PROGRAMME REVIEW REPORT

Bachelor of Science Honours in Management and Information Technology

Faculty of Science

University of Kelaniya

Site Visit Dates: 26th- 28th October 2022



Review Panel: Prof. Prasad M. Jayaweera (Chair)
Prof. R. A. Ranga Prabodanie
Dr. V. Sivakumar

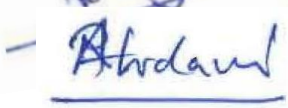
The Quality Assurance Council
University Grants Commission, Sri Lanka

University: University of Kelaniya

Faculty: Faculty of Science

Programme: Bachelor of Science Honours In Management and Information Technology

Review Panel:

Name	Signature
Prof. Prasad M. Jayaweera Chair	
Prof. R. A. R. Prabodanie Member	
Dr. V. Sivakumar Member	

List of Abbreviations

BSE - Business Systems Engineering
CAL - Computer Assisted Learning
CCSD - Coordinating Centre for Students with Disabilities
CDC - Curriculum Development Committee
CGU - Career Guidance Unit
CULTEC -Curriculum, Learning and Teaching Evaluation Committee
DELT - Department of English Language Teaching
DIM - Department of Industrial Management
DMS – Document Management System
GEE - Gender Equity and Equality
HoD - Head of the Department
ICT - Information and Communication Technology
IEEE - Institute of Electrical and Electronics Engineers
ILO - Intended Learning Outcome
IQAC - Internal Quality Assurance Cell
IQAU - Internal Quality Assurance Unit
IS - Information Systems
ISO - International Organization for Standardization
IT - Information Technology
LMS - Learning Management System
MIT - Management and Information Technology
MoU - Memorandum of Understanding
OBT- Outbound Training
OPAC - Online Public Access Catalogue
ORIT - Operations Research and Information Technology
OSCM - Operations and Supply Chain Management
PO - Programme Outcomes
QAAC - Quality Assurance and Accreditation Council
SBS - Subject Benchmark Statements
SCSE - Smart Computing and Systems Engineering
SDC - Staff Development Centre
SER - Self Evaluation Report
SLQF - Sri Lanka Qualifications Framework
UGC - University Grants Commission

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Section 1: Brief Introduction to the Programme

Overview of the Department of Industrial Management

The University of Kelaniya has a long history dating back to the establishment of Vidyalankara Pirivena in 1875. In 1959, the Vidyalankara Pirivena became Vidyalankara University which was later renamed as the University of Kelaniya. The Faculty of Science is one of the oldest faculties in University of Kelaniya which currently consists of eight academic departments, namely, Chemistry, Industrial Management, Mathematics, Microbiology, Physics & Electronics, Plant & Molecular Biology, Statistics & Computer Science, and Zoology & Environmental Management. The Faculty conducts 19 BSc Honours Degree programmes (4-year duration) and 5 BSc General Degree programmes (3-year duration). The Science Faculty which offers courses in 24 subject areas has admitted 1037 students in 2022.

The Department of Industrial Management, which stands as a main pillar of the Faculty of Science, was initially established with a view to strengthening the Management skills of the science degree graduates. This concept, which was initiated by a visiting Fulbright Scholar from the USA, has subsequently proved its distinction, and it has been later adopted by other universities in Sri Lanka.

At the beginning, the department offered Industrial Management (IMGT) as a single subject to the students following the Bachelor of Science degree. The students were able to take Industrial Management as one of their three subjects together with Chemistry, Physics and/or Mathematics. The Industrial Management subject consisted of more analytical and scientific branches of management together with traditional management topics. The Department of Industrial Management identified the growing potential of Information Technology as early as in the 1980s and has introduced Information Technology into their curriculum. Later, they introduced a special degree also. In 1995, the department introduced a new subject, Operations Research and Information Technology (ORIT) together with IMGT.

The Department of Industrial Management launched its flagship degree programme, Bachelor of Science in Management and Information Technology (BSc in MIT) in 2003 opening a new window for the students from GCE A/L science streams to directly enroll for a degree in Management and Information Technology. In addition to the BSc degree programme, the department conducts three postgraduate programmes in Management in Information Technology related disciplines.

The Department of Industrial Management has continuously strengthened its capacity and competence in terms of both human resources and physical infrastructure. The academic staff includes four Professors and eight Senior Lecturers who have all completed their training in reputed international universities. There are ten lecturers including two lecturers who have already completed their PhDs and another eight young staff members reading for their PhDs overseas. The Department has two experienced technical officers and one other work aide. The Faculty has expertise in different areas of Management, Computing and Engineering.

The existing facilities such as classrooms, laboratories, student learning spaces and washrooms and the eight-story building at its finishing stages with modern infrastructure would be adequate and guarantee smooth delivery of DIM's study programmes. Automation of areas inclusive of students' registrations, library, examinations, and the availability of Leaning Management System even to facilitate remote and blended learning are commendable. In addition, students support services inclusive of counselling, physical education, health at university level as well as academic advisory, (industry) mentoring services at department level are also conveniently available for the students.

In the subject review conducted by the Quality Assurance and Accreditation Council (QAAC) of University Grants Commission (UGC) in 2008, the Department secured "A" grades for all the seven dimensions of quality. Recently in 2019, they have obtained the ISO 9001:2015 certification for the design, development & delivery of certificates, diploma, higher diploma, undergraduate & postgraduate programmes, and conducting research & publication in the areas of Management and Computing.

Overview of the BSc Hons in MIT Study programme

The Bachelor of Science in Management and Information Technology (BSc in MIT) degree programme was designed in 2003 to cater to the demand for graduates with knowledge and skills in both Management and Information Technology, acknowledging the importance of soft skills, and required domain knowledge in the corporate world. The programme structure and content have significantly evolved over time, in-line with global changes in economic, technological and business environments.

In 2014, the degree programme was restructured to an honours degree programme with four specializations in third and fourth years. In the first two years, the students follow courses in two core subject areas, Management & Technology (MGTE) and Information & Communication Technology (INTE). Then in the next two years, they can study for a specialization. The available specializations are Business Systems Engineering (BSE), Operations and Supply Chain Management (OSCM), Information Technology (IT) and Information Systems (IS). An exit option is available for students to obtain a BSc general

degree after completing their internship at the end of level 3. The credit structure of the programme is summarized below.

Table 1.1: Credit structure of the BSc Honours in MIT degree programme

Level	Compulsory credits	Credits from optional courses			
		BSE	OSCM	IT	IS
I	33	-			
II	32	3			
III	22	17	18	11	12
IV	16	18	18	21	21

Currently one hundred students are annually enrolled for the degree programme. It is envisaged that the intake would be further increased within the next 5 years. The number of students currently enrolled and the numbers that graduated over the last 5 years are given in Tables 1.2 and 1.3.

Table 1.2:Number of students currently enrolled in BSc Honours in MIT degree Programme

Year/Level	**No. of Students**
Level 1	111
Level II	110
Level III	99
Level IV	59

Table 1.3: Numbers that graduated from the programme over the past five years

Year	No. of Registered Student	Degree	Effective date	Total No. graduated
2016 Batch	77	BSc Hons	1-Mar-22	72
2015 Batch	26	BSc Hons	1-Mar-21	21
	22	BSc General	1-Mar-20	13
2014 Batch	50	BSc. Honours	1-Mar-20	39
		BSc. General	1-Mar-19	3
2013 Batch	43	BSc. Honours	1-Mar-19	7
		BSc. General	1-Mar-18	35
2012 Batch	46	BSc. Special	1-Mar-18	31
		BSc. General	1-Mar-17	13

In response to the recommendations made in the previous review, the department has made some major changes in the degree programme. They have increased the number of specializations from one to four, student intake from 50 students to 100 students, flexibility for students, especially in the final two years of the programme, and internship period from 3 months to 6 months.

Section 2: Review Team's Observations of the Self-Evaluation Report (SER)

The Self- Evaluation Report for the BSc Honours in MIT degree programme has been prepared by the Department of Industrial Management adhering to the guidelines stipulated in the Programme Review Manual published by the UGC. The Department has adopted a participatory and collaborative approach in all stages of preparing the SER, i.e. in collecting evidence, drafting the report, reviewing, revising and finalizing. The evidence for each standard under each criterion has been listed consistently using the template provided in the Programme Review Manual.

Initially, an SER committee consisting of six staff members was formed by the Head of the Department to coordinate the process of preparing the SER. The committee has studied the PR manual and recognized the applicable evidence for each standard. Then the SER writing committee was formed, consisting of two members for each criterion. Three staff members have attended the SER writing workshop organized by the QAAC of UGC. The draft SER has been extensively discussed in the department meetings and the evidence for each standard has been internally reviewed by an appointed senior member of staff. The revised SER has been submitted through the university's IQAC.

According to the SER, a SWOT analysis was performed as part of the degree programme review and revision carried out every three years. The Corporate Plan of the University of Kelaniya and the Strategic Plan of the DIM have been submitted together with the SER. Well-documented vision and mission statements, goals and objectives are also available. The BSc Honours in MIT degree programme appears to be consistent with the vision, mission, goals and objectives. A clearly stated and realistic graduate profile serves as the basis for the teaching and learning process. There was ample evidence of student-centered and outcome-based education. The DIM has made significant progress in adopting nationally accepted quality standards/guidelines such as SLQF as well as internationally recognized standards such as ISO 9001.

