

Annual Quality Assurance Report



Manipal School of Life Sciences Manipal Academy of Higher Education, Manipal

(2018-19)



**MANIPAL SCHOOL OF LIFE SCIENCES
MANIPAL**

(A constituent unit of MAHE, Manipal)

Guidelines for the Creation of the
Internal Quality Assurance Cell (IQAC)
and Submission of Annual Quality Assurance
Report (AQAR) by Accredited Institutions
(For Affiliated/Constituent Colleges)

(Revised as per Revised Accreditation Framework in November, 2017)



राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

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, **Bengaluru - 560 072** India

NAAC

VISION

To make quality the defining element of higher education in India through a combination of self and external quality evaluation, promotion and sustenance initiatives.

MISSION

- ☞ To arrange for periodic assessment and accreditation of institutions of higher education or units thereof, or specific academic programmes or projects;*
- ☞ To stimulate the academic environment for promotion of quality of teaching-learning and research in higher education institutions;*
- ☞ To encourage self-evaluation, accountability, autonomy and innovations in higher education;*
- ☞ To undertake quality-related research studies, consultancy and training programmes, and*
- ☞ To collaborate with other stakeholders of higher education for quality evaluation, promotion and sustenance.*

Value Framework

To promote the following core values among the HEIs of the country:

- Contributing to National Development*
- Fostering Global Competencies among Students*
- Inculcating a Value System among Students*
- Promoting the Use of Technology*
- Quest for Excellence*

The Annual Quality Assurance Report (AQAR) of the IQAC *(For Affiliated/Constituent Colleges)*

Institutions Accredited by NAAC need to submit an Annual self-reviewed progress report i.e. Annual Quality Assurance Report (AQAR) to NAAC, through its IQAC. The report is to detail the tangible results achieved in key areas, specifically identified by the IQAC at the beginning of the Academic year. *The AQAR period would be the Academic Year. (For example, July 1, 2017 to June 30, 2018)*

Note: The terms and abbreviation used in AQAR are in accordance with respective manuals for assessment of NAAC. Please refer institutional manual for glossary and abbreviations terms used in AQAR.

Part – A

Data of the Institution

(data may be captured from IQA)

1. Name of the Institution Manipal School of Life Sciences

- Name of the Head of the institution : Dr. K Satyamoorthy
- Designation: Professor & Director
- Does the institution function from own campus: Yes
- Phone no./Alternate phone no.: 0820-2571919; 0820-2922058
- Mobile no.: 9845718604
- Registered e-mail: ksatyamoorthy@manipal.edu
- Alternate e-mail : mlsc@manipal.edu
- Address : Planetarium Complex, Manipal Academy of Higher Education
- City/Town : Manipal
- State/UT : Karnataka
- Pin Code : 576104

2. Institutional status:

- Affiliated / Constituent: Constituent
- Type of Institution: Co-education/~~Men/Women~~
- Location : Rural/Semi-urban/Urban: Rural
- Financial Status: Grants-in aid/ UGC 2f and 12 (B)/ Self financing
(please specify)
Self-financing
- Name of the Affiliating University: NA
- Name of the IQAC Co-ordinator : Dr. TG Vasudevan
- Phone no. : 0820-2922058

Alternate phone no.

- Mobile: 9741735917

- IQAC e-mail address: iqac.sols@manipal.edu
- Alternate Email address: mlsc@manipal.edu

3. Website address: www.manipal.edu/msls

Web-link of the AQAR: (Previous Academic Year):

<https://manipal.edu/content/dam/manipal/mu/sols/images/Docuement/SOLS-Institution%20AQAR-2017-18.pdf>

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

4. Whether Academic Calendar prepared during the year?

Yes/No....., if yes, whether it is uploaded in the Institutional website: No

Weblink:

5. Accreditation Details:

Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1 st				from: to:
2 nd				from: to:
3 rd				from: to:
4 th				from: to:
5 th				from: to:

6. Date of Establishment of IQAC: DD/MM/YYYY:

7. Internal Quality Assurance System

7.1 Quality initiatives by IQAC during the year for promoting quality culture		
Item /Title of the quality initiative by IQAC	Date & duration	Number of participants/beneficiaries

Note: Some Quality Assurance initiatives of the institution are:

(Indicative list)

- Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback from all stakeholders collected, analysed and used for improvements
- Academic Administrative Audit (AAA) conducted and its follow up action
- Participation in NIRF
- ISO Certification
- NBA etc.

- *Any other Quality Audit*

8. Provide the list of funds by Central/ State Government-

UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

Institution/ Department/Faculty	Scheme	Funding agency	Year of award with duration	Amount

9. Whether composition of IQAC as per latest NAAC guidelines: Yes/No: Yes

*upload latest notification of formation of IQAC

10. No. of IQAC meetings held during the year:

The minutes of IQAC meeting and compliance to the decisions have been uploaded on the institutional website.....

Yes/No

(Please upload, minutes of meetings and action taken report)

11. Whether IQAC received funding from any of the funding agency to support its activities during the year? Yes No ✓

If yes, mention the amount:

Year:

12. Significant contributions made by IQAC during the current year (maximum five bullets)

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13. Plan of action chalked out by the IQAC in the beginning of the Academic year towards Quality Enhancement and the outcome achieved by the end of the Academic year

Plan of Action	Achievements/Outcomes

14. Whether the AQAR was placed before statutory body? Yes /No:

Name of the Statutory body:

Date of meeting(s):

15. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to assess the functioning?

Yes/No:

Date:

16. Whether institutional data submitted to AISHE: Yes/No:

Year:

Date of Submission:

17. Does the Institution have Management Information System?

Yes

No

If yes, give a brief description and a list of modules currently operational.

(Maximum 500 words)

Part-B

CRITERION I – CURRICULAR ASPECTS					
1.1 Curriculum Planning and Implementation					
1.1.1 Institution has the mechanism for well planned curriculum delivery and documentation. Explain in 500 words					
Yes. Institution has Board of Studies, comprised of eminent individuals, which approves the structure and content of the curricula proposed for the various programs offered. Such contents are usually reviewed and revised as per the feedback from the various stakeholders. Once the approval is provided, academic calendars and class schedules are drawn, approved and circulated. Classes are distributed to all teaching faculty and are held as per schedule. Attendance is marked and is an eligibility criteria for appearing in examinations. Examinations are conducted every session (internal) and at the end of every semester (external). Candidate performance is evaluated, contributing to the grades. Online tools are available to monitor curriculum delivery, attendance, evaluation and assessment of performances.					
1.1.2 Certificate/ Diploma Courses introduced during the Academic year					
Name of the Certificate Course	Name of the Diploma Courses	Date of introduction and duration	focus on employability/ entrepreneurship	Skill development	
NA	NA	NA	NA	NA	
1.2 Academic Flexibility					
1.2.1 New programmes/courses introduced during the Academic year					
Programme with Code	Date of Introduction		Course with Code	Date of Introduction	
NA	NA		NA	NA	
1.2.2 Programmes in which Choice Based Credit System (CBCS)/Elective course system implemented at the affiliated Colleges (if applicable) during the Academic year.					
Name of Programmes adopting CBCS	UG	PG	Date of implementation of CBCS / Elective Course System	UG	PG
BSc Biotechnology	Yes	-	July 2016	Yes	-
MSc Medical Biotechnology	-	Yes	August 2017	-	Yes
MSc Molecular Biology & Human Genetics	-	Yes	August 2017	-	Yes
MSc Bioinformatics	-	Yes	August 2017	-	Yes
MSc by Research in Life Sciences	-	Yes	August 2017	-	Yes
Already adopted (mention the year) 2016 & 2017					
1.2.3 Students enrolled in Certificate/ Diploma Courses introduced during the year					
	Certificate		Diploma Courses		
No of Students	NA		NA		
1.3 Curriculum Enrichment					
1.3.1 Value-added courses imparting transferable and life skills offered during the year					
Value added courses			Date of introduction	Number of students enrolled	
PG Diploma (Cellular and Molecular Diagnostics)			March 2018	27	
1.3.2 Field Projects / Internships under taken during the year					
Project/Programme Title			No. of students enrolled for Field Projects / Internships		
Internships (IAESTE)			1		
Internships (AIESEC)			2		

