

MOHANLAL SUKHADIA UNIVERSITY UDAIPUR

Meeting of Principals of affiliated Colleges held on 21st
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Introduction to Choice Based Credit System

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CBCS

Challenges faced by Indian Higher Education System

Expansion:

- Increase HER from 18% to 30% by 2020
- Currently we have about 35,000 colleges, 700 universities
- We need about 50,000 colleges and 1200 Universities to accommodate 400 lakhs students



Challenges Indian Higher Education System

Excellence

- Shortage of Faculties: About 40%
- Poor quality of teaching
- Out dated and rigid curricula and pedagogy
- Lack of accountability, quality assurance (62 % of Indian Universities and 90% colleges are average or below average as per NAAC grading)



Challenges : Indian Higher Education System

- **Low level Ph.D. enrollment-**
 - Not have high quality researchers
 - Graduation:86%, PG: 12%, Ph.D. 1%
 - Low Impact factor publications
- **Few opportunities for interdisciplinary research**
- **Lack of innovations and low levels of Industry engagement.**

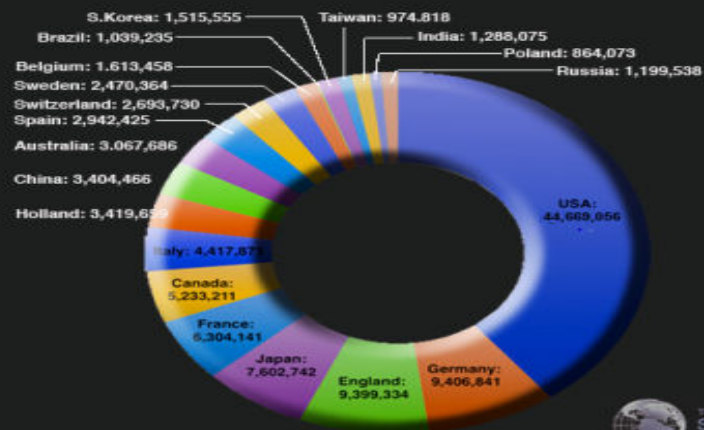
The top 20 countries for scientific output

Top 20 countries by the number of scientific publications (1999-2009)



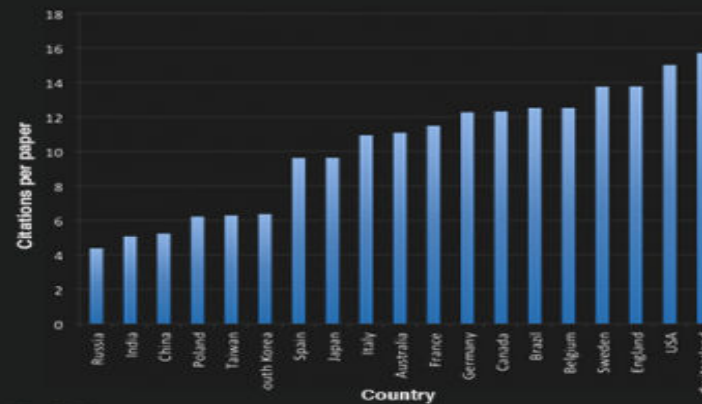
* Numbers indicate the number of papers in millions (M)

Number of citations per top 20 country (1999-2009)



*Source: Essential Science indicators

Number of citations per paper





Challenges: Indian Higher Education System

Equity

- Uneven growth and access to opportunity.
- Wide disparity in GER
 - Delhi 48% Assam 9% Urban 30%, Rural 11%
 - Disparity among OBC,SC,ST Minorities etc.



