Scheme

Star College Scheme for Strengthening of Life Science and Biotechnology Education and Training at Undergraduate Level

1. Introduction:

DBT is committed to the values of i) Pursuit of excellence ii) Academic and intellectual freedom iii) Creativity and innovation iv) Diversity v) Cooperation and Communication & vi) accountability. DBT has therefore, launched a scheme for improving critical thinking and 'hands on' experimental work in the cutting edge-technologies needed for modern biological studies at undergraduate (college) level in life sciences. It is hoped that as a result of such experiences, more students will take up life science as a career.

DBT will identify colleges with ambition and potential for excellence and provide academic and physical infrastructure for achieving excellence in teaching and unique exposure of students to experimental science. The colleges that successfully implement the strategy will be considered as life science **'Star Colleges'**

2. Objectives:

- To strengthen the academic and physical infrastructure for achieving excellence in teaching and training.
- To enhance the quality of the learning and teaching process to stimulate original thinking through 'hands–on' exposure to experimental work and participation in summer schools.
- To promote networking and strengthen ties with neighboring institutions and other laboratories
- To conduct specialized training programmes for faculty improvement for optimizing technical capabilities
- To increase capabilities of core instrumentation resources by procuring new equipment and upgrading of existing facilities
- To provide access and exposure to students to research laboratories and industries in the country
- To help in devising standard curricula and Standard Operating Procedures (SOP's) / kits for practicals.
- To provide better library facility to students and teachers

3. Eligibility to Qualify for Star College:

- College should have completed minimum 10 years in offering UG courses in the specified subjects
- Minimum 4-5 UG courses in basic life science such as botany, zoology, applied life science, microbiology, physiology / biochemistry, biotechnology etc. and 1-2 applied course/PG diploma courses or minimum two honours course in any discipline of life sciences at undergraduate level.
- About 5-6 permanent faculty in each science department and minimum 3 faculties with Ph.D.
- Independent laboratories for practical to accommodate at least 10-15 students at a time
- Lecture halls/rooms for theory classes with minimum capacity for 20-25 students at a time
- Basic infrastructure and facilities in laboratories and library
- LCD / overhead projection facilities
- Computers with internet access
- **The Colleges which are included under Section 2(f)/12(B) of UGC Act 1956.**
- **Private colleges are not eligible.**

4. Activities to be Performed as Part of Star College:

For Faculty

- Faculty improvement programme
- Participation in summer courses for skill upgradation to be able to train students.
- Curriculum change to ensure more, 'hands - on' laboratory work
- Greater emphasis on communicating research and research process to students
- Introduce internal review process by students
- Feedback from students regarding competence of faculty, adequacy of teaching / laboratory environment and additional needs, if any
- Continue to think and assess use of funds to improve teaching / learning
- Any other relevant additional information

For Students

- Students training through summer training, industry visits.
- Use of IT in classroom, laboratory and library activities
- Inclusion of techniques for 'hands - on' training
- Any other relevant additional information

5. Nature of Financial Assistance:

(A) Star College:

One time non recurring grant up to a maximum of ` 10 lakhs for each science department (botany, zoology, microbiology, biochemistry, physics, chemistry) and recurring grant of ` 3 lakhs / year for consumables, ` 1 lakh/year for contingency to cover expenses on visiting faculty, guest lectures, seminars etc. for each department will be provided initially for a period of 2 years. Continuation of support for another 3 years will be based on evaluation of performance.

(B) Strengthening of Support Component:

One time non-recurring grant of ` 5.00 Lakh per science department, recurring grant of ` 2.00 lakh per science department per year and ` 1.0 Lakh per year for mentoring and monitoring will be provided.

6. Who can Apply?

To apply, the college must be Government or Government aided, autonomous and among the top three life science undergraduate programmes in the city (state).

7. How to Apply:

15 copies of duly filled proforma forwarded through head of institute should be sent to the respective regional coordinator.

8. Mode of Selection:

Applications will be invited through advertisement on DBT website, direct correspondence with potential colleges, nominations by vice chancellors etc. in a specified format. Consideration will be given to regional requirements, women's colleges, autonomous colleges etc. Applications will be screened by an expert committee and site visit, if required, will be undertaken to arrive at final decision. Decision of peer committee will be final.

9. Parameters to Measure Success:

DBT will measure progress of star colleges by following parameters:

- Substantial increase in proportion of 'hands on' experimental work by students.
- Increased access of undergraduate students to laboratory and bioinformatics infrastructure
- Improvement in access to life sciences related journals
- Summer schools

- Percentage of students pursuing life science as a career
- Measure effectiveness on the basis of feedback from students, faculty and employers of students

Instructions for Filling Proforma

1. Proposals should clearly highlight list of new practicals, student projects, visits by students and faculty improvement programs etc. to be introduced in existing courses by participating departments.

2. Complete postal address with email ID and phone/mobile numbers of Principal and coordinator for the program should be mentioned in A6 & A12 column

3. 15 copies of duly filled proforma, **not exceeding more than 60 sheets** (printed on both side and should **not** be hard bound) along-with a soft copy should be sent to

Dr. Sandhya R. Shenoy
Joint Director
Program Officer, Star College Scheme
Department of Biotechnology,
Ministry of Science & Technology, GoI
Block-2, 6th to 8th Floor, CGO Complex,
Lodi Road, New Delhi – 110003

Email: sandhya.shenoy@dbt.nic.in

4. Consolidated proposal having details of all participating departments should be submitted. Department wise separate copies of proposal will not be accepted.