In the previous review conducted by the QAAC of the UGC in 2008, the review team highly commended the DIM as an excellent academic department and has recommended it as a model department. Some deficiencies identified were (1) having only one specialization, (1) limited number of students admitted, (3) limited number of electives, (4) short period of industrial training and (5) moderation of question papers mainly by internal staff. Some concerns have been raised on the areas of staff specializations and training of the probationary lecturers. The DIM has satisfactorily addressed these concerns. They have increased the specialization from one to four, intake from 50 to 100, the number of elective courses, and the industrial training period from 3 months to 6 months. However, the review

team noted that still there is limited participation of external academics/experts in the question paper moderation process.

One shortcoming noted in the SER was that some claims and evidence listed under a few of the standards appeared to have little or no relevance to the specific standard. It is not clear whether a SWOT analysis has been performed in preparing the SER.

Section 3: A Brief Description of the Review Process

Appointment of the Review Team

In compliance with the procedure for review of undergraduate degree programmes outlined in the Programme Review Manual of the UGC, the review team was appointed by the QAAC of UGC in consultation with the Department of Industrial Management, Faculty of Science, University of Kelaniya. The review team comprised of three members who have obtained relevant training. After appointing the team, the QAAC sent soft copies of the SER and the MS Excel template for programme review (PR Scoring Sheet) to the reviewers. The desk evaluation was performed by each reviewer independently based of the claims and evidence listed in the SER. Later, after the development and commissioning of the DMS for programme review by the QAAC, each reviewer entered the scores into the DMS. The team observed that the outcomes of their independent evaluations were consistent (no significant deviations), but that they might change after the site visit and observation of the real evidence.

Planning of Programme Review Visit

A two-day site visit was arranged from 27 October 2022 to 28 October 2022 by the Chairman of the Programme Review Committee in consultation with the Head of the Department (HoD). It should be noted that there was a delay in arranging a physical site visit owing to the COVID 19 pandemic and the turbulent situation in the country in 2022. The site visit schedule was prepared by the HoD and the review Chairman. The schedule was well prepared enabling the review team to meet all the relevant authorities and stakeholders and examine all relevant physical amenities (the site visit schedule is attached as Appendix 1). In preparation for the site visit, the review team met on 26 October 2022, discussed the outcomes of the desk evaluation in detail, and noted a few specific concerns to be clarified during the site visit. The Chair assigned tasks and responsibilities to each committee member. The review team appreciates the Vice Chancellor, the Dean, the HoD, the IQAC director and all other officers for facilitating a productive on-site evaluation and for providing all the required information. In particular, all the staff of the Department of Industrial Management are appreciated for the pleasant arrangements and their courtesy.

Meetings / Discussions with Stakeholders

The site visit commenced with a meeting with Vice Chancellor, a well-recognized university scholar who has made a significant contribution to the quality enhancement in the Sri Lankan university system. She elaborated on her perspective of the BSc Hons in MIT degree

programme and the way forward. Then the IQAC Director explained the policies and procedures in place for quality assurance and management. The Dean of the Faculty of Science provided an overview of the Faculty's profile, the degree programmes offered, and enrollment and graduation statistics. There were meetings with the SER writing team, academic staff of the Department, senior academic advisors, non-academic staff of the Department, senior administrative office of the welfare division, Senior Student Counsellor and the Director of the Centre for Gender Equity (CGE). The committee was impressed with the initiatives taken by the university to promote gender equity, to recognize diversity, and to control ragging.

The review team had online discussions with alumni members, industry mentors and other external stakeholders and observed overall positive feedback about the degree programme. There was a meeting with the students representing all the currently enrolled batches. Physical observation visits were made to the Library, English Language Teaching Department (ELTD), University Medical Center and the Physical Education Department. Both the observations and the information provided by the officers at these entities indicated their commitment towards better education and social well-being of the students. The review team observed well-equipped facilities available for teaching and learning including lecture halls, laboratories, and study areas.

Observation of Teaching-Learning Sessions and Facilities

The HoD had previously informed the review team that examinations were scheduled during the period of the site visit. The team unanimously agreed that it is counter-productive to delay the site visit further and thus the site visit should be completed as planned even though it is not possible to observe teaching-learning sessions during the examination period. During the meeting with the students, they were encouraged to talk about their learning experience and to suggest any improvements they desired.

Scrutinizing Documentary Evidence

All the documentary evidence had been uploaded to Programme Review MIS before the site visit. Since the site visit schedule was quite tight, the reviewers could only briefly look at the evidence during the two days. A closer examination of the documentary evidence was performed during the two weeks following the site visit. In addition to the uploaded documents, some documents related to policies and procedures were physically observed during the site visit.

Overall, the review team is highly satisfied with the arrangements made to facilitate the review visit in an efficient manner. The commitment of the DIM to openness, transparency, effective communication, and logistical support is commendable.