Challenges to Indian Higher Education System

- Biggest challenge is Provide higher education to reflect expansion, equity and excellence.
- Our Government plans to reorganize and remodel our higher education system in terms of :
 - Funding
 - Leadership
 - Management
 - Quality Assurance
 - Relationship with Industry
 - International Collaboration
 - The way teaching and research is conducted



Quality

To ensure quality, NKC has called for reform of existing Universities to ensure:

- Frequent curricula revisions
- Introduction of Choice Based Credit System
- Encouraging research
- Reforming governance of Institutions

Big reforms are expected in the governance and funding of State Universities through RUSA



Annual System: Limitations

- Teacher Centric
- Testing of memory rather than Application
- Minimal attention paid to continuous evaluation
- Lack of holistic approach
- Rigidity in contents and courses



Questions in Higher Education

- Why cannot earn a few credits from one college and transfer the credits to some other college?
- Why a student who is working on a part-time basis cannot earn a few credits and stretch his studies to four or five years according to his convenience?
- Why is there a kind of compulsion to complete a degree programme in three years?



Questions in Higher Education

- Why is there no provision to change the college after earning a few credits?
- The academicians often talk about university and industry collaborations. Why not a few credits earned in a related industry is considered within the curriculum?



Major Transformation Required

- Rigid to Flexible
- Set pattern to choice based structure
- Exclusive summative evaluation to continuous assessment
- Teacher centered to Student centered approach
- Year system to semester system
- Talk and chalk system to activity based system



Annual to Semester transition

- Annual system is obsolete in the Global arena
- Semester system enlarges the curricular space
- Encourages accelerated learning process
- National Knowledge Commission of India & UGC recommended introduction of Bi-semester system with continuous evaluation and Choice Based Credit System.



Objectives

To introduce Choice Based Credit System (CBCS) at Undergraduate and Post Graduate level

- Development and delivery of Curricula that would facilitate student centric learning
- Examination Reforms
- Administrative Reforms.

All of the above objectives have to be realized with an aim to transform teaching learning processes in academics



Choice Based Credit System

- Semester System
- Choice Based Credits
- Continuous Assessment
- Grading



STRATEGIES

- To introduce Semester system
- To develop a structured programme for CBCS that would Enable students to have
 - a flexible learning within a structured model
 - wider choices outside their discipline of their study
 - an exposure to real life experience by participation in internships as well as vocational training
 - facility of Credit transfer across the country



STRATEGIES

- To design the curriculum with sufficient/appropriate/adequate provision for
 - Value oriented courses,
 - Interdisciplinary courses
 - Vocational/Skill courses.
- Each course shall have a clearly defined course objective and course outcome.
- Teacher training and capacity building



STRATEGIES

- Revamping of learning processes by changing in teaching pedagogy by
 - Use of ICT
 - Use of Skill Development
 - Use of Massive online courses
 - Use of computer laboratories for learning to be set up across the state
 - Introduction and Implementation of concept of Teacher fellow(TF) and Course Assistant(CA)



STRATEGIES

- Content preparation as per the curriculum. This will include both textual content as well as E content.
- Preparation of Question Banks
- To create facilities for On Demand On Line Examination (ODOLE)



METHODOLOGY AND PLAN OF ACTION

- The methodology to introduce CBCS will follow the sequence as:
- To develop a structure having enough room for flexibility for horizontal as well as vertical migration of students
- To design the curriculum with appropriate course labels.
- Preparation of content for each course
- Teacher training and capacity building
- Class room revamping
- Preparation of Question bank
- Creating centers for Online examination which would facilitate E learning as well



CREDIT FRAMEWORK SKILL DEVELOPMENT (CFSD)

National Skill Qualification Framework (NSQF) was notified on 27th December 2013

- Outcome based approach: Each level in NSQF has been defined and described in terms of competency levels to be achieved
- Make progression path ways transparent: institutes, students and employers are clear as to what they can or can not do
- Establishing equivalence of degree and certificates
- Recognition of prior learning
- Credit accumulation and transfer



CFSD

- CFSD is a framework which allows multiple pathways between vocational education-skills, education and job market
- NSQF has 7 levels with varying proportion of vocational skill hours to academic class and lab hours allowing horizontal and vertical mobility
- Level 8-10 are aligned with post graduate degree



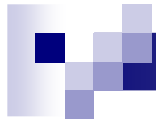
CFSD

- Operational Methodology
- Skill Knowledge providers/trainers registers with AICTE
- Student registers with a recognized institution for vocational diploma/degree
- Student complete skill modules and acquires credits from SKP and gives to institution where registered.
- The credits are transferred to the technical board or university