5. Applicant colleges to visit the DBT website to take cognizance of Star College scheme guidelines and develop the proposals accordingly.

Proforma

Proforma for submission of Application for Star College

PART- A:
Information about Existing Facilities and Programs:

Sl. No.	Parameter	Sub-Parameter
	Section-A: General Information	
A-1	Name of the College	
A-2	Nature of the College (Government, Private, Autonomous)	
A-3	Whether registered under 12(b) and 2(f) of the UGC? Please enclose Documentary Evidence.	
A-4	Application Status	a) Fresh ☐ b) Rejected after Screening ☐ c) Rejected after Presentation ☐ d) Completion of One Tenure of Support ☐ e) Addition of New Departments ☐
A-5	Complete Postal Address with Pin-Code	
A-6	Name of the **Principal** Telephone No. with STD Code Mobile number Fax No. E-mail Website (URL)	
A-7	Location of College	f) Urban ☐ g) Rural ☐ h) Tribal ☐
A-8	Age of the College	a) 10-25 years ☐ b) 26-50 years ☐ c) 51-75 years ☐ d) 76-100 years ☐
A-9	Affiliated to which University	
A-10	Status about Affiliation	a) Permanent ☐ b) Temporary ☐
A-11	Name of Department (Subject wise) Name of Contact Person	a) Name of Degree Course ☐ b) Date of start of Course ☐ a) Designation : b) Complete Address : c) Phone : Email :
A-12	Name of **Programme Coordinator**	a) Designation : b) Complete Address : c) Phone : d) Email : e) Mobile No:
A-13	Name of Departments for which support under Star College scheme is sought	

Section-B: Infrastructure		
B-1	Laboratories	**Department** **Total expenditure during the past three years** 1. Physics List of equipment 2. Chemistry Name 3. Botany No. 4. Zoology Year of purchase 5. Computer 6. Biochemistry 7. Microbiology 8. Electronics
B-2	Library	a) Are there separate departmental libraries other than the Central Library Yes ☐ No ☐ b) Indicate the total Amount spent during the last three years
B-3	Computer Internet Facility	Yes/No
B-4	a) No. of Lecture Halls b) No. of Laboratories	
Section-C: Faculty		
C-1	Details about Teachers in each Science Department	a) Number, Name b) Permanent c) Temporary d) Part Time e) Adhoc/Re-employed f) Qualification g) Area of specialization h) And list of publications in last five years i) R&D projects received from different funding agencies indicating title, cost, duration, date of sanction, name of funding agencies.
C-2	Details about in service training for teachers: Address a) – c) and give additional inputs, if any	Number attended during last five years under the following a) Orientation Course (ASC/Identified Deptt/College) b) Refresher Course c) Conferences/Symposia/Seminar/Workshop

Section-D: Students		
D-1	Student Details	a) Student Statistics for last 5 years (i) Sl. No. (ii) Year (iii) No. of seats (iv) Mode of selection (v) No. of students admitted (vi) No. of students passed out (vii) Category G, SC, ST, OBC (viii) Sex M/F b) Do students under-take a summer training/research project? If yes, what is the duration c) Provide the list of projects under-taken by students in last 2 years along with institution
SECTION-E : CURRICULUM		
E-1	Curriculum	a) Enclose copy of curriculum b) List of the practical experiments in the curriculum actually done by the students and practical demonstrated. c) When was the last exercise for curriculum revision undertaken? d) Specialization of the course

PART- B:

Technical Details of the Proposed Program

1. Half page executive summary indicating relevance and expected outcome
2. Specific objectives (not more than one page)
3. Measures to be adopted to enhance bench skills of students, project work, summer training & industrial training (department wise); No. of beneficiaries in each.
4. Measures to be undertaken to upgrade skills of faculty by participation in faculty improvement programme
5. Appropriate modifications proposed in curriculum to cover laboratory exposure to students and IPR & biosafety issues (details thereof department wise)
6. Techniques to be included for hands on training to students (department wise); No. of beneficiaries in each.
7. Proposed activities for laboratory staff.
8. Involvement of visiting faculty (details of lecture & practicals to be covered in each department)
9. Additional practicals proposed to be undertaken by the college (within prescribed curriculum of the university), practicals which could not be conducted earlier due to lack of equipment or costly consumables. New equipment proposed to be purchased to be correlated with new additional practicals.
10. Timelines for activities listed at iii-v in each academic session indicating no. of proposed courses, no. of beneficiaries
11. Outreach activities for school teachers and college teachers.

PART- C:

Department wise Budget Requirement: (Put individual table for each Department)

(` in lakhs)

Sl. No.	Ist Year	IInd Year	IIIrd Year	Total
Non Recurring (not exceeding ₹5 lakhs) List of Routine minor laboratory equipment, (cost not exceeding ₹3.0 lakhs per equipment per department)				
Recurring (consolidated, **not exceeding ₹2 lakhs)**				
Total				

Total Budget for all Departments:

Total Non-recurring:

Total Recurring

Signature of Executive Authority
of the Institute/University with Seal

Signature of Program
Coordinator

Date: