

UNIVERSITY GRANTS COMMISSION CAREER ORIENTED COURSES 35-FEROZSHAH ROAD NEW DELHI-110 001

F. No. 4-332 /2010 (COC)

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

March, 2010 2 2 MAR 2010

Sub: - Release of Grants-in-aid to E.M.E.A College of Arts & Science, Kondotty, Dist. Malapuram, Kerala-673638 for Career Oriented Courses under p in.

Sir,

With reference to the proposal submitted by E.M.E.A College of Arts & Science, Kondotty, Dist. Malapuram, Kerala-673638 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 2010-11.

Courses Approved	Seed Money (Rs. in lakh)
Sciences 1. Plant Tissue Culture	10.00
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	10.00

Totala SCA

Jan.

I am also directed to convey the sanction of the University Grants Commission for payment of Rs. 10,00,000/- (Rupees Ten Lakh only) to E.M.E.A College of Arts & Science, Kondotty, Dist. Malapuram, Kerala-673638 as one time 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 dabitable to the major Head 5.(i) (Career Oriented to Education). The above sanction is valid for payment during the current financial year 2009-10.
- The amount of grant shall be drawn by the Joint Director (Drawing and Disbursing Officer), University Grants Commission on the Grants —in —aid bill and shall be disbursed to the credited to the Principal, E.M.E.A College of Arts & Science, Kondotty, Dist. Malapuram, Kerala-673638 through Demand Draft/Mail Transfer.
 The grant is subject to the principal of the principal
- The grant is subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma submitted by the University/College/Institution.
 The University/College shall maintain proformation.
- 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 financial year.
- 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 2010-11 positively and UGC to be informed in this regard.

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.

The University/College shall follow strictly all the instructions issued by 11. the Govt. of India from time to time with regard to reservation of posts for

scheduled Caste and Scheduled Tribes.

The University/College shall fully implement the Official Language Policy 12. of Union Govt. and comply with the Official Language Act, 1963 and Official Language (use for officially purpose of the Union) Rules, 1976 etc.

The Sanction issues in exercise of the delegation of powers vide 13.

Commission office order No. 25/92 dated May.01, 1992.

The funds to the extent are available under the scheme and has been noted 14. in BCR for the year 2009-10 at S. No. 448 Page No. 67.

Yours faithfully

(Dr. (Mrs.) H.K. Chauhan). **Joint Director**

Copy forwarded for information and necessary action to:

- The Principal, E.M.E.A College of Arts & Science, Kondotty, Dist. Malapuram, Kerala-673638 to intimate the receipt of the letter as well as the receipt of the sanction grant.
- 2. The Secretary to the Government of Kerala, Deptt. of Education, Thiruvananthapuram.
- 3. The Registrar, Calicut University, Calicut.
- 4. Joint Secretary/Joint Director South Eastern Regional Office P.B. No. 152, A.P.S.F.C. Building, IVth Floor 5-9-194 Chirag Ali Lane, Hyderabad-500001 (A.P.).
 - Office of Director, General, Audit General Revenues, AGCR Bldg., I.P. Estate, New Delhi.
 - 6. Guard File, UGC, New Delhi.

(Raj Kumari) Under Secretary

WEA CHINE

E.M.E.A. COLLEGE OF ARTS AND SCIENCE

Accredited with B+ + Grade by NAAC

(Aided, affiliated to the University of Calicut)

KONDOTTI, P.O. KUMMINIPARAMBA

MALAPPURAM (DIST), PIN. 673 638

電: (0483) 2712030 (Off.) 2713530 (Prl.) E-mail: mail@emeacollege.ac.in Website: www.emeacollege.ac.in

Date:.....

01-06-2011

G2-271/10/ Ref:

From

THE PRINCIPAL.

To

The Deputy Registrar (GA I), University of Calicut, P. O. Calicut University. 0)

Sir,

Sub: - Career Oriented programme in plant tissue culture – Approval – Requested.

Ref:- Lr. No. F.No. 4. 232/2010 (COC) dt. 22-3-10.

