INTERNAL QUALITY ASSURANCE OF ACADEMIC INSTITUTIONS

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Sripat Singh College, Murshidabad

Jyotsna Kumar Mandal

Director & Coordinator, IQAC
Professor, Dept. of Computer Science and Engineering
Ex-Dean, Faculty of Engineering, Technology & Management
University of Kalyani, Kalyani, Nadia-741235. West Bengal, India
jkm.cse@gmail.com
http://jkmandal.com

IQAC
(Internal Quality Assurance Cell)

- The Internal Quality Assurance Cell (IQAC) is the cell that is formulated for monitoring the quality parameters in Academic Institutions.
- The committee formed based on the recommendations given by National Assessment Accreditation Committee

Jkm.cse@gmail.com

Tasks of the Committee

- Develop a system for conscious, consistent and catalytic improvement in the performance of institutions
- Significant and meaningful contribution in the post-accreditation phase of institutions
- Channelize the efforts and measures of an institution towards academic excellence

Jkm.cse@gmail.com

Characterstics of Universities/Colleges

- Government to continuously provide adequate funding
- Isolation of Institutions from markets
- Academics believe in idealism
- Mostly for local students
- Government regulated systems
- Competition/profits were almost unknown
- Smaller enrolment for elitist students

Jkm.cse@gmail.com

Objectives of Quality Assurance

- Universities are Public Institutions
- Higher education is a "Public Good"

- Is of crucial importance to the:
  - Health
  - Wealth

Economy of the country Is a key factor in promoting and safeguarding public confidence In the country Higher Education

Jkm.cse@gmail.com

Objectives of Quality Assurance

HE is the engine that drives the economy

- a priority public issue for governments.
- a strategic, human resource investment

To fuel the engine need to get the public Support

- Establish Goals and
- Report on Progress

Jkm.cse@gmail.com

Objectives of Quality Assurance

Public and Government are concern with HE

- **standards**
- **quality**
- **employability**
- **skills of graduates**

HE is expensive

Increased demands for accountability

Jkm.cse@gmail.com

WHY? WHAT FOR?

- Institutions need base decisions concerning
  - efficiency
  - effectiveness
  - Productivity
- Comparisons and assessments of educational functioning.

Jkm.cse@gmail.com

WHY? WHAT FOR?

- Increased competition among students and institutions
- Growing need for recognition and certification of courses
- Coursesbecoming increasingly difficult to regulate

Jkm.cse@gmail.com

SOLUTION?

QUALITY ASSURANCE

Jkm.cse@gmail.com


IQAC

- **Introduction**
- **Quality Assurance**
  Definition, Need & Improvement
- **IQAC Functions and Organization**
- **Self-Assessment**
  Definitions, Elements, Desired Outcomes, Requirement, Current practice, Objectives, Model, Components
- **Case Study**

INTRODUCTION

- Presently, Quality of HE is quite questionable in global context and in terms of knowledge imparted
- Majority Institutions are incapable of meeting international standards of HE
- Crucial gaps in quality of HE call for focused approach to assure and enhance standard

CHALLENGE AND RESPONSE

- **QA in HE is a rising (global) challenge**
- **International compatibility and competitiveness demand enhancing Quality of HE on viable and sustainable basis**
- **AQA established under HE**

OBJECTIVES

- **Improve** the quality of **output** and efficiency of HE learning (teaching) systems in a systematic way
- Help to introduce **enabling learning** environment which is fostering element for building a knowledge economy.
- **Contribute** substantially in the success of other programs such as faculty, curriculum and infrastructure development
- **Assure the integration** of important component of Quality in all developing fields and coming policies of HE.

OBJECTIVES

- IQACs are the Quality Assurance Units developed at universities/colleges to put a focused attention on QA aspect of HE
- Required to develop & implement the measures of QA with promise of Quality Enhancement to meet international standards of HE
- Operated by the Universities/Colleges for execution of QA policies designed by QAA with uniformity of pace and standards

QUALITY ASSURANCE IN HIGHER EDUCATION

QUALITY ASSURANCE

Assurance of Quality in higher education is a process of **establishing stakeholder confidence** that provision (input, process and outcomes) fulfils expectations or measures up to threshold minimum requirements.

QA is all-embracing term covering all the policies, processes, and actions through which **quality of HE is maintained** and developed / enhanced

QUALITY ASSURANCE NEED

QUALITY ASSURANCE DOES NOT HAPPEN BY ACCIDENT:

IT HAS TO BE PLANNED

CONTINUING IMPROVEMENT

Quality is not any single thing but an aura, an atmosphere, an overpowering feeling that THE INSTITUTION IS DOING EVERYTHING WITH EXCELLENCE

IMPROVEMENT OF QUALITY

Grouping of Organizations

Being in a particular group means running to be stationary

IMPROVEMENT THROUGH QUALITY MANAGEMENT

Models of Excellence

Accreditation

NAAC , NBA, AICTE

Performance Criteria

Follow Criteria for Educational excellence

Excellence Model to Improve Performance

Standards

With Education Guidelines

Basis for all these systems is Self Assessment

OUTPUT OF QUALITY ASSURANCE

QUALITY ASSURANCE MODEL

SWOT ANALYSIS

SWOT analysis (alternatively SWOT matrix) is a structured planning method used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project or in a business venture. A SWOT analysis can be carried out for a product, place, industry or person

Jkm.cse@gmail.com

MECHANISM OF EVALUATION

- Self Assessment (yearly)
- University Internal Review (after every 02 years)
- External Review (after every 04 years)

IQAC FUNCTIONS

- **Salient functions of IQAC:**
  - Promoting public confidence that the quality and standards of the award of degrees are enhanced and safeguarded.
  - Review of quality standards and the quality of teaching and learning in each subject area.
  - Review of academic affiliations with other institutions in terms of effective management of standards and quality of programs.
  - Defining clear and explicit standards as points of reference to the reviews to be carried out. It should also help the employer to know as to what they could expect from candidates.
  - Developing qualifications framework by setting out the attributes and abilities that can be expected from the holder of a qualification

Cont'd...

IQAC FUNCTIONS

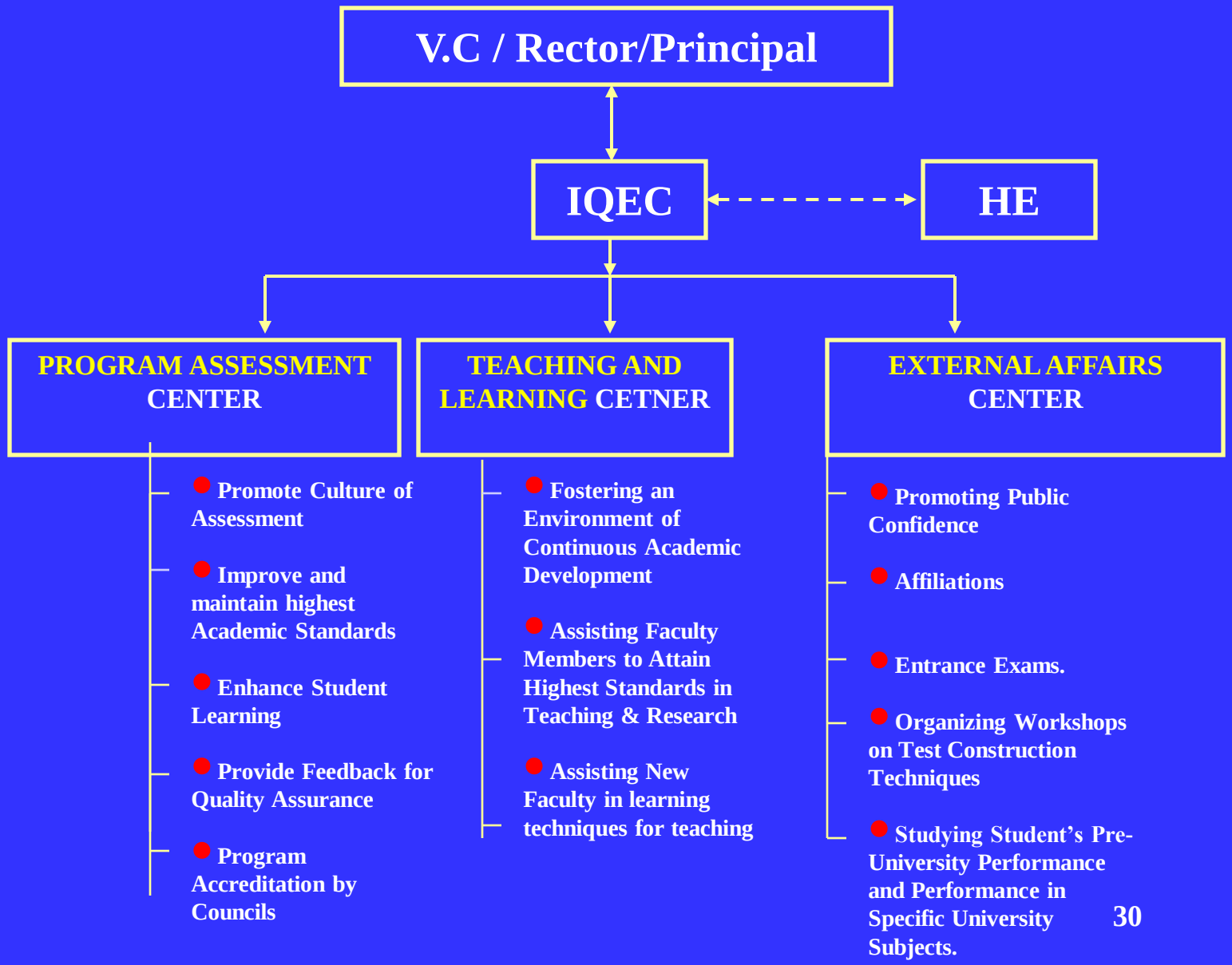
- Developing program specifications (standard set of information clarifying what knowledge, understanding, skills and other attributes a student will have developed through a specific program)
- Developing quality assurance processes and methods of evaluation to affirm that the quality of provision and the standard of awards are being maintained and to foster curriculum, subject and staff development, together with research and other scholarly activities
- Ensuring that the College's/university's quality assurance procedures are designed to fit in with the arrangements in place nationally for maintaining and improving the quality of Higher Education.