PGD Internships (industry)	8				
PGD Internships (industry)	19				
BSc Biotechnology	53				
MSc Medical Biotechnology	17				
MSc Molecular Biology & Human Genetics	21				
MSc Bioinformatics	2				
MSc by Research in Life Sciences	2				
1.4 Feedback System					
1.4.1 Whether structured feedback received from all the stakeholders.					
1) Students	2) Teachers	3) Employers	4) Alumni	5) Parents	
Yes	Yes	Yes/ No	Yes/ No	Yes/ No	
1.4.2 How the feedback obtained is being analyzed and utilized for overall development of the institution? (maximum 500 words)					
Students provide feedback on the university services and faculty through the secure online portals. Faculty provide feedback on the university services and also the head of departments. In addition, feedback is obtained from other stakeholders for varying purposes. All feedback is made available to the concerned faculty member/s for suitable corrective action, where needed. If any of the feedback is below the minimum expectations of the institution, then the personnel concerned meet to discuss the ways to improve those aspects. The institution also receives feedback on the curriculum from the students and other external experts regularly and strives to revise the curriculum as required.					
CRITERION II -TEACHING-LEARNING AND EVALUATION					
2.1 Student Enrolment and Profile					
2.1. 1 Demand Ratio during the year					
Name of the Programme	Number of seats available	Number of applications received	Students Enrolled		
BSc Biotechnology	40	1334	54		
MSc Medical Biotechnology	15	319	20		
MSc Molecular Biology & Human Genetics	15		20		
MSc Bioinformatics	10	86	15		
MSc by Research in Life Sciences	5	68	2		
MSc Systems Biology	10	21	9		
2.2 Catering to Student Diversity					
2.2.1. Student - Full time teacher ratio (current year data)					
Year	Number of students enrolled in the institution (UG)	Number of students enrolled in the institution (PG)	Number of full time teachers available in the institution teaching only UG courses	Number of full time teachers available in the institution teaching only PG courses	Number of teachers teaching both UG and PG courses
2018-19	162	113	-	-	26
2.3 Teaching - Learning Process					
2.3.1 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc. (current year data)					
Number of teachers on roll	Number of teachers using ICT (<i>LMS, e-Resources</i>)	ICT tools and resources available	Number of ICT enabled classrooms	Number of smart classrooms	E-resources and techniques used
26	26	Computers, laptops, scanners,	9	1	Online databases,

		audio-visual aids with internet connectivity			journals, videos, e-books
2.3.2 Students mentoring system available in the institution? Give details. (maximum 500 words)					
Every undergraduate gaining first year admission to the BSc course is allocated a Teacher-Guardian, who is a faculty member of the institution. A teacher-guardian has about 6-8 wards under his/her custody. These teacher-guardians provide assistance for the students to acclimatize to the new environs, liaise between the students and parents in matters pertaining to student welfare, mentor the students to ensure that they progress in their academic activities and performance, and where students lack, provide suitable curricular suggestions for improvement. The students and teacher-guardians meet regularly to discuss any issues that are pertinent. In addition, every program has its own class teachers who are responsible for the overall conduct and performance of the students in their respective programs. Students gaining admission to the postgraduate programs have their class teachers, who act as their mentors. In addition to all the above, all the faculty members of the institution take responsibility to address any specific requirements of the students that affects their studies and try to provide better learning opportunities. The heads of the department and the head of institution regularly receive feedback from the faculty members and students to ensure the conduct, development and progress of students.					
Number of students enrolled in the institution		Number of fulltime teachers		Mentor: Mentee Ratio	
275		26		1:10	

2.4 Teacher Profile and Quality				
2.4.1 Number of full time teachers appointed during the year				
No. of sanctioned positions	No. of filled positions	Vacant positions	Positions filled during the current year	No. of faculty with Ph.D
2	2	0	2	22
2.4.2 Honours and recognitions received by teachers (received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the year)				
<i>Year of award</i>	<i>Name of full time teachers receiving awards from state level, national level, international level</i>	<i>Designation</i>	<i>Name of the award, fellowship, received from Government or recognized bodies</i>	
2018-2020	Dr. Krishna Kishore Mahato	Professor	Visiting Fellow at Queensland University of Technology, Australia	
2018	Dr. TS Murali	Associate Professor	Australian Endeavour Executive Fellowship Award	
2018-2019	Dr. Sanjiban Chakrabarty	Assistant Professor	Post-Doctoral Fellowship at Erasmus MC, Rotterdam	
2018	Dr. Kamalesh Mumbrekar	Assistant Professor	M R Raju Award, Indian Society of Radiation Research	
2018-2019	Dr. Nirmal Mazumder	Assistant Professor	OSA Senior Member, The Optical Society, USA	
2019	Dr. Gireesh G	Assistant Professor	Ramalingaswamy Fellowship from Department of Biotechnology (DBT), Govt. of India	
2.5 Evaluation Process and Reforms				

