MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES

(Deemed to be University under section 3 of the UGC Act 1956)

Policy No. MRIIRS-IQAC-PL-TL/2018-19 Version 2

MRIIRS Policy on Teaching, Learning and Evaluation

(Effective from the date of notification)

Notified vide MRIIRS/REGR/2018/95/1 dated: 31st October 2018

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES

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HARYANA

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES

Deemed-to-be-University
Accredited by NAAC with A Grade in the First Cycle

MRIIRS Policy on Teaching, Learning and Evaluation

Number: MRIIRS-IQAC-PL-TL/2018-19

Committee Constituted for Preparation of draft on June 28, 2018

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Reviewed by IQAC: September 29, 2018

Approved by: Vice- Chancellor, MRIIRS

Approval of BoM in its 26th meeting held on October 30, 2018

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History Sheet: Modification details with respect to Previous Version

Head	Modification
Planning for Teaching Learning Process -Point 4A(n)	Course attainment analysis to be included in course files
Planning for Teaching Learning Process -Point 4A(p)	Inclusion of point 2(p) as stated below: Students will be encouraged to enroll themselves in MOOCs for credit transfer.
Best classroom practices- Annexure A.2 Annexure A.3	a. Percentage for incorporation of student centric methodologies was defined for curriculum delivery b. Percentage of ICT integration was defined for classroom delivery
Best classroom practices- Point 4B	To train faculty members, if resource does not exist with respective departments, recourse may be made to the IQAC.
Reporting Mechanism- Point 4D	Attainment and Assessment Report of COs and POs/PSOs: Department Academic Committee MOOC Credit Transfer Report: Departmental MOOC coordinator
Review mechanism-Revision in Point 4E(d) and inclusion of Point 4E(e)	Previous semester courses instead of summer semester
Practical/Laboratory Courses- Point 4.C.1(b)	Inclusion: The departments shall organize Project exhibitions/contests to encourage students to demonstrate their problem-solving skills attained during practical hours.
Examination Process 4.C.2 (a)	Revision in Distribution of weightage for ESE and CIA for theory courses also (50-50).
Assessment mechanism for Advanced and Slow learners	Revised criteria for identification of advanced and slow learners incorporating the weightage for first sessional scores along with ESE scores and teacher's observation.
Grading Scheme	Modified Grading scheme to be followed as notified by UGC
Inclusion of SoPs for Point 1 in Annexure A	SoPs for Planning of Teaching Learning Processes
Evaluation-Point 6 in Annexure A	Modified in Policy along with inclusion of guidelines for industrial internship and project evaluation

This revised version of policy on Teaching, Learning and Evaluation includes additions in terms of inclusion of course attainment analysis in course files, encouragement to students to enroll themselves in MOOCs also for subsequent credit transfer. Further, the percentage of ICT integration is defined for classroom delivery and incorporation of student centric methodologies is also quantified for curriculum delivery. Previous semester courses have been introduced instead of summer semester. Modified grading scheme for evaluation as notified by UGC has also been included.

MRIIRS Policy on Teaching, Learning and Evaluation

In pursuance of the provisions of Section 26 of the Bye Laws of Manav Rachna International Institute of Research and Studies, the Board of Management of the Manav Rachna International Institute of Research and Studies, hereby makes the following policy relating to 'Teaching, Learning and Evaluation'.

1. SHORT TITLE AND APPLICATION

This Policy may be called Manav Rachna International Institute of Research and Studies Policy No. MRIIRS-IQAC-PL-TL/2018-19 and titled as ''MRIIRS Policy on Teaching, Learning and Evaluation"

APPLICABILITY: This policy shall apply to all faculty members teaching in the university and all the students admitted in any Undergraduate, and Postgraduate Programmes being offered at Manav Rachna International Institute of Research and Studies (MRIIRS).

2. DEFINITIONS

In these Regulations, unless the context otherwise requires –

I. **"MRIIRS"** refers to Manav Rachna International Institute of Research and Studies (Deemed-to-be-University declared under section 3 of UGC Act 1956 vide notification from Ministry of Human Resource Development, New Delhi.

II. **"UGC"** refers to University Grants Commission, The University Grants Commission of India is a statutory body set up by the Indian Union government in accordance to the UGC Act 1956 under Ministry of Human Resource Development, New Delhi.

III. **"ICT"** refers to the Information and Communication Technology based tools for teaching and learning.

IV. **"e-Resources"** refers to the electronic resources used for online information access.

V. **"MOOCs"** refers to the Massive Open Online Courses being offered through platforms including SWAYAM, Coursera, edx, Udemy etc to learn new skills as audit pass courses and credit transfer.

VI. **"CIA"** refers to continuous internal assessment by the course teachers for direct attainment.

VII. **"ESE"** refers to End Semester Examination.

VIII. **"SGPA"** refers to Semester Grade Point Average for a Semester.

IX. **"CGPA"** refers to the Grade Point Average for all the completed semesters at any point in time.

X. **"CO"** refers to Course Outcomes.

XI. **"PO"** refers to Program Outcomes.

XII. **"PSO" r**efers to Program Specific Outcomes.

XIII. **"PEO"** refers to Program Educational Objectives.

XIV. **"DAC"** refers to Department Academic Committee

3. PREAMBLE

Teaching, learning and evaluation are among the core processes of a university. The university will maintain a rigorous regime of teaching-learning processes with the most creditable evaluations systems.

The purpose of assessment of teaching, learning and evaluation process will be able to demonstrate to all of its stakeholders, especially students, employers, community organizations and regulatory bodies, that the course outcomes of its academic programs are sound and that its teaching activities are designed to provide equivalence in learning experience and outcomes, regardless of environment or location.

4. SCOPE

The scope of the University's policy on teaching, learning and evaluation is to:

a) ensure that the quality of the education it provides is of the highest standard and commensurate with the expected standards

b) continuously improve the quality of the education it offers to students and

c) establish policies and procedures to enable it to fulfill regulatory bodies' requirements in relation to educational quality and academic standards.

