

**Annexure IX
Format for Accreditors' Report**

Section 1: GENERAL	Information
1.1 Name and Address of the Institution:	College of Science and Technology, Rinchending
1.2 Year of establishment:	26th Sept 2001
1.3 Current academic activities at the institution (Number):	5
• Faculties /Schools:	None
• Departments/Centres:	5
• Programmes/Courses offered:	5
• Permanent faculty members:	Teaching: 72 <i>Regular: 63; Contract: 9</i> <i>Expatriates: 6</i> Non-Teaching: 51 <i>Male: 30; Female: 21</i>
• Students:	Total: 919 2017: 222 • Male: 156 • Female: 66 • Govt. scholarship: 169 • Self financed: 62
1.4 Three major features in the institutional Context (As perceived by the accreditors):	<ul style="list-style-type: none"> • Physical infrastructures including well established laboratories with modern lab equipments, • Dynamic leadership resulting in international linkages, fund mobilization, programme diversification, inspiring staff and student etc, • Initiatives taken in Innovative Practices (Kitchen waste based Bio Gas Plant - operational), Modern Kitchen, Micro-grid Solar PV system, Dairy Farm, etc, • Academic rigour and drive for learning from both students and faculty, • Fully prepared to launch Master of Engineering in Renewable Energy by Feb 2018,
1.5 Date of visit:	6-9th November 2017
1.6 Composition of the accreditors which undertook the on-site visit:	

Chairperson	Dr. Singye Namgyel
Other member	1. Mr. Meghraj Adhikari 2. Mr. M.N. Lamichaney 3. Mr. Phuntsho Namgyal
BAC Coordinator / QAAD officials	1) Mr. N.B. Raika 2) Mr. Tshewang Dorji



Section 2: Criterion wise Analysis	Observations (Strengths and/or Weaknesses on Key-Aspects) <i>(Please limit to three major ones for each and use telegraphic language (It is not necessary to indicate all the three bullets each time; write only the relevant ones)</i>
2.1 Curricular elements	
2.1.1 Curriculum design and development	<ul style="list-style-type: none"> • Prescribed syllabus for different departments followed, • College plays vital role in development of curriculum by participating in proposal, drafting and finalizing the curriculum, • Priority accorded to stakeholders needs and requirement while preparing curriculum, • Self appraisal of teaching staff to facilitate review of programme, • International partnership in curriculum design and development.
2.1.2 Academic Flexibility	<ul style="list-style-type: none"> • Five Undergraduate courses offered currently and plans to introduce 7 new Bachelors and 6 new Masters programmes, • Elective subjects in third/final year, • College offers two University wide mandatory modules to all programmes and a modified version of Entrepreneurship Development module and a non-credited module on technical communication in final semester, • Courses offered to Continuing Education candidates.
2.1.3 Feedback on Curriculum	<ul style="list-style-type: none"> • Anonymous feedback obtained from students twice a semester through formal questionnaires for every module and through student staff consultation meeting with DAA and respective Program Leaders, • Feedback also sought from Employers/Stakeholders, Alumni, etc, • External Examiners are invited every semester and their report is given due importance.
2.1.4 Curriculum update	<ul style="list-style-type: none"> • Constructive criticism from stakeholders and alumni used for curriculum enrichment, • Review and update happens according to the aspirations met and scale of student intake, survey of prospective employers and tracer studies, • Minor changes are carried out when it is felt necessary due to technological advancement etc and are well recorded, • Periodical update of curriculum according to RUB Wheel of Law - after completion of one full programme cycle (5 years).
2.1.5 Catering to diverse needs	<ul style="list-style-type: none"> • Female students given preference to go for Exchange Programs, • Counselling and monitoring by senior staff for differently-abled students, • Currently the college has not seen the necessity for inclusive