Cont'd...

IQAC FUNCTIONS

- **IQEC is responsible to develop procedures for the following:**
  - **Annual monitoring and evaluation including program monitoring, faculty monitoring, and student's perception**
  - **Departmental review**
  - **Feedback (Student, Faculty, Alumni, Employer)**
  - **Quality assurance of Bacchelor's Master's, M Phil and Ph D programs**
  - **Subject review**
  - **Institutional assessment**
  - **Program specifications**
  - **Qualification framework**

IQAC ORGANIZATIONS : A MODEL



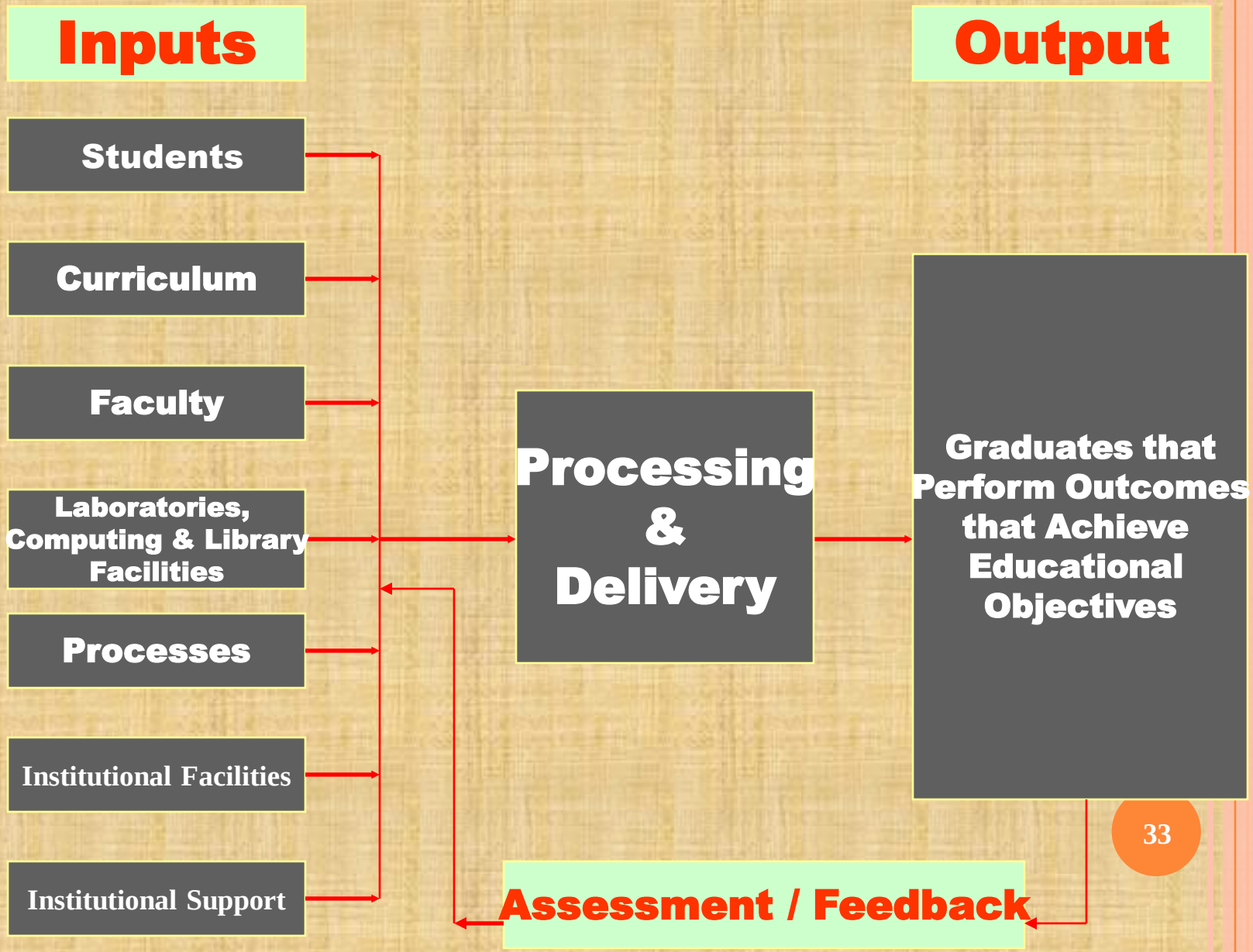
ASSESSMENT OF A PROGRAM

Assessment is a systematic process of gathering, reviewing and using important quantitative and qualitative data and information from multiple and diverse sources about educational programs, for the purpose of improving student learning, and evaluating whether academic and learning standards are being met.

ELEMENTS OF ASSESSMENT

- Purpose identification
- Outcomes identification
- Measurements and evaluation design
- Data collection
- Analysis and evaluation
- Decision-making actions to be taken.

ASSESSMENT MODEL



SELF-ASSESSMENT OF PROGRAMS

Self-assessment is an assessment conducted by the institution / department to assess whether programs meet their educational objectives and outcomes with the purpose to improve program's quality and enhancing students learning

DESIRED OUTCOMES OF SELF ASSESSMENT

- To be proactive than reactive
- Systematize the process of assessment
- To be current and take a leadership role in the country
- Assist in preparing good professionals of tomorrow
- Initiate improvements to achieve academic excellence

ACCREDITATION BODIES REQUIRING SELF ASSESSMENT

NAAC
NBA
AICTE

OBJECTIVES OF SELF ASSESSMENT

- Verify that the existing programs meet their objectives and institutional goals.
- Provide feedback for quality assurance of academic programs.
- Improve and maintain academic standards
- Enhance students' learning.

COMPONENTS OF THE SELF-ASSESSMENT PROCESS

CRITERIA:

Eight Criteria

PROCEDURE:

Specifies the **Process of Initiating, Conducting, and Implementing** the Assessment.