5. Planning for Teaching Learning Process

a) The institution at the beginning of each session will prepare academic calendar and annual planning of each department and monitor its execution. Academic calendar should be provided to students for each program of the University.
b) To bring homogeneity among the diversified categories of students, each Faculty will organize orientation programs/induction programs for freshers.
c) Each department will devise a mechanism for distinctive approaches for teaching and learning to be adopted to address the needs of slow learners and advanced learners.
d) Differently-abled students will be handled with special care and concern.
e) Each department will develop a system of peer learning, student mentoring, team building and organization of events and student involved organizational academic programs to ensure an inclusive academic ambience in the department.
f) The department academic calendar along with plans for co-curricular/extra-curricular/entrepreneurship related activities will be prepared in advance and executed meticulously.
g) The departments will use both conventional as well as modern teaching methods to focus more on experiential learning, participative learning and case-based learning.
h) Student seminars, assignments, projects, field work and internships must be a part of the curriculum in majority of the programs.
i) The advanced learners and students having research inclination will take partnership in research projects with the faculty members.
j) The meritorious students will be recognized and awarded special prizes.
k) The student feedback on performance of teachers will be collected and analyzed regularly and based on those measures are taken to improve quality of teaching-learning process.
l) Teaching load will be prepared by HOD in consultation with course coordinators and duly vetted by Dean of institution.
m) Lesson plans and tutorial plans should be made ready for every course so as to engage in academic delivery more efficaciously.
n) Course coordinator file should be made ready for every course of department and should be checked regularly by HoDs and Deans of the respective Faculty. It must

include list of all the faculty members teaching a particular course along with their contact details and time table information, complete lesson plan (mapped with Course outcomes) along with text/reference books/videos/learning portals and teaching material to be referred, assignment sheets with their solutions, university question papers for last 3 – 4 years with solution for conceptual, numerical and design problems, power point handouts and course notes, list of students identified as advanced and slow learners and subsequent initiatives taken. This should be followed by the inclusion of attainment and assessment of course outcome records using direct and indirect tools at the end of the semester.

o) Continuous assessment should be done through viva, quizzes, assignment, presentations as an integral part of our evaluation.

p) Students will be encouraged to enroll themselves in MOOCs for audit pass courses and credit transfer.

q) Syllabus should be covered uniformly in all the classes strictly according to the lesson plan and tutorial plan.

r) A mechanism will be in place for open/remedial classes for all slow learners to improve their result.

6. Best Classroom Practices

Each department will develop its own best practices to bring the best of teaching efficiency and effectiveness. Through these practices, students will be enabled to integrate theory with practice so that they are able to solve real-life problems though critical and innovative thinking. Each faculty member will endeavor to make the classes interactive and interesting with clear focus on the curriculum. For developing best practices, each department will continuously monitor best practices of reputed institutions both in India and abroad and absorb the same. The Deans and HoDs will identify the training needs of the entire faculty in contemporary pedagogical standards and make arrangement of the same at the departmental level. If resources do not exist, recourse may be made to the IQAC.

7. Evaluation

Evaluation is an integral part of the teaching-learning process. Evaluation of the students in the course shall be on the basis of two components unless specifically stated otherwise in the study scheme:

1) Evaluation through End Semester Examination (ESE)

2) Continuous Internal Assessment (CIA) by the teacher (s) of the course

Continuous Internal Assessment must be built into the program design as an ongoing activity rather than inserted into a particular phase. Summative assessment is a method of judging the outcome of a course/program at the end of the course/program activities. This will be taken care by the controller of examination.

Details pertaining to examination / evaluation processes must be made known to students during induction process; teachers through induction programme, regular department meetings and FDPs.

C.1 Integrated Examination Platform

The university will maintain an integrated examination platform consisting of three process stages:

Pre-Examination process

Students should be evaluated by the teacher during regular teaching:

a) **Theory Courses**: The continuous evaluation will be based on the following:

i.	Two sessional tests	60% of total marks for continuous evaluation
ii.	Assignment/Presentation/Group Discussion / Quizzes/class performance, etc.	30% of total marks for continuous evaluation
iii.	Attendance	10% of total marks for continuous evaluation

The sessional tests will be conducted in accordance with the University Academic Calendar/Institute Academic Calendar.

The breakup of evaluation pertaining to assignment/presentation/group discussion/quizzes will be as per the guidelines issued by university.

b) **Practical/Laboratory Courses:**

The teacher's continuous evaluation will be based on performance in the laboratory, viva voce, practical report file etc. and assessment will be made for each experiment separately. The breakup for continuous evaluation will be as per the following guide lines:

i.	Minimum Two viva-voce	40% of total marks for continuous evaluation
ii.	Lab record	20% of total marks for continuous evaluation
iii.	Timely conduct of experiments	20% of total marks for continuous evaluation
iv.	Attendance	20% of total marks for continuous evaluation

The departments shall organize Project exhibitions/contests to encourage students to demonstrate their problem-solving skills attained during practical hours.

C.2 Examination process

Different programmes in the University may require varied input, conceptual/analytical requirements, training/hands-on experience. The following distribution of weightage for various components of evaluation will be followed for all programmes.

a) Theory Courses

(i) End-Semester examination	50% weightage
(ii) Continuous assessment by the teacher	50% weightage

b) Practical/Laboratory Courses

(i) End-Semester examination	50% weightage
(ii) Continuous assessment by the teacher	50% weightage

c) Project Work

(i) Assessment by External Examiner	One third weightage
(ii) Continuous assessment by the teachers	Two third weightage

d) Industrial Training

(i) Assessment by External Examiner — One third weightage

(ii) Continuous assessment by the teachers/ Industry Supervisor — Two third weightage

C.3 Post Examination process

Time-bound spot evaluation should be enabled to declare results in minimum of time. Results must be notified within stipulated time on the website and individual departmental notice boards. ESE answer scripts shall be shown to the students as per the laid down SoPs of MRIIRS. Web-site is to be extensively used to disseminate information to students. The performance of a student should be evaluated in terms of two indices, viz. the Semester Grade Point Average (SGPA) for a semester and Cumulative Grade Point Average (CGPA) which is the Grade Point Average for all the completed semesters at any point in time.