	programs for differently-abled students.
2.1.6 Teaching-learning process	<ul style="list-style-type: none"> • Classroom teaching supplemented with projects, study tours, workshops and seminars, OJT, debates, group work etc and teaching plans prepared and discussed in Programme Committees, • Faculty provided with independent cabin and laptop; College encourages faculty to upgrade their knowledge and pedagogy skills, • Committee evaluates weak students and conveys findings to them for improvement, • Talented students are encouraged to carry out research and present their findings to the students and faculty and publish in national and international journals; Student Exchange Programs promotes learning environment, • Extensive use of VLE and library resources regularly updated to enhance learning environment, • Translates the curriculum through classroom teaching aided by innovative teaching practices.
2.1.7 Faculty recruitment	<ul style="list-style-type: none"> • Systematic recruitment process followed as per RUB norms, • The recruitment of faculty on both fixed term and full time regular is based on merit, through a fair, open and competitive selection process, • College has a transparent recruitment system, • Annual orientation program for new recruits; Official leave with allowances to new recruits to attend orientation and refresher programs, • Recruitment on contract to fill-in the gap created by exchange or training programs.
2.1.8 Faculty quality	<ul style="list-style-type: none"> • No of faculty with Qualifications and Experience: PhD: 4; Masters: 35; Bachelors: 19 On study leave: PhD - 7; Masters - 7; experience ranging from a few months to 32 years, • Faculty encouraged to pursue higher studies and avail improvement and professional development programmes and are fully funded to enhance qualification and teaching skills, <ul style="list-style-type: none"> • 9 teachers enrolled for PGCHE at SCE and 33 on instructional delivery at the National Institute of Technical Teachers Training and Research, Chandigarh in Dec 2016, • 2 - 5% of Annual budget allocated for long term studies and training (requirement of RUB) and granted fully paid study leave, • 6 faculty members received the National Order of Merit Gold for Excellence in Teaching, • Staff exchange programs to universities abroad (EU countries)

4

	<p>for enhancing experience and allowed to do internship with industries,</p> <ul style="list-style-type: none"> • Continuous feedback from students to review teaching skills.
2.1.9 Evaluation process and reforms	<ul style="list-style-type: none"> • Progress of students monitored through its evaluation system and attendance maintenance; Performance data is analyzed by individual tutor, the department and Program Board of Examiners, • Assignments, presentations, projects, case studies are given to students to be completed on time. The criteria for assessment are timely completion and quality of work. All cases of Continuous Assessment are moderated if the weightage is 20% or more, • Internal marks also awarded for field practicum, viva-voce, and semester end projects, • Evaluated answer scripts shown to students (on request) to take stock of their performance, • Mechanism for addressing grievances - student can discuss with tutor and program leader and can apply for re-evaluation of semester end exam results and RUB plans to make re-evaluation a part of the university assessment regulation, • Public recognition of achievements motivates the performers and inspires the new students.
2.2 Research, Innovative practices and Institutional linkages	
2.2.1 Promotion of Research	<ul style="list-style-type: none"> • Established Research Infrastructure and Policy, • College Research Committee to manage and monitor research related activities and publication, • Dedicated annual budget to support research and development activities; Also other budget provision available to procure state-of-the-art equipment useful for research, • Four major National and International conferences and seminars organized in last 3 years and college invites researchers from abroad to give talks, • Constantly secures funds from local and international organizations to carry out research (Nu. 97.513 million in 2013 - 2017).
2.2.2 Research and publication output	<ul style="list-style-type: none"> • 48 research projects (major and minor) carried out in last four years and research articles presented and published in various national and international conferences and seminars, • 3 faculty members received 5 awards as accomplished researchers till date, • Research findings published in CST Zorig Melong (Annual Technical Journal) including students project reports, • Research papers are reviewed by peer group and publication committee,

