

Annual Quality Assurance Report



School of Life Sciences **Manipal Academy of Higher Education, Manipal** **(2017-18)**



SCHOOL OF LIFE SCIENCES
MANIPAL
(A constituent unit of MAHE, Manipal)

Annual Quality Assurance Report (AQAR) in Accredited Institutions (Revised in October 2013)



राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद्

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

P. O. Box. No. 1075, Opp: NLSIU, Nagarbhavi, Bangalore - 560 072 India

The Annual Quality Assurance Report (AQAR) of the IQAC

All NAAC accredited institutions will submit an annual self-reviewed progress report to NAAC, through its IQAC. The report is to detail the tangible results achieved in key areas, specifically identified by the institutional IQAC at the beginning of the academic year. The AQAR will detail the results of the perspective plan worked out by the IQAC. (Note: The AQAR period would be the Academic Year. For example, July 1, 2012 to June 30, 2013)

Part – A

AQAR for the year (for example 2013-14)

2017-18

I. Details of the Institution

1.1 Name of the Institution

School of Life Sciences

1.2 Address Line 1

Planetarium Complex

Address Line 2

Manipal Academy of Higher Education

City/Town

MANIPAL, UDUPI

State

KARNATAKA

Pin Code

576104

Institution e-mail address

mlsc@manipal.edu

Contact Nos.

+91 820 2922058; +91 820 2922702

Name of the Head of the Institution:

Dr. K Satyamoorthy

Tel. No. with STD Code:

+91 820 2571925

Mobile:

+91 9845718604

Name of the IQAC Co-ordinator:

Dr. TG Vasudevan

Mobile:

IQAC e-mail address:

1.5 Website address:

Web-link of the AQAR:

For ex. <http://www.ladykeanecollege.edu.in/AQAR2012-13.doc>

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 st Cycle	B+	--	2002	5 yrs
2	2 nd Cycle	A	3.30	2016	5 yrs

1.7 Date of Establishment of IQAC :

1.8 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC (*for example AQAR 2010-11 submitted to NAAC on 12-10-2011*)

- i. AQAR 2013-14 21/05/2016 (DD/MM/YYYY)
- ii. AQAR 2014-15 21/05/2016 (DD/MM/YYYY)
- iii. AQAR 2015-16 05/01/2017 (DD/MM/YYYY)
- iv. AQAR 2016-17 03/01/2018 (DD/MM/YYYY)

1.9 Institutional Status

University State Central Deemed Private

Affiliated College Yes No

Constituent College Yes No

Autonomous college of UGC Yes No

Regulatory Agency approved Institution Yes No

(eg. AICTE, BCI, MCI, PCI, NCI)

Type of Institution Co-education Men Women

Urban Rural Tribal

Financial Status Grant-in-aid UGC 2(f) UGC 12B

Grant-in-aid + Self Financing Totally Self-financing

1.10 Type of Faculty/Programme

Arts Science Commerce Law PEI (Phys Edu)

TEI (Edu) Engineering Health Science Management

Others (Specify)

1.11 Name of the Affiliating University (*for the Colleges*)

Not applicable (NA)

1.12 Special status conferred by Central/ State Government-- UGC/CSIR/DST/DBT/ICMR etc

Autonomy by State/Central Govt. / University

University with Potential for Excellence UGC-CPE

DST Star Scheme UGC-CE

UGC-Special Assistance Programme DST-FIST

UGC-Innovative PG programmes Any other (*Specify*)

UGC-COP Programmes

2. IQAC Composition and Activities

2.1 No. of Teachers

2.2 No. of Administrative/Technical staff

2.3 No. of students

2.4 No. of Management representatives

2.5 No. of Alumni

2.6 No. of any other stakeholder and
community representatives

2.7 No. of Employers/ Industrialists

2.8 No. of other External Experts

2.9 Total No. of members

2.10 No. of IQAC meetings held

2.11 No. of meetings with various stakeholders: No. Faculty

Non-Teaching Staff Students Alumni Others

2.12 Has IQAC received any funding from UGC during the year? Yes No

If yes, mention the amount

2.13 Seminars and Conferences (only quality related)

(i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Total Nos. International National State Institution Level

(ii) Themes

2.14 Significant Activities and contributions made by IQAC

2.15 Plan of Action by IQAC/Outcome

The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year *

Plan of Action	Achievements

* Attach the Academic Calendar of the year as Annexure.