CRITERIA

- **EACH CRITERION HAS:**

AN INTENT:

A STATEMENT OF REQUIREMENTS TO BE MET

SEVERAL STANDARDS:

THEY DESCRIBE HOW THE INTENTS ARE MINIMALLY MET

CRITERIA AND STANDARDS

Crit No.	Description	No. of Stds
1	PROGRAM MISSION, OBJECTIVES AND OUTCOMES	4
2	CURRICULUM DESIGN AND ORGANIZATION	7
3	LABORATORIES AND COMPUTING FACILITIES	3
4	STUDENT SUPPORT AND GUIDANCE	3
5	PROCESS CONTROL	5
6	FACULTY	3
7	INSTITUTIONAL FACILITIES	3
8	INSTITUTIONAL SUPPORT	3

SELF-ASSESSMENT PROCEDURE

The IQAC is responsible for planning, coordinating and following up on the self-assessment (SA) activities.

Following procedure is suggested:

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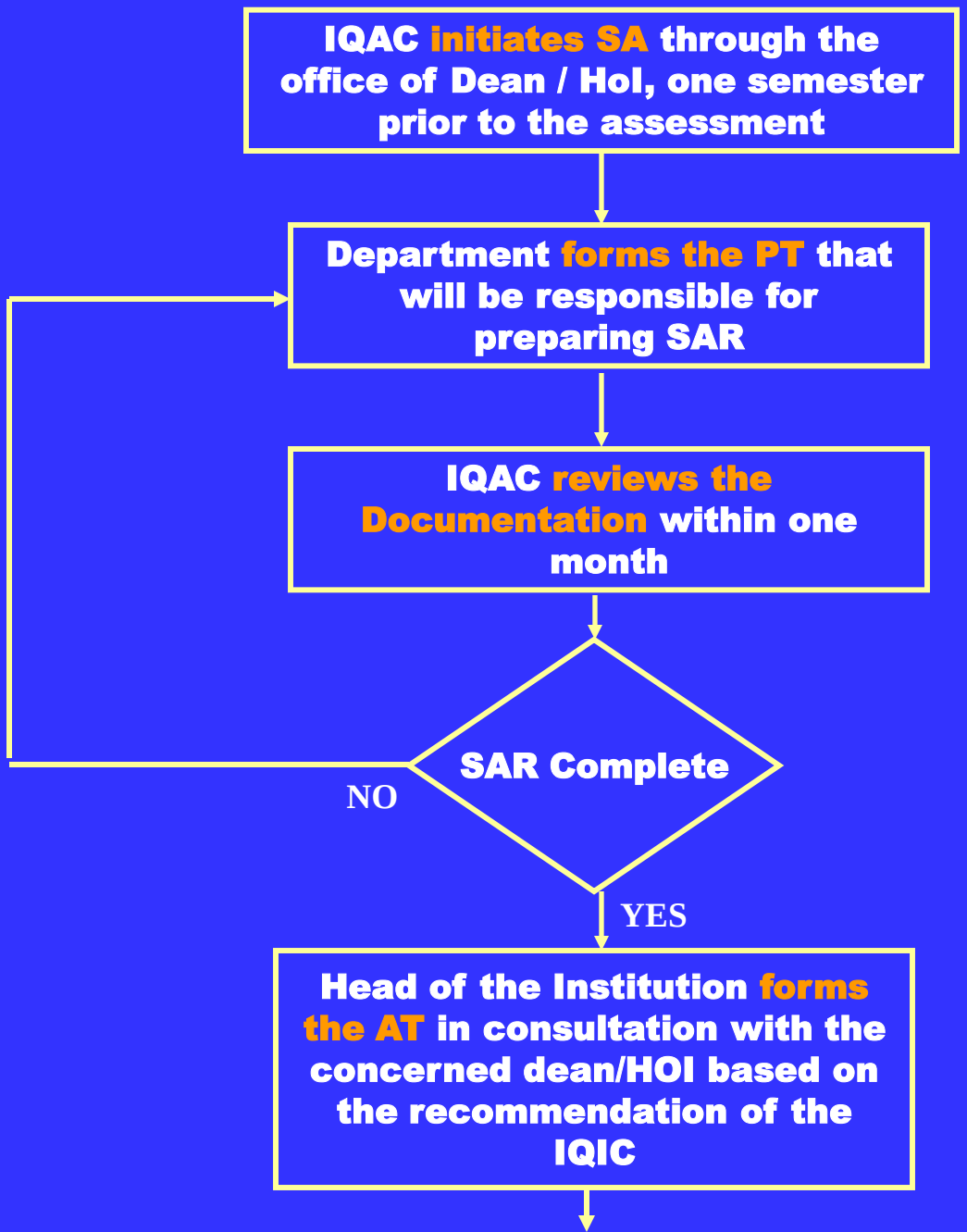
SELF- ASSESSMENT PROCEDURE



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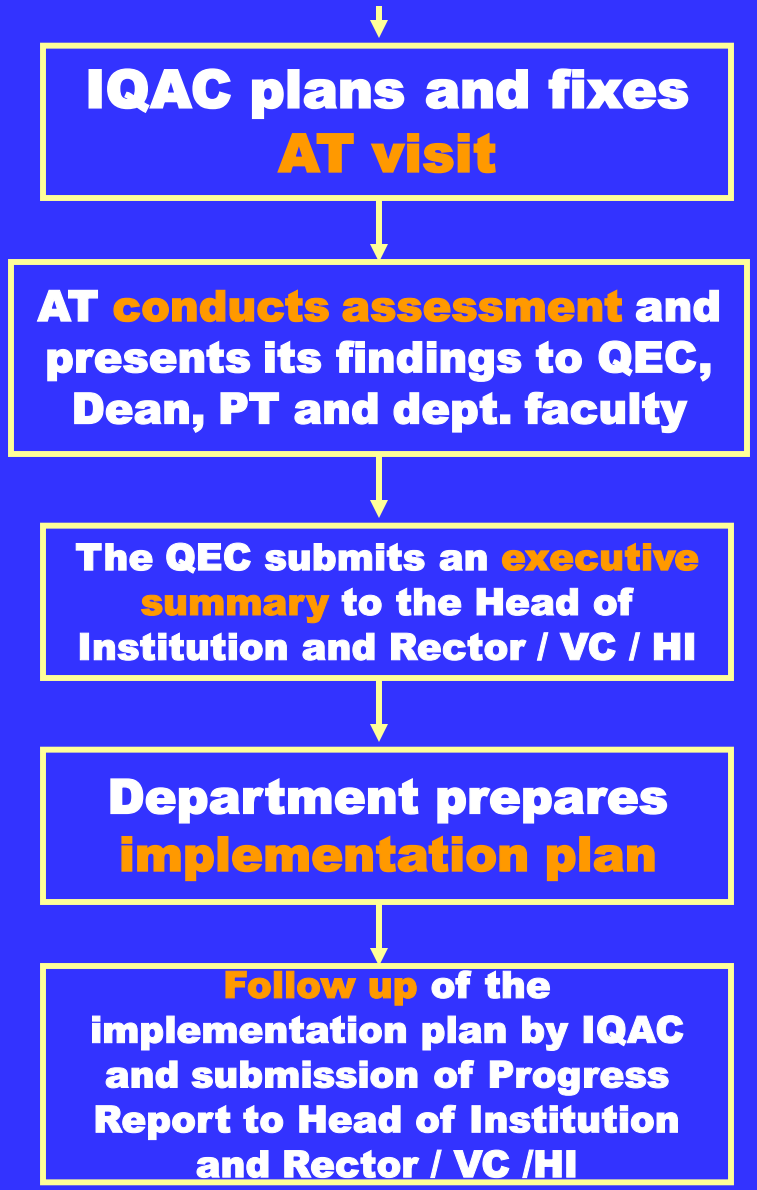
SELF- ASSESSMENT PROCEDURE



Legend:

SA: Self Assessment SAR: Self Assessment Report

PT: Program Team AT: Assessment Team

CRITERION 1

PROGRAM MISSION, OBJECTIVES AND OUTCOMES

- EACH **PROGRAM** MUST HAVE A **MISSION**, MEASURABLE OBJECTIVES AND EXPECTED OUTCOMES FOR GRADUATES.
- **OUTCOMES** INCLUDE COMPETENCY AND TASKS GRADUATES ARE EXPECTED TO PERFORM AFTER COMPLETING THE PROGRAM.
- A **STRATEGIC PLAN** MUST BE IN PLACE TO ACHIEVE THE PROGRAM OBJECTIVES.
- THE EXTENT TO WHICH THESE **OBJECTIVES ARE ACHIEVED** THROUGH CONTINUOUS ASSESSMENT AND IMPROVEMENTS MUST BE DEMONSTRATED.