	<ul style="list-style-type: none"> • Total Publications: 162; Publication per faculty: 2; Number of papers published by faculty and students in peer reviewed journals (national / international): 92; Chapter in Books: 3; Books Edited: 2.
2.2.3 Consultancy	<ul style="list-style-type: none"> • Supports promotion of consultancy services in diverse fields of Engineering, Architecture, Renewable and Sustainable Energy, Communication, Environment etc. • Consultancy services provided to stakeholders to optimize the expertise and in-depth knowledge of faculty members. • Nu. 300,000/- generated from consultancy services in a year (College -52% and individual expert - 48%).
2.2.4 Extension activities	<ul style="list-style-type: none"> • College participates in various extension endeavors such as Blood donation camps, cleaning campaigns, donations, advocacy programs, public toilet cleaning in P'ing town, distribute necessities through Kuenphen Tshogpa etc. • Prompts the spirit of volunteerism and values of being a good citizen, enhances social values and environmental awareness, sense of social responsibility and promotes team spirit in management of projects like tree plantation program in college campus, waste segregation and management etc. • Leadership quality, social commitment, integrity and problem solving skills.
2.2.5 Collaborations and institutional linkages	<ul style="list-style-type: none"> • 28 MoUs (17 International and 11 National) with relevant stakeholders. • 46 faculty have availed staff exchange programmes at EU universities for durations ranging from 1 to 3 months and 106 students have availed students exchange programmes with EU universities. • Hosted 15 EU faculty members and 3 students on exchange programme. • Keeping links with alumni, beneficiaries, parents, government agencies and other stakeholders to understand their perspective of the college. • Short-term customized tailor-made courses conducted for various organizations (84 trainings as of September 2017).
2.2.6 Innovative practices	<ul style="list-style-type: none"> • Bio Gas plant from Kitchen waste - Plant constructed and commissioned; reduced LPG consumption by 2 cylinders per month. • Micro-grid solar PV system to provide uninterrupted power supply to the reading room in the library • Dairy farm to promote and practice universal human values. • Meeting halls named after the core values of the college - GNH, Enterprise, Quality, Integrity, Continuous Learning, and Team Work.




- Campus Radio with innovative Acoustic lining.

2.3 Governance, Leadership and Management

2.3.1 Institutional vision and leadership	<ul style="list-style-type: none"> • Well articulated Vision, Mission and Core Values, • Dynamic leadership resulting in international linkages, fund mobilization, innovative practices, programme diversification, inspiring staff and student etc. • Envisages to be recognized internationally for its quality and it aspires to be a hub of knowledge and expertise related to Science and Technology, • Decisions made through a decentralized process of governance based on consensus of committees and programme level representatives of staff and students, • Mechanism in place to monitor and evaluate the implementation of annual plans through annual reports, meetings and feedback, • Feedback used to improve teaching learning and management practices.
2.3.2 Organisational arrangements	<ul style="list-style-type: none"> • The college has organizational structure in place for matters related to academic and research implemented through CAC, PBE, PC, and CRC, • Decisions related to administration and management are addressed through CMC, HRC, FC, TC, Construction Management committee, Hostel Management committee, Disciplinary committee, • Decentralized and democratic system to function as a college, • Management provides opportunities to staff, students and stakeholders for feedbacks to improve management system of the college, • Academic plan, Research plan, Co-curricular activities plan prepared and implemented, • Grievances and suggestions are taken as opportunities for improvement in the system.
2.3.3 Strategy development and deployment	<ul style="list-style-type: none"> • Strategic development includes programme relevance, innovations, entrepreneurship, scholarships, continuous learning and revenue generation, • Strategies for success are shared with all and upon agreement pursued with a well-planned monitoring system. The other strategy is to follow the quality policies and guidelines judiciously for which Committees are made responsible, • Implementation of plans and policies continuously monitored and reported to RUB annually, • Annual programs developed on basis of fund availability, • Apart from the RUB research degree framework, the College has developed the staff and student handbook as policy guidelines and research policies, • The College has plans to develop infrastructure such as a new

7



	<p>approach road, hostels, new academic building, convention centre, student service centre and staff accommodation,</p> <ul style="list-style-type: none"> • Based on the plan and requirements, faculties will be sent for their postgraduate courses to reputed institutes / colleges / universities in India with the funding support from the College.
2.3.4 Human resource management	<ul style="list-style-type: none"> • Human Resources Management Committee is in place, • Promotions and trainings are part of Management practices, • Appraisal system to award best performers in various fields developed, • The Non-Academic staff work as a team beyond normal working hours,
2.3.5 Financial management and resource mobilization	<ul style="list-style-type: none"> • Funds are availed from Government annual grants, Student fees, Consultancy fees, Training fees, Hiring of facilities, Interest on deposits, and External project grants, • Financial management and monitoring system instituted and Finance Committee advises the Management on budgetary issues, • Nu. 97.513 million mobilized during 2013 - 2017 from local and international organizations for research and other projects, • RAA carried out the annual auditing of accounts in April 2016 and no major objections were raised. • Opportunity to explore possibilities for establishment of Endowment Fund.