CFSD

- The university/Tech Board compiles vocational skill credits and formal education credits and awards diploma/degree as per rules.
- Candidates may enter the job market after each certification level or continue to acquire additional credits in part time/full time mode in order to complete requirements of vocational diploma/degree



Certification level	Normal Qualification	Vocational Qualification	Certifying Body
1	Grade IX	Grade IX vocational	School
2	Grade X	Grade X	School
3	Grade XI	Diploma	Board
4	Grade XII	Diploma	Board
5	Ist Year Degree	Diploma	Board/Univ
6	2 nd Year	Advance Diploma	Board/Univ
7	3 rd year	Advance Diploma	Board/Univ
8,9	PG	PG vocational	Univ



National Skill Development Corporation

NSDC (Board public and private partnership)

- 187 Training Partners
- 2,228 Training Centres
- 37.6 lakhs people trained
- 14.7 lakhs placed

www.nsdcindia.org



Semester System

- An academic year will be divided into two semesters and different set of courses will be offered
- The courses offered will be evaluated and consolidated for
 - The semester
 - Year
 - Entire programme



Choice Based Credit System

- Enhanced learning opportunities
- Ability to match students needs, aspirations and Interests
- Inter and Intra institutional transferability of students
- Improvements in educational quality and excellence and flexibility
- Standardization and comparability of educational programmes across the state



Choice Based Credit System

- **Choice Based Credit System (CBCS)** : The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).
- **Programme**: B.Sc., M.Sc., Ph.D, Diploma etc.
- **Discipline**: Subjects in a programme
 - Example: Physics, Business Administration, Sociology etc.
- **Courses** : Papers in the Conventional system
 - Paper-I: Introduction of ICT
 - Paper-II: Discrete Mathematics



Getting Acquainted with CBCS

➤ **Credit** : A unit by which the course work is measured.

- It determines the number of hours of instructions required per week.
- One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week.

Example: M.Sc. First semester, 6 Papers (4 Theory, 4hrs/week, Two Practical: 8 hrs/week

Total Credits of First Semester: $4 \times 4 + 2 \times (8/2)$: 24 Credits

For a student to earn 1 credit

- College should conduct a class/practical as per time table
- Teacher should deliver 1 hr instruction/2 hr practical
- Student should attend 1 hr instruction /carry out 2hr practical work



Structure of CBCS courses

- CBCS courses consists
 - Core courses
 - Elective Courses
 - Ability Enhancement Courses
- **Core Course**
 - A course, which should compulsorily be studied by a student as a core requirement
 - UG Pass Course: Papers in three subjects
 - UG Honours course: Papers in the Main subject
 - PG course: Papers in the specified subject



Structure of CBCS Courses

Elective Course:

- Generally a course which can be chosen from a pool of courses
- Elective Courses may be
 - Courses which are very specific or specialized or advanced or supportive to the discipline/ subject of study
 - Courses which provides an extended scope or which enables an exposure to some other discipline/subject/domain
 - Courses nurtures the candidate's proficiency/skill



Elective Courses

□ Discipline Specific Elective (DSE) Course:

Elective courses may be offered by the main discipline /subject of study is referred to as Discipline Specific Elective.

□ Dissertation/Project:

An elective course designed to acquire special/ advanced knowledge, such as supplement study /support study to a project work

○ A candidate studies such a course on his own with an advisory support by a teacher/faculty member

□ Generic Elective (GE) Course

An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.



Ability Enhancement Courses

The Ability Enhancement (AE) Courses

□ Foundation Courses : To fulfill the objectives of education. They include following:

➤ **Compulsory Courses for Knowledge enhancement & Social Orientation**

Example : Environmental Studies

➤ **Foundation Electives:**

▪ **Languages and Literature courses**

To provide practical course in the use of Oral and written communication in presentation, public speaking, group discussion etc.

Example: General English, General Hindi , Communication Skill

▪ **Analytical Techniques(Critical Thinking)**

Example: Basic Mathematics & Analytical Ability

□ **Skill Enhancement Courses (Including Information Skills)**

Example : Computer Hardware Maintenance, Desktop Publishing, Mobile Repairing etc.



