Assessment Status Report of UTD

Name of the School: **School of Computer Science & Information Technology**

Year of Report: **July 2009- June 2010**

PART-A

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

The school is running various undergraduate, postgraduate and research programmes. Assessment and accreditation is a prerequisite for smooth running of these programmes and providing quality education in the areas of computers and information technology. Therefore, it was necessary to assess the teaching learning process, curriculum design and related issues. The following were the factors considered for the assessment in the beginning of the session.

1. Preparation of course curriculum

On the basis of previous feedback, it should be necessary to design the curriculum in a detailed manner so that students could have an overall understanding of the course. It should be designed in a manner to cover aim, objectives, subject learning objectives, subject learning outcomes, prerequisites, weekly teaching schedule, details of assignments etc.

2. Strategy of teaching learning

MMP & Blackboard teaching with case studies and live examples will be more effective in teaching learning. It was observed that the blackboard teaching at UG level in few courses can be more impressive for better understanding to the students. Case and project based teaching, wherever needed, will much helpful for better teaching learning. It is also necessary to identify and plan the process of evaluation to find out the level of learning. The strategies included are design of appropriate assignments, quizzes, tests focusing on subject learning objectives and mid term presentations followed by detailed report presentations of the project etc.

3. Student feedback system design

A computerized feedback system in three sections is filled up by the students. Student feedback form covers teaching learning quality of teachers, quality of course curriculum & evaluation, strength & weaknesses of teacher, suggestions regarding course, subject, faculty etc.

4. Collection of feedback and its analysis

Our feedback system will be online and it will be collected from all courses at the end of the semester. Comments on curriculum design, teaching learning, evaluation and suggestions for improvements will be collected from the students.

5. Format of analysis

The collected feedbacks will be compiled by the assessment & research committee and a summary through rigorous analysis will be prepared. The performance should be shown in the form of bar chart and suggestions and comments can be descriptive. The result will be uploaded on SCS website and suggestions will be discussed in the assessment workshop.

6. Improvement plan

The weaknesses of the students form previous feedback have been highlighted and the corresponding possible ways to overcome these weaknesses have been discussed and suggested by the faculty members. The following are the suggestions to the faculty members to improve the course related understanding amongst the students:

- For every course to be taught, the aim of the course should be clearly specified along with the course objectives. The course objective should not exceed five points. Based upon the objectives, Subject Learning Outcomes (SLO) should be mentioned in at least 8-10 points. Each point should comprise of 3-5 lines. Quizzes, tests 1, test 2, test 3 and final exam must focus on learning outcomes outlined as above.
- Team of three members will scrutinize the course curriculum, aim, objectives, SLO, list of assignments etc., to make sure that weaknesses observed currently are taken care. It is a duty of every faculty to adopt quality approach in all aspects of curriculum preparation.
- Teachers must use ICT in education for teaching, result processing, attendance recording, etc.
- Research activities must be enhanced in the department.
- Student's learning evidences such as best PPT presentations, best project reports, best assignments and other rewarding works of students should be visible. Also, these must be identified and kept in library and online for the reference purpose for junior students.
- Faculty members should be highly punctual in engaging classes and promote healthy environment in classrooms and encourage students to participate actively in the class. It is expected that the primary duty of engaging classes on time is carried out with utmost sincerity and dedication. Any fall out may call for disciplinary action.
- Involvement of M.Tech students in laboratory classes with each faculty members. M.Tech students will engage labs and will report to the respective faculty daily. Also, faculty members should monitor the lab activities of students.
- Teachers have complained about poor programming knowledge of students which needs urgent attention of all faculty members to strengthen such skills.

- Few visiting faculty members must be replaced with other experienced teachers for better teaching learning such as Hindi and Mathematics.
- Cumulative attendance of students must be taken for easy evaluation and record keeping.
- Practical work book in which students' record their lab exercises should be prepared and kept in library for reference purpose to junior students.
- Tutorials must be given to all students for improving and solving assignments and lab experiments. Teachers should illustrate one of the exercises for students' convenience.
- Communication skills of teachers need to be improved also, as admitted by few teachers themselves. Efforts to be made to send such teachers in suitable training programs.
- Students need motivation and interaction with teachers to discuss teaching learning issues. Open house sessions should be organized for the same.
- It was observed that test papers and final exam papers were of poor quality in few subjects. Accordingly, senior faculty to moderate the papers.
- It was also observed that the Final question paper did not cover the entire syllabi. Therefore, the question papers need to be moderated for objectivity of the course, by senior faculty.
- All teachers will get their test papers and final papers moderated by the committee.
- It is essential that a complete attendance record of theory and laboratory should be properly maintained.
- The list of laboratory exercises also should be prepared well in advance and moderated by the committees
- Committees constituted for syllabus review are as follows:

1. Dr. Sanjay Tanwani	Mr. Ajay Tiwari
2. Dr. Ugrasen Suman,	Mr. Hemant Mehta
3. Ms. Preeti Saxena,	Ms. Shraddha Masih

7. Plan on improvement from stakeholders:

It is observed that overall improvement in the course curriculum and teaching learning can be effective if the feedback is collected from following stakeholders.

