

UGC Sponsored Career Oriented Certificate Course in Plant Biotechnology

List of Documents

- 1 Release of Grant letter
(Common for all the three courses)
- 2 Letter by Director ,IOS to the Director BCUD for the sanction of Syllabi
(Common for all the three courses)
- 3 Syllabus & Letter by Director BCUD
- 4 Copy of Syllabus
- 5 Yearwise list of students who have successfully completed the course
- 6 Sample Copy of Certificate distributed to students
- 7 Faculty Report
- 8 Purchase file - documents

Dr Surekha A Kalkar
Course Coordinator
Associate Professor, Dept of Botany
Institute of Science ,Nagpur

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12/1/12



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

F. No. 4-163/2011(COC)

December, 2011

3 JAN 2012

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

Sub: - Release of Grant-in-aid to Institute of Science, Nagpur, Dist. Nagpur, Maharashtra-440001 under the UGC scheme of Career Oriented Courses-reg.

Sir,

With reference to the proposal submitted by Institute of Science, Nagpur, Dist. Nagpur, Maharashtra-440001 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 2011-12.

Courses Approved	Seed Money approved (Rs. in lakh)	Grant released (90%)
<u>Science</u>		
1. Certificate Course in Medical Electronic Technician	Rs. 10.00	Rs. 9,00,000/-
2. Certificate Course in Statistical Package R	Rs. 10.00	Rs. 9,00,000/-
3. Certificate Course in Plant Biotechnology	Rs. 10.00	Rs. 9,00,000/-
Total	Rs. 30.00	Rs. 27,00,000/-

Handwritten signatures and notes in the bottom left corner.

I am also directed to convey the sanction of the University Grants Commission for payment of Rs. 27,00,000/- (Rupees Twenty Seven Lakh only) to the Principal, Institute of Science, Nagpur, Dist. Nagpur, Maharashtra-440001 as 90% grant (Seed Money) under the scheme of Career Oriented Courses.

The assistance available in the programme is only in the form of a one - time as "Seed Money". The amount may be utilized for the purchase of books and journals augmentation of laboratory facilities, equipment and payment of remuneration to the Guest faculty only.

The terms and conditions of the approval and grant released are as per the guidelines of the scheme.

1. The sanctioned amount is debitible to the following Heads and is valid for payment during the current financial year 2011-12.

S. No.	Component	Head of A/c	Amount
1.	General 77.5%	5.(i) Code No. 31	20,92,500/-
2.	SC 15%	1B h(i) (b) Code No. 31	4,05,000/-
3.	ST 7.5%	1B h(ii) (b) Code No. 31	2,02,500/-

2. The amount of grant shall be drawn by the Under Secretary (Drawing and Disbursing Officer), University Grants Commission on the Grants -in -aid bill and shall be disbursed to the credited to the Principal, Institute of Science, Nagpur, Dist. Nagpur, Maharashtra-440001 through Demand Draft/Mail Transfer.
3. The grant is subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma submitted by the University/College/Institution.
4. The University/College shall maintain proper accounts only on approved items of expenditure.
5. The Utilization Certificate to the effect that the grant has been utilized for the purpose for which it was sanctioned shall be furnished to the University Grants Commission. **On receipt of the same, 10% grant would be sanctioned to the grantee Institution**
6. The assets acquired wholly or substantially out of the University Grants Commission grant shall not be disposed or encumbered or Utilized for the purposes other than those for which the grant was given, without proper sanction of the University Grants Commission and should, at any time the college ceases to function, such assets shall revert to the University Grants Commission.
7. A Register of Assets acquired wholly or substantially out of the grant shall be maintained by the University in the prescribed form.
8. The grantee institution shall ensure the Utilization of grants-in-aid for which it is being sanctioned/paid. In case non-utilization/part utilization, the simple interest @ 10% per annum as amended from time to time on unutilized amount from the date of drawl to the date of refund as per provisions contained in General Financial Rules of Govt. of India will be charged.