2.15 Whether the AQAR was placed in statutory body Yes No

Management Syndicate Any other body

Provide the details of the action taken

Part – B

Criterion – I

I. Curricular Aspects

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD	1	0	1	-
PG	4	0	4	-
UG	1	0	1	-
PG Diploma	1	0	1	-
Advanced Diploma	-	-	-	-
Diploma	-	-	-	-
Certificate	1	0	1	-
Others	-	-	-	-
Total	8	0	8	-
Interdisciplinary	3	1	4	-
Innovative	-	-	-	-

1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options

(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	6
Trimester	0
Annual	0

1.3 Feedback from stakeholders* Alumni Parents Employers Students

(On all aspects)

Mode of feedback : Online Manual Co-operating schools (for PEI)

*Please provide an analysis of the feedback in the Annexure

1.4 Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.

1. Approved integration of non-CBCS repeater with CBCS program and the relevant equivalence tables for B.Sc. Biotechnology course (BoS, September 2017)
2. Approved regulation and syllabus of Post-graduate Diploma program in Cellular and Molecular Diagnostics, and revised regulations for MSc by Research in Life Sciences program (BoS, March 2018)
3. Approved modification in marks distribution for second semester of PG Diploma in Cellular and Molecular Diagnostics program, as per KITS regulations, and integration of non-CBCS repeater with CBCS program regulations for M.Sc. Medical Biotechnology program (BoS, October 2018)

1.5 Any new Department/Centre introduced during the year. If yes, give details.

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
25	6	6	9	4

2.2 No. of permanent faculty with Ph.D.

21

2.3 No. of Faculty Positions Recruited (R) and Vacant (V) during the year

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
1	0	0	0	0	0	0	0	1	0

2.4 No. of Guest and Visiting faculty and Temporary faculty

0	14	0
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2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	8	6	
Presented papers	8	6	
Resource Persons	5	3	

2.6 Innovative processes adopted by the institution in Teaching and Learning:

- | |
|--|
| <ul style="list-style-type: none"> • Teacher guardian for first year students • Coaching for slow learners |
|--|

2.7 Total No. of actual teaching days during this academic year

~285 (excluding examination days)

2.8 Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)

Digital examination for all degree courses
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2.9 No. of faculty members involved in curriculum restructuring/revision/syllabus development

8 (BoS)	NA	NA
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as member of Board of Study/Faculty/Curriculum Development workshop

2.10 Average percentage of attendance of students

~85

2.11 Course/Programme wise distribution of pass percentage :

Title of the Programme	Total no. of students appeared	Division				
		Distinction %	I %	II %	III %	Pass %
BSc Biotechnology	41	22	12	0	0	7
MSc Medical Biotechnology	13	5	7	0	0	1
MSc Mol. Biol. & Hum. Genet.	15	6	8	0	0	1
MSc Bioinformatics	7	4	2	0	0	1
PG Diploma (CMD)	NA	NA	NA	NA	NA	NA

2.12 How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:

Every subject has a teaching schedule drawn. Every class is registered through an online attendance. Students provide feedback on faculty and services. Every student is monitored and evaluated via internal assessment examinations, seminar presentations and assignments.

