 DIVYA 10 1SG13BT011 DIVYA 11 1SG13BT012 GOWT 12 1SG13BT013 JAIKR. 13 1SG13BT014 KRUTI 14 1SG13BT015 LAVA 15 1SG13BT016 LIJIN R 16 1SG13BT017 MADH 17 1SG13BT018 MOHA 18 1SG13BT019 MUZZ 19 1SG13BT020 SPOOR 20 1SG13BT022 PAREE 21 1SG13BT022 PAREE 21 1SG13BT023 PAVIT 22 1SG13BT024 POOJA 23 1SG13BT025 L PRAV 24 1SG13BT025 L PRAV 25 1SG13BT026 PREET 26 1SG13BT027 DISHA 26 1SG13BT028 RAKSH 27 1SG13BT029 RAKSH 28 1SG13BT030 S D SIR 29 1SG13BT031 SAGAR 30 1SG13BT031 SAGAR 30 1SG13BT031 SAGAR 31 1SG13BT031 SAGAR 32 1SG13BT031 SAGAR 33 1SG13BT033 SHIVAI 34 1SG13BT035 SOORY 35 1SG13BT036 SOUND 36 1SG13BT037 SUBHA 37 1SG13BT037 SUBHA 38 1SG13BT038 SUPRIY 37 1SG13BT039 VARSH 38 1SG13BT039 VARSH 39 1SG13BT040 VIJITH 39 1SG13BT041 YASHA 40 1SG13BT042 AKSHA 40 1SG13BT042 AKSHA	
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12         1SG13BT013         JAIKR.           13         1SG13BT014         KRUTI           14         1SG13BT015         LAVAI           15         1SG13BT016         LIJIN K           16         1SG13BT017         MADH           17         1SG13BT018         MOHA           18         1SG13BT020         SPOOR           19         1SG13BT020         SPOOR           20         1SG13BT022         PÅREE           21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAV           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036	HAMI K V
14         1SG13BT015         LAVA2           15         1SG13BT016         LIJIN K           16         1SG13BT017         MADH           17         1SG13BT018         MOHA           18         1SG13BT019         MUZZZ           19         1SG13BT020         SPOOR           20         1SG13BT022         PÅREE           21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAN           24         1SG13BT025         L PRAN           25         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT038	ARTHIK J
15         1SG13BT016         LIJIN K           16         1SG13BT017         MADH           17         1SG13BT018         MOHA           18         1SG13BT019         MUZZZ           19         1SG13BT020         SPOOR           20         1SG13BT022         PÅREE           21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAN           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT038         SUPRIY           36         1SG13BT039         VARSH           37         1SG13BT040	KA SHETTY
16         1SG13BT017         MADH           17         1SG13BT018         MOHA           18         1SG13BT019         MUZZ           19         1SG13BT020         SPOOR           20         1SG13BT022         PÅREE           21         1SG13BT023         PAVIT           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAN           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT038         SUPRIY           36         1SG13BT039         VARSH           37         1SG13BT040         VIJITH           39         1SG13BT042	IYA.S
17         1SG13BT018         MOHA           18         1SG13BT019         MUZZZ           19         1SG13BT020         SPOOR           20         1SG13BT022         PÅREE           21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAV           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042	LITSON
18         1SG13BT019         MUZZ.           19         1SG13BT020         SPOOR           20         1SG13BT022         PÅREE           21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAV           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           40         1SG13BT043	URI BHAT S
19	N KUMAR N
20         1SG13BT022         PÅREE           21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAVITI           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT035         SOUND           35         1SG13BT037         SUBHA           35         1SG13BT038         SUPRIY           36         1SG13BT039         VARSH           37         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           40         1SG13BT043         KUSUN	MMIL AHMED
20         1SG13BT022         PÅREE           21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAV           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT039         VARSH           38         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           41         1SG13BT043         KUSUN	
21         1SG13BT023         PAVITI           22         1SG13BT024         POOJA           23         1SG13BT025         L PRAV           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT039         VARSH           38         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           41         1SG13BT043         KUSUN	KSHITH J
22         1SG13BT024         POOJA           23         1SG13BT025         L PRAV           24         1SG13BT026         PREET           25         1SG13BT027         DISHA           26         1SG13BT028         RAKSH           27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT039         VARSH           38         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           41         1SG13BT043         KUSUN	IRA VENI
23         ISG13BT025         L PRAV           24         18G13BT026         PREET           25         18G13BT027         DISHA           26         18G13BT028         RAKSH           27         18G13BT029         RAKSH           28         18G13BT030         S D SIR           29         18G13BT031         SAGAR           30         18G13BT032         SHARO           31         18G13BT033         SHIVAI           32         18G13BT034         SHIVAI           33         18G13BT035         SOORY           34         18G13BT035         SOUND           35         18G13BT037         SUBHA           36         18G13BT038         SUPRIY           37         18G13BT039         VARSH           38         18G13BT040         VIJITH           39         18G13BT041         YASHA           40         18G13BT042         AKSHA           41         18G13BT043         KUSUN	