Career Oriented Programme in Plant Tissue Culture has been sanctioned as per the letter cited. Syllabus and mode of question papers are enclosed for your kind perusal.

I request that the syllabus and model question papers may be approved and the examination for the year 2011-12 may be conducted. Copy of the letter under reference is enclosed.

Encl: As above.

Yours faithfully

PRINCIPAL

CERTIFICATE COURSE IN PLANT TISSUE GULTURE

Theory (125hr)

SYLLABUS

Unit 1 (12 H)

Role of auxin, discovery of cytolinin, Hormonal control of olgan formation improvement of media. Preparation and cloning of single cell cultures. Regeneration of

§ single cell to whole plant, Recent advances.

Laboratory organization- Washing and storage facilities. Media preparation room, observation and data collection area, Washing and handling of laboratory glass and liquipments used for plant tissue culture.

Unit II (10 hr)

Culture media- media composition, Macro and micronutrients, Organic supplements Growth regulators, Solidifying agents, Media preparation, selection of new medium. Different media

Unit III (7 hr)

Aseptic manipulation- Sterilization of culture vessels and instruments, Sterilization of nutrient media, Sterilization of culture room and transfer area, Aseptic culture techniques

Unit IV (12 hr)

Cell culture, Isolation of single cells, Growth and subculture of suspension culture. Types of suspension cultures, Culture medium for suspension cultures, Synchronization of suspension cultures, measurement of growth in suspension cultures, Viability of cultured cells, Culture of isolated single cells, Application of cell culture.

Unit V (6 hr)

Cellular totipotency, Vascular differentiation, Culture systems, Organogenic differentiation, Totipotency of epidermal cells and Crown gall cells.

Unit VI (10 hr)

Somatic embryogenesis, Somatic embryogenesis in dicotyledenous and monocotyledenous cultures, embryo maturation and plantlet development, Loss of morphogenic potential in embryonic cultures, application of somatic embryogenesis, somatic embryos versus zygotic embryos.

Unit 1'11 (10 hr)

Haploid production, Lechniques of androgenesis, Factors influencing anther culture.

Differentiation of policy into gametophytic or sporophytic cells, development of such agents haploids induction of haploids from unpullinated overes, haploidization of haploid plants. Application of haploids in plant breeding. Problems associated with haploid production.

Unit VIII (5 hr)

Triploid production- Methodology. Histology and cytology of callus, Application of triploids in plant improvement.

Unit IX (5 hr)

Invitro pollination. Methodology. Factors affecting seed-set after invitro pollination, Application of invitro pollination.

Unit X (6 hr)

Zygotic embryo culture, types of embryo culture, Methodology, Nutritional requirements, Role of suspensor in embryo culture, Precocious germination, Organogenic potential of embryo callus, Practical application.

Unit XI (12 hr)

Somatic hybridization and cybridization, Isolation of protoplasts, Culture of protoplasts, Protoplast regeneration, Protoplast fusion, selection of somatic hybrid and cybrids, Assessment of somatic hybrid and cybrid nature of plants, Practical application of somatic hybridization and cybridization.

Unit XII (12 hr)

Clonal propagation- Methodology, Multiplication by axillary and apical shoots, Multiplication by adventitious shoots, Multiplication through callus culture, Factors affecting shoot multiplication, Factors affecting invitro rooting, acclimatization of plants transferred to soil, Clonal multiplication of woody species, Technical problems in micro propagation, application of micro propagation.

Unit XIII (12 hr)

General applications- Industrial application, Advances in tissue culture for synthesis of useful compounds, Selection of cell lines for high yields, Mass cultivation of plant cells, Different types of bioreactors, Biotransformation using plant cell cultures, Factors limiting large scale production of useful compounds.

Unit IVX (6 hr)

Germplasm conservation, Modes of conservation, Material used for conservation, Freeze preservation, Cold storage, Low pressure and low oxygen storage, Application and limitation.