Standard 1-1

The program must have documented measurable objectives that support college / institution mission statements:

MEETING STANDARD 1-1

- Document institution, departmental and program mission statements.
- State program objectives (objectives are statements that describe the expected accomplishments of graduates following graduation fro program)
- Describe how each objective is aligned with program, departmental and institution mission statements.
- Outline the main elements of the strategic plan to achieve the program mission and objectives.
- Provide for each objective how it was measured, when it was measured and improvements identified and made.

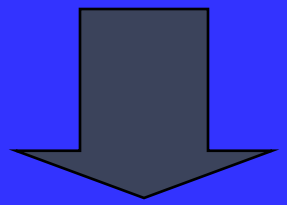
PROGRAM OBJECTIVES ASSESSMENT

Objectives	How Measured	When Measured	Improvements Identified (Based on the Outcomes examination)	Improvements Made
1	Students' Survey			
2	Alumni Survey			
3	Employers' survey			
4	?			
5	?			

STANDARD 1 - 2

THE PROGRAM MUST HAVE DOCUMENTED OUTCOMES FOR GRADUATING STUDENTS. IT MUST BE DEMONSTRATED THAT THE OUTCOMES SUPPORT THE PROGRAM OBJECTIVES AND THAT GRADUATING STUDENTS ARE CAPABLE OF PERFORMING THESE OUTCOMES

In Table 2, show the outcomes that are aligned with each objective.



OUTCOMES VERSES OBJECTIVES

Expected Learning Outcomes	Program Objective			
	1	2	3	4
1				
2				
3				

Table 2: Outcomes versus objectives

FILLING MATRIX RELATING OUTCOMES TO OBJECTIVES

Knowledge, understanding, skills and other attributes a student is required to have developed on completing the program be included under Program Learning Outcomes.

Program objectives as achieved by the students on completing the program are to be shown by marking ‘x’.

SAMPLE OF MATRIX RELATING OUTCOMES TO OBJECTIVES

Program Learning Outcomes	Program Objectives				
	Skills in critical thinking, problem solving and communication	Initiate and manage change	Understand professional ethics and responsibility	Employ IS. Technology	Enable organizations to make optimal decision making
	X			X	X
	X	X			
Use up to date tools				X	X
Life long learning	X		X	X	
Professional ethics and responsibility	X		X		

MEETING STANDARD 1-2

Describe the means for assessing the extent to which graduates are performing the stated program outcomes / learning objectives:

1. **Conducting a survey of graduating students every semester**
2. **Conduct a survey of alumni every two years**
3. **Conduct a survey of employers every two years**
4. **Student Course Evaluation Questionnaire**
5. **Research Student Progress Review Form**
6. **Survey of Department Offering Ph D Programs**
7. **Teacher Evaluation Form**
8. Carefully designed questions asked during design projects presentations
9. Outcome assessment examination

Note: Data obtained from above sources should be analyzed and presented in SAR

STANDARD 1-3

THE RESULTS OF PROGRAM'S ASSESSMENT AND THE EXTENT TO WHICH THEY ARE USED TO IMPROVE THE PROGRAM MUST BE DOCUMENTED.

MEETING STANDARD 1-3

- Describe the actions taken based on the results of periodic assessments.
- Describe major future program improvements plans based on recent assessments.
- List strengths and weaknesses of the program.
- List significant future development plans for the program.

ASSESSMENT RESULTS IMPLEMENTATION PLAN SUMMARY

AT Findings	Corrective Action	Implementation Date	Responsible Body	Resources Needed
1				
2				
3				
Chairman's Comments Name & Signature				
Dean’s Comments Name & Signature				
QEC Comments Name & Signature				

Table A.2 Assessment Results Implementation Plan Summary

STANDARD 1- 4

THE DEPARTMENT MUST ASSESS ITS OVERALL PERFORMANCE PERIODICALLY USING QUANTIFIABLE MEASURES.

- Present **students enrolment** (undergraduate and graduate) during the last three years indicating percentages of honor students, student faculty ratio, average graduating grade point average per semester, average time for completing the undergraduate program and attrition (drop-out) rate.
- Indicate percentage of employers that are strongly satisfied with the performance of the department's graduates (Use employer's survey).
- Indicate the **median/average student evaluation** for all courses and the % of faculty awarded excellence in research award.
- Present **performance measures for research activities**. These include journal publications, funded projects, and conference publications per faculty per year and indicate the % of faculty awarded excellence in research award.
- Present **performance measures for community services**. This may include number of short courses per year, workshops and seminars organized.
- Indicate faculty and students satisfaction regarding the **administrative services** offered by the department (Use faculty and students surveys)

CRITERION 2

CURRICULUM DESIGN & ORGANIZATION

The curriculum must be designed and organized to achieve the program's objectives and outcomes. Also course objectives must be in line with program outcomes. The breakdown of the curriculum must satisfy the standards specified in this section. Curriculum standards are specified in terms of credit hours of study.

Provide the following information about the program's curriculum:

(A) Title of degree program

(B) ~~Definition of credit hour~~

Cont'd…

CRITERION 2

C. Degree plan: attach a flow-chart showing the prerequisites, core, and elective courses.

LIST OF COURSES

Core Courses

S.N	Course / Code No.	Title	Credit hours	Laboratory Hours	Total Credit Hours	Pre-Requisites
1						
2						
3						

~~Elective Courses~~

S.N	Course / Code No.	Title	Credit hours	Laboratory Hours	Total Credit Hours	Pre-Requisites
1						
2						
3						

Cont'd...

CRITERION 2

D. Complete Table 3 showing curriculum breakdown in terms of mathematics and basic sciences, major requirements, social sciences and other requirements.

Semester	Course Number	Category (Credit Hours)				
		Maths & Basic Sciences		Core Courses	Humanities & Social Sciences	Technical Electives
		Maths	Basic Sci			
Total						
Minimum Requirements						

Table 3: Curriculum course requirements

Cont'd...

ENGINEERING PROGRAM

Domain	Knowledge Area	No. of Courses	No. of Crd hrs	% Overall
Non-Engg	Humanities (Eng, Culture, Social Scs)	8	19-21	33.8- 34.6
	Management Sciences (Engg Mgt)	2	6	
	Natural Sciences (Maths, Physics, Elective)	6	19-20	
	Sub Total	**16**	44-47	
Engg	Computing (Fundl, Prog, Design)	3	9	66.2- 65.4
	Engineering Foundation	8	29	
	Major Based Core (Breadth)	5	19-20	
	Major Based Core (Depth)	5	17-18	
	Inter-Disciplinary Engineering Breadth (Electives)	2	6-7	
	Senior Design Project	2	6	
	Industrial Training (Summer)			
	Sub Total	**25**	86-89	
	Total	**41**	130-136	100

CRITERION 2

E. For each course in the program that can be counted for credit specify the following:

- **Course title**
- **Course objectives and outcomes**
- **Catalog description (Course No.)**
- **Text book (s) and references**
- **Syllabus breakdown in lectures**
- **Computer usage**
- **Laboratory**
- **Content breakdown in credit hours (if applicable) as basic science, math, engineering science, and design for engg discipline. General education requirements, business requirements and major requirements for the Business Studies and others.**

STANDARD 2-1:

THE CURRICULUM MUST BE CONSISTENT AND SUPPORTS THE PROGRAM'S DOCUMENTED OBJECTIVES.

MEETING STANDARD 2-1

- Describe how the program content (courses) meets the program objectives
- Complete the matrix shown in Table 4.4 linking courses to program outcomes. List the courses and mark against relevant outcomes. A sample of such a matrix is shown in Appendix D.