Parents – Parent Teacher Meeting should be a regular process and there should be more involvement of parents.

Students – There should be more freely and communicative environment for better teaching learning process.

Office – There should be the involvement of office staff for technical and clerical works and trainings.

Teachers – There should be open discussion and more meetings on teaching learining for better understanding on it.

Alumni – Alumni meet should be organized regulary for getting feedback from the industry.

PART-B

1. Activities reflecting the goals and objectives of the institution

The school has started various computer science programmes with following goals & objectives at institutional level:

- To produce world-class professionals who have excellent analytical skills, communication skills, team building spirit and ability to work in cross cultural environment.
- To produce international quality IT professionals, who can independently design, develop and implement computer applications.
- Professionals who dedicate themselves to mankind and Society.

It is felt that the department should start such computer science, computer application and information technology programmes, which should follow CBCS systems. Also the department has introduced various innovative research programmes for international recognition in computer science research field. The department has included various interdisciplinary courses such as human values, professional & social issues, accounting & financial management etc. for overall academic development of the students.

2. New academic programmes initiated (UG& PG)

Keeping in view the quality education and internal resources, the following courses were initiated in 2009-2010 and most of these programmes are CBCS.

1. Bachelor of Computer Application [B.C.A] (3 Yr)
2. Bachelor of Computer Application [B.C.A (Hons.)](4 Yr)
3. M.Tech (CS) [Specialization in Information Architecture & Software Engineering]((2yr.)
4. M.Tech (CS) [Specialization in Network Management & Information Security] ((2yr.)
5. M.Tech (Bioinformatics)((2yr.)
6. M.Tech (Computer Science) by Research ((2yr.)

Now, our aim is to strengthen the intake of above courses. The intake has been increased from 150 to 850 students. We are focusing on specialized research areas in each of the M.Tech courses with latest laboratories and research experiments.

3. Innovations in curriculum design and transaction

The department has conducted two workshops on assessment process and various other seminars and conferences to improve the course curriculum. Almost all the courses are equipped with practical concepts and case studies for overall development of the students. The course curriculum is prepared on the format suggested by international body like ABET (www.abet.org) and the detailed syllabi prepared by each faculty is scrutinized by a small

committee and given to each student at the beginning of every semester and detailed syllabus is uploaded on the SCS website.

4. Inter-disciplinary programmes started

- Human values
- Environmental Sciences
- Communication skills
- Professional & Social issues in IT
- Accounting & Financial Management
- Organizational & Management concepts
- Information system audit & cyber law
- Social & developmental computing
- Foreign languages
- Sports and cultural activities
- Research in computing
- Hindi
- METLAB
- Sports & Yoga

5. Examination reforms implemented

Examination and result processing system in our department is fully automated. A new system, which is web based, is also going to be implemented very soon.

6. Candidates qualified NET/SLET/GATE etc.

Around 10-15 candidates have cleared NET/GATE exams.

7. Initiative towards faculty development programmes

Faculty members are regularly encouraged to attend Faculty Development Programmes, workshops, seminars and conferences for academic up-gradation.

8. Total number of seminars/ workshops conducted

Following seminars/workshops and conferences were conducted in the department.

- **SPSS Workshop on Data Mining using PASW Modeler, 31st July 2009, SCSIT, DAVV, Indore.** The programme is aimed to provide training on the use of data mining in various research and application areas. The workshop has provided an practical knowledge of PASW modeller for data mining.

- **A PG colloquium on Information Architecture different phase of ADM was held on 4 Nov 2009 the full day workshop .** A PG colloquium on Information Architecture different

phase of ADM was held on 4 Nov 2009 the full day workshop was conducted by the student of the Mtech 1st year under the guidance of Dr. A. K. Ramani as a chief guest Mr. Anurag Mandloi an alumni and Enterprises Architect from American Express oblige the student he addressed the student regarding industries important of information Architecture based on his 8 year of industries experiences.