The SGPA is to be calculated on the basis of grades obtained in pass grades, except audit courses, registered in the semester. The grading scheme modified as per UGC guidelines is to be used as given in Table1.

Table 1: Grading Scheme (2017 onwards)

Grade	Grade Point	Description of Performance	Range of Marks in Percentage
O	10	Outstanding	95-100
A+	9	Excellent	85-94.99
A	8	Very Good	75-84.99
B+	7	Good	65-74.99
B	6	Above Average	55-64.99
C	5	Average	45-54.99

P	4	Pass	40-44.99
F	0	Fail	0-39.99
ABS	0	Absent	
AP		Audit Pass	

$$\text{SGPA} = \frac{\Sigma (C \times G) \text{ for course with at-least pass grade in a particular semester.}}{\Sigma (C) \text{ for each semester}}$$

Where, C = number of credits of a course as per study scheme of the program

G = Grade point obtained in that particular course

The CGPA is to be calculated on the basis of all pass grades, except audit courses, obtained in all completed semesters.

$$\text{CGPA} = \frac{\Sigma (C \times G) \text{ for course with minimum pass grade in all completed semesters.}}{\Sigma (C) \text{ for all completed semesters}}$$

Where C and G will have the meanings as given above

Note: Conversion of SGPA / CGPA to Percentage Marks:
SGPA / CGPA obtained by a student shall be multiplied by a factor of 10.0 to convert it to percentage marks.

Example: SGPA / CGPA of 6.4 is equivalent to 6.4 x 10 = 64% marks.

8. **Reporting Mechanism**

Faculty members and designated coordinators for various department level teaching-learning processes shall submit the respective reports to HoD:

- Student Internship Report: Internship Coordinator
- Student Project Report: Project Coordinator
- Result Analysis Report: Departmental Result analysis coordinator
- Attainment and Assessment Report of COs and POs/PSOs: Department Academic Committee
- MOOC Credit Transfer Report: Departmental MOOC coordinator
- Report on Initiatives taken for Advanced and Slow Learners by respective Department coordinator
- Report on Overall conduct of Academic Activities during a semester- by Department Academic Committee

9. Review Mechanism

Each Department will ensure the followings:

a) Monitor the academic activity inside the class rooms regularly. The HoDs along with department academic committee must review the syllabus coverage fortnightly.

b) Motivate the students to work according to their education responsibility regularly

c) Improve the quality of teaching and obtain student feedback on course delivery twice every semester. The feedback forms shall be scrutinized and specific suggestions shall be discussed and incorporated by the Department Academic Committee. If required, shall be taken up by the Dean of the Faculty and if not resolved, shall be referred to the office of Dean Academics.

d) A chance should be given to the course wise detained students to improve their result through previous semester courses.

e) The department head shall be sending the perspective plan for next year before start of every academic year along with Action Taken Report and outcomes of the previous years' perspective plan to IQAC for its review and further recommendations.

10. Record Management

Records of all the teaching-learning and evaluation related activities conducted during a semester shall be maintained by the office of concerned Department Head for five years. All first-hand detailed records shall be managed by the office of respective Heads for further compliances.

11.Performance Review and Feedback

The Deans will monitor the quality and progress of teaching of each faculty and student feedback on the same will be obtained at appropriate times. The result of the performance review will be utilized for corrective action plan and quality improvement in the next academic cycle.

12. Exigency, if any

Notwithstanding anything stated in this Policy and Procedures, for any unforeseen issues arising, and not covered by this Policy and Procedures, or in the event of differences of interpretation, the Vice-Chancellor may take a decision, after obtaining if necessary, the opinion/advice of a Committee constituted for this purpose. The decision of the Vice-Chancellor shall be final.

For effective implementation of this Policy for Teaching Learning and Evaluation, the Standard Operating Procedures as outlined in **Annexure A shall be observed**.

Annexure A

STANDARD OPERATING PROCEDURES FOR TEACHING LEARNING AND EVALUATION

Standard Operative Procedures for Teaching-Learning and evaluation have been formulated to define the processes for the best teaching-learning practices, incorporation of student centric teaching-learning methodologies, ICT integration during classroom delivery, categorization of advanced and slow learners, planning of initiatives for customized teaching-learning methodologies, continuous internal assessment followed by the program outcome attainment and analysis processes.

For effective implementation of the Policy for Teaching Learning and Evaluation, the following SOPs for six heads shall be observed at MRIIRS:

- ✓ Planning of Teaching and Learning
- ✓ Student Centric Teaching-Learning Methodologies
- ✓ ICT integration in Teaching and learning
- ✓ Advanced and Slow Learners (Assessment Process, Initiatives and Outcome)
- ✓ Conduct of Remedial Classes
- ✓ Evaluation

A.1 Planning of Teaching and Learning

- Dean Academics shall prepare the central Academic Calendar for the upcoming semester.
- The same shall be circulated to all the departments after its due approval in IQAC/BoM, MRIIRS.
- Once the approved Academic Calendar will be received, the respective Head of the departments shall prepare an Academic cum Activity Calendar based on the academic schedule notified by Dean Academics, MRIIRS and activities planned at the departmental level.
- It must cover up the roadmap for conducting FDPs, Conferences, Workshops, and Industrial visits for students, Departmental meetings with class representatives and other day to day activities for students (co-curricular/extra-curricular/entrepreneurship related activities) planned for the semester as per the approved Strategic Perspective Plans of the

Department.

- Department Academic Committee shall monitor delivery of lectures by faculty members to ensure proper/ smooth conduct of classes, incorporation of student centric teaching learning methodologies, ICT based teaching learning, conduct of regular meetings with class representatives, uploading of all relevant documents including teaching plan mapped with COs/Bloom's level, course contents, assignments/tutorials, continuous assessment marks, analysis of department teaching learning processes, feedback and outcome analysis.