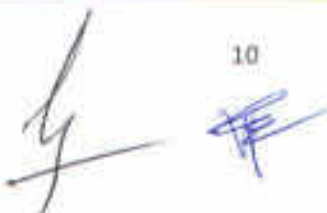
2.4 Infrastructure and Learning resources

2.4.1 Physical Facilities	<ul style="list-style-type: none"> • Adequate physical facilities for curricular and co-curricular activities established, (26 class rooms, 3 lecture theatres, one mini lecture theatre, Conference/seminar/Meeting halls; 35 labs with latest equipment; equipped RE lab, 7 buildings with 91 units of staff quarter (50,924 sqm), 7 Student Hostels - 345 rooms for 826 students; Student mess; Auditorium with 800 seating capacity, 3 canteens and a cooperative store) • Total campus area: 50.2 acres, (Owned and Urban tax being paid), • 24 hrs water supply; Reliable Power supply, • Round the clock security with 16 CCTV cameras, • While some physical facilities are newly constructed many are old structures needing maintenance, • While classrooms and labs are spacious, hostels are over-crowded.
2.4.2 Maintenance of Infrastructure	<ul style="list-style-type: none"> • Budget allocated each year for maintenance of properties, • Estate Manager prioritizes the work in consultation with Management and is assisted by skilled workers,

	<ul style="list-style-type: none"> • Major maintenance of facilities is outsourced through quotation/tender, • Other facilities like laboratory, computers and peripherals maintained by trained personnel; Annual maintenance contracts for printers, photocopiers etc, • One full time Waste Segregator employed, • Policy on maintenance of infrastructures is not clear. Some infrastructure need timely maintenance (hostels, toilets, painting, drainages, grass/bush cutting across the campus etc).
2.4.3 Library as a Learning Resource	<ul style="list-style-type: none"> • Fully automated library with 150 seating capacity. New library building is completed and seating capacity will increase to 350 after furnishing, • Adequate number of text and reference books and online electronic resources accessible from hostels, • A policy on procurement of books, avoiding duplication and fair distribution of books across various discipline, • Adequate journals subscribed to keep abreast with latest materials and research findings on relevant subjects, • Library Orientation Program in July for new students; Efficient Management of the Library and good collaboration with ICT department, • Library opens at 7:30 am till 10:30 pm during normal time and till midnight during and one week before the exams.
2.4.4 ICT Infrastructure	<ul style="list-style-type: none"> • Adequate number of servers, computer labs with computers (Computer Student Ratio: 1:3), • New building and ICT facilities for IT programme including multi-media lab, • Internet lease line upgraded to 50 Mbps from 1st November 2017 from the earlier 13 Mbps bandwidth, • Fiber optic cable connection in campus, 24 hr Wi-Fi facility in student hostels, LAN connection in all staff quarters, • Computers in library with Wi-Fi connection and Public access to printers, • 2 computer labs with 20 computers each for stakeholders training
2.4.5 Other facilities	<ul style="list-style-type: none"> • Executive Hostel, Research Center, GNH Hall, Altar room etc, • Recreational facilities: TV room; Table tennis courts, chess and carom; football ground, basket ball, volley ball and badminton courts, Archery and Khuru ranges, Helipad for futsal, meditation and yoga practices with yoga mats, • Campus radio for knowledge sharing, announcements, awareness programs etc, • Dairy farm (cowshed and fodder) - universal value education, • Three canteens and a student run cooperative store, Infirmary, Student IT service center etc.