9. The University/ College shall implement the programme from the academic year 2011-12 positively and UGC to be informed in this regard.
10. The University/Institute/College is strictly following the UGC Regulations on curbing the menace of Ragging in Higher Education Institutions 2009.
11. The interest earned by the University/College/Institute on this grants in aid shall be treated as additional grant and may be shown in the U.C./Statement of expenditure to be furnished by grantee institutions.
12. The University/College shall follow strictly all the instructions issued by the Govt. of India from time to time with regard to reservation of posts for scheduled Caste and Scheduled Tribes.
13. The University/College shall fully implement the Official Language Policy of Union Govt. and comply with the Official Language Act, 1963 and Official Language (use for officially purpose of the Union) Rules, 1976 etc.
14. The Sanction issues in exercise of the delegation of powers vide Commission office order No. 25/92 dated May.01, 1992.
15. The Universities/ Colleges shall submit Annual Progress Report to the UGC office.
16. The Universities/ Colleges already running the Career Oriented Courses and completed 5 years would submit the audited utilization certificate/ statement of expenditure immediately to the UGC for settlement the accounts.
17. The funds to the extent are available under the scheme and have been noted in BCR for the year 2011-12 at S. No. _____ Page No. _____.

Yours faithfully,

(Sunita Chugh)
Under Secretary

Copy forwarded for information and necessary action to:

1. The Principal, Institute of Science, Nagpur, Dist. Nagpur, Maharashtra-440001 to intimate the receipt of the letter as well as the receipt of the sanction grant.
2. The Secretary to the Government of Maharashtra, Deptt. of Education, Mumbai.
3. The Registrar, R.T.M. Nagpur University, Nagpur-440001.
4. Office of Director, General, Audit General Revenues, AGCR Bldg., I.P. Estate, New Delhi.
5. Guard File, UGC, New Delhi.

Usha
(Usha Naidu)
Section Officer

Supply of Books for Certificate course in Plant Biotechnology.

Sr No	Name of Book	Author	Price	Quantity	Total
1	DICTIONARY OF BIOCHEMISTRY	DR.J.L.JAIN	1,150.0	1	1,150.0
2	COLLEGE BOTANY VOLUME-III	DR.B.P.PANDEY	525.00	1	525.00
3	MICROBIOLOGY QUESTION &	DR P KAUSHIK	225.00	1	225.00
4	PRACTICAL MICROBIOLOGY	R.C.DUBEY	225.00	2	450.00
5	ENZYMOLOGY ENZYME	S.M.BHATT	195.00	1	195.00
6	MOLECULAR BIOLOGY AND BIOTECHNOLOGY	K.G.RAMAWAT. DR.SHAILY	195.00	2	390.00
7	MODERN PRACTICAL BOTANY VOL III	DR.B.P.PANDEY	150.00	2	300.00
8	MODERN PRACTICAL BOTANY VOL -II	DR.B.P.PANDEY	210.00	1	210.00
9	MODERN PRACTICAL BOTANY VOL -I	DR.B.P.PANDEY	210.00	1	210.00
10	PRACTICAL BOOK OF BIOTECH. & PLANT TISSU	DRMADHAVI & PROF.SANTOSH	75.00	10	750.0
11	COMPREHENSIVE BIOTECHNOLOGY	K.G.RAMAWAT	250.00	1	250.00
12	T.B. OF PLANT PHYSIOLOGY &	S.K.VERMA	325.00	1	325.00
13	A T.B. OF BIOTECHNOLOGY (M.E.)	R.C.DUBEY	425.00	1	425.00
14	AN INT TO INDUSTRIAL	DR.P.K SIV AKUMA	150.00	1	150.00
			Total-	26	

Supply of Books for Certificate course in Plant Biotechnology.

1	Toxicology	S. Prasad	100.00	1	100.00
2	Fundamentals of Molecular Biology	V. B. rastogi	395.00	1	395.00
3	Foundation Course in Biology 3 rd edition	S. K. Agrawal	295.00	1	295.00
4	Molecular Biology- genes to Proteins	B. E. Tropp	1895.00	1	1895.00
5	Encyclopedia of Biology	Vina Books	1695.00	1	1695.00
6	Molecular and Cell Biology		350.00	1	350.00
	Molecular Biology	David Friedeld	515.00	1	515.00
8	Genetics	Strckberger	575.00	1	575.00
9	Immunology	Penchuk	325.00	1	325.00
10	Genetics/ Analysis of genes	Dawil/ Jones	1695.00	1	1695.00
11	Biology	Raven	2080.00	1	2080.00
12	Molecular Biology	Wetson	2596.00	1	2596.00
13	An Introduction to Practical Biochemistry	David Plumer	375.00	3	1125.00
14	Principles & Procedures of Plant Breeding	G.S. Chahal	365.00	1	365.00
15	Plant Tissue Culture	Jha University press	325.00	1	325.00
16	Microbiology-Laboratory Manual	Coppucino	710.00	1	710.00
17	Plant Breeding	B. D. Singh	275.00	1	275.00
Total				19	