24         ISG13BT026         PREET           25         ISG13BT027         DISHA           26         ISG13BT028         RAKSH           27         ISG13BT029         RAKSH           28         ISG13BT030         S D SIR           29         ISG13BT031         SAGAR           30         ISG13BT032         SHARO           31         ISG13BT033         SHIVAI           32         ISG13BT034         SHIVAI           33         ISG13BT035         SOORY           34         ISG13BT036         SOUND           35         ISG13BT037         SUBHA           36         ISG13BT038         SUPRIY           37         ISG13BT039         VARSH           38         ISG13BT040         VIJITH           39         ISG13BT041         YASHA           40         ISG13BT042         AKSHA           41         ISG13BT043         KUSUN	EEN KUMAR
25         ISG13BT027         DISHA           26         ISG13BT028         RAKSH           27         ISG13BT029         RAKSH           28         ISG13BT030         S D SIR           29         ISG13BT031         SAGAR           30         ISG13BT032         SHARO           31         ISG13BT033         SHIVAI           32         ISG13BT034         SHIVAI           33         ISG13BT035         SOORY           34         ISG13BT036         SOUND           35         ISG13BT037         SUBHA           36         ISG13BT038         SUPRIY           37         ISG13BT039         VARSH           38         ISG13BT040         VIJITH           39         ISG13BT041         YASHA           40         ISG13BT042         AKSHA           41         ISG13BT043         KUSUN	to recognize the second
26         ISGI3BT028         RAKSH           27         ISGI3BT029         RAKSH           28         ISGI3BT030         S D SIR           29         ISGI3BT031         SAGAR           30         ISGI3BT032         SHARO           31         ISGI3BT033         SHIVAI           32         ISGI3BT034         SHIVAI           33         ISGI3BT035         SOORY           34         ISGI3BT036         SOUND           35         ISGI3BT037         SUBHA           36         ISGI3BT038         SUPRIY           37         ISGI3BT039         VARSH           38         ISGI3BT040         VIJITH           39         ISGI3BT041         YASHA           40         ISGI3BT042         AKSHA           41         ISGI3BT043         KUSUN	to the same of the
27         1SG13BT029         RAKSH           28         1SG13BT030         S D SIR           29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT039         VARSH           38         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           41         1SG13BT043         KUSUN	A Company of the Comp
28         ISGI3BT030         S D SIR           29         ISGI3BT031         SAGAR           30         ISGI3BT032         SHARO           31         ISGI3BT033         SHIVAI           32         ISGI3BT034         SHIVAI           33         ISGI3BT035         SOORY           34         ISGI3BT036         SOUND           35         ISGI3BT037         SUBHA           36         ISGI3BT038         SUPRIY           37         ISGI3BT039         VARSH           38         ISGI3BT040         VIJITH           39         ISGI3BT041         YASHA           40         ISGI3BT042         AKSHA           41         ISGI3BT043         KUSUN	ITHA H S
29         1SG13BT031         SAGAR           30         1SG13BT032         SHARO           31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT039         VARSH           38         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           41         1SG13BT043         KUSUN	
30         ISGI3BT032         SHARO           31         ISGI3BT033         SHIVAI           32         ISGI3BT034         SHIVAI           33         ISGI3BT035         SOORY           34         ISGI3BT036         SOUND           35         ISGI3BT037         SUBHA           36         ISGI3BT038         SUPRIY           37         ISGI3BT039         VARSH           38         ISGI3BT040         VIJITH           39         ISGI3BT041         YASHA           40         ISGI3BT042         AKSHA           41         ISGI3BT043         KUSUN	
31         1SG13BT033         SHIVAI           32         1SG13BT034         SHIVAI           33         1SG13BT035         SOORY           34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT039         VARSH           38         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           41         1SG13BT043         KUSUN	N NAINA RAVISHANKAR
32	GI DÜBEY
33         1SGI3BT035         SOORY           34         1SGI3BT036         SOUND           35         1SGI3BT037         SUBHA           36         1SGI3BT038         SUPRIY           37         1SGI3BT039         VARSH           38         1SGI3BT040         VIJITH           39         1SGI3BT041         YASHA           40         1SGI3BT042         AKSHA           41         1SGI3BT043         KUSUN	
34         1SG13BT036         SOUND           35         1SG13BT037         SUBHA           36         1SG13BT038         SUPRIY           37         1SG13BT039         VARSH           38         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           41         1SG13BT043         KUSUN	A SESHADRI
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36         1SG13BT038         SUPRIY           37         1SG13BT039         VARSH           38         1SG13BT040         VIJITH           39         1SG13BT041         YASHA           40         1SG13BT042         AKSHA           41         1SG13BT043         KUSUN	SH KUMAR SHARMA
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# Department of Biotechnology