2.5 Student services	
2.5.1 Admission process and student profile	<ul style="list-style-type: none"> • RUB Admission system followed and admission process is done online, • Available seats in each programme advertised in print media and broadcast media (BBS TV & Radio); Also shared on social media - Wechat and Facebook, • Admission process regularly monitored by the Admissions Committee and student information collected and details entered into the Student Information System, • Orientation program and a week-long Value education workshop for first year and five days for final year students before they graduate, • In-service candidates with Diploma degree - No Age limit - 3 years duration.
2.5.2 Student progression	<ul style="list-style-type: none"> • Academic progression monitored and recorded through pass percentage in all programmes for same group of students, <ul style="list-style-type: none"> • Civil Engg has lowest average pass percentage due to large no. of students; Improvement in pass percentage from 50.18% in 2014 to 84.44% in 2017; Most failures in 1st semester. • Electrical Engg: Average pass percentage: 77.9% • IT and ECE: Consistent performance / pass percentage • Courses on Effective Communication and OJT across all programs for exposure to skill enhancement and practical experience, • Remedial classes are conducted by the tutors for slow learners beyond the normal hours, • Personal counseling by tutors; peer counseling and guidance.
2.5.3 Student support	<ul style="list-style-type: none"> • Student Handbook updated annually to guide students in academic, social and cultural grounds; All important information including code of conduct is available, • Remedial classes for slow learners and extended library timings; Students given freedom to approach tutors any time; Special housing provision for sick students in campus with family, and Housing for in-service students; Personal counseling by tutors; peer counseling and guidance, • Economically weak students employed during vacation and paid; Interest free advance loans to attend exchange programme, • Other supports like 10% flexibility in attendance for students participating in extra-curricular activities and sick students with genuine medical problems, • Grievances are addressed in-house through Dean and Student Leaders / Disciplinary Committee and humane approach is adopted for addressing disciplinary and individual problems.
2.5.4 Student activities	<ul style="list-style-type: none"> • College supports student activities and participation in Literary, Cultural, Games and Sports activities,



	<ul style="list-style-type: none"> • Clubs related to Science, Social, Cultural, Educational, Environment and Spiritual themes have been set up, • Additional participation in Friday forum lectures at RIGSS and Annual Mountain Echoes Literary festival at Thimphu, • Awareness programs and workshops on media literacy, substance abuse, HIV and AIDS, Scouting, Spiritual talks etc.
2.5.5 Stakeholder relationships	<ul style="list-style-type: none"> • Several ongoing social outreach programs undertaken by different departments - students and staff work together to create awareness, • Formal affiliations and interactions with other agencies exist such as Bhutan Scout Association, Bhutan Toilet Organization, Tarayana Foundation, YDF etc
2.5.6 Credit transfer system	<ul style="list-style-type: none"> • Conditional Credit transfer system exists only with EU universities, • CST students have done well at partner universities, • Recommend to formally establish Credit Transfer System.
2.5.7 Employability	<ul style="list-style-type: none"> • CST shares information on the number of graduates and their competency to labour market through various media including social media, • Invites relevant stakeholders / organizations for campus recruitment, • Provides guidance and mentorship in selecting their career and support to prepare for BCSE and other competitive exams, • While recruiting academics, CST gives preference to its graduates, • OJT/Internship enhances employment opportunities.
2.5.8 Performance	<ul style="list-style-type: none"> • CST graduates have consistently performed well in all competitive exams. • Graduates prefer to join corporations instead of civil service, • IT graduates: 2014 and 2015 graduates are employed in Government, corporate and private sectors, • One graduate is self-employed and performing well - Impact of Entrepreneurship development program, • Football champion for two consecutive years in BUSF and Basketball champion of 2016; Winner in Gomtu Open Football Tournament 2016, • Secured first position in the Art competition organized by the Office of Consulate General of India in 2016; Secured first and second positions in the Art competition organized by the Office of Consulate General of India in 2017 coinciding with International Yoga Day, • Second in Business Idea Competition organized by NASCOM, India, • Best paper award in SKIMA 2015.
2.5.9 Alumni services	<ul style="list-style-type: none"> • CST Alumni Association established in 2014 with financial

	<p>support from college with a dedicated website,</p> <ul style="list-style-type: none"> • Major activities are collaborating with college through various activities like curriculum review, guest and part time lectures, alumni meet and reunion of graduates, • Alumni participate in stakeholder meetings and tracer study conducted by the college. • Alumni members contribute and help during death of alumni members, students etc, • Feedback from Alumni, stakeholders and employers are collected through questionnaires for review of programs and to understand the expectations of the stakeholders.
--	---