INSTITUTE OF SCIENCE, NAGPUR NAAC

**Accredited 'B' Grade CGPA Rating 2.85 R. T. Road, Civil Lines, Nagpur
40001(M.S.) India**

**UGC Sanctioned CAREER ORIENTED COURSE "CERTIFICATE
COURSE IN PLANT BIOTECHNOLOGY."**

2012-13

Students admitted and successfully completed course

1. Ms. Ravina S. Yadav
2. Ms. Nishita P. Kathwate
3. Ms. Rohini V. Ramteke
4. Ms. Prapti S. Barde
5. Ms. Juhi P. Mishra
6. Ms. Smruti S. Gupta
7. Ms. Harshada U. Bure
8. Ms. Mohini A. Parate
9. Ms. Venu M. Balpande
10. Ms. Ekta A. Thaware
11. Ms. Ankita R. Yadav
12. Ms. Humariya Fatema
13. Ms. Chhaya A. Kapgate
14. Mr. Rahul R. Rathod

INSTITUTE OF SCIENCE, NAGPUR NAAC

**Accredited 'B' Grade CGPA Rating 2.85 R. T. Road, Civil Lines, Nagpur
40001(M.S.) India**

**UGC Sanctioned CAREER ORIENTED COURSE "CERTIFICATE
COURSE IN PLANT BIOTECHNOLOGY."**

2013-14

Students admitted and successfully completed course

1. Mr. Shubham D. Chhapekar
2. Mr. Piyush V. Waghmare
3. Ms. Shiwani K. Paraye
4. Ms. Monika A. Gajbhiye
5. Ms. Vanashri Kalambe
6. Mr. Rajat A. Thanekar
7. Ms. Sadaf Aafrin
8. Ms. Shital I. Gokhale
9. Ms. Shital G. Shewane
10. Ms. Ashlesha D. Age

Minutes of the meetings specifying the introduction of certificate courses and release of grant in aid.

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महाराष्ट्र शासन

शासकीय विज्ञान संस्था, नागपूर

आर.टी.रोड, सिव्हिल लाईन्स, नागपूर - 440001

Naidu

दुरध्वनी क्रमांक - 2561148 / 2565581

फॅक्स क्रमांक 0712-2565581

क्रमांक-विसना / लेखा / 802 / 2012

दिनांक - ९/८/2012

प्राने /
डा. श्रीमती. के. एकमानु }
डा. श्रीमती. एस. अ. काकर }
डा. पी. आर. अनूनाकर }

विषय:- Release of Grant-in-aid to Institute of Science, Nagpur under the UGC scheme of curricular oriented courses. Req.

संदर्भ:- UGC Letter NO. F No. 4-163/2011 (LOC) December 2011

उपरोक्त संदर्भात विषयानुसार कुठारेच्या तें

श्री. क्र. 2009-92 क्विटा आपत्तास वेधापेठ अनुक्रम
आयोगाकडून आपल्या स्वतंत्र वकीलद्वारे रु- 9000000/-
(Nine lakh only) प्राप्त झाली आहे. अंशक पत्राची
प्रत जोडली आहे. त्याप्रमाणे पुढील कार्यवाहीसाठी
आणि व कार्यवाहीसाठी सादर.

संदर्भ:- मुठ पत्राची व अनादेशाची
आयोगात प्रत.

Director,
Institute of Science
NAGPUR.

SYLLABUS FOR CERTIFICATE COURSE IN PLANT BIOTECHNOLOGY
(To be implemented from 2012-13 in Department of Botany, Institute of Science,
Nagpur)

Syllabus for Certificate Course in Plant Biotechnology

THEORY

SECTION – A

1. Introduction to Plant Biotechnology and its importance.
2. Brief introduction to plant cell structure and functions of organelles.