Section 4: Overview of the Department's Approach to Quality and Standards

Both the University of Kelaniya and the Department of Industrial Management have made significant progress in establishing a quality culture in the University. The review team observed a positive attitude towards quality assurance and management. The University has an Internal Quality Assurance Unit (IQAU) lead by a director, a well-experienced and qualified academic of the university. The Faculty of Science has appointed a coordinator to liase with the IQAU director and coordinate the quality assurance activities within the faculty. The Vice Chancellor and the Dean of the Faculty of Science provide their support, guidance, and encouragement for quality assurance activities. The commitment of the top authorities towards quality is commendable.

The Department of Industrial Management appears to be a quality conscious academic entity with a clear vision towards academic excellence. They have already obtained the ISO 9001:2015 certification for the design, development & delivery of certificates, diploma, higher diploma, undergraduate & postgraduate programmes, and conducting research & publication in the areas of Management and Computing. The DIM has well-established procedures for quality assurance in compliance with the ISO policy. The degree programme complies with the guidelines and requirements stipulated in the SLQF.

Section 5: Judgment on the Eight Criteria of Programme Review

Criterion 1: Programme Management

Strengths:

- The organizational structures are adequate for effective governance, management, and execution of DIM's core functions.
- Well-developed academic/industry mentoring, student counselling and related welfare services are available.
- The Department has up to date and informative website
- Deployment and adoption of ICT enabled solutions in many operational/functional areas inclusive of Student Registrations, Examinations, Library and Virtual Learning Environments are commendable moves.

Weaknesses:

- Governance, Management and Academic Procedures could further be streamlined and standardized.
- Aspects such as gender equity & equality and students with special needs could be formalized adhering with local/global standards.
- There is room to further develop & deploy a fully-fledged and integrated MIS (ERP like) total solution in compliance with UGC recommendations.
- Occupational safety can further be improved in line with national and international recommendations.

Recommendations:

- Reference, adoption and complete adherence with all parts of "Academic Procedures Handbook" and mainly also with the Part III: Governance and Management of National Universities are recommended.
- Policies related to gender equity & equality and students with special needs could be formulated covering initial screening at the registration, temporarily disabilities in campus, and needs of differently abled students by considering adoption of global standards such as "Accessible" of WBDG.
- Instead of scattered automations of functional areas, fully-fledged and integrated MIS (ERP like) could be deployed in line with policies such as IT Governance and Management, levels of personnel privileges, computing resources, as per Comm. Circular 02/2013 : IT Governance and Management (IT Policy)

- Occupational safety can further be improved in line with the global standards such as "Occupant Safety And Health" of WBDG and with the National Occupational Safety Policy.
- Complete adoption of all aspects related to HEIs as per Five Goals of UGC's Strategic Plan is recommended.

Criterion 2: Human and Physical Resources

Strengths:

- Availability of qualified and committed personnel at the Department (witnessed dedication and fullest cooperation from all personnel at DIM, i.e. "DIM family culture") is commendable
- Available and upcoming infrastructure and physical resources of DIM are adequate and well-maintained guaranteeing smooth delivery of study programmes.
- Availability of a variety of services offered towards both staff and students through SDC, Library, CGU, ELTU, etc.

Weaknesses:

- Diversity & required staff are needed to be acquired.
- Unavailability of evidence for monitored, and remedial action taken for services from centres such as SDC, CGU.
- Facilities for administration, teaching and learning could further be enhanced by adhering adequately with local/global recommendations.
- DIM could further enhance facilities for the delivery of Honours programmes with adequate coverage of cutting-edge technologies & state-of-the-art business software.

Recommendations:

- Human resources can also be further strengthened with respect to Cadre Norms and Ethics-and-Academic-Accountability and with respect to the expertise required for covered diverse knowledge areas of offered study programmes.

- It is recommended to maintain evidence as required for instance through the standard 2.4 of PR manual.

- Enhancements are recommended for the smooth delivery of the programme (for instance meeting standards for relevant types of spaces as recommended by WBDG as well as Occupational Safety Policy, etc.).

- Academic alliances with major software companies could be considered in provisioning students' access to cutting edge technologies (e.g., SAP, MS Dynamics, etc.) for in-curricular as well as cocurricular activities.