PROGRAM OUTCOMES

Courses or Group of Courses	Program Outcomes			
	1	2	3	4
1				
2				
3				

Table 4.4: Courses versus program outcomes

PROGRAM OUTCOMES - SAMPLE

Courses or Group of courses	Program Outcomes						
	1	2	3	4	5	6	7
COE 200, COE 205, COE 305, COE 360	+	+	+	+	+	+	+
COE 400, COE 485	+	+	+	+	+	+	+
COE 399, COE 350, 351, 352	+	+	+			+	+
COE 390							
COE 308	+						
COE 342	+	+					
COE 442	+	+					
ICS Courses	+	+	+	+			
Stat & Mathematics, Physics & Chemistry Courses	+			+			
English Courses					+		
IAS Courses					+		
EE Courses	+	+	+				+
Technical Electives	+			+		+	
COE Electives	+					+	

Courses Vs Program Outcomes

STANDARD 2-2

THEORETICAL BACKGROUND, PROBLEMS ANALYSIS AND SOLUTION DESIGN MUST BE STRESSED WITHIN THE PROGRAM'S CORE MATERIAL:

- Indicate which courses contain a significant portion (more than 30%) of the elements in this standard.

Elements	Courses
Theoretical Background	
Problem Analysis	
Solution Design	

Table 4.5: Standard 2-2 requirement

MEETING STANDARD 2-2

Example:

Element	Courses
Theoretical Background	All Courses with the exception of ENGL, IAS and PE (COE 350, 351, 352), and COE 390
Problem Analysis	All courses with the exception of ENGL, IAS and PE and COE 390.
Solution Design	COE 200, 205, 305, 360, 400, 485, ICS 202, 399, (COE 350, 351, 351)
Theory, Problem Analysis and Solution Design	

Standard 2-3

The curriculum must satisfy the core requirements for the program, as specified by the respective accreditation body. Examples of such requirements are given in Table **A.1a**.

Standard 2-4

The curriculum must satisfy the major requirements for the program as specified by the respective accreditation body. Examples of such requirements are given in Table **A.1a**.

Standard 2-5

The curriculum must satisfy general education, arts, and professional and other discipline requirements for the program, as specified by the respective accreditation body. Examples of such requirements are given in Table A.1a.

Programs	Maths. & Basic Sciences	Engineering Topics	General Education	Others

Table A.1a Minimum Requirements for Each Program (Program Semester Credit Hours)

- HEC Requirements / Accreditation Council Requirements
- Program Requirements
- Deviations
- Justification for Deviations

Note: **For engineering programs HE has given Model curriculum design criteria which should be referred to.**

Standards 2-6

- **Information technology component of the curriculum must be integrated throughout the program:**
  - Indicate the courses within the program that will satisfy the standard.
  - Describe how they are applied and integrated through out the program.

Standards 2-7

- **Oral and written communication skills of the student must be developed and applied in the program:**
  - Indicate the courses within the program that will satisfy the standard.
  - Describe how they are applied.

CRITERION 3

LABORATORIES AND COMPUTING FACILITIES

- **Laboratories and computing facilities must be adequately available and accessible to faculty members and students to support teaching and research activities.**

- **Provide the following information about the laboratories and computing facilities that are available for use in the program under assessment.**

  - **Laboratory Title**
  - **Location and area**
  - **Objectives**
  - **Adequacy for Instructions**
  - **Courses taught**
  - **Manuals for experiments**
  - **Software Available (if applicable)**
  - **Major Apparatus**
  - **Major Equipment**
  - **Safety Regulations**

CRITERION 3

Standard 3-1

Laboratory manuals/documentation/instructions for experiments must be available and readily accessible to faculty and students

Standard 3-2

There must be adequate support personnel for instruction and maintaining the laboratories

Standard 3-3

The University computing infrastructure and facilities must be adequate to support program's objectives

CRITERION 4

STUDENT SUPPORT AND ADVISING

- Student must have adequate support to complete the program in a timely manner and must have ample opportunity to interact with their instructors and receive timely advice about program requirements and career alternatives. To meet this criterion the standards in this section must be satisfied.

CRITERION 4

STANDARD 4-1

COURSES MUST BE OFFERED WITH SUFFICIENT FREQUENCY AND NUMBER FOR STUDENTS TO COMPLETE THE PROGRAM IN A TIMELY MANNER

STANDARD 4-2

COURSES IN THE MAJOR MUST BE STRUCTURED TO ENSURE EFFECTIVE INTERACTION BETWEEN STUDENTS, FACULTY AND TEACHING ASSISTANTS

STANDARD 4-3

GUIDANCE ON HOW TO COMPLETE THE PROGRAM MUST BE AVAILABLE TO ALL STUDENTS AND ACCESS TO QUALIFIED ADVISING MUST BE AVAILABLE TO MAKE COURSE DECISIONS AND CAREER CHOICES

CRITERION 5
PROCESS CONTROL

The processes by which major functions are delivered must be in place, controlled, periodically reviewed, evaluated and continuously improved. To meet this criterion a set of standards must be satisfied.

Standard 5-1

The process by which students are admitted to the program must be based on quantitative and qualitative criteria and clearly documented. This process must be periodically evaluated to ensure that it is meeting its objectives

Cont'd…

STANDARD 5-2

THE PROCESS BY WHICH STUDENTS ARE REGISTERED IN THE PROGRAM AND MONITORING OF STUDENTS PROGRESS TO ENSURE TIMELY COMPLETION OF THE PROGRAM MUST BE DOCUMENTED THIS PROCESS MUST BE PERIODICALLY EVALUATED TO ENSURE THAT IT IS MEETING ITS OBJECTIVES

Standard 5-3

The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation, promotion must be consistent with institution mission statement. These processes must be periodically evaluated to ensure that it is meeting with its objectives.

Cont'd…

STANDARD 5-4

THE PROCESS AND PROCEDURES USED TO ENSURE THAT TEACHING AND DELIVERY OF COURSE MATERIAL TO THE STUDENTS EMPHASIZES ACTIVE LEARNING AND THAT COURSE LEARNING OUTCOMES ARE MET. THE PROCESS MUST BE PERIODICALLY EVALUATED TO ENSURE THAT IT IS MEETING ITS OBJECTIVES:

Standard 5-5

The process that ensures that graduates have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives:

CRITERION 6

FACULTY

Faculty members must be current and active in their discipline and have the necessary technical depth and breadth to support the program. There must be enough faculty members to provide continuity and stability, to cover the curriculum adequately and effectively, and to allow for scholarly activities. To meet this criterion the standards in this section must be satisfied.

Standard 6-1

There must be enough full time faculty who are committed to the program to provide adequate coverage of the program areas/courses with continuity and stability.

The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula.

All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph D in the discipline.

- Each faculty member should complete a Resume prepared in given format
- Complete the following table (No. 6) indicating program areas and number of faculty in each area.

Cont'd…

FACULTY DISTRIBUTION BY PROGRAM AREAS

Program's area of specialization	Courses in the area and average number of sections per year	Number of faculty members in each area	Number of faculty with Ph.D. degree
Area 1			
Area 2			
Area 3			
Area 4			
Total			

Table 6: Faculty distribution by program areas.

STANDARD 6-2

All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place

Standard 6-3

All faculty members should be motivated and have job satisfaction to excel in their profession:

Obtain faculty input using Faculty Survey on programs for faculty motivation and job satisfaction.

Obtain Faculty Course Review Report from each teacher at the time of Course Completion

CRITERION 7

INSTITUTIONAL FACILITIES

Institutional facilities, including library, classrooms and offices must be adequate to support the objective of the program. To satisfy this criterion a number of standards must be met

STANDARD 7-1

THE INSTITUTION MUST HAVE THE INFRASTRUCTURE TO SUPPORT NEW TRENDS IN LEARNING SUCH AS E-LEARNING

Standard 7-2

The library must possess an up-to-date technical collection relevant to the program and must be adequately staffed with professional personnel

Standard 7-3

Class-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities

CRITERION 8

INSTITUTIONAL SUPPORT

The institution's support and the financial resources for the program must be sufficient to provide an environment in which the program can achieve its objectives and retain its strength.