2.5.1 Number of days from the date of semester-end/ year- end examination till the declaration of results during the year				
Programme Name	Programme Code	Semester/ year	Last date of the last semester-end/ year-end examination	Date of declaration of results of semester-end/ year- end examination
BSc	017L01	1/1	28/11/2018	10/12/2018
		2/1	30/05/2018	19/06/2018
		3/2	28/11/2018	05/12/2018
		4/2	31/05/2018	22/06/2018
		5/3	23/11/2018	11/12/2018
		6/3	21/06/2018	23/06/2018
		2/1	30/05/2018	19/06/2018
MSc	017L02	1/1	04/01/2019	30/01/2019
	017L03	2/1	03/07/2018	09/08/2018
	017L06	3/2	29/12/2018	02/02/2019
	017L08	4/2	19/07/2018	26/07/2018
PG Diploma	017L07	1/1	10/09/2018	29/09/2018
		2/1	12/03/2019	01/04/2019
2.5.2 Reforms initiated on Continuous Internal Evaluation(CIE) system at the institutional level (250 words)				
Student assessment is conducted through separate examinations, both internally and externally. In addition, students are evaluated for their soft skills via presentations and related aspects. Faculty members also provide continuous assessment of students during the classes, their ability to interact, learn and perform.				
2.5.3 Academic calendar prepared and adhered for conduct of Examination and other related matters (250 words)				
At the beginning of every semester, the corresponding academic calendar is circulated among all faculty members, mentioning the respective dates for sessional examinations, evaluation and related matters. In addition to this, the institution sends regular communication via circulars to the faculty members just before the start of the examinations mentioning the last date for evaluation and submission of marks. This ensures that the concerned are able to meet the relevant deadlines and the resultant declaration of results happens on time. If there are exceptions in meeting deadlines, an explanation is sought from the concerned faculty member/s. Any relevant and persistent issues related to the examinations and evaluation are further discussed in faculty meetings and suitable remedial measures introduced.				
2.6 Student Performance and Learning Outcomes				
2.6.1 Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)				
In the process of being implemented				
2.6.2 Pass percentage of students				
Programme Code	Programme name	Number of students appeared in the final year examination	Number of students passed in final semester/year examination	Pass Percentage
017L01	BSc Biotechnology	52	50	96.15
017L02	MSc Medical Biotechnology	17	17	100
017L03	MSc Molecular Biology & Human Genetics	21	21	100
017L06	MSc Bioinformatics	2	2	100
017L07	PG Diploma	8	8	100

	(CMD)			
017L08	MSc Research in Life Sciences	2	2	100

2.7 Student Satisfaction Survey

2.7.1 Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as weblink)

Student Satisfaction Survey on overall institutional services is conducted centrally by MAHE, Manipal. Student feedback on faculty in the past year is above the required criteria set by the university (min. 3.5/5). The faculty members are able to see the student feedback on various aspects of their performance at the end of every semester and are encouraged to rectify/modify their actions and needs accordingly. The annual appraisal of the faculty members includes this feedback as an essential and objective component.

CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.1 Resource Mobilization for Research

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

Nature of the Project	Duration	Name of the funding Agency	Total grant Sanctioned (in INR Lakhs)	Amount received during the Academic year
Major projects	3-5 years	DBT, BIRAC, IGSTC, DST-SERB, ICMR, KBITS, VGST	621.81	361.01
Minor Projects	1-5 years	DBT, ICMR, DST-SERB, CSIR, SPPU	146.15	18.35
Interdisciplinary Projects				
Industry sponsored Projects	1-3 years	Encube Ethicals PL, Indo German Alkaloids, Stempeutics PL, Sysmex India PL	14.99	9.99
Projects sponsored by the University/ College				
Students Research Projects (other than compulsory by the College)				
International Projects				
Any other(Specify)				
Total			782.95	389.35

3.2 Innovation Ecosystem

3.2.1 Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

Title of Workshop/Seminar	Name of the Dept.	Date(s)

3.2.2 Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Title of the innovation	Name of the Awardee	Awarding Agency	Date of Award	Category

3.2.3 No. of Incubation centre created, start-ups incubated on campus during the year							
Incubation Centre		Name			Sponsored by		
Name of the Start-up		Nature of Start-up			Date of commencement		
3.3 Research Publications and Awards							
3.3.1 Incentive to the teachers who receive recognition/awards							
State		National			International		
3.3.2 Ph. Ds awarded during the year (<i>applicable for PG College, Research Center</i>)							
Name of the Department				No. of Ph. Ds Awarded			
Department of Ageing Research				1			
3.3.3 Research Publications in the Journals notified on UGC website during the year							
		Department			No. of Publication	Average Impact Factor, if any	
National		Biotechnology, Plant Sciences			2	0.5	
International		Ageing Research, Bioinformatics, Biophysics, Biotechnology, Cell & Molecular Biology, Plant Sciences, Public Health Genomics, Radiation Biology & Toxicology			29	2.96	
3.3.4 Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year							
Department				No. of publication			
Ageing Research, Biophysics				2			
3.3.5 Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or Pub Med/ Indian Citation Index							
Title of the paper	Name of the author	Title of the journal	Year of publication	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self citations	
3.3.6 h-index of the Institutional Publications during the year. (based on Scopus/ Web of science)							
Title of the paper	Name of the author	Title of the journal	Year of publication	h-index	Number of citations excluding self-citations	Institutional affiliation as mentioned in the publication	
Overall h-index 22; For the period (2018 2019)			2018, 2019	5	104	Yes	
Host and MTB genome encoded miRNA markers for diagnosis of tuberculosis	Chakrabarty S, Kumar A, Raviprasad K, Mallya S,	Tuberculosis	2019		1		

	Satyamoorthy K, Chawla K					
Effects of 7.5 MeV electron beam irradiation on optical properties of Eu ³⁺ -doped zinc sodium bismuth borate glasses	Hegde V, Chauhan N, Petwal VC, Pal Verma V, Dwivedi J, Mahato KK, Kamath SD	Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms	2019		1	
Photoemission and thermoluminescence characteristics of Dy ³⁺ -doped zinc sodium bismuth borate glasses	Hegde V, Chauhan N, Viswanath CSD, Kumar V, Mahato KK, Kamath SD	Solid State Sciences	2019		3	
Effects of high dose gamma irradiation on the optical properties of Eu ³⁺ -doped zinc sodium bismuth borate glasses for red LEDs	Hegde V, Chauhan N, Kumar V, Viswanath CSD, Mahato KK, Kamath SD	Journal of Luminescence	2019		2	
Enantiomeric recognition and separation by chiral nanoparticles	Gogoi A, Mazumder N, Konwer S, Ranawat H, Chen N-T, Zhuo G-Y	Molecules	2019		3	
Genome-based taxonomic classification	Paul B, Dixit G, Murali TS, Satyamoorthy K, Hao W	Genome	2019		1	
Functional annotation of differentially expressed fetal cardiac microRNA targets: implication for microRNA-based cardiovascular therapeutics	Saxena S, Gupta A, Shukla V, Rani V	3 Biotech	2018		1	
Structural and chemical characterization of rice and potato starch granules using microscopy and spectroscopy	Kowsik PV, Mazumder N	Microscopy Research and Technique	2018		1	
Types of advanced optical microscopy techniques for breast cancer research: a review	Dravid U A, Mazumder N	Lasers in Medical Science	2018		3	
Distribution and diversity of foliar endophytic fungi in the mangroves of Andaman Islands, India	Rajamani T, Suryanarayanan TS, Murali TS, Thirunavukkarasu N	Fungal Ecology	2018		2	
The host range of multi-host endophytic fungi	Suryanarayanan TS, Devarajan PT, Girivasan KP, Govindarajulu MB,	Current Science	2018		1	