2.13 Initiatives undertaken towards faculty development

<i>Faculty / Staff Development Programmes</i>	<i>Number of faculty benefitted</i>
Refresher courses	25
UGC – Faculty Improvement Programme	NA
HRD programmes	NA
Orientation programmes	0
Faculty exchange programme	0
Staff training conducted by the university	6
Staff training conducted by other institutions	0
Summer / Winter schools, Workshops, etc.	25
Others	0

2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	18	0	0	0
Technical Staff	23	0	0	0

Criterion – III

3. Research, Consultancy and Extension

3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

Faculty members encouraged to apply and procure research grants,
 Results of research published in peer-reviewed, indexed journals.
 Publishing faculty members rewarded as per the research policy of the University.
 Every student undertakes a research project as part of the curriculum.
 A new MSc program by research with 3 semesters of research work.
 Researchers are encouraged to participate and present their work in conferences/symposia.
 Infrastructure development to ensure research in contemporary areas

3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	2	11	7	45
Outlay in Rs. Lakhs	71.10	382.51	115.20	1885

3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	Nil	7	3	7
Outlay in Rs. Lakhs	Nil	70.26	36.30	19.56

3.4 Details on research publications

	International	National	Others
Peer Review Journals	38	0	0
Non-Peer Review Journals	0	0	0
e-Journals			
Conference proceedings	0	0	0

3.5 Details on Impact factor of publications:

Range 1.3-27.9 Average 3.36 h-index 8 Nos. in SCOPUS 35

3.6 Research funds sanctioned and received from various funding agencies, industry and other organisations

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	3-5	DBT, DST, IGSTC	792.18	257.61
Minor Projects	1-3	ICMR, DST	120.82	60.40
Interdisciplinary Projects				
Industry sponsored			3.09	3.09
Projects sponsored by the University/ College				
Students research projects <i>(other than compulsory by the University)</i>				
Any other(Specify) (AGE)				
Total			916.09	321.10

3.7 No. of books published i) With ISBN No. Chapters in Edited Books

ii) Without ISBN No.

3.8 No. of University Departments receiving funds from

UGC-SAP CAS DST-FIST
 DPE DBT Scheme/funds

3.9 For colleges

Autonomy CPE DBT Star Scheme
 INSPIRE CE Any Other (specify)

3.10 Revenue generated through consultancy

3.11 No. of conferences

organized by the Institution

Level	International	National	State	University	College
Number	3	1	1	7	0
Sponsoring agencies	AIST, DBT, DST, MU	DST, MU	SBC(I), MU	ThermoFisher, MU	NA

3.12 No. of faculty served as experts, chairpersons or resource persons

3.13 No. of collaborations International National Any other

3.14 No. of linkages created during this year

3.15 Total budget for research for current year in lakhs :

From Funding agency From Management of University/College

Total

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	3
	Granted	0
International	Applied	0
	Granted	0
Commercialised	Applied	0
	Granted	0

3.17 No. of research awards/ recognitions received by faculty and research fellows
Of the institute in the year

Total	International	National	State	University	Dist	College
33	19	4	3	7	0	

3.18 No. of faculty from the Institution who are Ph. D. Guides
and students registered under them

3.19 No. of Ph.D. awarded by faculty from the Institution

3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)

JRF SRF Project Fellows Any other

3.21 No. of students Participated in NSS events:

University level State level
National level International level

3.22 No. of students participated in NCC events:

University level State level
National level International level

3.23 No. of Awards won in NSS:

University level State level
National level International level

3.24 No. of Awards won in NCC:

University level State level
National level International level

3.25 No. of Extension activities organized

University forum College forum
NCC NSS Any other

3.26 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility

- Science Day residential program for a week, culminating in a science exhibition for public, including school students (Feb 2018)
- Student forum organised lectures on a range of topics by external experts
- Student Council visited and donated essentials to old age home and orphanage
- Workshops and demonstrations arranged for students from schools and colleges in the state
- Books donation and other activities, as part of Daan Utsav

Criterion – IV

4. Infrastructure and Learning Resources

4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	27500 sq. ft.			27500 sq. ft.
Class rooms	5	0	Institutional	5
Laboratories	25	0		25
Seminar Halls	3	0		0
No. of important equipments purchased (\geq 1-0 lakh) during the current year.	> 472	8	Institutional	>480
Value of the equipment purchased during the year (Rs. in Lakhs)		48.64		
Others				

4.2 Computerization of administration and library

Faculty, staff and students have access to computer, internet and Wi-Fi facility throughout the premises. Library resources are easily accessible through intranet as well as internet, providing access to thousands of online journals, books, databases and other resources. Online attendance record is available for every student via secure login. Student feedback on faculty and services is administered online at the end of every term.