Charel 175 hours)

- 200 Juny Lut lun Plant cell counting using hemocylometer.
 - Measurement of plant cell growth.
 - Familiarization of laboratory equipments.
 - 4. Guidelines for washing & handling of glass wares.
 - Aseptic transfer techniques.
 - Sterilization and media preparation.
 - 7. pH meter and adjustments, preparation of solutions, dilution of solutions.
 - 8. Establishment of callus cultures from carrot cambial explants.
 - existery or org/com/ 9. Establishment of shoot cultures. herbi
 - 10. Induction of adventitious shoots. node/ teternels /Kinches (BAP) uns busal meeting (as thout hours

 - 11. Embryo culture of maize. seeds whent D > 1 -) ()
 - 12. Micro propagation of African violet.

 - 13. Isolation of plant protoplast from flower petals.

 14. Protoplast viability staining.

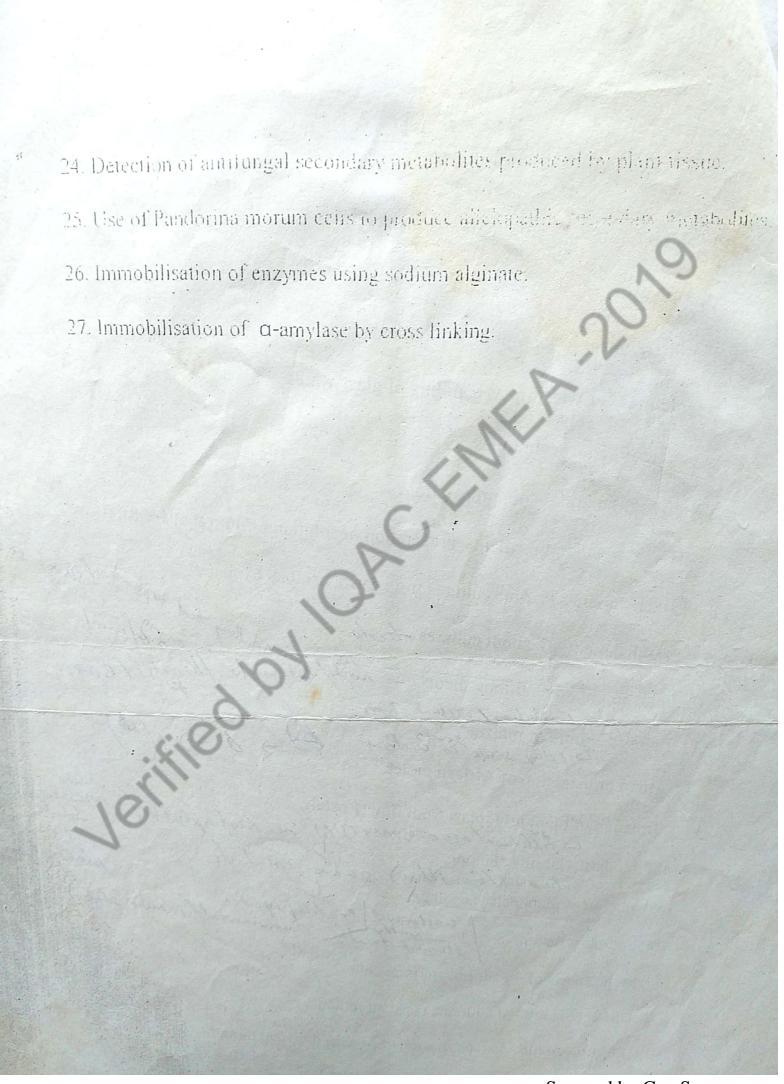
 15. Isolation of plant cell vacuoles.

 16. Protoplast fusion.

 17. Isolation of plant cell vacuoles.

 18. Isolation of plant cell vacuoles.

 19. Isolation of plant cell vacuoles.
 - 17. Mutagenesis of Pandorina morum cells.
 - 18. Characterization of Chlorate resistant mutants.
 - 19. Electrophoretic characterization of MoCo- deficient mutants.
 - 20. Ketolactose test for Agrobacterium biotypel
 - 21. Examination of the plate for the presence of a yellow halo around the bacterial colonies.
 - 22. Isolation of DNA from plant cells .
 - 23. Isolation of Chloroplast DNA.