	Kumaresan V, Murali TS, Rajamani T, Thirunavukkarasu N, Venkatesan G					
Clustered miRNAs and their role in biological functions and diseases	Kabekkodu SP, Shukla V, Varghese VK, D' Souza J, Chakrabarty S, Satyamoorthy K	Biological Reviews	2018		8	
Mitochondria in health and disease	Chakrabarty S, Kabekkodu SP, Singh RP, Thangaraj K, Singh KK, Satyamoorthy K	Mitochondrio n	2018		9	
Modifying effects of δ -Aminolevulinic acid dehydratase polymorphism on blood lead levels and ALAD activity	Mani MS, Kunnathully V, Rao C, Kabekkodu SP, Joshi MB, D'Souza HS	Toxicology Letters	2018		2	
Photoluminescence and thermally stimulated luminescence properties of Pr ³⁺ -doped zinc sodium bismuth borate glasses	Hegde V, Viswanath CSD, Chauhan N, Mahato KK, Kamath SD	Optical Materials	2018		1	
A pilot randomized controlled trial to compare the effectiveness of two 14-day primaquine regimens for the radical cure of vivax malaria in South India CTRI/2017/03/007999 CTRI	Saravu K, Tellapragada C, Kulavalli S, Xavier W, Umakanth S, Brahmarouphu G, Srinivas NK, Channabasavaiah JP, Bava A, Saadi AV, Guddattu V, Satyamoorthy K, Bhat K	Malaria Journal	2018		1	
Probing endogenous collagen by laser-induced autofluorescence in burn wound biopsies: A pilot study	Prabhu V, Acharya A, Satish Rao BS, Rathnakar B, Kumar P, Guddattu V, Mahato KK	Journal of Biophotonics	2018		1	
Interleukin-6 determines protein stabilization of DNA methyltransferases and alters DNA promoter methylation of genes associated with insulin signaling and angiogenesis	Balakrishnan A, Guruprasad KP, Satyamoorthy K, Joshi MB	Laboratory Investigation	2018		6	
3.3.7 Faculty participation in Seminars/Conferences and Symposia during the year :						
No. of Faculty	International level	National level	State level	Local level		
Attended Seminars/ Workshops	0	5	0	10		
Presented papers	9	2	0	0		
Resource Persons	1	9	0	1		

3.4 Extension Activities				
3.4.1 Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organisations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year				
Title of the Activities	Organising unit/ agency/ collaborating agency	Number of teachers co-ordinated such activities	Number of students participated in such activities	
3.4.2 Awards and recognition received for extension activities from Government and other recognized bodies during the year				
Name of the Activity	Award/recognition	Awarding bodies	No. of Students benefited	
3.4.3 Students participating in extension activities with Government Organisations, Non-Government Organisations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year				
Name of the scheme	Organising unit/ agency/ collaborating agency	Name of the activity	Number of teachers coordinated such activities	Number of students participated in such activities
Surgical Strike Day	MSLS, Manipal	Talk and cultural activities	26	~250
150 th Birth Anniversary of Mahatma Gandhi (02.10.18)	MSLS, Manipal	Talk and cultural activities	26	~250
Ekta Diwas (31.10.18)	MSLS, Manipal	Talk and cultural activities	26	~250
Observance of Vigilance Awareness Week from 29.10.2018 to 3.11.2018	MSLS, Manipal	Walkathon	26	~250
The Armed Forces Flag Day on 7.12.2018	MSLS, Manipal	Talk	26	~250
Matribhasha Diwas on 21.2.2019	MSLS, Manipal	Cultural activities, talks, recitals	26	~250
Motivation to students	MAHE, Manipal	Distribution of book entitled "Survive or Sink" written by Ms. Naina Lal Kidwai to the students on 8.3.2019	26	~250
Anti-Terrorism Day on 21.5.2019	MSLS, Manipal	Talk and oath-taking	26	~250
World No Tobacco Day on 31.5.2019	MSLS, Manipal	Awareness session	26	~250
3.5 Collaborations				
3.5.1 Number of Collaborative activities for research, faculty exchange, student exchange during the year				
Nature of Activity	Participant	Source of financial support	Duration	
Endeavour Executive Fellowship in Deakin University, Geelong, Australia	Dr. Murali TS	Department of Education & Training, Australian Government	3 months	
Outbound Student Exchange through IAESTE – West Pomeranian University, Poland	Ms. Shalika Shubham	IAESTE	3 months	

Outbound Student Exchange through IAESTE – University of Gottingen, Germany	Mr. Kiran KR	IAESTE	2 months
IAESTE-DAAD Internship at Leuphana University Luneburg	Arya K	IAESTE	2 months
Advanced Training in Biotechnology under DAILAB-STAR program at AIST, Japan	Mr. Raviprasad K.V & Ms. Divya Adiga	AIST, Japan	3 months
Advanced Training In Biotechnology under STAR Program at the DBT-AIST International Laboratory for Advanced Biomedicine (DAILAB), at Tsukuba, Japan	Ms. Sima Chaudhari	AIST, Japan	2 months
Research Internship under Newton-Bhabha PhD Placement Programme	Ms. Supriti Ghosh	DST, Government of India	5 months
6 th International Imaging Workshop (AIST) at Biomedical Research Institute, National Institute of Advanced Industrial Science & Technology (AIST) at Tsukuba, Japan	Ms. Neena George & Ms. Priyanka Belgaonkar	AIST, Japan	1 week
Preparatory School & Winter College on Applications of Optics and Photonics in Food Science, Trieste, Italy	Ms. Indira G (won third place in poster award)	Optical Society of America, USA	1 month
Collaborative research project	Mr. Ankit Singh Tanwar	Max Planck Institute, Berlin, Germany	3 months
Workshop on Advanced Training in Bioimaging & Biotechnology at Hokkido, Japan	Mr. Guruprasad	AIST, Japan	1 fortnight
Frontiers in optics/Leadership Conference (OSA Conference) at Washington DC	Ms. Spandana KU	OSA, USA	10 days
MIDARDI research project at Fraunhofer Institute for Electronic Nano Systems ENAS, Chemnitz, Germany and Fraunhofer IZI, Potsdam, Germany	Ms. Apoorva Jnana	Indo-German Science and Technology Centre (IGSTC)	2 months

3.5.2 Linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the year

Nature of linkage	Title of the linkage	Name of the partnering institution/ industry /research lab with contact details	Duration (From-To)	Participant
Internship	BiSEP Program	ThermoFisher Scientific, Bangalore	01.10.18 – 30.03.19	Akash S, Supriya Jagdale Pratik Das
Internship	BiSEP Program	3i Molecular Solutions, Bangalore	01.10.18 – 30.03.19	Partheeban
Internship	BiSEP Program	Sequent Scientific, Mangalore	01.10.18 – 30.03.19	Rashmi S
Internship	BiSEP Program	Stellixir Bio, Bangalore	01.10.18 – 30.03.19	Amarnath Karna, Jency V
Internship	BiSEP Program	Achira Labs, Bangalore	01.10.18 – 30.03.19	Kalyani D