Standard 8-1

There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teachers and scholars

Standard 8-2

There must be an adequate number of high quality graduate students, research assistants and Ph.D. students

Standard 8-3

Financial resources must be provided to acquire and maintain Library holdings, laboratories and computing facilities

CONCLUDING REMARKS

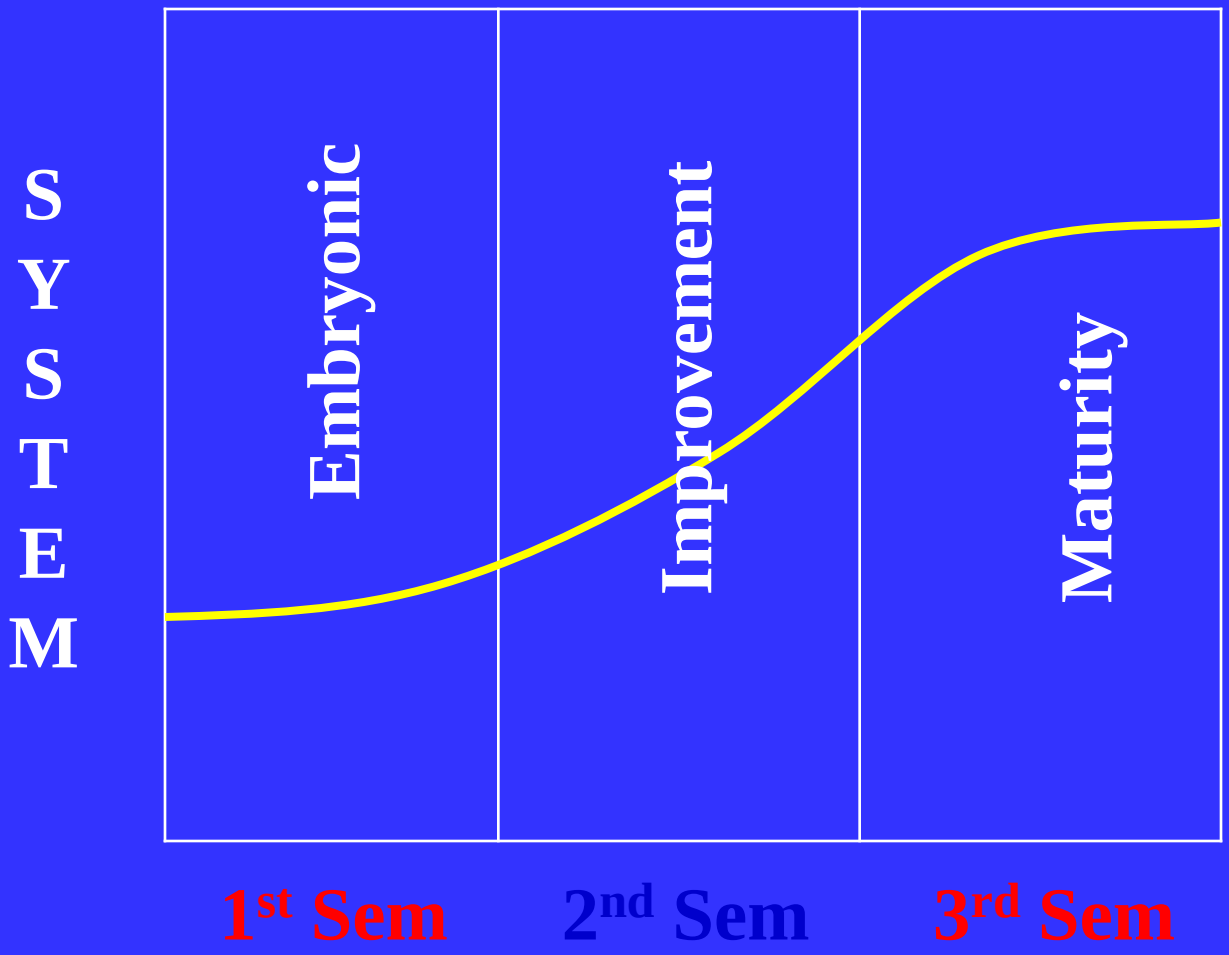
- Self assessment will:
- provide feedback from employers and Alumni and will enable Universities to improve quality and respond effectively to market needs.
- require dedication from faculty members and commitment from University Administration.
- establish measurable objectives and evaluate their outcomes to assess if programs meet the educational objectives.
- facilitate to enhance learning.

CONCLUDING REMARKS

- Quality Assurance is the responsibility of HEI itself
- Overnight results not possible. So be patient but consistent in pursuing the agenda
- Full support of the administration and cooperation of faculty essential to achieve the positive results

QA SYSTEM MATURITY LOGIC

An S-Curve



MISSION STATEMENTS

Mission Statement of University / Institute)

To develop human resources by inculcating professional knowledge, skills and ethical values, to bring-in prosperity and technological advancement based on high-tech research in the individual's life and society at large

Mission Statement of Department

The Department is committed to providing highest quality education, conducting high quality basic and applied research addressing the evolving needs of industry and society, and supporting the development of more competitive and new industry in the country.

Mission Statement of Program (Engg)

To build concrete concepts of the subject through high quality class teaching, laboratory work and small-scale research work, to help individuals become change agents on the canvas of technology advancement and innovation

PROGRAM OBJECTIVES

- To enable the graduate to apply knowledge gained in the degree program effectively and efficiently.
- To successfully bring innovation in related technology with cost-effectiveness.
- To step into Research and Development (R&D) effectively.
- To pursue higher studies in any international University of high repute.
- To breakaway from maintenance-based job and step into designing and manufacturing.
- Describe how each objective is aligned with program, college and institution mission statements.

SPECIFIC OBJECTIVES

Objective 1 (Foundation):

To provide students with a strong foundation in engineering sciences and design methodologies that emphasizes the application of the fundamental mathematical, scientific and engineering principles in the areas of engineering.

Objectives 2 (Skills and Tools):

To provide students with skills to enter the workplace well-prepared in the core competencies listed below:

- **Design and modeling experience**
- **Open-ended problem solving ability**
- **Experimental and data analysis techniques**
- **Teamwork experience**
- **Oral written and multimedia communication skills**
- **Experience with contemporary computing systems and methodology**

Objectives 3 (Awareness & Professional Ethics):

To provide students with knowledge relevant to engineering practice, including ethical, professional, social and global awareness, the impact of engineering on society, the importance of continuing education and lifelong learning in both technical and non-technical areas.

ELEMENTS OF THE STRATEGIC PLAN

(Example: Main elements of the strategic plan to achieve program mission and objectives)

- Curriculum design: Core subjects, Elective subjects. A wide variety of elective subjects are offered which brings diversity in the program. It also includes provision of areas of specialization.

- Concept building through extensive laboratory work, applying theoretical knowledge.

- Small-scale practical projects compatible with contemporary technological advancements throughout the degree program, and one practical Project in the final semester; which may become basis for winning a good job.

- Compulsory summer internships to give hands-on experience to students. Internships are arranged by the University.

- Co-curricular activities like academic clubs, participating in national and international competitions and exhibitions.

PROGRAM LEARNING OUTCOMES

(EXAMPLE FOR AN ENGINEERING PROGRAM)

The broad educational objectives of the undergraduate program are to provide a solid foundation of mathematical, scientific and engineering knowledge and to develop the basic skills that will serve the students throughout their careers.

Degree of skills and capabilities that will reflect on their performance as engineers is their ability to:

- apply knowledge of mathematics science and fundamental engineering to mechanical engineering problems.
- identify, formulate and solve practical engineering problems.
- design components, processes and systems to meet desired needs.
- conduct engineering experiments to study different engineering systems, including various modes of operation, performance evaluation, properties of materials and manufacturing techniques, as well as to use laboratory instruments and computers to analyze and interpret data.