45	1SG12BT022	SAYEED AHMED KHAN
46	1SG14BT001	A.RITISH +
47	1SG14BT002	AASTHA KAMBOJ
48	1SG14BT003	AKSHATHA: J
49	1SG14BT004	AMEERKHAN
50	1SG14BT007	ANITHA.M
51	1SG14BT009	ARUN D K
52	1SG14BT010	ASHA PRANAVI.M
53	1SG14BT012	AYANA E K
54	1SG14BT013	CHANDANA,P
55	ISG14BT015	DHEESHA.B.S
56	1SG14BT016	HARISH.G
57	1SG14BT017	HINDUSHREE.J
58	1SG14BT018	K A VINAY
59	1SG14BT021	MANISH KUMAR, M
60	1SG14BT022	MEERAN HUSSAIN
61	1SG14BT023	MEGHANA M
62	ISG14BT024	MEGHANA.M
63	1SG14BT025	MOHIT KUMAR SINGH
64	1SG14BT026	NAVEEN .S
65	1SG14BT027	NIRANJANA.S
66	1SG14BT031	SHRIPRABHA R UPADHYAYA
67	1SG14BT032	SHWETHA H
68	1SG14BT033	SIDHARTH.M.V
69	1SG14BT034	SINDHU K
70	1SG14BT035	SNEHA
71	1SG14BT036	SNEHA.P.Ř
72	1SG14BT037	SONALI S.KAMATH
73	1SG14BT039	VANI VISWANATHAN
74	1SG14BT041	VEENA G V
75	1SG14BT042	VIBHA M
76	1SG14BT043	VIDYA G V
77	ISG14BT044	VIKERAMAN S
78	1SG14BT045	YAMINI S ACHARYA
79	1SG14BT046	YESHWANTHJ
80	1SG12BT022	SAYEED AHMED KHAN
81	ISG13BT042	AKSHAY KUMAR
82	1SG13BT047	SHIVANI