References 1. Plant Tissue Culture. Theory and Published by Elsevier. Adivision of 2. Biotehnology, Expanding Horizon 3. Plant Cell and Tissue Culture: S. company Ltd. New Delhi

- 1. Plant Tissue Culture. Theory and Practice; S.S. Bhojwani and M.K. Razdan. Published by Elsevier Adivision of Reed Elsevier India Pyt-11d. New Delby
- 2. Biotehnology, Expanding Horizons: B.D. Singh, Kalyani Publishers, New Delni.
- 3. Plant Cell and Tissue Culture: S. Narayanaswamy, Tata Mc-Graw-Hill publishing company Ltd. New Delhi
- 4. Laboratory Marmual of Plant Biotechnology; S.S. Purohit, Updesh purohit to agrobios, India, Jodhpur.
- 5. Bioreactor Designs and Product Yield; Bubler W. Jjeineman Lincare house, Oxoford, OXD SDP.
- 6. Prilnciples of Fermentation Technology; Stunbury P.F. Whitakere and S.J. Hall. Pregamon press.

"PLANT TISSUE CULTURE"

Applications are invited for Calicut University certified Add on Course, Advanced Diploma in "PLANT TISSUE CULTURE". The course comprises total 300 Hrs with 125 Hrs Theory and 175 Hrs Practical. Those students who are interested to participate are directed to submit the application on before 04/11/2014 with a fee of Rs 500. Application form can be had from Head, Dept. of Biotechnology. The course will start on 10th November 2014. The duration of the course may be extended to six months. Classes will be at afternoon (3.30pm- 5.30pm except Friday and all Saturdays). Preferences will be given to the IIIrd and Vth Semester science students.

Place: KONDOTTI

Date: 23-10-2014

PRINCIPAL

UNIVERSITY OF CALICUT (Pareeksha Bhavan)

Calicut Univerity P.O, Pin - 673 635.

No.ES XIV/COP/Exam/2015

Date: 19/01/2015.

NOTIFICATION

It is hereby notified for the information of all concerned that the Add-on course (UGC Aided Career Oriented Programme) examination for 2013 and 2014 admissions (2013-14 & 2014-15 academic years) will be conducted in <u>April 2015</u>. The colleges offering Add-on courses (Certificate, Diploma & Advanced Diploma) are therefore directed to forward the following documents to the undersigned on or before <u>20-02-2015</u>.

- 1. A copy of the nominal roll of the candidates.
- 2. Proof for date of birth/caste etc. (Front page of SSLC book necessary)
- A photocopy of the plus two marklists of the candidates admitted for the course.
- 4. A chalan receipt for Rs. 5000/- (Rupees Five Thousand Only) per course as administrative fee.
- 5. A copy of the sanction order from the UGC specifying the period upto which the course is sanctioned.
- 6. A copy of the sanction order from the University for starting the course.
- 7. Four sets of model question paper on each subject with 75 marks and 3 hours duration for Certificate/Diploma/Adv. Diploma Courses. Question paper has to be prepared as per scheme of Add-on course approved by the Board of studies/Academic Council. The model question paper should be neatly typed/printed and should be enclosed in a sealed cover. Manuscripts will not be accepted.
- 8. It is also informed that the colleges have to conduct the Add-on Course examinations in the colleges itself, strictly as per the UGC guidelines and upload the marks of the theory and practical/project work etc. (75 +25 marks) to the web page provided soon after the examination and forward the hard copy to this office. The University will provide the question papers. There is no examination fee for Add-on Course.

Sd/-

Controller of Examinations

10

The Principals of the colleges concerned.