Extra Credits Courses

- **Social Orientation courses:**

- Course like Environmental sciences, national Integration and social harmony, Human Rights etc.

- **Extension Services**

- Practical or extension activity such as NSS/NCC/sports/Fine Arts etc. the components of the course will comprise
 - Capacity building, social service outputs, social analysis, reports/records

- **Specialized Skill Courses**

- **Internships/ Summer Projects**

- **Vocational Courses etc.**



CREDITS DISTRIBUTION

■ UG Programme

- Honors: 140 credits (Average: 24 credits/sem)
Core: 84 Credits, Electives: 48 Credits, AE: 8 Credits
- Pass Course: 120 Credits (Average: 20 credits/Semester)
Core: 72 credits (Three Subjects), Electives: 36 credits,
AE : 12 Credits

■ PG Programme

- 100 Credits/Semester (24 credits/Sem)
Core: 72 Credits, Elective: 24 credits, AE: 4 credits

Credit Distribution: Core: 60%, Elective: 35%, AE: 5%



Restructuring of Curriculum

- Six Semesters (UG) , Four Semesters (PG)
- Choice based Credit System
- Design Core (Main) and Allied (General or Subsidiary) courses
- Design Elective courses for the main stream and for other stream students



Restructuring Curriculum

- **Elective courses: In depth knowledge in one of the broad areas**
 - To provide skill in certain specific areas as per employers requirement
- **Design Inter-disciplinary courses**
 - Identify major inter-disciplinary areas
- **Foundation, Social Orientation & Extension services**
 - General policy Common for a Faculty



UGC Guidelines

1. Follow common minimum curriculum as fixed by the UGC.
2. UGC has prepared model Syllabi for Core, Discipline Specific Electives of UG Programme and available on web site
3. The universities are allowed to design their own syllabi for the core and elective papers subject to maximum deviation can be only 20%
4. Universities can add elective papers they want to offer as per the facilities available.
3. Number of Core papers for all Universities has to be same for both UG Honours as well as UG Program.



UGC Guidelines

Ability Enhancement Courses for UG are divided into two categories:

a) **AE Compulsory Courses:**

The universities participating in CBCS system may have common curriculum for these papers. There may be one paper each in the first two semesters.

(i) English/MIL Communication, (ii) Environmental Science.

b) **Skill Enhancement Courses:**

The universities may decide the papers they may want to offer from a common pool of papers decided by UGC or the universities may choose such papers themselves in addition to the list suggested by UGC.

The universities may offer one paper per semester for these courses.



UGC Guidelines

- The universities/Colleges may plan the number of seats per elective paper as per the facility and infrastructure available.
- Degree under CBCS can be awarded to students only if a student earns his credits by
 - Attending a minimum number of instructions delivered in each course
 - Credits can not be awarded unless a student attends a Minimum 75% attendance in each course
 - Undergoes Continuous Assessment
 - Requires to obtain pass grade in Internal Assessment (36% marks in Internal Assessment)
 - Obtain a Minimum Pass Grade in each course
 - Require to obtain Pass grade in External Examination (36% marks in External examination)



CBCS Management

- The Committee of Courses adopts UGC curriculum and prepare
- Modify UGC syllabi Core courses with a maximum 20% modification in the topics
 - Change topics in UGC syllabus as per topics in the current syllabus so that existing text books can be used
 - Keep main text book as that prescribed by UGC
 - Keep 50% of practical same as that in the current list of practical, introduce 25% new practical keeping in mind it is affordable to the colleges, 25% experiments may be Computer based /Modern experiments
- Publish draft syllabi and invite feedback from stake holders
- Approval of Regulations, Course curriculum & syllabi by faculty and academic council after taking into account the feedbacks from stake holders



Course Management

- ❑ The University publishes Academic Calendar for teaching, continuous assessment and External examination which must be followed by University Departments and Colleges

- ❑ University Publishes a model teaching schedule giving day wise lecture topics and chapter/section of the text book, reference books where these topics can be found, reference to online contents, assignment schedule, tutorial etc.