Internship	BiSEP Program	ThermoFisher Scientific, Bangalore	01.04.19 – 30.09.19	Shweta Rama Moger IP Latha Laxmi Vibha Shenoy Mohamed Bilal Sangeetha R Devika VA Chethana HP Apoorva Khare Mukund J
Internship	BiSEP Program	3i Molecular Solutions, Bangalore	01.04.19 – 30.09.19	Kannika BR
Internship	BiSEP Program	Achira Labs, Bangalore	01.04.19 – 30.09.19	Samya Mohanta
Internship	BiSEP Program	Genotypic Technologies Pvt Ltd., Bangalore	01.04.19 – 30.09.19	Ankita Khan Hemant Naik
Internship	BiSEP Program	Himalaya Pharmaceuticals, Bangalore	01.04.19 – 30.09.19	Athullya Ayyappan
Internship	BiSEP Program	Reagene Biosciences, Hyderabad	01.04.19 – 30.09.19	Aruna K Nandeesh NP
Internship	BiSEP Program	Satyadepta Pharmaceuticals, Bidar	01.04.19 – 30.09.19	Akshay Patil
Internship	BiSEP Program	String Bio, Bangalore	01.04.19 – 30.09.19	Shrilaxmi MS
Internship	BiSEP Program	Suven Lifesciences, Hyderabad	01.04.19 – 30.09.19	Aditya Bhagwat

3.5.3 MoUs signed with institutions of national, international importance, other universities, industries, corporate houses etc. during the year

Organisation	Date of MoU signed	Purpose and Activities	Number of students/teachers participated under MoUs
KMC Hospital, Mangalore	17.6.2019	Molecular and Genetics Tests	
Dr. Reddy's Institute of Life Sciences (DRILS), Hyderabad	30.5.2019	To foster collaboration in research and training between DRILLS and MAHE and to establish relevant guidelines	
National Yang-Ming University, Taiwan	7.5.2019	To promote mutual cooperation in education between the two institutions	
Max Planck Institute for Molecular Genetics, Berlin, Germany	19.3.2019	To collaborate in the area of Systems Medicine research programme	
Erasmus MC, Rotterdam, Netherlands	17.1.2019	To undertake exchange programs for students, staff and develop research projects, clinical trials and related transfer of researchers, staff members and materials	
Maastricht University, Maastricht, Netherlands	24.9.2018	To promote and undertake advancements at all levels of education at the two universities	
Jawaharlal Institute of Post graduate Medical Education and Research	14.9.2018	To share similar aims and objectives in the area of teaching, training and research	
ICAR-Central Plantation Crops Research Institute, Kasaragod	25.7.2018	To develop draft genomes of phytopathogens and their comparative genomics	
HU University of Applied	1.7.2018	To adapt an exchange program for	

Sciences, Utrecht, Netherlands		undergraduate and postgraduate students				
National Institute of Advanced Industrial Science and Technology, Japan	21.6.2018	To conduct joint research on Medhya Rasayana				
CRITERION IV – INFRASTRUCTURE AND LEARNING RESOURCES						
4.1 Physical Facilities						
4.1.1 Budget allocation, excluding salary for infrastructure augmentation during the year						
Budget allocated for infrastructure augmentation		Budget utilized for infrastructure development				
810.23 lakhs		602.60 lakhs				
4.1.2 Details of augmentation in infrastructure facilities during the year						
Facilities	Existing		Newly added			
Campus area	27500 sq. ft.		36000 sq. ft.			
Class rooms	5		2			
Laboratories	18		4			
Seminar Halls	1		1			
Classrooms with LCD facilities	5		2			
Classrooms with Wi-Fi/ LAN	5		2			
Seminar halls with ICT facilities	1		1			
Video Centre	-		1			
No. of important equipments purchased (\geq 1-0 lakh) during the current year.	>480		20			
Value of the equipment purchased during the year (Rs. in Lakhs)			128.29			
Others						
4.2 Library as a Learning Resource						
4.2.1 Library is automated { Integrated Library Management System -ILMS }						
Name of the ILMS software	Nature of automation (fully or partially)	Version	Year of automation			
4.2.1 Library Services:						
	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	450		7		457	
Reference Books						
e-Books						
Journals						
e-Journals						
Digital Database						
CD & Video						
Library automation						
Weeding (Hard & Soft)						
Others (specify)						
As available from MAHE Central library resources						

4.3 IT Infrastructure									
4.3.1 Technology Upgradation (overall)									
	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Available band width (MGBPS)	Others
Existing	192	3	Yes	NA	NA	85	Inclusive	1MBPS	
Added	12		Yes	NA	NA	04	Inclusive	1MBPS	
Total	204	3	Yes	NA	NA	89	Inclusive	1MBPS	
4.3.2 Bandwidth available of internet connection in the Institution (Leased line)									
.....1MBPS (Shared)..... MBPS /GBPS									
4.3.3 Facility for e-content									
Name of the e-content development facility					Provide the link of the videos and media centre and recording facility				
4.3.4 E-content developed by teachers such as: e-PG-Pathshala, CEC (under e-PG-Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & institutional (Learning Management System (LMS) etc									
Name of the teacher	Name of the module			Platform on which module is developed		Date of launching e - content			

4.4 Maintenance of Campus Infrastructure			
4.4.1 Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary component, during the year			
Assigned budget on academic facilities	Expenditure incurred on maintenance of academic facilities	Assigned budget on physical facilities	Expenditure incurred on maintenance of physical facilities
186.27	230.50	174.66	212.32
4.4.2 Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc. (<i>maximum 500 words</i>) (information to be available in institutional Website, provide link)			
MSLS, MAHE has established modern facilities within its premises, which include laboratories, library, classrooms, computers with internet and Wi-Fi, canteen etc. All support facilities are accessible for the respective students, researchers and staff, who undergo relevant training to gain experience. The laboratory instruments are maintained through annual maintenance contracts (as applicable). Usage of equipment is documented and procedures for repairs and servicing are established and documented. Dedicated staff members are responsible for the maintenance of laboratory equipment. The library has a collection of reference text books, theses and is accessible for the students and researchers during the day. The MAHE Health Sciences Library is the main resource, however, for students and researchers and is open for more than 15 hours a day. Sports facilities are maintained by MAHE centrally and are available for all stakeholders of MAHE, as required. Procedures and policies have been established and communicated regularly to all concerned.			
CRITERION V - STUDENT SUPPORT AND PROGRESSION			
5.1 Student Support			
5.1.1 Scholarships and Financial Support			
	Name /Title of the scheme	Number of students	Amount in Rupees

Financial support from institution	Konkani Scholarship & subsidy	14	191084.00		
	SAGE Scholarship	8	897250.00		
	Staff Child/Spouse Scholarship	11	695650.00		
	MSS Staff Child Scholarship (private)	1	61500.00		
Financial support from other sources					
a) National	Backward Community Department Scholarship	8	60955.00		
b) International					
5.1.2 Number of capability enhancement and development schemes such as Soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.,					
Name of the capability enhancement scheme		Date of implementation	Number of students enrolled	Agencies involved	
Life Sciences Sector Skill Development courses (training as Biologist and Research Associate)		2018	20	LSSSDC, New Delhi, Tel: +911141042407	
5.1.3 Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year					
Year	Name of the scheme	Number of benefited students by Guidance for Competitive examination	Number of benefited students by Career Counselling activities	Number of students who have passed in the competitive exam	Number of students placed
2018-19	CSIR-NET coaching	40	NA	1	NA
5.1.4 Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year					
Total grievances received		No. of grievances redressed	Average number of days for grievance redressal		
None		NA	NA		
5.2 Student Progression					
5.2.1 Details of campus placement during the year					
On campus			Off Campus		
Name of Organizations Visited	Number of Students Participated	Number of Students Placed	Name of Organizations Visited	Number of Students Participated	Number of Students Placed
Enzene Biosciences Ltd., Syngene International, Pfizer	13	5	NA	NA	NA