Copy to

PS to VC/PA to PVC/PA to Registrar/PA to CE/ System Administrator/PRO/Exam enquiry/FC/DF

PH:0494 2407265, 0494 2407214

Biolein Dept R. 412/15

E.M.E.A. COLLEGE OF ARTS AND SCIENCE

Re-accredited with 'A' Grade by NAAC (Aided, affiliated to the University of Calicut) KONDOTTI, P.O. KUMMINIPARAMBA MALAPPURAM (DIST), PIN. 673 638

2 : (0483) 2712030 (Off.) 2713530 (Prl.) E-mail: mail@emeacollege.ac.in Website: www.emeacollege.ac.in

G2-118/10

Date:...₁₆₋₀₂₋₂₀₁₅.....

From

THE PRINCIPAL.

To

The Controller of Examinations, University of Calicut, P. O. Calicut University.

Sir,

Career Oriented Programme – Add-on course- Plant Tissue Culture – Sub: -Documents - Forwarding of.

Your letter No. Es. XIV/COP/Exam/2015 dated 19-1-2015. Ref:-

I am forwarding herewith the following documents required for conduct of university examinations of Add - on course conducted in this college in plant tissue Culture during 2013 – 2014 and 2014 – 2015.

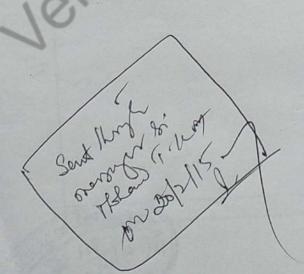
- Nominal roll of the candidates.
- 2. Photocopy of the front page of SSLC Book (proof for date of birth)
- 3. Photocopy of the plus two mark lists of the candidates.
- 4. Challan receipt for Rs. 5000/- as administrative fee.
- 5. Copy of the sanctioning order from UGC.
- 6. Four sets of model question papers in separate sealed cover.

In this connection I may inform you that since the candidates for the year 2013-2014 have left the college on completion of the course. The copy of the certificates could not be produced within the stipulated period. It will be produced on calling from you.

I request that the examination for the years 2013-14 and 2014-15 may be conducted

at the earliest.

Yours faithfully,



PRINCIPAL EME A COLPRINCIPAL ARTS & SCIENCE, KONDOTTY MALAPPURAM DT. 673 638



UNIVERSITY OF CALICUT PAREEKSHA BHAVAN (B.Sc. Branch)

No. ES XIV/COP/EMEA/2015

Grams: UNICAL Office: 0494 -2407214, 291

E-mail:

jce4@universityofcalicut.info

CALICUT UNIVERSITY.P.O. MALAPPURAM DT, <u>KERALA</u>, INDIA - PIN: 673635

Date: 20-03-2015

From

R SCIE

The Controller of Examinations University of Calicut

To

The Principal EMEA College Kondotty P.O. Kumminiparamba Malappuram – 673 638

Sir,

Sub:-Conduct of Add-On course exam – 2013 and 2014 Admission – Reg.

Ref:- 1. Notification No.ES XIV/COP/Exam/2015 dated: 19-01-2015.