Criterion 3: Programme Design and Development

Strengths:

- Evidence of a significant level of stakeholder participation, particularly industry representatives and alumni, in the degree programme design, development and revision.
- Graduate profile and Programme Outcomes (POs) comply with the SLQF and the curriculum mapping (POs vs. graduate profile and courses vs. POs) is available.
- A comprehensive Internship handbook has been developed for the students. Handbooks were available for the research project and the development project also.
- Programme approval has been obtained through the proper channel: CDC (Curriculum Development Committee), Department meetings, Faculty Board, CULTEC (Curricula Learning and Teaching Evaluation Committee) and Senate.
- Internal monitoring strategies based on ISO policy have been adopted to review and improve the programme design. Records of monitoring and remedial measures are available.
- Outcome based performance indicators such as graduation rates have been monitored continuously. Until 2019 (while the universities operated normally) the graduation rates were significantly high (95%+). Tracer studies have also been conducted.
- University-level policies have been developed and adopted to support the differently abled students. A Coordinating Centre for differently abled students (CCSD) is available and initiatives such audio books and courses on Microsoft Productivity Tools for blind students are in place.

Weaknesses:

- The course specifications are quite abstract. The procedures should ensure that they include details of the teaching/learning schedules (semester plan, weekly schedule), and illustrate the alignment of various teaching/learning and assessment methods with the course ILOs (3.6).
- Though ethical considerations and sustainability are addressed in the curriculum where relevant, topics related to gender equity, living with diversity, social harmony, etc. have not been sufficiently addressed (3.11).

Recommendations:

- A mapping of POs and/or courses against the external reference points such as the SLQF and SBS would further strengthen the programme design (3.5).
- The format of the programme specification should be improved including the details of teaching and learning schedules and alignment of various teaching/learning and assessment methods with the course ILOs (3.6).
- Topics such as gender equity, living with diversity, and social harmony can be included in leadership and professional development courses which are already included in the curriculum (3.11).

Criterion 4: Course/Module Design and Development

Strengths:

- A senate approved format is available for submission of proposals for the approval of new degree programmes (in effect from January 2021).
- BSc Honours in MIT has been designed and developed by a curriculum development committee consisting of experienced academic staff, taking into consideration the views of external stakeholders.
- The courses reflect the latest developments in the fields of management and information technology (including artificial intelligence, big data analytics, data mining, cloud computing, enterprise systems, innovation, etc.).
- Course specifications, which include learning outcomes, course contents, teaching and learning methods, assessment methods, and recommended reading, are available for all courses.
- The curriculum matrix indicates that the courses are designed to meet the programme outcomes.
- The curriculum contains ample evidence of student-centered learning activities such as projects, presentations, case analysis, product design and development, industry visits, group discussions, etc. These activities provide opportunities to develop creative and critical thinking, collaborative learning, interpersonal communication and teamwork.
- Credit weight and volume of learning have been well-balanced over the duration of the programme. (Level 1 – 33 credits, all compulsory, Level II – 30 compulsory + 3 optional credits, Level 3 – 22 compulsory (including a design project and internship) + optional credits, Level 4 – 16 compulsory (including research) + optional credits.
- Technology has been used appropriately in delivering the courses. The staff have acquired relevant training from SDC workshops and other training programmes.

- Evidence of using student and other stakeholder feedback in course design, development and revisions is available.

Weaknesses:

- Though the course ILOs appear to be associated with programme outcomes, mapping was not available to ensure that the course ILOs are aligned with the programme outcomes (4.5).
- Although the SER claims that "…aligning all ICT programmes with the ACM/IEEE guidelines…" no precise selection and illustration of knowledge areas that have been covered, it is not clearly mentioned what curriculum guidelines have been adopted (out of listed seven major sub-disciplines of computing) (4.3).
- For each course, the workload (notional learning hours) as per SLQF, broken down into different types of learning such as direct contact hours, self-learning time, assignments, assessments, laboratory studies, field studies, etc. not specified, preferably in the course specification (4.8).

Recommendations:

- It is recommended to map course ILOs and POs to ensure that the ILOs are aligned with the POs (4.5).
- With respect to covered (sub)disciplines, it is recommended to map course units against relevant knowledge areas (for instance as per sub-discipline of computing of ACM/IEEE curriculum guidelines). Relevant references can be made to selected (core) body of knowledge from respective knowledge domains when selecting knowledge areas in the programme with an appropriate mapping (e.g. EITBOK, SWEBOK, MBOK, etc.) (4.3)
- Course specifications can be improved with mapping of teaching/learning activities and assessment methods against the ILOs to ensure that "learning activities and assessment tasks are systematically aligned with the course outcomes", for instance adhere with Table 4.3. Levels of Cognitive Skills as per recommendations in CC2020 (4.5).
- In future revisions, DIM could adopt the UGC template for Application for Approval of Revised UG Degree Programmes (4.4).