4.3 Library services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books						
Reference Books	435		15		450	
e-Books						
Journals						
e-Journals						
Digital Database						
CD & Video						
Others (specify)						

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Others
Existing	185	3	Yes	NA	NA	8	0	92
Added	05	-	Yes	NA	NA	0	0	02
Total	190	3	Yes	NA	NA	8	0	94

4.5 Computer, Internet access, training to teachers and students and any other programme for technology upgradation (Networking, e-Governance etc.)

All teachers, students, researchers and staff have Wi-Fi and internet connectivity in the premises

4.6 Amount spent on maintenance in lakhs :

i) ICT	10.14
ii) Campus Infrastructure and facilities	49.23
iii) Equipments	108.68
iv) Others	8.76
Total :	176.81

Criterion – V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

Orientation program for new students of every batch, providing details about the various support services available at the University and the School

5.2 Efforts made by the institution for tracking the progression

Teacher-guardian for every student
 Regular feedback to students and parents (during the program)
 Faculty in touch with students regarding their progression
 Alumni cell and coordinator, contact via emails (after graduation)

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
152	104	51	20

(b) No. of students outside the state

145

(c) No. of international students

18

	No	%		No	%
Men	101	32	Women	212	68

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
244	06	0	12	0	262	185	1	2	56	0	295

Demand ratio 10:1 Dropout % 6

5.4 Details of student support mechanism for coaching for competitive examinations (If any)

Nil

No. of students beneficiaries

5.5 No. of students qualified in these examinations

NET SET/SLET GATE CAT
IAS/IPS etc State PSC UPSC Others

5.6 Details of student counselling and career guidance

Students needing counselling are referred to the Student Affairs department of the University. Teacher-guardians also monitor and counsel students on a regular basis.

No. of students benefitted

5.7 Details of campus placement

<i>On campus</i>			<i>Off Campus</i>
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed

5.8 Details of gender sensitization programmes

Nil

5.9 Students Activities

5.9.1 No. of students participated in Sports, Games and other events

State/ University level National level International level
No. of students participated in cultural events

State/ University level National level International level

5.9.2 No. of medals /awards won by students in Sports, Games and other events

Sports : State/ University level National level International level

Cultural: State/ University level National level International level

5.10 Scholarships and Financial Support

	Number of students	Amount (in lakhs)
Financial support from institution	36	19.61
Financial support from government	5	0.91
Financial support from other sources	1	0.5
Number of students who received International/ National recognitions		

5.11 Student organised / initiatives

Fairs : State/ University level National level International level

Exhibition: State/ University level National level International level

5.12 No. of social initiatives undertaken by the students

5.13 Major grievances of students (if any) redressed: _____

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

Vision: To be the centre of excellence in basic and biomedical research, education and diagnostics
Mission: to engage in cutting edge research, training, education and offer help to the community in the field of human health

6.2 Does the Institution has a management Information System

Yes. The institution has an intranet portal and faculty and students can access the same. Circulars are emailed and uploaded on the site and students and staff can access it. Management makes use of the Microsoft software for leave approvals, purchase and inventory management. Student information portal provides marks, attendance and other academic information to students and parents.

6.3 Quality improvement strategies adopted by the institution for each of the following:

6.3.1 Curriculum Development

- Identify current areas of relevance and update the curriculum periodically
- Moved towards Choice-based credit system for all courses
- Introduction of new courses of futuristic relevance

6.3.2 Teaching and Learning

6.3.3 Examination and Evaluation

- Examination via e-pads and online evaluation of answer scripts
- To enhance student graduation rate (target: 1% better than average of three previous batches)

6.3.4 Research and Development

Set measurable targets for projects in cutting edge areas of science, improved publication record in indexed journals

6.3.5 Library, ICT and physical infrastructure / instrumentation

Improve number of books procured in relevant areas of teaching and research

6.3.6 Human Resource Management

6.3.7 Faculty and Staff recruitment

Recruitment of employees is as per the university policy and guidelines, with publications and conference presentations requisite as a reflection of research capability. Every staff member receives Provident fund, Study leave, healthcare (Medicare, ESI etc.) benefits.