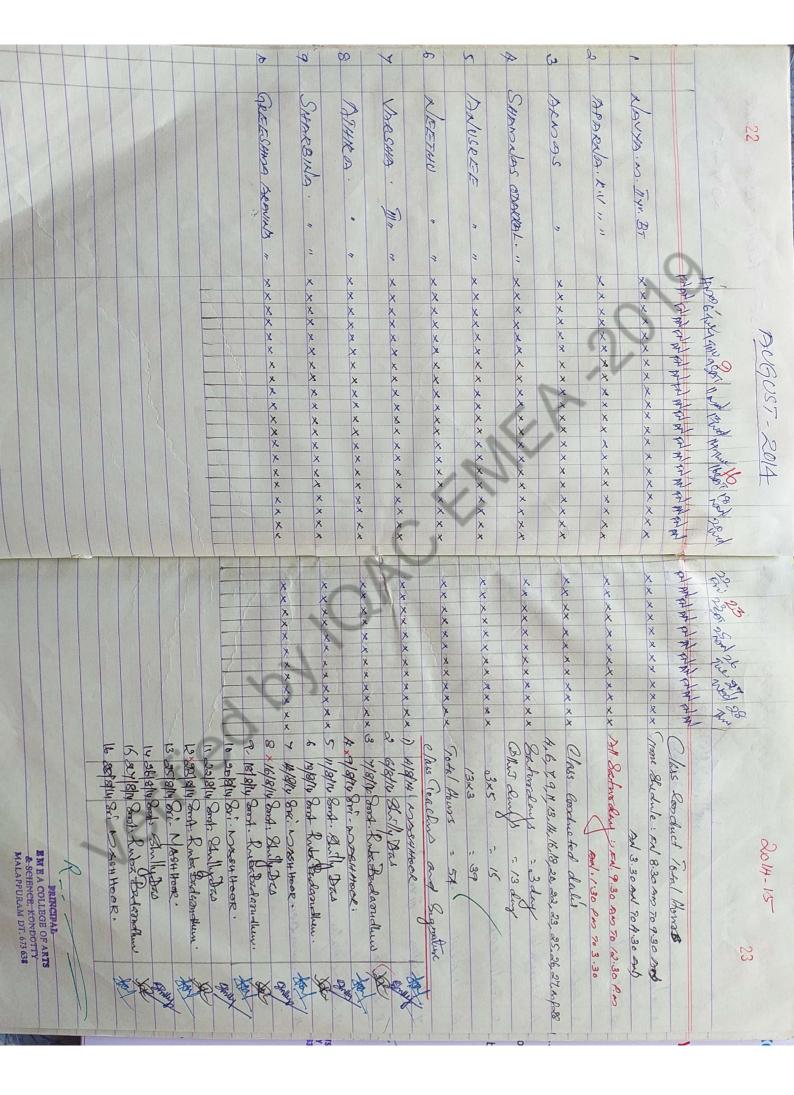
2. Your letter No. G2/118/10 dated: 16-02-2015.

Referring to the above, it is informed that on verifying the documents forwarded for conducting Add-On course examination for 'Plant Tissue Culture', sanction order from the University is not seen enclosed. More over administrative fee for a 2 batches is Rs. 10,000/- (Rupees Ten Thousand Only). But chalan for Rs. 5,000/- (Rupees Five Thousand Only) has been forwarded by you. Therefore, I am to request you to forward sanction order from the University and original chalan for Rs. 5,000/- (Rupees Five Thousand Only) as soon as possible for conducting the examination in April 2015 itself.

DEPUTY REGISTRAR - VI (Exams)
For Controller of Examinations

25/3/14

R. 26141



EMEA COLLEGE OF ARTS AND SCIENCE, KONDOTTI KUMMINIPARAMBA. P.O, PIN 673638

DEPARTMENT OF MICROBIOLOGY

CERTIFICATE

of Tyear. Protectively as successfully completed the UGC Sponsored Certificate Course in Tissue Culture (Course Duration Sixty Hours) conducted by Department of Microbiology during the academic year 2014-15.

Principal

PRINCIPAL
EMEA COLLEGE OF ARTS
& SCIENCE, KONDOTTY
MALAPPURAM DT., 673 638

Course Co-Ordinator

UTILISATION CERTIFICATE

It is certified that grant of Rs. 1000000/- (Rupees ten lakh only) approved by the University Grants Commission for Career Orientation course 'Plant Tissue Culture', out of the total grant, an amount of Rs. 8,28,250/- (Rupees eight lakh twenty eight thousand two hundred fifty only) has been utilized up to 31-03-2017 as per details given in the University Grants Commission in its letter no. F. No. 4-332/2010(COC) dated 22-03-2010 and that all these terms and conditions have been fulfilled by the college and the grant has been utilized for the purpose for which it was approved.

It is further certified that inventories of permanent or semi-permanent assets created/acquired wholly or mainly out of the grants given by the University Grants Commissions indicated above are being maintained in the prescribed form and are being kept up to date and these assets have not been disposed off encumbered or utilized for any other purposes.

If as a result of check or audit objection, some irregularity is noticed at a later stage, the college shall be bound to refund the amount objected to.