5.2.2 Student progression to higher education in percentage during the year 2018-19

Year	Number of students enrolling into higher education	Programme graduated from	Department graduated from	Name of institution joined	Name of Programme admitted to
2018-19	2	BSc	MSLS	Ulm University, Germany	MSc
	1	BSc	MSLS	Ghent University, Belgium	MSc Biochemistry & Biotechnology
	1	BSc	MSLS	University of Wollongong, Australia	MSc Medical Biotechnology
	2	BSc	MSLS	University College Cork, Ireland	MSc Food Microbiology
	3	BSc	MSLS	WGSMA, Manipal	MSc
	1	BSc	MSLS	Pace University, USA	MSc Forensic Science
	2	BSc	MSLS	Radboud University, the Netherlands	MSc
	1	BSc	MSLS	Indian Institute of Journalism and New Media, Bangalore	MSc
	2	BSc	MSLS	MIRM, Bangalore	MSc
	1	BSc	MSLS	KMC, Manipal	MSc
	1	BSc	MSLS	MSLS, Manipal	MSc MBT
	5	BSc	MSLS	MSLS, Manipal	MSc MBHG
	2	BSc	MSLS	MSLS, Manipal	MSc RLS
	3	BSc	MSLS	MSLS, Manipal	MSc SB
	1	BSc	MSLS	Jain University, Bangalore	MSc
	1	BSc	MSLS	VIT University, Vellore	MSc
	1	BSc	MSLS	Gujarat Forensic Science University, Gujarat	MSc Forensic Science
	3	BSc	MSLS	Nitte University (NUCSE), Mangalore	MSc
	1	BSc	MSLS	Australian National University, Australia	MSc Biotechnology
	1	BSc	MSLS	Bloomberg School of Public Health, JH University, USA	Master of Health Science
1	BSc	MSLS	ESCP Europe, Paris	Masters in Management	
2	MSc	MSLS	Biocon Academy, Bangalore	Trainee	
6	MSc	MSLS	MSLS, Manipal	JRF/PA	
1	MSc	MSLS	NIPGR, India	JRF	
3	MSc	MSLS	InStem, NCBS, India	Internship	

5.2.3 Students qualifying in state/ national/ international level examinations during the year (eg: NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

Items	No. of Students selected/ qualifying	Registration number/roll number for the exam
NET	3	1091602586 (ICAR), 360275, 303603
SET	2	10280460, 17280101
SLET		
GATE	12	XL18S11248028, BT19S42078026, BT19S41223032, XL19S21223088, BT19S41223051, XL18S11246069, XL18S11251021, PH17S41239032, XL16S81046023, XL19S21223046, XL19S22001038, XL19S21226169

GMAT		
CAT		
GRE		
IELTS	10	001897, 321751, 284642, 202058, 202039, 9718695, 174681, 325961, 001055, 325437
TOFEL	1	0000000033018890
Civil Services		
State Government Services		
Any Other	2	BL102B011, BL102B025 (IIT-JAM)

5.2.4 Sports and cultural activities / competitions organised at the institution level during the year

Activity	Level	Participants
Sports	Intra-University	45
Sports	Intra-MSLS	123
Athletics	Intra-MSLS	56
Primer	Intra-MSLS	~80
Utsav	Intra-University	~40

5.3 Student Participation and Activities

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one)

Year	Name of the award/ medal	National/ International	Sports	Cultural	Student ID number	Name of the student
2018-19	Nil	Nil	Nil	Nil		

5.3.2 Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

The students, through a voting process, elect the Student Council at the start of every academic year. All programs have representatives in the Council. The elected members choose further student representatives for various cultural clubs of the council. The Student Council elected during 2018-19 organized, conducted and participated in several events of the School and the university. The students actively participated in all UGC-mandated activities such as the Ekta Divas, Matribasha Divas, Armed Forces Flag Day, Anti-terrorism Day, World No Tobacco Day, Vigilance Awareness Week and Swachhata Pakhwada, among others including Independence and Republic days, and Teachers Day. In addition, there were active contributions through social committee in conducting mental health awareness programs, organizing visit to old age home. The sports committee was involved in organizing athletic and sports events throughout the year, culminating in the Annual Sports Day. The literary and cultural committee organized two events of 'Primer', an intra-college fest of cultural extravaganza. All the committees actively participated in 'Utsav' – the inter-college university cultural fest, and won laurels in certain events. The students also celebrated Onam, Deepavali and Halloween in the year.

The President of the Student Council has representation in the Board of Studies meetings as well as the IQAC meetings. Nominees of the council attend these meetings. In addition, students represent the School in university-level meetings pertaining to student affairs, hostels, sports events, cultural activities among others. All their contributions are discussed and implemented as applicable.

5.3 Alumni Engagement

5.3.1 Whether the institution has registered Alumni Association? Yes/No, if yes give details (maximum 500 words):

No, this is part of the Alumni-Relations office at MAHE, Manipal

5.3.2 No. of ~~registered~~ enrolled Alumni:

113 (for 2018-19)

5.3.3 Alumni contribution during the year (in Rupees) :

Nil
5.3.4 Meetings/activities organized by Alumni Association :
One
CRITERION VI –GOVERNANCE, LEADERSHIP AND MANAGEMENT
6.1 Institutional Vision and Leadership
6.1.1 Mention two practices of decentralization and participative management during the last year (maximum 500 words)
6.1.2 Does the institution have a Management Information System (MIS)? Yes/No/Partial:
6.2 Strategy Development and Deployment
6.2.1 Quality improvement strategies adopted by the institution for each of the following (with in 100 words each):
❖ Curriculum Development: The curriculum for all the programs at the School are regularly scrutinized for the content, relevance and suitability to the program and contemporariness for the graduating students, while also ensuring compliance to the regulatory requirements. Towards this, experts from academia and industry, both in India and abroad are approached for their inputs, based on which the necessary modifications for existing programs and development of curriculum for new programs are carried out. The Board of Studies and Academic Senate of the institution play an important role in ensuring the relevance and approval of all the curricula of the School.
❖ Teaching and Learning: Teaching processes are streamlined through requirements for teaching schedule, completion of syllabus, examination and evaluation on time, matching that described in the academic calendar, through the use of classroom teaching, audio-visual aids, practical sessions and other modes prescribed in the curriculum. Learning is monitored through continuous assessment and evaluation of the students, coaching class as required and also by involving parents, where required. Efforts made to minimize absenteeism in classes by mandating attendance for appearing in sessional examinations are being monitored for effectiveness.
❖ Examination and Evaluation: All examinations for UG, PG and PGD programs are conducted with the help of digital e-pads, without the use of papers. The evaluation is thus digital and also paperless, thereby helping in faster completion of the evaluation and declaration of results. Students also have the option of supplementary examinations soon after results declaration, thereby ensuring that their second chance at repeating examinations happens sooner, without the loss of time.
❖ Research and Development: With research being the primary focus of the School, the number and quantum of support for research projects from national and international funding agencies have been prioritized, resulting in an increase and diversity of the research areas. This has also resulted in improvement in the quality and quantity of research outcomes in terms of publications in top-quartile, indexed journals and patent applications. Infrastructure upgradation, improvement and maintenance has been identified as a requirement and suitable measures are underway to address the same.
❖ Library, ICT and Physical Infrastructure / Instrumentation
❖ Human Resource Management
❖ Industry Interaction / Collaboration: The School of Life Sciences actively seeks and promotes

industry collaborations through intermittent interactions. The School hosts the BiSEP PG Diploma program in Cellular and Molecular Diagnostics through the support of the Government of Karnataka, which requires active collaborations with the industry since students undertake internship with such industrial partners every year. Thus, the School initiates frequent interactions through lectures, seminars, webinars and other drives to ensure that personnel from industry are associated with the activities of the School. In addition, the School has also MoUs with industries across the country.