Cont'd…

PROGRAM LEARNING OUTCOMES

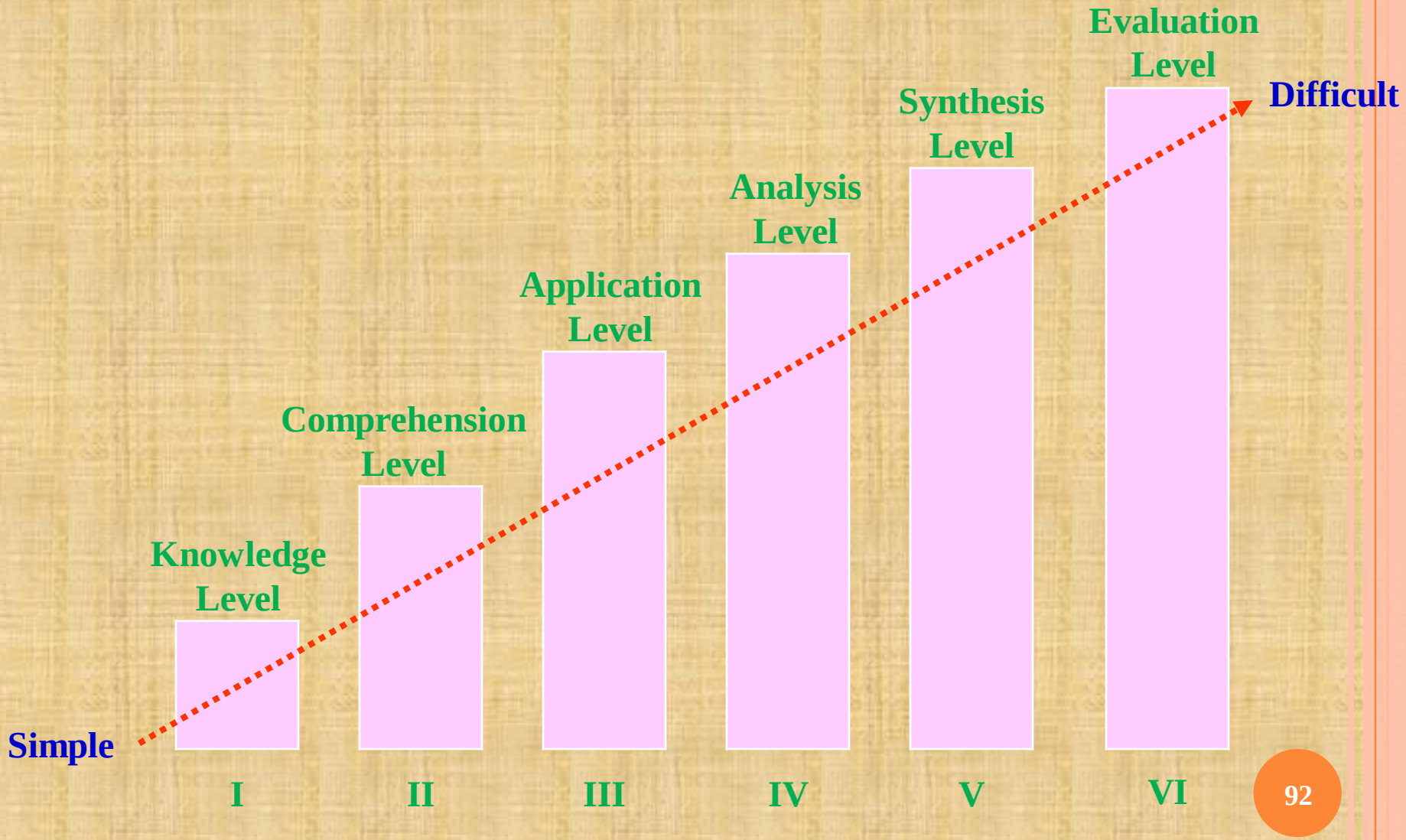
(EXAMPLE FOR AN ENGINEERING PROGRAM)

- use modern tools, techniques, and skills necessary for practicing mechanical engineering including computational tools, statistical techniques, and instrumentation.
- work in a professional engineering environment, and to understand the associated economical considerations.
- work effectively in teams including multidisciplinary teams to solve engineering problems relevant to their field.
- communicate effectively in written, oral, and graphical forms, including the use of professional quality visual aids.
- understand the professional and ethical responsibilities of engineers.
- understand the impact of engineering on the society and the environment.
- recognize the need and an ability to engage in lifelong learning of mechanical engineering

ACTION PLAN

COGNITIVE LEARNING

(BLOOM'S TAXONOMY 1956)



CAPACITY BUILDING

- Awareness campaigns, and

- Training component whenever and wherever required

QUALITY CONTROL

Jkm.cse@gmail.com

ANNUAL QUALITY ASSESMENT REPORT (AQAR)

A CASE STUDY

THE ANNUAL QUALITY ASSURANCE REPORT (AQAR)
OF THE
INTERNAL QUALITY ASSURANCE CELL (IQAC)
XXXX College

Jkm.cse@gmail.com

The Annual Quality Assurance Report of IQAC, Year 2008-09

In pursuance of the National Action Plan of the NAAC, Bangalore, an Internal Quality Assurance Cell (IQAC) has been established as a post accreditation qualitysustenance measure in our institution. IQAC has defined the objectives of our institution and worked out an action plan to achieve the same.

The following are the members of IQAC for the year 2008-09.

Members

PART-A

The plan of action chalked out by IQAC towards quality enhancement and the outcome:

- The college had planned to introduce diploma in Kindergarten Management and to introduce a course in Fashion Technology and Boutique Management. Both were successfully implemented. Hindi MA classes will begin this year.
- To improve the quality of student performance, bridge and remedial courses wereconducted.
- Books worth Rs.1,50,000 (from UGC fund) were procured to equip the Central Library
- A number of seminars and lectures were held to upgrade the knowledge and skill of the students and teachers.

- Innovative methods of teaching and learning, like group discussions, industrial
- visits, role play and use of music and dance to teach literary texts were adopted.
- To upgrade the knowledge of computer use among teaching and non teaching
- staff, training sessions were conducted.
- Applied for UGC minor projects and workshops, succeeded in procuring two
- projects, one by the department of Kannada and other by the department of
- Economics.
- Additional block of class rooms was added to meet the needs of increasing

PART-B

1. Activities reflecting the goals and objectives of the Institution:

- Since the objective of the institution is to provide quality education to the youth by focusing on their physical, intellectual, scientific, social and spiritual development many activities were held to promote these qualities in them.
- An orientation programme for the first year students was conducted on the reopening day. This programme is an exercise in confidence building. It also familiarizes the new students with their roles and responsibilities

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Jkm.cse@gmail.com

2. New Academic Programmes Initiated (UG/PG):

3. Innovation in curricular design and transaction:

(4) Interdisciplinary Programmes started:

Jkm.cse@gmail.com

(5) Examination reforms implemented

Jkm.cse@gmail.com

(6) Candidates Qualified: NET/SLET/GATE:

(7) Initiative towards faculty development programme

(8) Total No. of Seminars / Workshops Conducted:

(9) Research Projects:

Jkm.cse@gmail.com

(10) Patents generated:

(10) Patents generated:

(11) New Collaborative Research Programmes:

(12) Research Grants received from various agencies

(13)Details of Research Scholars:

(14) Citation Index of Faculty Members and Impact Factor:

Citations:

- **Google Scholar Citation**: Document 235, Citation 662, h-index 12, i10-index 17 (http://scholar.google.com/citations?hl=en&user=NIlye4UAAAAJ&view_op=list_works&pagesize=20)
- **Research Gate**: Document 69, citation 97 (https://www.researchgate.net/profile/Jyotsna_Mandal/)
- **Scopus Citation:** Document 83, Citation 91, h-index 6 (http://www.scopus.com/authid/detail.url?authorId=24605629500)

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A 256-bit recursive pair parity encoder for encryption JK Mandal, S Dutta Advances D 9 (1), 1-14	26	2004
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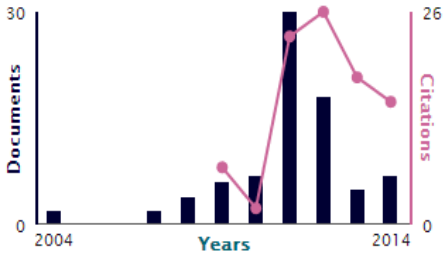

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A Wavelet Transform Based Image Authentication Approach Using Genetic Algorithm (AWTIAGA)	Khamrui, A.,Mandal, J.K.	2014	Advances in Intelligent Systems and Computing	0

Author History

Publication range: 1994 - Present

References: 447

Source history:

ICIIS 2009 - 4th International Conference on Industrial and Information Systems 2009, Conference Proceedings

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(15) Honours / Awards to the Faculty

(16) Internal Resources Generated

Rs.10 lakhs For Auditorium Sri. Anantkumar M.P.(from M.P. fund).
Rs.5 lakhs Gym equipment Sri. Anantkumar M.P.(from M.P. fund).
Rs27,106 Library books
Lions club of Bangalore, Vijayanagara-
Service Trust Book bank.
03 Cupboards Lions club of Bangalore, Vijayanagara.
Rs. 30,000 Articles for NSS Sri. Krishnappa MLA, CDC Chairman.
01 Bookshelf Smt. Vijendra ,CDC Member.
01 Sewing Machines Smt. Vijendra ,CDC Member.
Rs.10000 Merit cum means Scholarship
Lion Sri. Venkatesh (Scholarship for two Naidu Community students).

