Siksha 'O' Anusandhan
(Deemed to be University)
Bhubaneswar

Synopsis on
Quality Sustenance and Enhancement Measures
(Initiatives & Action Taken)

SOA has undertaken several quality sustenance and enhancement initiatives during the preceding years which are grouped under infrastructural development and support, academic activities, research, publication and extension services, system of governance, innovations and best practices.

1. Infrastructure and Resources:

During the preceding years, the infrastructural and support facilities have been substantially augmented. The libraries are air-conditioned and auotmated with LIBSYS software and facilities including reading rooms, reprography, internet, CD-ROMs, online books and journals. The libraries are members of INDEST, INFLIBNET, EBSCO, SCOPUS & PROQUEST, consortium under MHRD, Govt. of India providing online access to journal papers and abstracts. The constituent institutes are provided with updated computers with high speed broadband and wi-fi connectivity. The auditorium and classrooms are also connected with the local high-speed LAN for access to databases. The campus is fully Wi-Fi.

Additionally, the University has also added auditoriums, classrooms, student labs, research centers, Research Labs, multi-gyms, Institutional and departmental Library facilities, Sports facilities, Banking Facility, Parking facilities, Cafeteria facilities, Hospital Facilities, Hostel Facilities, Faculty and Staff Quarters, Guest House facilities, etc.

2. Curricular Aspects:

SOA follows need-based and responsive curricula in respect of various academic programmes and Faculties of study. The University presently offers 120 academic programmes under different Faculties including 24 U.G., 67 P.G. Programmes, 15 DM/MCh Programmes, Ph.D. and Post Doc. Programmes.

a. **Graduate Attributes and Outcomes**: Graduate Attributes and Objectives/Outcomes have been defined for all Programs. Additionally, provision for continuous assessment and evaluation mechanism has been created.

b. **Inter-disciplinary programmes:** 22 thrust areas have been identified. Focus have been augmented for interdisciplinary and innovative programmes and research activities.

c. **Curriculum Design and Development:** In undertaking the process of curriculum design and development of academic programmes, valuable inputs/suggestions from the Advisory Board, Academic Council, Board of Studies, Visiting Professors, Industry experts, employers, Parents and alumni association are obtained for incorporation in the curricula.

3. Teaching-Learning and Evaluation:

Apart from conventional classroom teaching practices, SOA has introduced new methodologies and techniques to update the process of teaching and learning in its various Faculties/Institutes.

a. **Improvements in Learning Infrastructure and Resources:** Digital Library sections have been functioning in the libraries with internet facility and e-resources for use by faculty members and students. Campuses have been provided with Wi-Fi connectivity. E-enabled classrooms are equipped with LCD projectors and computers. All major e-resources (e-Data Bases, e-Journals and e-books, etc) from different fields of study have been procured and made available with campus wide licenses. All classrooms are enabled with e-learning facilities. Smart classrooms have also been created to further the integration of cutting age advanced teaching learning tools into the extant system of teaching learning process.

b. **Adoption of Innovative pedagogy and New Technology:** Innovative measures introduced include updated computers, Student centric teaching and learning, ICT enabled tools like Power point presentations, Simulations, Animations, NPTEL Online Video Lectures & MIT Open Courseware system, Learning Management System– 'Moodle', institutional LMS etc. Other initiatives include Special coaching for slow and advanced learners, Choice Based Credit System (CBCS) and project-based learning etc.

c. **Reforms in Evaluation and Examination:** Reforms introduced in the system of evaluation include, ERP systems, continuous assessment and evaluation system, coding of examination papers, central evaluation and computerized result processing. The University follows the UGC (Minimum Standards and Procedure for the Awards of M.Phil/Ph.D. Degrees) Regulations, 2009, as amended in 2016, in relation to the Ph.D. evaluation process. Ph.D. thesis evaluation is done by one expert from India and one from aboard and involves mandatory check for plagiarism (through TURNITIN) before submission of thesis. Final year projects are evaluated with the help of the external experts.

SOA in its efforts to enhance the quality of education has successfully implemented mechanisms like annual Academic and Administrative Audit of constituent institutes, Mentor-Mentee system, Student Feedback Systems, Faculty Appraisal System (Performance Based Appraisal System of UGC) and Faculty Enrichment Programmes etc.

4. Research, Consultancy and Extension:

During the preceding years, the University has upgraded infrastructural and support facilities. 13 research centres and 42 research laboratories have been established to promote research and innovations in different frontier areas of knowledge. Some of the centres which have been the epicenter of most advanced research are Centre of Excellence in Theoretical and Mathematical Sciences, Centre for Nano Sciences and Nano Technology, Centre for Biotechnology, Centre for Environment and Climate. The Centre for Environment & Climate in association with EARTH Networks Inc., USA, has been instrumental in providing early warning information on lightening, thunderstorm and weather prediction to the Meteorological departments of the state and country. Moreover, the Biofuel & Bioprocessing research Centre of SOA has been doing commendable work on waste-water management and industrial effluents through green technology. Additionally, Centre for Biotechnology has been instrumental, among other activities, in identifying novel gene sequences which have been submitted to the NCBI databases.