Criterion 5: Teaching and Learning

Strengths:

- Efficient use of the online Learning Management System (CAL-Computer Assisted Learning) for teaching, learning and assessment. There was evidence of uploading videos, reading material, assignments, etc. into CAL and interactive online learning.
- Diverse and innovative methods of teaching and assessment have been used in almost all courses (field visits, video cases, outbound activity, product development, movie review, share trade activity, etc.).
- Learning rights of the differently abled students are somewhat taken into account by setting up the systems and facilities. For example, both paper-based and audiovisual teaching materials are available.
- Student feedback has been collected via questionnaires and face-to-face meetings. Student feedback for each course has been analyzed and the results have been taken into consideration where relevant.
- Ample evidence of students publishing their final year research in conferences and journals.
- Timetables are made available to the students at the beginning of the semester (the students verified this, though there was no documented evidence of when the timetables are published).
- Students' group activities are promoted through curricula as well as extracurricular activities (Competitions and events such as Hackathon, CoDFest, INCo V, IM Dansala, IM Car Wash, etc.)
- University wide implementation of GEE policy through the GEE Center. Workshops and awareness sessions have been conducted for both students and staff.

Weaknesses:

- Though both teachers and students have engaged in research, there is lack of evidence that "teachers integrate into their teaching, appropriate research and scholarly activities of their own/others". No evidence of research committee participation/reports (5.6).
- No evidence of using the information gained from continuous/formative assessments to improve teaching and learning (5.17).
- Some imbalances in workload allocation, possibly because adjustments and allocations have not been made for class size, university-level contributions, leave, etc. (5.18)

- A defined set of indicators of excellence in teaching to evaluate the performance of teachers is not available. No evidence of recognizing champions of teaching excellence, and promotion of excellent practices. Teacher evaluation reports are not available (5.19).

Recommendations:

- It is recommended to integrate research into teaching where appropriate (discussion of research papers, replication of analyses, etc.) (5.6).
- Some analysis of the results of student evaluations is needed to derive useful insights and to identify remedial measures (5.17).
- A better balancing of academic workload can be achieved by adhering to the guidelines given in the UGC circular: Ethics and Academic Accountability for the Academic Staff in Sri Lankan University System (5.18)
- A set of indicators of excellence in teaching should be developed to recognize and reward champions in teaching (5.19).

Criterion 6: Learning Environment, Student Support and Progression

Strengths:

- The student Handbook and Prospectus are well prepared and utilized to provide required information for students.
- Good mentoring programmes including industrial mentoring/corporate mentoring are in practice.
- Student exit surveys seemed to be providing good overall feedback on study programme
- Having a dedicated study area and facilities for students to use 24 hours is commendable.
- ICT-led tools are effectively used to facilitate student learning and library usage.
- The Department offers a comprehensive career guidance programme
- The Department offers an orientation programme for all incoming students with information regarding the structure of study programmes, facilities, and rules and regulations.

Weaknesses:

- Though the analysis of students' feedback and satisfactory survey are evident, the decisions made in any forum to improve based on the survey or feedback is not adequate.

Recommendations:

- Prepare a faculty level policy document covering the policy on differently abled students and make the students aware about the above policy and other policies related to academic and administrative matters.
- Faculty Quality Assurance Center can centrally handle the students' feedback and satisfactory surveys and send the analyzed information to the instructor/s through the respective HoD.
- Improve student awareness of common policies/concepts about educational systems such as OBE and SCL.

Criterion 7: Student Assessment and Awards

Strengths:

- Programme specification, examination by-laws and procedures are formalized together with a high-level mapping of PLOs to courses.
- Incorporating the aspects of industrial training into the assessment strategies
- The Department ensures that all students receive a complete transcript indicating all the necessary information.

Weaknesses:

- No evidence of breakdown of continues evaluation or weightage relating to different components of continues assessments specified in the course specifications.
- No evidence to show that student assessment strategies have aligned with Programme outcome or SLQF key competencies or SBS (of either IT or Management) or IEEE guidelines.
- Insufficient evidence to show the enhancement of transparency and accuracy in summative assessment: did not find policies and regulations governing the appointment of external examiners with ToRs.
- Lack of evidence to show that the qualification descriptor of the study programme and ILOs of the courses are mapped with competency levels (level descriptor) given in the SLQF.

Recommendations:

- To map the ILOs and PLOs against the key competencies or level descriptors indicated in SLQF.
- To align the graduate profile of the MIT study programme with the common faculty graduate profile, university graduate profile and with external reference points.

Criterion 8: Innovative and Healthy Practices

Strengths:

- The Department has entered into several MoUs with some industries.
- The programme has a fallback option and exit point in the third year.
- There are lots of encouragement and promotion in having industry engagement and training for students
- Students are encouraged to publish their research findings in Journals and motivated to conduct symposia.
- The Department uses the ICT tools in teaching/learning effectively.
- Students are encouraged to take part in extracurricular activities.

Weaknesses:

- No evidence of credit transfer mechanism. The DIM could consider adoption of a framework such as ECTS (https://ec.europa.eu/education/resources-and-tools/european-credit-transfer-and-accumulation-system-ects_en) to facilitate local/international exchanges.
- There is no evidence of staff performance appraisal linked to a reward scheme.
- No other exit points at lower levels (SLQF 4 & 3) other than at BSc in MIT (SLQF 5.