- ❖ Admission of Students: Through concerted efforts by the institution and associated departments at the university, admissions to all programs were satisfactorily completed as per requirements. The entrance examinations for PG programs were conducted separately to ensure better distribution of interested applicants and quality of admissions.

6.2.2 : Implementation of e-governance in areas of operations: Carried out at university level

- ❖ Planning and Development

- ❖ Administration

- ❖ Finance and Accounts

- ❖ Student Admission and Support

- ❖ Examination

6.3 Faculty Empowerment Strategies

6.3.1 Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

Yes, as given in the table below.

Year	Name of teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee is provided	Amount of support
2018-19	Dr K Satyamoorthy	1) 14 th Indo-Australian Biotechnology Conference, Mumbai. Oct 22-23, 2018 2) 7 th Annual Conference of the SMRM "Targeting Mitochondria for Health & Disease" CSIR-CDRI, Lucknow Nov 28-30 2018		43237
2018-19	Dr M Rajasekhar	44 th Annual Conference ISHG-2019: Genomics for Health and Precision Medicine, Kalyani, Bengal, Jan. 30-Feb. 1, 2019		32715
2018-19	Dr BS Satish Rao	EPR BioDose 2018 International Conference, Munich, Germany. June 11-15, 2018		50000
2018-19	Dr Saadi Abdul Vahab	1) Manipal McGill Center for Infectious Diseases (MAC ID) International Conference 2018 Mangalore. Aug 11-12, 2018. 2) 44 th Annual Conference ISHG-2019: Genomics for Health and Precision Medicine, Kalyani, Bengal, Jan. 30-Feb. 1, 2019		38532
2018-19	Dr A Muthusamy	4 th International Plant Physiology Congress (IPPC- 2018), Lucknow Dec. 2-5, 2018		50000
2018-19	Dr TS Murali	Manipal McGill Center for Infectious Diseases (MAC ID) International Conference 2018		2900

		Mangalore. Aug 11-12, 2018.		
2018-19	Dr Babitha KS	1 st DBT-BioCARE Conclave: Women Scientists Achieving Great Heights, New Delhi. Mar. 8-9, 2019		12033
2018-19	Dr Manjunath B Joshi	Gordon Research Conference on "Epigenomics of Diabetes and other Metabolic Diseases", Hong Kong, China May 27-Jun 1, 2018		50000
2018-19	Mr Sandeep Mallya	2018 Nextgen Genomics, Biology, Bioinformatics and Technologies conference, Jaipur. Sep 30-Oct 2, 2018		36660
2018-19	Dr Nirmal Mazumder	Presentation of Proposal submitted to BIRAC under National Biopharma Mission, New Delhi. Feb 6, 2019		17482
2018-19	Dr K Satyamoorthy		American Association for Cancer Research, Philadelphia (renewal)	2547

6.3.2 Number of professional development / administrative training programmes organized by the College for teaching and non teaching staff during the year

Year	Title of the professional development programme organised for teaching staff	Title of the administrative training programme organised for non-teaching staff	Dates (from-to)	No. of participants (Teaching staff)	No. of participants (Non-teaching staff)
2019	CCXIX Internal Auditor & Quality Management Systems Certificate Course as per ISO 15189-2012	CCXIX Internal Auditor & Quality Management Systems Certificate Course as per ISO 15189-2012	14-17 March 2019	2 (Dr. Rajasekhar M and Dr. Sudharshan Prabhu)	1 (Mr. Rajesh)

6.3.3 No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

Title of the professional development programme	Number of teachers who attended	Date and Duration (from – to)
Lecture Workshop on computational methods in physics and chemistry	1 (Dr. Roopa Nayak)	6-8 August 2018
Research Awareness Program – Level 1	1 (Dr. Babitha KS)	17 July 2018
Research Awareness Program – Level 1	3 (Dr. Murali TS, Dr. TG Vasudevan, Dr. Vidhu Sankar Babu)	20 July 2018
Research Awareness Program – Level 1	2 (Mr. Manoj Bhat, Dr. Kamalesh Mumbrekar)	7 August 2018
Research Awareness Program – Level 1	1 (Dr. Roopa Nayak)	10 August 2018
Research Awareness Program – Level 1	4 (Dr. M Rajasekhar, Dr. Guruprasad KP, Dr. Saadi Abdul Vahab, Dr. A Muthusamy)	14 November 2018
Research Awareness Program – Level 1	1 (Dr. Shama Prasada)	20 December 2018
Research Awareness Program – Level 1	2 (Dr. Nirmal Mazumder, Dr. Sudharshan Prabhu)	15 April 2019
Research Awareness Program – Level 2	2 (Dr. Vidhu Sankar Babu, Dr. Babitha KS)	24 July 2018
Research Awareness Program – Level 2	2 (Dr. Murali TS, Dr. TG Vasudevan)	27 July 2018
Research Awareness Program – Level 2	2 (Dr. Kamalesh Mumbrekar, Mr. Manoj Bhat)	14 August 2018
Research Awareness Program – Level 2	1 (Dr. Roopa Nayak)	17 August 2018
Research Awareness Program – Level 2	1 (Dr. M Rajasekhar)	17 December 2018
Research Awareness Program – Level 2	2 (Dr. Sudharshan Prabhu, Dr. Nirmal Mazumder)	15 May 2019

Author workshop on using “Mendeley” in your research workflow	Dr. Roopa Nayak	24 May 2019
Molecular Docking, virtual screening & computational biology	Dr. Roopa Nayak	4-7 February 2019
Pedagogic & Personal Effectiveness workshop	Dr. Manjunath B Joshi Dr. Sudharshan Prabhu Dr. Gireesh G	18-21 December 2018
CCXIX Internal Auditor & Quality Management Systems Certificate Course as per ISO 15189-2012	Dr. Moka Rajasekhar Dr. Sudharshan Prabhu	14-17 March 2019
Resource person at AICTE Sponsored Quality Improvement Programme (QIP)	Dr. Guruprasad K.P	21 March 2019
Half a day Author workshop on "Publishing in Scholarly Journals"	Dr. Sudharshan Prabhu	28 November 2018
Live Demo on "Literature Search Made Easy"	Dr. Sudharshan Prabhu Dr. Gireesh G	26 September 2018

6.3.4 Faculty and Staff recruitment (no. for permanent/fulltime recruitment):

Teaching		Non-teaching	
Permanent	Fulltime	Permanent	Fulltime/temporary
26	NA	30	11 (fulltime)

6.3.5 Welfare schemes for

Teaching	Provident fund, school fees for reimbursement, LTC, Housing allotment, MAHE 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, best teacher award.
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, scholarships

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly (with in 100 words each)
The financial audits are conducted centrally at MAHE.