(17) Details of Departments getting SAP / COSIST / DST / FIST etc. Assistance/ recognition

(18) Community Services:

The annual NSS camp was held in Kethohalli,Ramanagara Dist. in March 2009.Our students taught the villagers about basic hygiene, literacy and healthy living. They held street plays, cultural programmes and educated the rural population about the evils of alcoholism, AIDS and illiteracy

(19) Teachers and Officers newly recruited:

(20) Teaching-Non- Teaching Staff ratio:

(21) Improvement in the Library Services:

(22) New books / Journals subscribed and their value:

(23) Courses in which Students assessment of teachers is introduced and action taken on student feedback

The students evaluate all subject teachers through a standardized questionnaire. The questionnaire is in Kannada to facilitate comprehension The Principal analyses the feedback by making a chart of the individual teacher's Performance The Principal shares the evaluation data with the teacher individually and wherever necessary suggests improvements Good performance is appreciated

(24) Unit Cost of Education

(a) Including the salary component = Rs. 7654 /-

(b) Excluding the salary component = Rs. 834 /-

Jkm.cse@gmail.com

(25) Computerization of administration, process of admission, examination, results and issue of certificates:

(26) Increase in infrastructure facilities:

(27) Technology up gradation:

- Creation of new Website to the college
- The website is upgraded every month
- Addition of equipments in Physics and Computer labs
- Library books have been bar coded

(28) Computer and Internet access and training to teachers & Students:

- The college provides internet facility to students and staff in the computer centre.
- Internet facility is also extended to the office and library.

Jkm.cse@gmail.com

(29) Financial Aid for Students:

The college provides financial help to the students in the form of Poor student's fund. An amount of Rs. 26,100 was distributed among the students who scored 70% and above in the semester exam. About 87 benefited from it. Annual scholarship is given to SC/ST students from the social welfare department. This academic year about 300 students are to benefit from the scheme.

Two merit cum means scholarship of Rs.5,000 each given to a girl and a boy of Naidu community by Lion-Venkatesh Murthy .There are endowment scholarships of Rs. 25,000 each by Sri. Ramappa, Sri. Dr. Raju and Sri. Sandal and family and one endowment scholarship of Rs.50,000 provided by Sri. Somanna.

(30) Activities and support from Alumni Association:

(31) Activities and support from the Parent-Teacher Association:

- A parent teacher meeting was held in the college on the 3rd May 2009 . Around 150 parents participated in the meeting.

(32) Health Services:

(33) Performance in Sports Activities:

(34) Incentives to outstanding sports persons:

(35) Student's achievements and awards:

NSS:

Cultural:

(36) Activities of Career Guidance & Counselling Unit:

(37) Placement services provided to students:

(38) Development Programmes for Non-teaching staff:

(39) Healthy Practices of the Institution:

Department of Journalism has the healthy practice of encouraging student participation in seminars arranged by staff in other colleges and universities.

- The tutor ward system of the college places 50 students under the care of each teacher who closely monitors the development of the students. This system has created a close bond among the teacher, student and the parents.
- Many teachers offer financial support to needy students and pay their exam fee and tuition fee etc.

(40) Linkages developed with National / International, Academics / Research bodies:

(41) Any other relevant information the institution wishes to add:

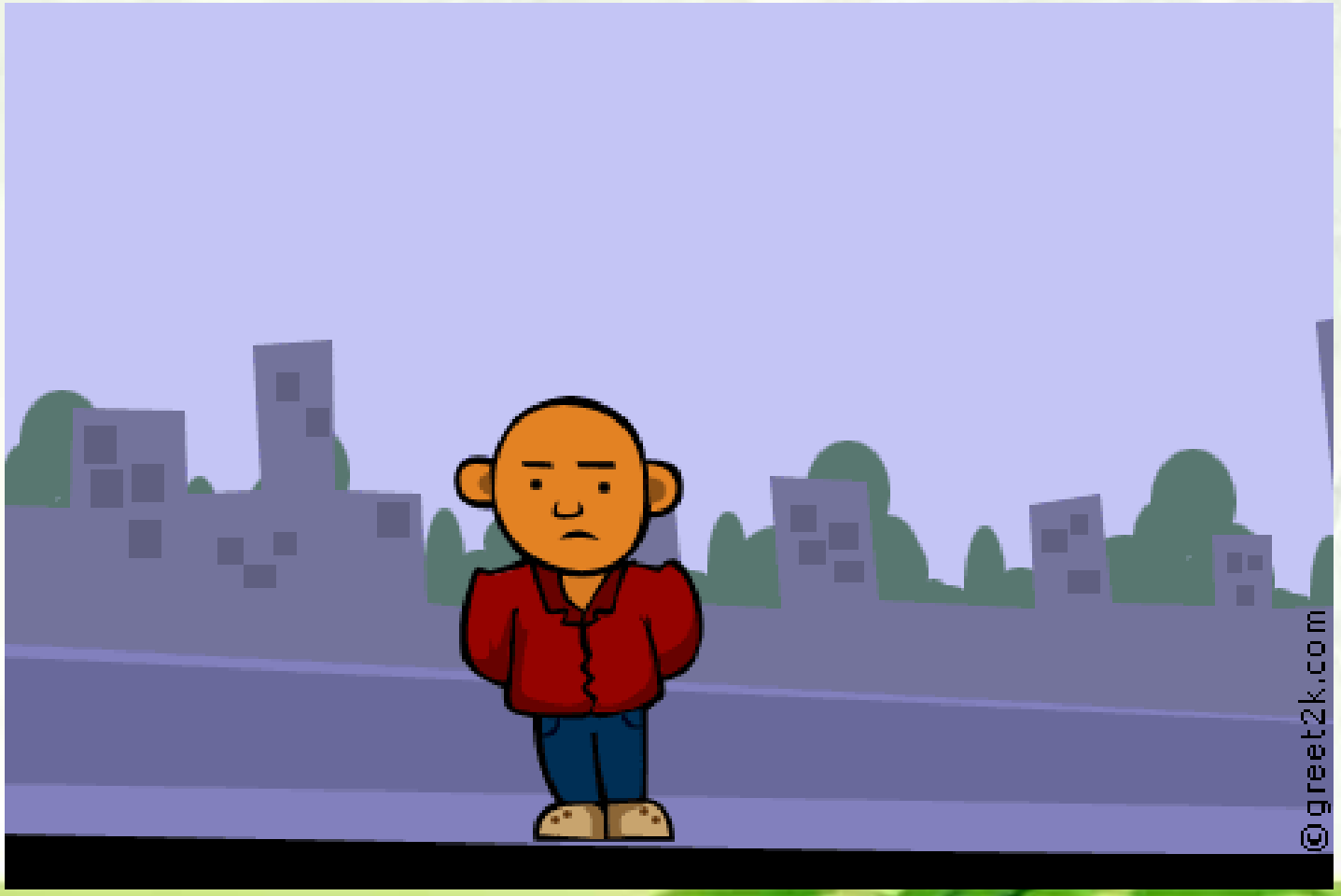
PART C:

Detail the plans of the institution for the next year:

1. Improving the results.
2. Many departments want to start add on courses.
3. To improve the infrastructure.
4. To conduct national and state level seminars.
5. To equip all departments with library and infrastructure.
6. To persuade CCE to allot more staff to the college.
7. Improve the quality of performance of students.
8. To apply for more UGC minor and major projects and workshops.

Jkm.cse@gmail.com

Positive Thinking



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Site: http://jkmandal.com

Mail: jkm.cse@gmail.ocm

M: 9434352214