- **Fifth Assessment workshop on "*Quality assurance, Assessment and Accreditation*" at SCS, DAVV, Indore on 29th May, 2009.** The assessment committee of SCS had conducted the task in two phased manner- I. Assessment Review and II. Organizing Workshop. The review is carried out with collection and analysis of feedback forms regarding the subjects taught at the end of the semester from the students whereas a workshop is organized to assess the overall quality in Teaching-Learning process for the same session. The important recommendations have been suggested in the workshop to improve the Teaching-Learning process at its best level.

- **Sixth Assessment workshop on "*Quality assurance, Assessment and Accreditation*" at SCS, DAVV, Indore on 2nd January, 2010.** The discussions were made on improving the teaching learning process and the project based teaching.

- **Emotion based Natural Language Processing on June 28, 2010.** Dr. Maya Ingle has given a research based seminar on emotion based NLP and its related areas.

Detailed reports of fifth and sixth assessment workshop are available at SCSIT website: http://www.scs.dauniv.ac.in/report_assessment_main_index.php. The fifth workshop will be organized on 28th May 2009.

All the reports of the workshop and conference are available on our SCS website and the URL: **http://www.scs.dauniv.ac.in/WORKSHOPINDEX.php**

9. Research projects:

a) Newly implemented/ completed

1. An XML filter for messaging based mobile and spatial information services.
2. Performance enhancement of scheduling algorithm under cluster and grid using improved dynamic load balancing.
3. Investigation of Extreme programming in software maintenance.
4. Design a framework for web personalization.
5. Investigation of requirement engineering practices in designing quality products.
6. A framework for query optimization for data mining in distributed environment.
7. A framework for cryptographically secured web service composition.

10. Patents generated if any

Not yet.

11. New collaborative research programme

Few students are studying in Master Programmes at our school from outside India.

12. Research grants received from various agencies

1. UGC-SAP under Special Assistance Programme- 45 lakh. Rs. 30 Lakh were spent during 2009-10
2. DST-FIST for Network management and network security programme- 40 lakh. Rs. 25 Lakh were spent during 2009-2010.
3. UGC Basic infrastructure support – 20 lakh

13. Details of research scholars

Following research scholars have been completed and around 15 students are registered for PhD.

1. Prof. D. S. Bhilare – Information Security.
2. Ms. Shilpa Bhalerao – Agile Methodologies.

14. Citation Index of faculty members and impact factor

Impact factor reflects the Journal's quality. Journal editors and publishers communicate the values of impact factors of their journals to reading audience. It is used to rank journal and evaluate individual scholars and institutions. The impact factor of journals published by our faculty members is 0.5 to 1. Most of the faculty members have been tried to publish their research work in Journals and conferences. Few papers have been published in IEEE digital library also.

15. Honors/ Awards to the faculty

The Best teaching award is given every year to the faculty members. This year it is given to Dr. S. Tanwani. Prof. A. K. Ramani visited Malasiya as a Keynote Speaker in an International Conference. Mr. Hemant Mehta has participated in an International Conference at Singapore.

16. Internal resources generated

The department has started various self financing courses such as BCA, M.Sc, MBA to generate internal resources.

17. Details of departments getting SAP/ COSIST(ASSIST)/ DST-FIST etc assistance/ recognition

1. UGC-SAP under Special Assistance Programme- 45 lakh since April 2009.
2. DST-FIST for Network management and network security programme- 40 lakh, since April 2008.

18. Community services

The students of SCS has done various software projects for Industry, hospitals etc.

19. Teachers and officers newly recruited

1. Mr. Hitesh Ninama- Lecturer

20. Teaching-Non-teaching staff ratio

5 Teaching staff : 3 Non-teaching staff

21. Improvement in the library services

Our library is fully automated and all the staff and students are using the same. The latest books are available in the library. We have implemented RFID services in the library. A software, SOUL 2.0 is new implemented to improve the efficiency of library management.

22. New books/ Journals subscribed and their value

New books in various areas have been subscribed. The department has various e-Journals and magazines available for study. Books about 4 lakhs have been added in the departmental library including books on advance topics.

23. Courses in which student assessment of teachers is introduced and the action taken on student feedback

At present student assessment is introduced in UG and PG(MSc, MCA, MBA(CM)). For continuous quality improvement, assessment committee of SCS conducted assessment task in two phased manner- I. Assessment Review and II. Organizing Workshop. The review is carried out with collection and analysis of online feedback forms regarding the subjects taught at the end of the semester from the students whereas a workshop is organized to assess the overall quality in Teaching-Learning process for the same session. This assessment is carried out for the Teaching-Learning process based upon the feedback forms collected from the students and the teaching material provided by the respective teachers.