A.2 Student Centric Teaching-Learning Methodologies

All teaching departments at MRIIRS shall work towards developing knowledge and skills through experience and participation instead of explaining knowledge/skill, to produce students who are good critical thinkers and problem solvers. Departments shall incorporate student centric learning methodologies which involves students as active learners and helps them to evolve as critical thinkers and problem solvers instead of being a passive learner. At least 30 percent of teaching shall be through participative, experiential and problem-solving based learning methodologies including peer learning.

- Course coordinators shall prepare their comprehensive lesson plan mapped with respective course outcome statements while mentioning the mode of delivery.
- The same shall be uploaded to EMS after planning the sessions as per the approved Academic Calendar.
- The HoD shall check the uploaded session plan particularly for mentioned mode of delivery and approve the session plan on EMS before the commencement of classes.
- Department Academic Committee shall monitor the compliance of session plan incorporating student centric teaching-learning methodologies and submit the report to HoD. DAC members must monitor the exposure of students to case studies, major design experiences in their area of interest to complement their problem-solving skills acquired in earlier course work and provide them a platform for collaborative & life-long learning.
- HoD shall appoint the industrial visit coordinator, summer internship coordinator, Student's event coordinator, feedback coordinator etc. before commencement of the classes.

- Departments shall organize at least one industrial visit for students of each semester, industrial visit coordinator will submit the proposal for subsequent approval.
- Internship coordinator must guide students for summer internships at industry and institution.
- Student's event coordinator must coordinate to organize regular expert talks, seminars, conferences, quizzes, club activities, Soft skill and Personality development classes, Experience sharing sessions with Entrepreneurs etc. for students to complement the classroom-based curriculum delivery.
- Department project coordinator must guide students to showcase their project designing and development skills at various National and International Platforms.
- Each coordinator shall present his/her annual plan during the month of April/May so that the approved plans will be included in the Department's Strategic Perspective Plan.
- Post event report shall be submitted to HoD by respective coordinators.

A.3 ICT integration in Teaching and learning:

The university campus is equipped with all the latest ICT amenities for the benefits of the students and faculty members. Use of ICT tools and e-resources must be ensured in teaching and learning by all the departments. Classroom-based curriculum delivery must incorporate atleast 50 percent of delivery through ICT based tools and e-resources.

- ICT tools like projectors, virtual classrooms, supplementary audio-video and e-resources must be incorporated in to teaching and learning.
- Teachers must improvise e-learning resources like National Program on Technology Enhance Learning (NPTEL), NITTTR Chandigarh Technology Enabled Learning (NCTEL), MOOCs through SWAYAM/Coursera/edx, spoken tutorials, virtual labs etc in teaching-learning methodologies while promoting blended learning.
- GM IT and team shall ensure that students must get all ICT support in the classrooms and be encouraged to perform as digital learners. All students must be provided with lifetime institutional email IDs along with and other e-resources for not restricting their usages within campus computer labs. All staff and faculty members must be provided with official email IDs and IDs for conducting internet based online remote classroom to

the students.

- Faculty members, research scholars and students must be provided with plagiarism monitoring facility by the library officials.
- Each course coordinator will ensure that students must be made available with the learning material for each course via: the syllabus, assignment / tutorial sheets and lecture notes through education management system.
- Regular trainings on the latest system, use of the available IT infrastructure, uploading of course contents, lesson plans and creation of assignments/ tutorials, question banks, marking of assignment/tutorials, attendance record maintenance, attainment of course and program outcomes, conduct of surveys for indirect attainment etc must be conducted by IQAC for faculty members to make them understand all the existing and new modules of education management system.
- Faculty members must work towards the development of e-content of their respective courses.

A.4 Advanced and Slow Learners (Assessment Process, Initiatives and Outcome)

MRIIRS has undertaken and institutionalized adequate mechanisms for assessment of the learning capabilities of the admitted students on continuous basis to deal with student diversity and to bring about inclusivity. Through this policy document, the University pronounces its commitment to train and equip both advanced and slow learners along with average performers to enable them to embark on a successful career.

Throughout this exercise, an utmost care needs to be taken to ensure that this does not lead to any decrement in the morale and disposition of the slow-learners. This endeavor must be aligned as a path-correction rather than pointing out to slow-learners any kind of incompetence or inadequacy.

4.1 Assessment Mechanism

The assessment mechanism shall involve two levels as tabulated in Table 1. At entry level, the learning levels of admitted students will be assessed on the basis of their merit/performance in the qualifying examinations.

Subsequently, the second level of learning level assessment of the students will be on the basis of their examination results (Sessional Examinations, preceding End Semester Examination) at different stages and classroom performance. During the course of any semester, performance will be analyzed as per the criteria defined in Table 1, to plan and implement actions for subsequent performance improvement during the semester. The progression of achievements of students with respect to previous semesters shall be recorded to assess their advancements and subsequent interventions.

Table 1: Assessment of Learning Levels of the students

Assessment of Learning levels at:	**Assessment Parameters**	**Weightage**
Entry level Top 10-15% students: Advanced learners Bottom 10-15% students: Slow learners	Student's Academic Performance in the qualifying examinations.	---
Later stages This analysis is done for all students of each class. If the total assessment marks are less than or equal to 40%, the student will be identified as slow leaner and if it is equal or greater than 75%, he/she will be identified as advanced learner.	Preceding University End Semester Examination	20%
	Performance in Sessional Test-I /lab semester viva-I/ semester-research presentation-I/ semester-seminar presentation-I.	60%
Note: In case, no student fits in the above-mentioned window, department may categorize students as per the following criteria: On the basis of total assessment marks- Top 10-15% students: Advanced learners Bottom 10-15% students: Slow learners	Course teacher observation (Teacher assesses each student on the qualitative scale of 1 to 10)	20%

a. Proforma for identification of Advanced and Slow learners (Entry Level)