2.6 Internal quality assurance and Enhancement system	
2.6.1 Internal quality assurance system	<ul style="list-style-type: none"> • Well established Quality assurance mechanism at College level with ToR and structure and is monitored by RUB, • IQAU established in Nov 2006 and strengthened in 2015, • Programme Committee (PC), Student Staff Consultation (SSC) and College Academic Committee (CAC) have student members and involved in decision making process and its implementation, • Student participation in IQAU is considered critical as they are direct beneficiaries, • External Examiners invited for each program every year to monitor quality of teaching and learning, moderate question papers and random auditing of evaluated answer scripts of past semester and Project Examiners to assess final year project reports and presentation, • IQAU ToR appears to focus on curricular elements and programme quality aspects only. College to consider expanding the activities of IQAU to cover other standards as well.
2.6.2 Institutional effectiveness	<ul style="list-style-type: none"> • Design of new program or review and continuation of existing programs is based on the needs of the market, • Once need is identified, a core group of faculties sits together to map the curriculum structure and programme outcomes. Draft programme curriculum is again discussed with experts from stakeholders and other academics, • Achievement of outcomes is assessed at the end of programme cycle, • Information obtained from impact assessment is used as critical inputs to review, fine tune the program and further decisions to reshape the aspirations as to fit the mission, • College to consider assessing the "Institutional Effectiveness" encompassing all six standards following some standard models such as EFQM, WEAVE, RADAR Logic etc
Section 3: Overall Analysis	Observations (Please limit to five major ones for each and use telegraphic language. It is not necessary to denote all the

	five bullets for each)
3.1 Institutional Strengths	<ul style="list-style-type: none"> • Adequate infrastructure in place and are optimally used, • Well established laboratories with modern lab equipments, • Autonomous Status enables College fast track decision making, • Adequate numbers of qualified faculty and staff, • Dynamic leadership resulting in international linkages, fund mobilization, innovative practices, programme diversification, inspiring staff and student.
3.2 Institutional Areas for Improvement	<ul style="list-style-type: none"> • Policy and Strategy for Maintenance of Physical Infrastructure, • Performance Analysis of students leading to Strategic interventions, • Comprehensive policy and SOP for Disaster Management, • Policy and user friendly facilities to cater to differently-abled students, • Strengthening of Alumni activities and objective tracer studies.
3.3 Institutional Opportunities	<ul style="list-style-type: none"> • Explore establishing additional linkages with Universities in the Region, • Institute Credit transfer system, • Take advantage of the favorable geographical location to attract students and resource persons, • Scope for vertical diversification of existing programmes, • Establishment of Endowment Funds for financial sustainability.
3.4 Institutional Challenges	<ul style="list-style-type: none"> • Shortage of accommodation for students and staff, • Shortage of funds for qualification upgradation and professional development, • Diversification and upgradation of programmes constrained by limited takers and employment market, • Maintenance of the physical infrastructure, • Financial Sustainability, • Space constraints for campus expansion.




Section 4: Recommendations for Quality Enhancement of the Institution

The Accreditation team submits these recommendations for the college to consider:

- 1) Strengthen IQAU - independent of all other committees to oversight all institutional quality and effectiveness.
- 2) Institute Credit Transfer System with sister academic colleges with win-win purpose,
- 3) Develop a comprehensive policy and SOP for disaster management to prepare and/or respond to natural calamities,
- 4) Formulate a comprehensive policy for maintenance of physical infrastructures,
- 5) Consider a scheme to promote home ownership as part of post retirement benefit for the faculty and staff members,
- 6) Constitute a Task Force to study, analyze and develop strategies to implement:
 - 6.1 Institutional areas for improvements identified in this report,
 - 6.2 Institutional opportunities identified in this report,
 - 6.3 Recommendations proposed in this report.

I agree with the observation of the accreditors as mentioned in this report.

Signature of the Head of the Institution

Seal of the Institution



Signature of the Accreditors:

Name	Designation	Signature with date
Dr. Singye Namgyel	Chairperson	
Mr. Meghraj Adhikari	Member	
Mr. M.N. Lamichaney	Member	
Mr. Phuntsho Namgyal	Member	
1) Mr. N.B. Raika	BAC Coordinator/QAAD Official	