Some useful subject-wise recommendations with the important observations in terms of best practices, drawbacks and suggestions are highlighted in detail. The critical analysis of Teaching-Learning process with respect to various factors are performed to understand the weaknesses and strengths of the teaching faculty. Finally, teachers deliver presentations in workshop with coverage of all aspects of the subjects taught by them. The important recommendations have been suggested in the workshop to improve the Teaching-Learning process at its best level. The assessment reports since July 2006 are available on the following URL: **http://www.scs.dauniv.ac.in/Reports%20of%20Assessment.php**

24. Unit cost of education

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25. Computerization of administration and the process of admissions and examination results, issue of certificates.

Result section is automated for a long time and also new fully automated software is going to be used in the department from June 2009. All the administrative work from admission to result has been implemented. This year the admission process is accomplished through MP Online.

26. Increases in the infrastructure facilities

A new building with three multimedia theatres, a number of lecture, tutorial etc halls, seminar hall, administrative block, a double story library, research labs, placement cell, examination section, sports facilities.

27. Technology up-gradation

New building is equipped with latest software and hardware tools. There is a WiFi and RFID facilities available in the campus. There are around 60 new computers have been installed in the new building. There are three new laboratories have been design for computers and electronics. One Windows 2008 operating system for server and a SharePoint server is also implemented in the lab. Two IBM servers have been newly installed in the SAP laboratory. A Data mining tool SPSS Modeller is also implemented in the lab.

28. Computer and Internet access and training to teachers and students

All faculty and students are given full access to the broadband internet facility. Regular workshops and seminars on latest technological issues are organized to up-gradation of students and faculty members. Our faculty members also give training in Academic Staff College and other department. The school is giving one month training on data mining and database to the faculty and students nearby Indore.

29. Financial aid to students

The department gives fee concession to poor students. Also the department provides perks to the students in the form of learn and earn facility.

30. Activities and support from the Alumni association

We take feedback from our Alumni working in various areas and the guidance is given to the students as per the need of the industry. Alumni also visit the campus for guidance and

suggestions for industry. Alumni members timely give the industrial reports to the department via e-mails.

31. Activities and support form the Parent Teacher Association

Parents and teachers share a common treasure—the student. It is as if they are partners in joint ownership of a valuable corporation. The child they share represents the corporation. If they are to nurture this corporation and ensure its success, they must be intentional about establishing good communication. To develop the communication that will allow parents and teachers to make plans, set goals, solve problems, and establish the relationship that they need in order to have a good partnership, a Parent-Teacher Meeting is required. A parent teacher conference helps to communicate to parents the areas their children are excelling in and to give them specific ideas of how to improve upon their child's performance.

Parent-Teacher meeting should be used as a platform to make a lasting bond with the parent to increase the likelihood of academic success for their child. We have conducted it twice and received very good results in course curriculum improvements, infrastructure and facilities, teaching learning, placement etc. But we are facing a problem of less participation parents. We are trying to increase the participation of parents for more healthy suggestions.

32. Health services

A primary hospital of the university is available in the campus. Students, staff and students visit the hospital as and when needed.

33. Performance in sports activities

The students of SCS always participate in all sports and annual activities of the department and university. Our students have been Runner in Cricket last year. The students also organize departmental level sports activities in winter session and most of the students participate in the same.

34. Incentives to outstanding sportspersons

The students are encouraged to get certificates and mementos for their future career. Also they want to improve extra curriculum activities.

35. Student achievements and awards

Students regularly participate in project presentations, paper presentation, quizzes competitions, sports and secure good position.

36. Activities of the Guidance and Counseling unit

Facilities to the students are given for overall academic development and also the teachers have been helpful in counseling the students time to time.

37. Placement services provided to the students

The placement cell in the institute is responsible for coordinating the placement activities for students. The placement cell is headed by a placement coordinator and co-ordinated with committee members representing students. Almost all the placement activities are organized and co-ordinated by the students as par the guidance by faculty and suitable steps for overall skills improvement are taken.

A number of good companies such as Impetus Infotech Pvt. Ltd. , Patni Computer System Technologies Ltd., Accenture Services Pvt. Ltd. , SUVI Information Systems , Capgemini India , Atos Origin India , Persistence System , TATA Consultancy Services Ltd. , CSC India Pvt. Ltd. , Cognizant Technology Solutions , TATA Infotech , HSBC-GLT Software Development (India) Pvt. Ltd. , Covelix Technologies Pvt. Ltd. , Birlasoft Inc. Limited. , NEC HCL System Technologies Ltd. , Siemens Information System Ltd. , Tanmay Software Pvt. Ltd. , GrapeCity India Pvt. Ltd. , Apticraft Systems Pvt. Ltd. , HCL Technologies Ltd. , InfoBeans Systems India Pvt. Ltd. , Quark India Pvt. Ltd. , Syntel Inc. , Cash-Tech Solution India Pvt. Ltd. , Perot Systems etc.