Programme: **AY:**

Student Name	Roll No.	Marks/CGPA in Qualifying Exam

List of Advanced Learners		List of Slow Learners	
Student Name	**Roll No.**	**Student Name**	**Roll No.**

b. Proforma for identification of advanced and slow learners (Later Stages):

Course Title: **Programme:**

Course Code: **Semester:**

Student Name	Roll No.	SGPA (20% weightage)	Sessional-1 marks (60% weightage)	Course Coordinator Evaluation (20 % weightage)	Total assessment marks

List of Advanced Learners		List of Slow Learners	
Student Name	**Roll No.**	**Student Name**	**Roll No.**

If the total assessment marks are less than or equal to 40%, the student will be identified as slow leaner and if it is equal or greater than 75%, he/she will be identified as advanced learner. In case, no student fits in the above-mentioned window, department may categorize students as per the following criteria:

On the basis of total assessment marks-

Top 10-15% students: Advanced learners

Bottom 10-15% students: Slow learners

4.2 Guidelines for initiatives to be planned for Advanced and Slow learners

To improve teaching-learning outcome, certain initiatives must be planned for both the identified groups at departmental level. Within one week of start of session, HoD will designate a coordinator and assign additional responsibility for categorization of Advanced and Slow learners as per defined SoPs and submission of subsequent action plan. Coordinator shall submit the list of advanced and slow learners and action plan to HoD for perusal after deliberations with respective course coordinators.

4.2.1 Initiatives for Advanced Learners:

- Additional mentoring sessions to become excellent achievers
- Scholarships and appreciation awards
- Problem solving based advanced assignments including those with a higher degree of difficulty
- Encouragement to participate/coordinate Seminars/ Workshops/ Conferences/ Technical Project Competitions/ quiz-debate competitions/ group discussions to further improve their logical, analytical and presentation skills
- Industry sponsored projects/internships
- Encouragement to lead student council/research project development group/ student technical clubs/ editorial board of student magazine and related activities
- Motivation to write and present quality research papers, to enroll in and complete MOOCs/Value Added Courses as per the laid down policies and SoP's
- Advanced coaching/guidance sessions for preparation of higher-level competitive examinations.
- Provision to provide Seed money for implementation of their innovative proposals, financial aids to participate in the National/International level competitions
- Conduct of crash courses and pre-placement mock interview sessions to brush up their technical, aptitude and soft skills
- Guidance and support to register Start-ups/file patents/copy rights

4.2.2 Initiatives for Slow Learners:

- Without adversely affecting their morale, special one-to-one academic and personal counseling sessions would be organized with individual course teachers, mentors and head of the departments to motivate and counsel them.
- Additional attention would be given during the tutorial classes being having less strength as compared to normal lectures
- Conduct of remedial/extra classes. Schedule for these classes would be prepared and shared beforehand.
- Additional course notes to improve basic understanding of the course
- Conduct of open-books class tests, sessions to solve previous year university question papers, question banks
- Introduction of peer group learning during lab and tutorial hours with one advanced learner and two-three slow learners in a group
- Encouragement to attend expert talks, alumni lectures, motivational talks and skill-oriented workshops

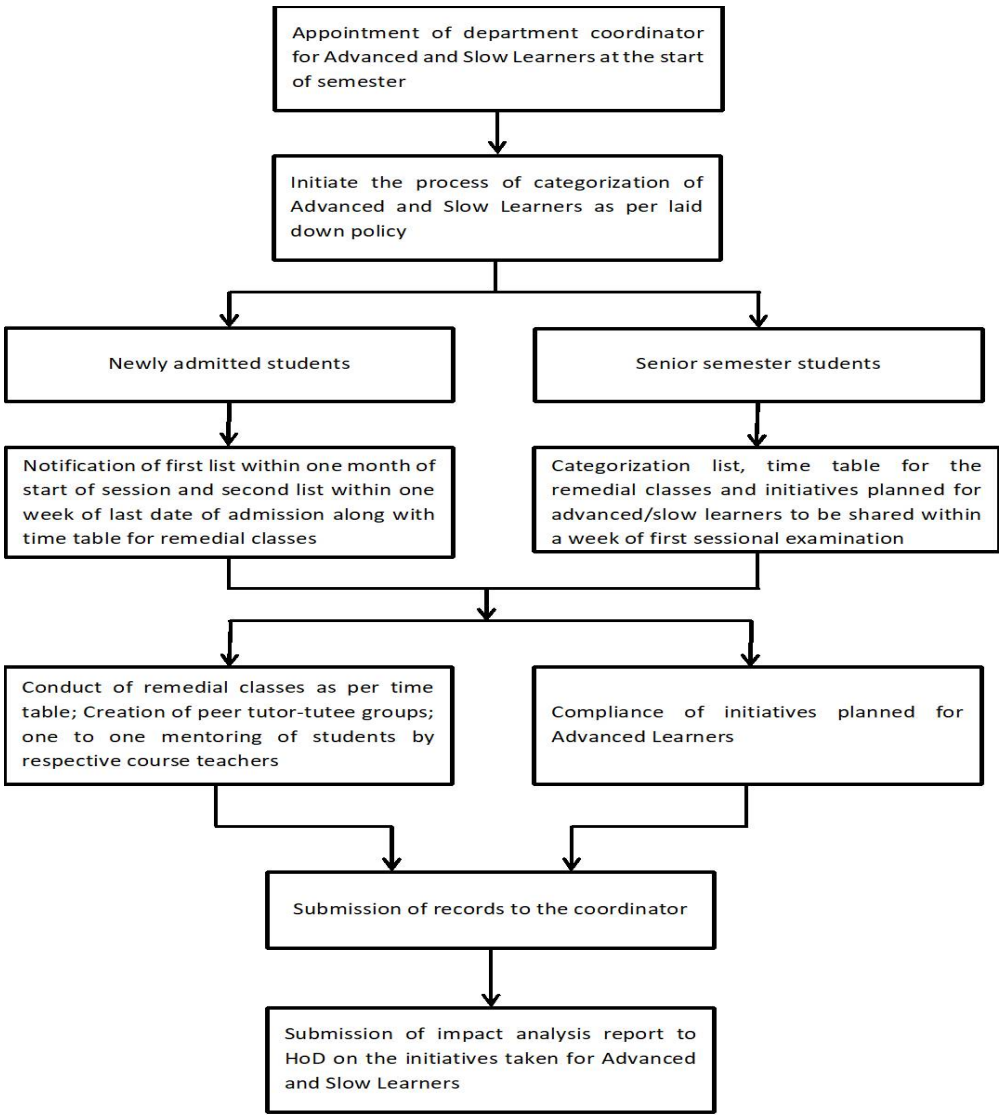
4.2.3 **Record documents**:

- Each course teacher will maintain List of advanced and slow learners
- Reports of performance/marks as per assessment parameters-course wise
- All records including schedule, details and report with pictures for all the activities conducted for advanced and slow learners
- All records of remedial/extra classes conducted for slow learners.
- Record of assigned tasks to advanced learners.
- Student progression reports indicating performance improvement of slow learners and excelling achievements of advanced learners to close the loop.
- Depending upon the progression reports of already enlisted students under these categories and on the basis of above listed parameters, the list of such students may be revised

All these activities would be reported to the respective HoD by the overall coordinator for advanced and slow learners. The consolidated report wrt initiatives taken for advanced and

slow learners shall also be submitted to the HoD by the overall coordinator. All these activities shall be closely monitored by the office of Dean Academics.

Apart from these customized teaching-learning strategies for advanced and slow learners, the average learners (with assessment score greater than 40% and less than 75%) would be given equal opportunities to excel their talent and be part of all the activities being conducted in the department/University including career counselling, competitive guidance, enrollment in MOOCs/value added courses, participation in expert talks/workshops, research paper writing guidance and publication, personality development classes, enrollment in crash courses for preparation towards placement etc.



Additional Proforma:

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES
(Deemed to be University)
Faculty of …….
Department of ……..

Additional Mentoring Session

Course Title: **Date:**

Student Name	Student Roll No.	Discussion Points	Signatures

Name and signatures of Course Coordinator

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES
(Deemed to be University)
Faculty of …….
Department of ……..

Session Plan for Remedial Classes

Course Title: **Course Code:**

Sessions Planned for Remedial Classes	**Proposed Date of Conduct**

Name and signatures of Course Coordinator

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES
(Deemed to be University)
Faculty of …….
Department of ……..

Activities Planned for Advanced Learners

Course Title: **Course Code:**

Activities Planned	Proposed date	Remarks

Name and signatures of Course Coordinator

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES

(Deemed to be University)

Faculty of …….

Department of ……..

Activities Planned for Slow Learners

Course Title: **Course Code:**

Activities Planned	Proposed date	Remarks

Name and signatures of Course Coordinator

A.5 Conduct of Remedial / Extra Classes

a) At entry level (for newly admitted students, identified at entry level on the basis of qualifying exam marks), first list will be notified within one month of start of session and second list within one week of last date of admission. Extra classes for slow learners must be planned at department level to reiterate the concepts and help them to enhance their learnings. Time table for extra classes to be notified accordingly. Respective course coordinators will prepare and get approved their session plan from HoD. Subsequently they will conduct their classes as per the plan and submit the report to overall coordinator for advanced and slow learners. Coordinator will submit the report to the department head.

b) Remedial classes will also be conducted for slow learners of subsequent semesters on the basis of student's performance in the preceding End Semester Examination, first sessional examination and class performance as per the devised assessment mechanism (Table 1). Overall coordinator shall submit the list of advanced and slow learners alongwith action plan within a week of conduct of first sessional examination. Time table of remedial classes for slow learners shall be notified accordingly. Respective course coordinators will prepare and get approved their session plan from HoD. Subsequently they will conduct their classes as per the plan and submit the report to overall coordinator for advanced and slow learners. Coordinator will submit the report to the department head.

c) A chance would be given to the course wise detained students (students who got attendance less than 75% - a minimum attendance percentage to be eligible to appear for end semester examination) to improve their result through previous semester classes instead of summer semester. (Annexure B: Guidelines for conduct of Previous Semester Courses)

These classes shall be conducted during working Saturdays/normal working days (Monday to Friday) over and above the normal classes schedule for the students.

6. Evaluation:

Evaluation is an integral part of the teaching-learning process. Evaluation of the students in the course must be based on the 2 components unless specifically stated otherwise in the study scheme:

1) Evaluation through End Semester Examination (ESE)

2) Continuous Internal Assessment (CIA) by the teacher (s) of the course

Continuous Internal Assessment must be built into the program design as an ongoing activity rather than inserted into a particular phase. Summative assessment is a method of judging the outcome of a course/program through ESE at the end of the course/program activities (taken care by Controller of Examination). The assignments, tutorials and question papers of sessionals/ end semester exams must be set that include questions of different difficulty levels to evaluate the student performance. Details pertaining to examination / evaluation processes must be made known to students during induction process; teachers through induction programme, regular department meetings and FDPs.

Both direct and indirect assessment tools (direct-CIA &ESE and indirect-surveys) must be used to evaluate student learning and attainment of course outcomes. Direct tools must consider cumulative continuous internal assessment methods (Assignments, Sessional tests, Seminars, Practical's, Presentations etc) and end semester examinations. Evaluation of each course must be done by the respective course teacher throughout the semester. Each theory and practical course must include internal as well as external assessment covering following parameters:

- Teacher's assessment: This must include assignments, tutorials, quiz, viva voce and lab report for practical courses etc.
- Sessional Test-1 and 2.
- End semester examination
- Technical Seminars, Colloquium and Projects
- Industrial Training: Assessment of training primarily must include feedback from the industry mentor and in-house faculty mentor. Presentations must also be organized to assess the performance.
- Course Rubrics: These course specific evaluation charts must be prepared by each course coordinator to assess student's performance consistently for COs (course outcomes) analysis for lab courses, projects, colloquium, industrial internship etc and subsequent PO/PSO (program outcome/program specific outcome) attainment. The scores (1, 2, 3, 4) would be awarded on the basis of their 'unsatisfactory', 'developing', 'satisfactory', and 'exemplary' performance in respective attributes. For students having scores less than or equal to 2, a subsequent action shall be initiated by the respective course instructor.