SECTION – B

3. Introduction to plant tissue culture, Lab equipments and their working.
4. Various sterilization and preparation techniques, used in plant tissue culture.

SECTION – C

5. Media composition and preparation.
6. Cellular totipotency, Initiation, propagation and maintenance of :
 - a) Callus Culture
 - b) Suspension Culture

SECTION – D

7. Introduction to transgenic plants.
8. Introduction to secondary metabolites and industrial products.

PRACTICAL

LIST OF PRACTICALS

Lab work

1. Permanent slide preparation of plant cell.
2. Introduction to lab equipment –Autoclave, LAF, Microscope and other tissue culture equipments.
3. Techniques of glassware washing and cotton plug preparation
4. Sterilization techniques – Dry and Hot,
5. Methods of decontamination.
6. Preparation of Plant Tissue Culture Media.
7. Explants Preparation
8. Callus Induction and suspension culture
9. Plant propagation through tissue culture (shoot/leaf/nodal culture)
10. Artificial pollination and fertilization.

11. Practical Record
12. Field work/project & Viva

PRACTICAL PAPER

Max. Marks : 100

[70 +30 (Lab work+ Field work/Project & viva)]

Lab Work- 70 Marks

Field work / project and Viva Voce – 25 marks

Time : 5 hrs

Q.1 Perform given major experiment.....	25 Marks
Q.2. Perform given TWO minor experiments.....	20 ____, __
Q.3. Comment on spots 1 to 5	15 ____, __
Q.4. Practical Record	10 ____, __
Q.4. Field work/ Project and Viva-voce	30 (20+10)

RECOMMENDED READINGS

1. Principles of Plant Biotechnology- An Introduction of Genetic Engineering in Plants by S.H. Mantell, J.W. Mathews and R.A. Mckee, Blackwell Scientific Publications.
 2. Plant Cell, Tissue, Organ Culture: Fundamental Methods by O.L. Gamborg and G.C. Phillips, Narosa Publication, House, New Delhi.
 3. Plant Biotechnology and Tissue Culture: Principles and Perspective, Edited by. A. Kumar and V.A. Kumar, Introduction Book Distributing Company, Lucknow.
 4. Cell Biology (India Ed.)- C.P. Powaar (2003).
 5. Plant Cell Culture – A Practical Approach Eds. R.A. Dixon and Gonzales, IRL Press.
 6. Biotechnology: Principles and Applications, I.J. Higgins, D.J. Best and J. Jones, Blackwell Scientific publications.
 7. An Introduction to Plant Tissue Culture M.K. Razdan, Oxford and IBII Publishing Co. Pvt. Ltd., New Delhi.
 8. Fundamentals of Plant Biotechnology by Amla Batra Capital Publishing Company.
 9. Introduction to Plant Tissue Culture, Bhojwani and Rozdan.
 10. A textbook of Biotechnology by R.C. Dubey.
 11. Plant Biotechnology by K.G. Ramawat.
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RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
Established by Government of Central Provinces Education Department by No. Notification No.513
dated the 1st of August 1923 & presently a State University governed by M.U. Act 1994
BOARD OF COLLEGE AND UNIVERSITY DEVELOPMENT
Mahatma Jyotiba Fule Education Campus, Amravati Road, Nagpur-440 033 (INDIA)

Dr. A. D. Choudhary
Director

Tel No. office-2042962

Fax No.0712 2500736

Resi.2520335

No. BCUD/P/2013/ 804
Date: 8th April, 2013.
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To

The Director,
Institute of Science
Ravindranath Tagore Marg,
Civil Lines, Nagpur-440001

Subject: Syllabus and Scheme of examination for conducting Certificate Course
under UGC Sponsored Career Oriented Programme.

Sir,

With reference to the above cited subject, It is to inform you that syllabi of
UGC Career Oriented Programmes Certificate Course in Plant Biotechnology
submitted by you, have been approved by Board of Study.

Please take necessary action to implement the COP "Certificate Course in
Plant Biotechnology".

Thanking you,

Yours faithfully,


(A. D. Choudhary)
Director