Recommendations:

- DIM can establish a mechanism or framework to facilitate student staff exchange programmes within local and international universities.
- Initiate an academic and nonacademic staff appraisal system where the achievers can be identified and rewarded.
- , Initiate a mechanism to attract funds through consultancies and offering short courses, making use of the subject area and demand
- Explore other avenues of (research) collaborations with national/international, governmental/nongovernmental & industries Besides appointments in external organizations.

- Consider exit points at lower SLQF levels (SLQF 4 and 3) together with alignment/accreditation from national/international certification authorities.
- Obtain the services of leading national/international expert academics also as external examiners for both moderations & second marking (as per 8.13)

Section 6: Grading of Overall Performance of the Programme

Table 6.1. Assessment criteria and Score

No.	Criteria	Weighted minimum score*	Actual criterion-wise score
1	Programme Management	75	134
2	Human and Physical Resources	50	88
3	Programme Design and Development	75	131
4	Course / Module Design and Development	75	137
5	Teaching and Learning	75	135
6	Learning Environment, Student Support and Progression	50	90
7	Student Assessment and Awards	75	135
8	Innovative and Healthy Practices	25	45
	Total score (out of 1000)		895
	Total score (out of 100)		89.5

Final Grade:

Study Programme score%	*Actual criterion-wise score*	*Grade*	*Performance descriptor*	*Interpretation of descriptor*
89.5	Equal to or more than the minimum weighted score for each of all eight criteria (Section 3).	*A*	*Very Good*	*High level of accomplishment of quality expected of a programme of study; should move towards excellence*

Overall performance of the Bachelor of Science (Honours) in Management and Information Technology degree programme was reviewed through eight criteria consisting of 156 standards. All criteria have gained more than the minimum weighted score requirement. The rounded total score for all eight criteria is ABOVE **89%**, resulting in a "A" Grade (Very Good). Accordingly, the programme meets the expected level of accomplishment of quality expected of a programme of study; requires improvement in some of aspects as highlighted in this report.

Section 7: Commendations and Recommendations

The review team identified several commendable aspects of the B.Sc. (Honours) in Management and Information Technology degree programme conducted by the Department of Industrial Management, Faculty of Science, University of Kelaniya. Some aspects of the programme where there is space for improvement were also identified. The review team has made some recommendations to enhance the quality of the programme expecting that those recommendations would be considered as peer suggestions for further improvement towards excellence.

Commendations on Excellence

- Management and governance of Academic, Administrative and Support Service Processes are up to the expected levels.
- It is observed that there is an excellent level of ICT adoption in several operational units/functional areas in connection with DIM's services.
- Existing & upcoming facilities are excellent for DIM's service delivery.
- Human Resources and their commitment & dedication are at an excellent level.
- An excellent level of external stakeholder participation in the degree programme design, development and revision.
- The mentoring programme which assigns industry/corporate mentors for all the students is an excellent initiative.
- The attainment of ISO 9001:2015 certification for the design, development & delivery of degree programmes is a significant accomplishment towards quality assurance.
- The curriculum is enriched with a wide variety of innovative, student-centered, and group-oriented teaching and learning activities.
- University wide implementation of GEE policy through the GEE Center is an excellent achievement.
- Facilitation and support available for English language leaning is commendable.
- Having a dedicated study area and facilities for students to use 24 hours is commendable.
- Entering into several MOUs with industrial partners is a significant achievement.
- A well-coordinated industrial training programme and other engagements with industry are valuable features of the degree programme.
- Both encouragement and opportunity to publish research findings are given to the students through the annual conference.

- The department's long-term rapport with alumni, industry, and other stakeholders as well as their approachable and supporting culture could be recommended as a model to follow.

Recommendations for Quality Enhancement

- Complete adherence with all parts referenced in "Academic Procedures Handbook" and also with the Part III: Governance and Management of National Universities
- ERP like integration and standardization of ICT adoptions are recommended in line also with Comm. Circular 02/2013 : IT Governance and Management (IT Policy)
- Alignments could also be considered in line with the local/global standards such as "Occupant Safety And Health" of WBDG and with the National Occupational Safety Policy.
- Further diversifications with respect to areas of expertise & UGC recommendations (e.g. Cadre Norms and Ethics-and-Academic-Accountability) could be considered.
- A mapping of the graduate profile, POs and/or courses against the external reference points such as SLQF and SBS would further strengthen the programme design. It is also recommended to map course ILOs and POs to ensure that the ILOs are aligned with the POs (4.5).
- The programme specifications may be improved including the details of teaching and learning schedules and alignment of various teaching/learning and assessment methods with the course ILOs. For each course, the workload (notional learning hours) as per SLQF, broken down into different types of learning such as direct contact hours, self-learning time, assignments, assessments, laboratory studies, field studies, etc. should be specified.
- Topics such as gender equity, living with diversity, and social harmony can be included in leadership and professional development courses which are already included in the curriculum.
- With respect to covered (sub)disciplines, it is recommended to make a mapping with course units against relevant knowledge areas (for instance as per sub-discipline of computing of ACM/IEEE curriculum guidelines, any other relevant core body of knowledge).
- It is recommended to integrate research into teaching where appropriate.
- More involvement of external examiners would increase the accuracy and transparency of summative assessment.
- Some analysis of the results of student evaluations would be useful to derive insights and to identify remedial measures.