38. Development programmes for non-teaching staff

All the staff members are given PC for official work and they are always encouraged to up-grade technical skills in a technological manner.

39. Healthy practices of the Institution

The department has proposed 20 best practices to fulfill the criterion of the NAAC for quality improvement in higher education. These practices are:

1. Student Feedback System,
2. Student Interaction for Quality Assessment and Value-based Education,
3. Open House,
4. Collective Feedback,
5. Alumni Interaction for Student Development,
6. To Train Students in Soft Skills,
7. ICT for Enhanced Teaching Learning,
8. Feedback System from All Stakeholders,
9. Preparation of a Teaching Plan,
10. Industry and Society Interface Cell,
11. Electronic Submission of Grades by Teachers,
12. Uniform Directory Structure,
13. Code of Conduct for Comprehensive, Lab, Project Viva and Seminars,
14. Continuous Evaluation of Students,
15. Simultaneous Conduct of Examination and Evaluation,

16. Electronic Surveillance System,
17. e-Library,
18. Student Participation,
19. Book Exhibition,
20. Library Homepage.

40. Linkages developed with National/ International Academic/ Research bodies

The department has MOUs with I^2IT Hyderabad and Thailand Exchange Programme, Neurusuan University, Thailand.

41. Any other relevant information the Institutions wishes to add

The department has always tried to meet the goals and objectives specified in the beginning.

PART-C

Detailed plan of the Institution for the next year:

1. Preparation of course curriculum

Faculty members should give more concentration on course specification to elaborate each of its points for better teaching learning. On the basis of previous feedback, it is now necessary to design the curriculum in a detailed manner so that students could have an overall understanding of the course. It should be designed in a manner to cover aim, objectives, subject learning objectives, subject learning outcomes, prerequisites, weekly teaching schedule, details of assignments etc. The faculty members will have to submit the course specification by June 15, 2009 and December 15, 2009. The submitted course specification will be reviewed by three experts, suggest any modification and finalized by the course curriculum committee.

2. Strategy of teaching learning

There should be more student interactive sessions for better understanding. It was observed that the blackboard teaching at UG level will be more impressive for the students. Case and project based teaching, wherever needed, will be more helpful for better teaching learning. More assignments and practical work is needed in each of the courses. The classes will be monitored regularly for effective teaching.

3. Student feedback system design

The computerized feedback system should be more generalized and effective to cove other related issues at departmental level. The feedback mechanism should be web-based for easy access and process. The web based feedback system will reduce time spent on form filling. Student feedback form covers teaching learning quality of teachers, quality of course curriculum & evaluation, strength & weaknesses of teacher, suggestions regarding course, subject, faculty etc. we will also think on more issues other specified in a three section student feedback form.

4. Collection of feedback and its analysis

Online feedback mechanism will be more effective if it is implemented successfully. Comments on curriculum design, teaching learning, evaluation and suggestions for improvements will be collected from the students. Feedback collection process will be done at the end of the semester and it will be analyzed by the assessment committee.

5. Format of analysis

The collected feedbacks will be compiled by the assessment & research committee and a summary through rigorous analysis will be prepared. The performance will be shown in the form of bar chart and suggestions and comments would be descriptive. The result will be uploaded on the website and suggestions will be discussed in the assessment workshop. A report of the workshop will also be prepared and uploaded on the SCS website.

6. Improvement plan

Overall improvement in the course curriculum and teaching learning can be effective if the feedback will be collected from all stakeholders such as Parents, Students, Office, Teachers, Alumni, Employees etc.

7. Improvement in general infrastructure and resources:

It is proposed to add about 80-100 PCs and provide internet connectivity in five laboratories. An exclusive M.Tech laboratory will be developed where M.Tech students can pursue research ideas. Another laboratory for M.Tech (Bioinformatics) shall be planned. An international conference focusing on IT and Management in collaboration with international bodies shall be hosted. The process of admission will be made fully based upon ICT. Library infrastructure will be improved identifying separate zones for student's peaceful sitting. A language laboratory and e-learning will also be developed. A learning management system for content system management will be promoted. Few workshops and seminars will be held to give platform to students to discuss research ideas. Competitons like best programmer, best web designer, best mathematician and best student research paper etc. will be organized.

Name & Signature of Coordinator QAC **Name & Signature of Head, UTD**