COORDINATOR

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# Department of Biotechnology

#### Certification Course on "Callus Culture Techniques"

#### Attendance

SI	USN	Student Name	20	7/15	21	7/15	22	7/15	23	7/18	24	7/5	35	2/15
No.	03.1	State in Hame	MS	AS	MS	AS	MS	AS	MS	AS	MS	AS	MS	AS
1	1SG13BT001	AAYUSHI MISHRA	1	2	3	4	5	6	7	8	9	10	11	12
2	1SG13BT003	AJAY KUMAR YADAV	1	2	3	4	5	6	7	8	9	10	11	12
	1SG13BT004	AKASH.R	1	2	3	4	5	6	7	8	9	10	11	12_
4	1SG13BT005	ASHWINI N	1	2	3	4	5	6	7	8	9	10	11	12
5	1SG13BT006	BHARGAVI DUBEY J	1	2	3	9	8	6	7	8	9	(0	10	U
6	1SG13BT0)7	CHETAN S	1	2	3	9	7	6	7	8	9	10	11	12
7	1SG13BT038	DEEPTI	1	2	3	y	5	6	7	8	9	10	11	12
8	1SG13BT009	DIVYABK	Ì	2	3	4	5	6	7	8	9	10	lt	12
9	1SG13BT010	DIVYA C	1	2	3	4	6	6	7	8	9	10	U	12
10	1SG13BT011	DIVYASHREE A N	1	2	3	4	(	6	+	8	9	10	11	12
11	1SG13BT012	GOWTHAMI K V	1	2-	3	4	7	6	7	8	9	10	II	12
12	1SG13BT013	JAIKRARTHIK J	1	2	3	4	5	6	6	7	8	9	10	1)
13	1SG13BT014	KRUTIKA SHETTY	1	2	3	y	5	6	7	8	9	10	11	12
14	1SG13BT015	LAVANYA.S	1	2	_3	4	5	6	7	8	9	10	u	12
15	1SG13BT016	LIJIN K LITSON	1	2_	2_	2	a	5	6	7	8	9	10	11
•	1SG13BTC17	MADHURI BHAT S	1	2	3	4	5	6	7	8	q	10	11	11_
17	1SG13BTC18	MOHAN KUMAR N	1	2	3	4	5	6	7	8	9	10	11	17
18	1SG13BTC19	MUZZAMMIL AHMED	1	2	3	4	5	6	7	8	9	10	11	12
19	1SG13BT020	SPOORTHY N	1	2	3	4	5	6	$\supset$	8	a	10	11	12
20	1SG13BT022	PAREEKSHITH J	1	2	3	4	5	6	7	8	9	10	11	12
21	1SG13BT023	PAVITHRA VENI	1	2	3	4	5	6	7	8	9	10	11	12
22	1SG13BT024	POOJA SINGH		2	3	4	8	6	7	8	9	9	10	.11
23	1SG13BT025	L PRAVEEN KUMAR	1	2	3	y	6	6	7	8	9	10	It	12_
24	1SG13BT026	PREETHI M	1	2	3	4	5	6	7	8	9	10	11	12
25	1SG13BT027	DISHA R	1	2	3	4	1	6	7	8	9	10	11	12_

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27	1SG13BT029	RAKSHITHA H S	1	2	3	V	5	6	0	8	o	10	11	12
28	1SG13BT030	S D SIRI	1	2	3	4	8	6	9	8	a	10	11	12
29	1SG13BT031	SAGAR S	1	2	3	4	8	6	7	8	3	10	ii	12
30	1SG13BT032	SHARON NAINA RAVISHANKAR	1	2	3	4	15	6	7	8	q	10	u	12
31	1SG13BT033	SHIVANGI DUBEY	1	2	3	y	35	6	7	8	9	10	11	12
32	1SG13BT034	SHIVARAJ V	1	2	3	4	5	6	7	8	9	10	11	12
33	1SG13BT035	SOORYA SESHADRI	1	2	3	4	5	6	4	8	2	10	tl	12
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35	1SG13BT037	SUBHASH KUMAR SHARMA	1	2	3	4	5	6	7	8	7	lo	11	12
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37	1SG13BT039	VARSHA PRAKASH	7	2	3	4	5	6	7	8	9	10	11	12
38	1SG13BT040	VIJITHA T P	1	2	3	4	5	6	7	8	9	10	11	12
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40	1SG13BT042	AKSHAY KUMAR YADAV	ı	2	3	ų	5	6	7	8	9	10	10	11
41	1SG13BT043	KUSUMA.B.M	1	2	3	4	5	6	7	8	9	10	U	12
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47	1SG14BT002	AASTHA KAMBOJ	1	2	3	4	5	6	7	8	9	10	11	12
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62	1SG14BT024	MEGHANA.M	1	2_	3	4	8	6	7	8	9	10	11	12
63	1SG14BT025	MOHIT KUMAR SINGH	1	2	2	4	0	6	6	7	0	10	11	12
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	1SG14BT027	NIRANJANA.S	1	2	3	4	5	6	7	8	9	10	11	12
66	1SG14BT031	SHRIPRABHA R UPACHYAYA	1	2	3	4	5	6	7	8	9	lo	11	12
67	1SG14BT032	SHWETHA H	1	2	3	4	5	6	7	8	9	10	tl	12
68	1SG14BT033	SIDHAR H.M.V	1	2	3	4	0	6	7	8	a	10	11	12
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70	1SG14BT035	SNEHA	1	2	5	4	5	6	7	8	9	10	1)	12
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73	1SG14BT039	VANI VISWANATHAN	- 1	2	3	4	6	6	7	8	9	10	11	12
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75	1SG14BT042	VIEHA M	1	2	2	4	5	6	17	8	9	10	11	12
76	1SG14BT043	VIDYA G V	(	2	3	4	5	6	7	8	9	10	11	12
•	1SG14BT044	VIKERAMAN S	1	2-	3	4	5	6	7	8	9	10	11	12
78	1SG14BT045	YAMINI S ACHARYA	1	2	3	4	8	6	7	8	9	10	11	12
79	1SG14BT046	YESHWANTH.J	1	2	2	4	5	6	7	8	9	10	u	12
80	1SG12BT022	SAYEED AHIZED KHAN	(	2	3	4	5	6	7-	8	9	10	11	12
81	1SG13BT042	AKSHAY KUMAR	1	2	3	4	8	6	7	8	9	10	11	12
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# Certification Course on "Callus Culture Techniques" Test Time Table

SI. No.	DATE	DAY	TIMINGS
1	25/7/2015	Saturday	3:45 pm - 4:45 pm

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Dept. of Bic-Technology
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Principal
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# CERTIFICATION COURSE ON CALLUS CULTURE TECHNIQUES OUESTION PAPER

Duration: 1hr Maximum marks: 25

Note: Question number 1-15 (1M each)

Question number 16-20 (2M each)

- 1. Cell fusion method includes the preparation of large number of
  - a) plant cells stripped of their cell wall b) single plant cell stripped of their cell wall c)
     plant cells with cell wall d) cells from different species
- 2. Sub culturing is similar to propagation by cuttings because
  - a) it separates multiple microshoots and places them in a medium
  - b) it uses scions to produce new microshoots
  - c) they both use in vitro growing conditions
  - d) all of the above
- 3. The ability of the component cells of callus to form a whole plant is known as
  - a) Redifferentiation b) Dedifferentiation c) either (a) or (b) d) none of these
- 4. What is/are the benefit(s) of micropropagation or clonal propagation?
  - a) Rapid multiplication of superior clones b) Multiplication of disease free plants c)
     Multiplication of sexually derived sterile hybrids d) All of the above
- 5. When plated only in nutrient medium, how much time is required for the protoplast to synthesize new cell wall?
  - a) 2-5 days b) 5-10 days c) 10-15 days d) 15-17 days
- 6. Cellular totipotency is the property of a) Plants b) Animals c) Bacteria d) all of these Agrobacterium based gene transfer is efficient

a) only with dicots b) only with monocots c) with both monocots and dicots d) with majority monocots and few dicots