- The university can develop a set of indicators of excellence in teaching to recognize and reward champions in teaching and preferably a staff appraisal system for non-academic staff.
- The Faculty Quality Assurance Center can centrally handle the students' feedback and satisfactory surveys and send the analyzed information to the instructor/s through the respective HoD.
- DIM can establish a mechanism or framework to facilitate student staff exchange within local and international universities.
- Making use of the subject area and demand, the DIM could initiate a mechanism to attract funds through consultancies and offering short courses.

Section 8: Summary

The Department of Industrial Management attached to the Faculty of Science in University of Kelaniya has been conducting the Bachelor of Science (Honours) in Management and Information Technology degree programme successfully for about 20 years. The programme has been designed to cater to the demand for science graduates with knowledge and skills in both Management and Information Technology. The graduates have pursued employment in both private and public institutions in Sri Lanka and abroad while some are self-employed.

The review team assigned by the OAC of the UGC performed a comprehensive review of the degree programme, mainly by examining the documents submitted as evidence of meeting the criteria and standards listed in the Programme Review Manual. A two-day site visit was conducted from 27th to 28th October 2022 during which the review team observed the facilities available and held discussions with the relevant and the important stakeholders.

The review team observed ample evidence of proper quality assurance pertaining to programme management, human and physical resources, programme design and development, course design and development, teaching and learning, learning environment and learner support, student assessment and awards, and healthy and innovative practices. The team is highly satisfied with the department's commitment to continuous improvement of the degree programme. A few shortcomings were identified in the review and relevant recommendations for further improvement are given in section 5 and section 7.

Thus, the B.Sc. (Honors) in Management and Information Technology degree programme has earned an "A" grade with an overall score of 89.5% which means that the study programme is at an excellent level of accomplishment. The review team wishes to congratulate all the staff of the Department of Industrial Management for their achievements in maintaining high quality and standards in the study programme. The team acknowledges the Vice Chancellor of the University of Kelaniya, Dean of the Faculty of Science, the Head of the Department of Industrial Management and all the staff for their excellent support and facilitation throughout the review process.

Annexure: Site Visit Schedule

Date	Time	Activity
Day 1	08.30 - 08.45 a.m.	Welcome the Reviewers
	08.45 - 09.15 a.m.	Meeting with Vice Chancellor
	09.15 - 09.45 a.m.	Meeting with CQA Director
	09.45 - 10.30 a.m.	Meeting with Dean of Faculty of Science
	10.30 - 10.45 a.m.	Tea
	10.45 - 11.15 a.m.	Meeting with members of the SER writing team.
	11.15 - 12.00	Meeting with the Academic staff of the department (excluding HoD)
	12.00 - 12.30 p.m.	Meeting with the Senior Academic Advisors
	12.30 - 01.00 p.m.	Meeting with the Non-Academic staff of the department
	01.00- 02.00 p.m.	Lunch
	02.00 - 02.30 p.m.	Meeting with the English Language Teaching Department (DELT)
	02.30 - 03.30 p.m.	Observing facilities relevant to the degree progra.m.me
	03.30 - 03.45 p.m.	Tea
	03.45 - 04.45 p.m.	Meeting of the review panel
Day 2	08.30 - 09.00 a.m.	Observation visit to Library
	09.00 - 09.30 a.m.	Meeting with SAR Welfare division/ Senior student counsellor
	09.30 - 10.00 a.m.	Observation visit to Medical Center
	10.00 - 10.30 a.m.	Observation visit to Physical Education Department
	10.30 - 10.45 a.m.	Tea
	10.45 - 11.15 a.m.	Meeting with External Stakeholders (Online)
	11.15 - 11.45 a.m.	Meeting with Alumni Members (Online)
	11.45 - 12.15 a.m.	Meeting with Mentors (Online)
	12.15 - 01.00 p.m.	Meeting with the students of the department
	01.00 - 02.00 p.m.	Lunch
	02.00 - 03.00 p.m.	Discussion among the review team. members
	03.00 - 03.30 p.m.	Wrap-up Meeting
	03.30 p.m.	Tea & Conclusion