- ❑ Teachers can modify the lecture topics/contents in the teaching schedule by giving additional topics, additional references, their lecture notes etc.

- ❑ The Dean/Principal /Head of the Department prepare and publishes time table for each semester giving a common timing slots for Elective and Ability Enhancement courses.

- ❑ University/College issues Notices/get affidavits from students related to the requirement of minimum 75% Attendance in each course, its monitoring mechanism & monthly publication of shortage of attendance etc.



Attendance Management

University will provide On line Course Management Module from Session 2015-16

- Online Registration for Core, Elective and Ability Enhancement courses
- Regular display of students who have shortage of attendance
- Automatically debarring of candidates who have not obtained minimum 75% attendance from external examination by not displaying their admit card
- Facility for displaying progress of teaching taking monthly information about lectures held from teachers



Internal Assessment

Internal Assessment proposed for M.Sc. (CBCS)

➤ 20 marks /per paper of 100 marks as Internal Assessment Marks

➤ 10 marks will be awarded on the basis of One Internal Test to be held in the month of November/April

➤ 10 marks for continuous assessment : 5 marks for (One assignment/seminar/quiz/MCQ type assessment test per month) and 5 marks for the attendance above 75%

Assignment marks must be displayed monthly

•Internal Assessment marks must be displayed first week of December/May and invite grievances

•An Internal committee constituted as per norms will finalize Internal marks

Separate grades for Internal Assessment and External Assessment. Internal Assessment Grades are not included in CGPA



Other Information (CBCS)

- Grades & Grade Points: 10 point Scale recommended by UGC will be used.
- Question paper pattern will be same as that of existing pattern of short answer, medium answer and long answer type.
- Semester Board
 - To check Internal grades, external grades, recommend scaling factors & moderations
 - Convener of Committee of Courses, Two examiners, one VC nominee, HOD, one teacher



Calculation of SGPA and CGPA

Grades

Grade	Meaning	Grade Point	Percentage of Marks
O	Outstanding	10	90%-100%
A+	Excellent	9	80%-89.99%
A	Very good	8	70%-79.99%
B+	Good	7	60%-69.99%
B	Above Average	6	50%-59.99%
C	Average	5	45%-49.99%
P	Pass	4	36%-44.99%
F	Fail	0	Below 36%
Ab	Absent	0	

•Semester Grade Point Average (SGPA) –

The performance of a student in a semester is indicated by a number called SGPA.

SGPA is the weighted average of the grade points obtained in all courses registered by the student during the semester. It shall be calculated as follows-

$$SGPA = \frac{\sum_{i=1}^n C_i p_i}{\sum_{i=1}^n C_i}$$

where C_i = the number of credits earned in the i^{th} course of a semester for which SGPA is to be calculated

p_i = grade point earned in the i^{th} course

$i = 1, 2, 3, \dots, n$ represent the number of courses in which a student is registered in the concerned semester.

That is,

SGPA = Total earned Grade Points for the Semester

Total Credits for the Semester

The SGPA is rounded upto two decimal places.

Final Result / How to Calculate CGPA?

- Up to date assessment of the overall performance of a student from the time of his / her first registration is obtained by calculating a number called Cumulative Grade Point Average (**CGPA**), which is weighted average of the grade points obtained in all courses registered by the student

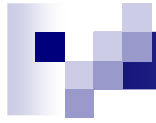
$$CGPA = \frac{\sum_{j=1}^m C_j P_j}{\sum_{j=1}^m C_j}$$

where C_j = the number of credits earned in the j^{th} course up to the semester for which CGPA is to be calculated

p_j = grade point earned in the j^{th} course. A letter grade lower than P (i.e. grade point < 4) in a course shall not be taken into consideration for the calculation of CGPA.

$j = 1, 2, 3, \dots, m$ represent the number of courses in which a student is registered up to the Semester for which the CGPA is to be calculated.

- Percentage = CGPA X 10
- The CGPA is rounded up to **two decimal places**



THANKS