Assignments / Tutorials Setting & Evaluation: Assignments/tutorials contribute 40% of the total marks for continuous internal assessment (CIA).

- Assignment questions must be framed using Bloom's taxonomy and must be mapped with Course Outcomes (COs).
- Assignment/tutorial sheet issue and submission dates must be intimated to students.
- Assignments/tutorial sheets must be discussed & evaluated during tutorial sessions.
- The issuing, submission and evaluation of assignments/tutorial sheets must be done on the EMS.

Internal Sessional Test Setting & mid-semester Evaluation:

- The department must conduct two internal sessional tests as a part of CIA.
- Each test must cover 50% of the syllabus.
- Two Sessional tests must contribute 60% of the total marks for CIA.
- Question papers must be prepared by the course coordinator in consultation with all the faculty members teaching the course.
- All previous year university exam papers may be referred while preparing question papers.
- Question papers must be set by keeping in mind the different toughness levels according to Bloom's taxonomy.
- All questions must be mapped with the Course Outcomes (COs).
- The departments must organize Project exhibitions/contests to encourage students to demonstrate their problem-solving skills attained during practical hours.

Steps to be followed for Industrial Internship Evaluation

- Constitution of Department Internship Committee (DIC)/ Appointing Overall Internship Coordinator.
- Notification by Overall Internship Coordinator to students- To collect Request letters in case they want to pursue at their level.
- Request Letter to be signed by respective HoD in the name of specific Organization/ Company in which he/she wants to undergo an industrial training.
- Office copy of the letters sent by the various companies requesting permission for the industrial training to be maintained by Overall Project Coordinator.

- Letter of Acceptance/ Permission issued by the company along with requisite detail of the company, contact person in response to the request letter issued by the University.
- Notification for meeting of the DIC for analysis of acceptance and giving its recommendations for approving the case to undergo Industrial training in the company.
- Submission of recommendations of DIC quoting the date of its meeting: Name and Roll No. of student: approved company for training.
- Letter of Approval in the name of company / organization to individual student for undergoing Industrial Training in that specific company under signature of HOD along with schedule of training: Date of Start, Duration, Mid Review, Copy of Feedback report format etc.
- Notification by HoD for meeting of DIC for finalizing the list of faculty members assigned the duty for supervision of Industrial Training
- Notification by the Overall Internship Coordinator notifying the list of faculty members assigned the duty for supervision of Industrial Training with their roles and responsibility
- Notification by HoD/ Overall Internship Coordinator for meeting with DIC to finalize the schedule for Mid- review of Industrial Training of all the students.
- Evaluation shall be as per the approved scheme and syllabus of respective program.
- Notification of Mid- review of Industrial Training of all the students undergoing Industrial Training along with signature and stamp of HOD or Overall Internship Coordinator with a copy to all designated faculty supervisor to further communicate with their respective assigned students.
- Notification by HoD/ Overall Internship Coordinator for meeting with DIC to finalize the schedule for Final Viva and Presentation of Industrial Training of all the students
- Notification Final Viva, Presentation and submission of Internship Report of Industrial Training of all the students along with signature and stamp of HOD or Overall Internship Coordinator
- Internship Reports of the students and Certificate of Successful Completion and Feedback Report from the Industry (duly signed and stamped) issued to the students.
- Preparation and submission of consolidated report to IQAC.

Steps to be followed for Project allocation and progress evaluation:

a. Process to be followed for identification and allotments of projects:

- Notification for constitution of Departmental Project committee (DPC)/ an overall project coordinator and co-coordinators, id required.
- The committee is to be constituted of one senior Professor and two /three faculty members from the department.
- A pool of proposed projects to be prepared by overall project coordinator and notified to students based on ideas collected from domain experts in the department. Alternatively, a student may identify the topic or may bring his/her own idea. Further, student needs to obtain a consent of the department faculty members for supervision.
- Notification of meeting of DPC by HoD to review the list of project proposals received
- Final approved Project Topics List with names of students, their groups and the names of Supervisors to be notified by the HOD after consultation with DPC.
- Notification by overall coordinator for students to do extensive literature survey as it is the most important part which gives a direction to the area of research and to present their ideas through power point presentations to DPC and project guides.
- Notification by overall coordinator to students to submit project synopsis to the project guide. Synopsis is an 8 to 10 pages document which briefly outlines the technical area, literature reviewed, objective, methodology, block diagram, work flow graph and software / tools to be used along with the application areas of the project.

b. Continuous Monitoring Process

- The student group is required to work on their topic of interest, and is required to have regular meetings with the project guide to discuss the project work.
- The Project Coordinator will closely monitor the progress of every student in consultation with the project guide.
- Project-Diary needs to be mandatorily maintained; where in all day-to-day activities of the project will be recorded. The inspection of the Project-Diary will also be done regularly to get a detailed account of how the project is progressing.
- The evaluation of the project will be done centrally by the DPC. Committee will conduct the Mid-Term review as well as the Final assessments of the project. The committee will also monitor the progress in between, through making regular contact with the project

coordinator and the guide.

- The assessment done by DPC will become the basis for final grades. All those projects, which will be running slow and not progressing well, will be kept under close watch with periodic warnings being issued to the concerned students.
    - Notification Final Viva, Presentation and submission of Project Report of all the students along with signature of HOD or Overall Project Coordinator
    - Preparation and submission of consolidated report to IQAC.