IMS and SUM has initiated a program of 500 Covid-19 Genome Initiative as a result of which 73 new variants of novel corona virus have been reported in India using Advanced NGS Covid Sequencing Technology in association with CSIR-Institute of Genomics and Integrative Biology, New Delhi supported by Council of Scientific and Industrial Research (CSIR), Govt. of India.

a. **Research Collaborations:** Sincere efforts have been made for promotion of quality research and exchange programmes. National/ international collaborations have been established with reputed institutes/industries and MoUs signed. During the preceding years, the University has entered into collaboration with 21 reputed national Universities/Institutes, international collaboration with 17 International Universities/ Institutes.

b. **Research Publications:** SOA encourages and promotes publication of quality Books, Research Articles, Conference Papers etc. by the members of faculty and students in national and international Journals of repute.

   It has 6524 Scopus. The *h*-index (SCOPUS) of SOA is improved to 62 in 2020 from that of 22 in 2015.

   Several Seminars and Workshops have been conducted on IPR, Quality improvement and sustenance measures, Office management, skill training by IQAC.

c. **Patents:** The University promotes a climate of culture for research and innovations among the faculties and students. Till date, 188 patents have been filed, out of which 68 nos. have been published and 15 nos. have been granted by the researcher of the university. 08 nos. designs have been registered.

d. **Extension Activities & Social Outreach Programmes:** Need based extension activities have also been undertaken relating into protection of environment, plantation and other social outreach activities. The extracurricular activities of students in the social spheres are reflected through a number of well-known clubs like Jaago, Shristhi, etc., and also their notable participation in NCC and NSS. Our students are known to return victorious or with meritorious performance in several pan-India festivals and events. IMS & SUM Hospital, Faculty of Medical Sciences forms a major medium for SOA's Interface with society. Free Medical Camps, Dental Camps, Eye Camps, Awareness Camps, Swachhata Initiatives, Free teaching support to the children in slums, spreading awareness about the dying arts and cultures by SOA Community Radio, NSS & NCC Activities, Adaptation of village are some of the areas in which SOA has been continuously working. Jahangirabad, Cuttack District, Odisha and Surrounding villages and 3 grampanchayats (Baluria, Andara & Amrutmanohi) of Kendrapad have been developed as a smart village cluster powered by clean energy and modern internet capabilities.

5. Student Support and Progression

SOA has taken several quality initiatives for development of hidden talent of students and for their overall personality development through various institutionalized measures. The University has 10 student clubs (JAAGO, SRISHTI, Camera Club, Robotics Club, Virtual Showreel, Aero Club, Toneelstuk, Danza) and 6 Student Chapters (ASME, ASCE, SAE, IEEE, ACM, IIIE). Additionally, Space has been provided to the above.

Important co-curricular activities undertaken by the University include Chakravyuh (Techfest), Robotics Club, Aero Club, which are held annually. Significant extra-curricular

activities introduced in this segment include, SOA Premier League (SPL), a national level Cricket Tournament being conducted each year.

Various literally, cultural, technical, academic and other social and community-oriented activities are also held regularly to promote student group activities and to give expression to their talents. Jaggo Club, the social club of SOA, has been rendering commendable social service especially in plantation, health awareness, blood donation and community service programmes.

Student Training (both by Internal and External Experts), Pre-placement trainings, Skill enhancement trainings and support for entrepreneurial and startups, robust mentor and mentee system are some of the initiatives taken by SOA during these years, which are greatly contributing in enhancing the knowledge and skill of the student s and make them highly employable.

6. Innovations and Best Practices

Every year saplings are planted inside the campuses to increase the green cover in the University area. A state-of-the-art research laboratory has been setup in the Faculty of Engineering and Technology (ITER) campus for research on renewable energy technologies. The laboratory is equipped with solar photo voltaic (PV), on grid/off grid inverters, multiple electrical tests and measuring devices, tube lights, fans, computers and projector which run on locally produced solar power.

The University has introduced the Enterprise Resource Planning (ERP) to build up a comprehensive digital data base covering the entire academic activities as an initiative to enhance functional efficiency.

Best practices introduced in Technology Enabled Learning (TEL) relate to teaching in e-enabled class rooms, fully computerized transparent common admission process, NPTEL Online Video Lectures and MIT Open Courseware system, Learning Management System– 'Moodle', institutional LMS and internet based aids such as Animations and Demonstrations to aid interaction of student with teachers. Other best practices adopted in teaching-learning process include Remedial Classes for Slow Learners and Faculty Enrichment Initiatives.

Outcome based learning has also been implemented in all programmes.

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Prof. M.K. Mallick
Co-ordinator, IQAC
Siksha 'O' Anusandhan