6.3.8 Industry Interaction / Collaboration

Seek and promote industry collaborations

6.3.9 Admission of Students

- Increase number of applications for every course, through active interactions
- Reduce attrition rate of students

6.4 Welfare schemes for

Teaching	Provident fund, school fees for reimbursement, LTC, Housing allotment, MU interest subsidy on utility loan subsidy, Medicare facility, National Pension Scheme, Sodexo meal coupons, Scholarship on course fee of spouse, children, employees, support for attending conferences, publications.
Non-teaching	Provident fund, school fees reimbursement, Medicare facility, ESI scheme, scholarship for course fee for spouse, children and employees, Felicitation of employees, Best service award
Students	Medicare facilities, Anti-ragging committee, Counselling, Felicitation of students for co-curricular and academic activities, Support for attending conferences

6.5 Total corpus fund generated

6.6 Whether annual financial audit has been done Yes No

6.7 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	TUV	Yes	Self
Administrative	Yes	TUV	Yes	Self

6.8 Does the University/ Autonomous College declares results within 30 days?

For UG Programmes Yes No

For PG Programmes Yes No

6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?

- As part of University initiative introduced digital e-pads, replacing papers, for students to write their examinations
- Plans to introduce corrective examinations within a month of results declaration, for students to have a second chance at clearing examinations

6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?

NA

6.11 Activities and support from the Alumni Association

Alumni are regularly updated about the activities of their alma mater and opportunities

6.12 Activities and support from the Parent – Teacher Association

Inputs from parents/guardians, where applicable, are incorporated to monitor the progress of students

6.13 Development programmes for support staff

Undertaken at the University level

6.14 Initiatives taken by the institution to make the campus eco-friendly

Create awareness among students to reduce use of private vehicles inside the campus
Reduce waste generation, energy consumption
Segregated waste disposal system
'Swachh Bharath' campaigns initiated and held

Criterion – VII

7. Innovations and Best Practices

7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.

Choice based Credit System introduced for all UG and PG programs
Digital Examinations for all courses
High-end molecular diagnostic methods using NGS, MS

7.2 Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year

Not applicable

7.3 Give two Best Practices of the institution (*please see the format in the NAAC Self-study Manuals*)

- Research on contemporary topics of science
- Hands-on, live project for students at all levels
- Specialised diagnostics for public

**Provide the details in annexure (annexure need to be numbered as i, ii,iii)*

7.4 Contribution to environmental awareness / protection

- Institution has Environmental Management System (EMS) in place
- Students learn about sustainability science
- Students and employees participate in Swachh Bharath activities

7.5 Whether environmental audit was conducted? Yes No

7.6 Any other relevant information the institution wishes to add. (for example SWOT Analysis)

Nil

8. Plans of institution for next year

Sustain existing programs, excel in current academic and research programs, enhance student all round performance, provide coaching for competitive examinations, strive for national/international scholarships, increase outreach activities and programs for societal benefit.

Construction of new building (almost completed) and proposal for new programs – to be continued in 2018-19

Name Dr. T.G. Vasudevan

Name Dr. K Satyamoorthy

Signature of the Coordinator, IQAC

Signature of the Chairperson, IQAC

Abbreviations:

CAS	-	Career Advanced Scheme
CAT	-	Common Admission Test
CBCS	-	Choice Based Credit System
CE	-	Centre for Excellence
COP	-	Career Oriented Programme
CPE	-	College with Potential for Excellence
DPE	-	Department with Potential for Excellence
GATE	-	Graduate Aptitude Test
NET	-	National Eligibility Test
PEI	-	Physical Education Institution
SAP	-	Special Assistance Programme
SF	-	Self Financing
SLET	-	State Level Eligibility Test
TEI	-	Teacher Education Institution
UPE	-	University with Potential Excellence
UPSC	-	Union Public Service Commission