6.4.2 Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

Name of the non-government funding agencies/ individuals	Funds/ Grants received in Rs.	Purpose

6.4.2 Total corpus fund generated

6.5 Internal Quality Assurance System

6.5.1 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

6.5.2 Activities and support from the Parent – Teacher Association (at least three)

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

6.5.3 Development programmes for support staff (at least three)

Undertaken at the university level

6.5.4 Post Accreditation initiative(s) (mention at least three)

6.5.5				
a. Submission of Data for AISHE portal : Yes				
b. Participation in NIRF : Yes				
c. ISO Certification : Yes				
d. NBA or any other quality audit : No				
6.5.6 Number of Quality Initiatives undertaken during the year				
Year	Name of quality initiative by IQAC	Date of conducting activity	Duration (from----- to-----)	Number of participants

CRITERION VII – INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 - Institutional Values and Social Responsibilities

7.1.1 Gender Equity (Number of gender equity promotion programmes organized by the institution during the year)

Title of the programme	Period (from-to)	Participants	
		Female	Male

7.1.2 Environmental Consciousness and Sustainability/Alternate Energy initiatives such as: Percentage of power requirement of the College met by the renewable energy sources

7.1.3 Differently abled (Divyangjan) friendliness

Items Facilities	Yes/No	No. of Beneficiaries
Physical facilities	Yes	0
Provision for lift	Yes	0
Ramp/ Rails	Yes	0
Braille Software/facilities	No	-
Rest Rooms	No	-
Scribes for examination	Yes	-
Special skill development for differently abled students	No	-
Any other similar facility	-	-

7.1.4 Inclusion and Situatedness

Enlist most important initiatives taken to address locational advantages and disadvantages during the year

Year	Number of initiatives to address locational advantages and disadvantages	Number of initiatives taken to engage with and contribute to local community	Date and duration of the initiative	Name of the initiative	Issues addressed	Number of participating students and staff
2018-2019	-	1	29-09-2018 (1 day)	Social engagements	Visit to Shri Krishna Bala Niketan, Kukkikatte, Udupi, engaging with elders residing there and distribution of essential items.	20

2018-2019	1	-	25-03-2019 to 28-03-2019 (4 days)	Mental Health Awareness week	Sessions to create awareness about mental illness, provide opportunities to de-stress/talk about issues	~40
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7.1.5 Human Values and Professional Ethics

Code of conduct (handbooks) for various stakeholders

Title	Date of Publication	Follow up (maximum 100 words each)

7.1.6 Activities conducted for promotion of universal Values and Ethics

Activity	Duration (from-----to-----)	Number of participants
Independence Day	15.08.2018 to 15.08.2018	~300
Republic Day	26.01.2019 to 26.01.2019	~300

7.1.7 Initiatives taken by the institution to make the campus eco-friendly (at least five)

Installation of energy-efficient solar and LED lamps where possible, Segregation of wastes, Installation of eco-friendly air-conditioners, Awareness on energy saving and management, Part of ISO 14001 EMS, Conduct of Swachh Bharath campaign among students and staff

7.2 Best Practices

Describe at least two institutional best practices

Upload details of two best practices successfully implemented by the institution as per NAAC format in your institution website, provide the link

Title of the Best Practices - Research Project work in all degree programs

Objectives:

To provide research laboratory exposure to all students graduating from the various programs offered by MSLS, MAHE.

The context:

Scientific research in the areas related to biotechnology and bioinformatics require scientific knowledge, technical skills and an ability to interpret data and innovate. Such skills are acquired only through hands-on experimentation and exposure to a laboratory/research environment. When such concept is introduced in the curricula, its implementation is streamlined.

The Practice:

Every program offered by MSLS, MAHE culminates in a research project for a period of at least one semester, wherein students pursue laboratory work on a set of aims and objectives, collate and present the results in the form of a dissertation and defend the same during a viva-voce examination. This provides them with the exposure to the research laboratory set-up and the experience that helps them in their future endeavours.

Evidence of Success:

Close to three-fourths of the graduates choose to pursue a higher degree involving research component or in technical positions in an industrial set-up. Their hands-on research exposure during their degree programs facilitates their admission and/or employment

Title of the Best Practices – Advanced diagnostic services for patients

Objectives:

To provide high-end diagnostic tests to the needy patients of hospitals in and around Manipal on a not-for-profit basis.

The context:

Patients visiting several hospitals in the Udupi, Dakshina Kannada and other neighbouring districts have limited

access to high-end molecular and/or cytogenetic diagnostic tests, or have to pay exorbitant costs in sample transport and examination. A provision for conducting such advanced diagnostic procedures in close proximity will help such individuals and families, more so if it is done not-for-profit.

The Practice:

MSLS, over the course of its decade of existence, has developed infrastructure and in-house capability to perform tests related to DNA sequencing, karyotyping, cytogenetics, and metal estimation. These tests are provided to patients reporting to collaborating hospitals in the region.

Evidence of Success:

The diagnostic facilities at MSLS are being used by the respective hospitals of the regions to the tune of about 600-700 samples on average being tested at our facilities every year.

7.3 Institutional Distinctiveness

Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust

Provide the weblink of the institution in not more than 500 words

The School of Life Sciences focuses on research in the areas of human health using biotechnological interventions, specifically towards diseases such as cancers, infectious, genetic, inherited and metabolic disorders. Recent research in these and associated areas has resulted in close to 200 peer-reviewed and high impact publications in renowned journals in the past five years, through targeted approaches in promoting scientific research in such areas. In addition, about 10 patent applications have been filed and an annual average of 150-odd conference presentations by faculty members and student researchers have been made during this time. The academic year 2018-19 reflected the continued pursuit of research goals in these thrust areas. Conferences, symposia, workshops and guest lectures were conducted to promote, share and disseminate knowledge and expertise in the thrust areas of the School. The School continues to expand its horizons through the development of new curriculum for new PG programs, while pushing for new frontiers in its research areas. This has resulted in the plans for novel MSc programs in the areas of systems biology and genome engineering in the coming years

8. Future Plans of action for next academic year (500 words)

Start new PG program (MSc Genome Engineering) in the coming academic year, sustain existing programs, excel in current academic and research programs, enable utilization of facilities in the annex, strive for scholarships and exchange programs at national and international level, increase outreach activities for societal benefit.

Name Dr T.G. Vasudevan

Name Dr K. Satyamoorthy

Signature of the Coordinator, IQAC

Signature of the Chairperson, IQAC

Abbreviations:

CAS	-	Career Advancement 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