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- 7. Who is the father of tissue culture?
  - a) Bonner b) Haberlandt c) Laibach d) Gautheret
- 8. The production of secondary metabolites require the use of
  - a) Protoplast b) Cell suspension c) Meristem d) Auxillary buds
- 9. Synthetic seed is produced by encapsulating somatic embryo with
  - a) Sodium Chloride b) Sodium alginate c) Sodium acetate d) Sodium nitrate
- 10. Hormone pair required for a callus to differentiate are
  - a) Auxin and cytokinin b) Auxin and ethylene c) Auxin and absiccic acid d) Cytokinins and gibberllin
- 11. DMSO (dimethyl sulfoxide) is used as
  - a) Gelling agent b) Alkylating agent c) Chelating agent d) Cry-oprotectant
- 12. The most widely used chemical for protoplast fusion, as fusogen is
  - a) Manitol b) Sorbitol c) Mannol d) Polyethylene glycol
- 13. Cybrids are produced by
  - a) Fusion of two different nuclei from two different species b) Fusion of two same nuclei from same species c) Nucleus of one species but cytoplasm from both the parent species d) None of the above
- 14. Callus is
  - a) Tissue that forms embryo b) An insoluble carbohydrates c) Tissue that grows to form embryoid d) Un organized actively dividing mass of cells maintained in cultured
- 15. Part of plant used for culturing is called
  - a) Scion b) Explant c) Stock d) Callus Growth hormone preducing apical dominance
- 16. Definecallus? Explain the stages of callus culture:
- 17. Explain the application of callus culture:
- 18. What are the factors affecting the callus induction?
- 19. Methods used for measuring the growth of callus

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20. Brief on the callus induction technique

# Approved by Academic Committee members:

Sl No.	Faculty Name	Designation	Signature
1	Dr.Ananda S	HOD,Professor	Anandas
2	Dr. Rohit K C	Assistant Professor	50
3	Prof. Prashanth Kumar H P	Assistant Professor	C3905
4	Prof. Soumya C	Assistant Professor	e-se
5.	Prof. Shobha G	Assistant Professor	WS /
6	Mr.Rohith Raj	Guest Speaker	Retty

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#### Certification Course on "Callus culture Techniques"

#### Solutions for the Questions

Duration: 1hr Maximum marks: 25

1.	Answer 1:	Option B
2.	Answer 2:	Option B
3.	Answer 3:	Option D
4.	Answer 4:	Option C
5.	Answer 5:	Option A
6.	Answer 6:	Option D
7.	Answer 7:	Option B
8.	Answer 8:	Option D
9.	Answer 9:	Option B
10.	Answer10:	Option A
11.	Answer 11:	Option B
12.	Answer12:	Option D
13.	Answer13:	Option B
14.	Answer 14:	Option C
15.	Answer15:	Option B

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16.Callus is a growing mass of unorganized plant parenchyma cells. The three stages of callus culture are -Induction-cells in explant dedifferentiate and begin to divide. Proliferative stage -rapid cell division .Morphogenesis stage -differentiation and formation of organized structure that lead to plant regeneration from somatic cells.

17 .It is used in rescue of endangered species of plants, Callus produced can be for synthesis of bioactive secondary metabolites, Generation of plants with improved resistance against salt, diseases and pests, To produce commercially important crops in all seasons, It gives high yield in less time.

18. Hormones-concentration of auxin and cytokinin, Temperature, Photoperical, Age of the explant

19. Settled cell volume (SCV) and Packed cell volume (PCV)-SCV is the percentage of total volume of suspension occupied by the cell mass. PCV is the total volume of suspension occupied by the cell mass after centrifugation. Culture cell density-This is estimated by incubating cell culture with 8% Chromium trioxide solution or using hydrolytic enzymes such as cellulase and pectinase .Cell viability-A staining reagent, fluorescein diacetate is widely used to check viability. Medium Conductivity-By the application of electromagnetic field, an electroporation is used to determine medium conductivity.

20. Media preparation - callus media consists of agar and mixture of macronutrients and micronutrients. The most commonly used tissue culture media is Murashige and SkoogMedium, white media and woody plant medium. Explant plant selection and sterilization - the plant of interest is selected and subjected to sterilization using double distilled water, Bavistin and Tween 20. Inoculation - The sterilized explant was inoculated into the appropriate medium. Incubation - The inoculated media was incubated for 16 hours in light and 8 hours in dark. Sub culturing - After the formation of callus, the mother culture is subjected to sub culturing.

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# Approved by Academic Committee members and Guest speaker:

SI No.	Faculty Name	Designation	Signature
1	Dr.Ananda S	HOD,Professor	Avanda
2.	Dr. Rohit K C	Assistant Professor	45)
3 .	Prof. Prashanta Kumar H P	Assistant Professor	(3005
4	Prof. Soumya C	Assistant Professor	9-05
5	Prof. Shobha G	Assistant Professor	B
6	Mr.Rohith Raj	Guest Speaker	Rilliy

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	Participant Feedback
1.	How was the overall organization of the Certification Course?
	a) Poor b) Satisfactory c) Good d) Excellent
2.	How appropriate were the facilities provided?
	a) Poor b) Satisfactory c) Good d) Excellent
3.	Opportunity to ask questions for clarification and interaction with presenters
	a) Poor b) Satisfactory c) Good d) Excellent
4.	Effectiveness of the Hands-on Sessions
	a) Poor b) Satisfactory e) Good d) Excellent
5.	Topic and contents of the Certification Course
	a) Poor b) Satisfactory c) Good d) Excellent
6.	How do you rate the Certification Course compared to other workshops that you have attended?
	a) Poor b) Satisfactory c) Good d) Excellent
7.	Generally how was your overall experience during the Certification Course
	a) Poor b) Satisfactory c) Good d) Excellent
8.	Any Suggestions:
*	Student Name: KUSOMA  Student Signature:  Principal  Sapthaniconlege of Engineering  Chikkasandra, Hesaraghanura  Sangalora, Section



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#### Participant Feedback

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8.	Any Suggestions:
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	Certification Course on "Callus Culture Techniques"		
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6.	How do you rate the Certification Course compared to other workshops that you have attended?		
	a) Poor b) Satisfactory c) Good d) Excellent		
7.	Generally how was your overall experience during the Certification Course		
	a) Poor b) Satisfactory c) Good d) Excellent		
8.	Any Suggestions:		
	certification durection to be Extended		
	Student Name: Bhazeri Duleg Student Signature:		

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# Certification Course on "Callus Culture Techniques"

#### Participant Feedback

1.	How was t	he overall organ	ization of	the Certification Course?
	a) Poor	b) Satisfactory	c)600d	d) Excellent
2.	How appro	priate were the	facilities p	rovided?
	a) Poor	b) Satisfactory	c) Good	d) Excellent
3.	Opportunit	y to ask question	ns for clari	fication and interaction with presenters
	a) Poor	b) Satisfactory	c) Good	d) Excellent
4.	Effectivene	ess of the Hands	on Session	ns
	a) Poor 1	b) Satisfactory	c) Good	d) Excellent
5.	Topic and	contents of the C	Certification	n Course
	a) Poor 1	b) Satisfactory	c) Good	d) Excellent
6.	How do yo	u rate the Certifi	cation Cou	urse compared to other workshops that you have attended?
	a) Poor	b) Satisfactory	c) Good	d) Excellent
7.	Generally h	now was your ov	erall expen	rience during the Certification Course
	a) Poor l	b) Satisfactory	c) Good	d) Excellent
8.	Any Sugge	stions:		
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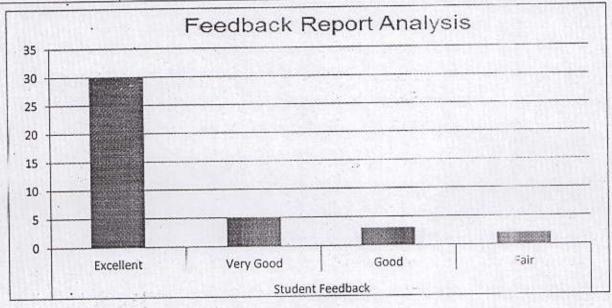
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#### FEEDBACK ANALYSIS

Certification Programme: "Callus Culture Techniques"

No. of students	Student Feedback				
participated	Excellent	Very Good	Good	Fair	
40	30	5	3	2	



#### Action Report:

75 % of students were completely happy with the certification program and 12 % of students felt it was a good program and remaining 5 % students were satisfied with the program.

#### Action Taken:

The Feedback report which was collected from the students were sent to the principal and he would take necessary actions based on the comments and conduct more programs for the benefit of students.

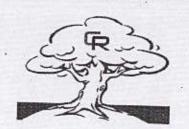
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Program Coordinator

Head of the Department
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Bangalore - 57



# CERTIFICATE COURSE ON CALLUS CULTURE TECHNIQUES



This is to certify that

Mr./Ms. CHETAN.S

Of IIIrd/Vth Semester Biotechnology has successfully completed CALLUS CLTURE TECHNIQUES organized by Department of Biotechnology, Sapthagiri College of Engineering, Bengaluru-57 and CHLORBIOS PVT LTD, Bengaluru-560106 from 20th July 2015 to 25th

July 2015

Chief Coordinator

Head

Department of BT

Managing Partner
CHLORBIOS PVT LTD

Principal SCE



# CALLUS CULTURE TECHNIQUES



This is to certify that

Mr./Ms	DIYYA.	C
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July 2015

Chief Coordinator

Head

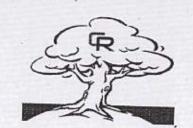
Department of BT

Managing Partner CHLORBIOS PVT LTD

Principal SCE



# CERTIFICATE COURSE ON CALLUS CULTURE TECHNIQUES



This is to certify that

Mr./Ms	S D SIRI
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Of IIIrd/Vth Semester Biotechnology has successfully completed CALLUS CLTURE TECHNIQUES organized by Department of Biotechnology, Sapthagiri College of Engineering, Bengaluru-57 and CHLORBIOS PVT LTD, Bengaluru-560106 from 20th July 2015 to 25th

July 2015

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Chief Coordinator

Andas Head Department of BT

Managing Partner CHLORBIOS PVT LTD Principal SCE



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CHLORBIOS PVT LTD

Principal SCE



(Affiliated to Visvesvaraya Technological University, Belagavi& Approved by AICTE, New Delhi) #14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru – 560057 Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

Department of Biotechnology

# Certification Course-Callus Culture Techniques Post Event Report

Department of BT conducted Certificate Course on Callus culture techniques from  $20^{th}$  July 2015 to  $25^{th}$  July 2015

Objective of the Course: The one week course made the students to be familiar with the major concepts in plant tissue culture which is a main platform for their career .Certificate Course became the vital step to improve the knowledge of students.

GuestSpeaker: Mr.Rohith Raj, Managing Partner, Chlorbios Pvt.Ltd. Yalahanka Bangalore

Duration of the course: One week from 20th July 2015 to 25th July 2015





Student participants in certification program

Sapthagiri College of Englinessize



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# Department of Biotechnology

Dates	Report
20-7-2015	Introduction to Callus culture and its application, Media used in callus production, Hands on preparation of different types of media for plant cell culture.
21-7-2015	Callus culture techniques, stages of callus culture, Physical appearance of callus, Development of aseptic callus culture, Hands on session inoculation of explants
22-7-2015	Introduction to organ culture, Types of organogenesis, Hands on session on growth measurement of callus culture, Sub culture of callus culture
23-7-2015	Plant regeneration, Histological study, Plant morphogenesis, Hands on session on adventitious shoot and root formation.
24-7-2015	Embryogenesis, Advantage of embryogenesis, Hands on session on checking Physio-chemical parameters affecting somatic embryogenesis
25-7-2015	Hairy root culture, Methodology of hairy root culture, Advantage of hairy root culture, Hands on session on Methodology of hairy root culture.

Conclusion: These programs prepare students to complete a specific task or allow them proficiency in one of the particular aspect such as callus culture techniques in field of Plant biotechnology. Students are able to learn about callus culture techniques. Certificate programs to help the students study to round out their education for their own personal fulfillment and interest for professional advancement or personal interest.

Head of the Hepphology
Dept. of Bio Hepphology
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