Pre-End Semester Examination Process:

- End Semester Examination (ESE) will be scheduled and conducted by the controller of examination (CoE).
- Chief Superintendent and Superintendents will be appointed for each Faculty.
- Examination date sheet will be prepared and notified by the controller of examinations well in advance.
- The format of ESE question papers must be shared with the students. Bloom's taxonomy must be followed for designing the questions.
- The question bank consisting of previous years question papers must be provided to the students.
- List of registered students for each paper must be compiled to issue the admit cards well in advance.

Transparency in the evaluation must be ensured through:

a. Uploading of continuous internal assessment marks and end semester examination marks on education management system (EMS)
b. Showing of end semester examination - Answer scripts to the students (as per laid SoP's of the University-as included in the Examination Manual)
c. Course outcomes, Program outcomes/Program specific outcomes attainment and analysis on EMS. Each department shall prepare and maintain a Process Manual for Assessment and Attainment of COs and POs/PSOs for each batch of students. (**Annexure C-** COs-POs/PSOs Assessment and Attainment Process Manual)
d. The recommendations of Department Academic Committee on attainments and actions planned shall be submitted for review of IQAC members.

Annexure B:

Guidelines for Conduct of Previous Semester Courses

All in-eligible/detained students (on the basis of shortage of attendance) including the students of previous batches/semesters who were declared in-eligible/detained, shall be required to enroll as per the following stated provision.

• The courses of previous semesters for such students shall be planned and offered either during normal working days (Monday to Friday) over and above the normal courses scheduled in that semester as per study scheme or during working Saturdays for faculty and staff of MRIIRS i.e. odd Saturdays of a month as per the available resources.

• The courses of previous semesters to be offered shall be notified by the respective HODs depending upon available resources.

• The timetable of PSCs courses should be made available and communicated to the students to enable them to choose the courses out of offered PSCs courses without any clash in the timetable of courses to be opted by them.

• Such students can enroll for different courses out of offered courses of previous semester(s)by doing online registration on ERP Portal visible under PSCs category courses in the coming semester/ subsequent semesters.

• Out of the offered courses under PSCs category, a student can enroll for PSC courses per semester including lab courses with the maximum limit for registration of courses including PSCs, if any, shall remain 30 credits.

The student who meets the minimum required attendance criteria for each course after attending the classes and completes the other conditions of submitting the assignments etc. for a particular course shall be declared eligible for appearing in the end semester examination thereafter.

Annexure C:

COs-POs/PSOs Assessment and Attainment Process Manual

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES, FARIDABAD

PROCESS MANUAL: ASSESSMENT AND ATTAINMENT OF LEARNING OUTCOMES (ASSESSMENT PROCESS, INITIATIVES AND OUTCOME)

The university will maintain a rigorous regime of teaching-learning processes with most creditable evaluation systems. The purpose of assessment of teaching, learning and evaluation process will be able to demonstrate to all of its stakeholders, especially students, employers, community organizations and regulatory bodies, that the program outcomes of its academic programs are sound and that its teaching activities are designed to provide equivalence in learning experience and outcomes. In line with the Institution's Vision and Mission, Academic programmes in the University shall be outcome based. The curricula based on outcome-based education will be aligned towards the attainment of Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs). Outcome based education is objective and outcome driven, its every stated objective and outcome can be assessed and evaluated. It is centred around the needs of the students and stakeholders. The student centric teaching-learning methodologies shall be integrated to complement traditional methods.

The university departments shall focus on student learning by:

- Using Learning Outcome Statements to make explicit what student is expected to be able to know, understand and do
- Providing learning activities which will help the student to reach these outcomes
- Assessing the extent to which the student meets these outcomes through the use of explicit assessment criteria

The implementation of outcome-based education involves:

1. Establishment of Mission statements, Program Educational Objectives
2. Mapping of Mission Statements with Program Educational Objectives (PEOs)
3. Defining POs with Bloom's Taxonomy
4. Mapping Program Educational Objectives with POs
5. Defining CO (Course Outcomes) with Bloom's Taxonomy for each Course
6. Mapping COs with POs to create articulation table
7. Mapping contents and Assessment Pattern with COs of each course
8. Defining pedagogical tools for course outcomes delivery
9. Preparing session-wise Course Lesson Planner
10. Mapping Questions with CO's at Bloom's Taxonomy levels & Assessments
11. Defining rubrics with Bloom's Taxonomy and COs

12. Tracking students' performance by proposing proper remedial measures
13. Measuring students' performance against COs threshold, course-wise
14. Measuring the attainment of each CO through Direct/Indirect assessments
15. Measuring students' performance against POs threshold, semester-wise
16. Measuring the attainment of each PO through Direct/Indirect assessments
17. Analyzing PO attainment and propose remedial actions
18. Planning continuous quality improvement action
19. Assessing the attainment of Program Educational Objectives

Each University department will:

a. Ensure that the quality of the education it provides is of the highest standard and commensurate with the expected standards.
b. Continuously improve the quality of the education it offers to students and
c. Implement IQAC approved policies and procedures to enable it to fulfill regulatory bodies requirements in relation to educational quality and academic standards.
d. Maintain Course Outcomes (COs)-Program Outcomes (POs)/Program Specific Outcomes (PSOs)-Program Educational Objectives (PEOs) assessment and Attainment manual.

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH AND STUDIES

(Deemed to be University under section 3 of the UGC Act 1956)

FACULTY OF ……..

DEPARTMENT OF ……

COs-POs/PSOs-PEOs Assessment and Attainment Process Manual (AY…….)

INDEX

1. INSTITUTE VISION AND MISSION

Vision of the Institution:

Manav Rachna International Institute of Research and Studies (Erstwhile Manav Rachna International University) is dedicated and committed to train and equip its students with the latest knowledge and skills in the chosen fields in the backdrop of Indian ethos and values to enable them to face any global challenge with a view to transforming them into insightful, honorable and responsible citizens of this great country and imbibe a work culture of theoretical and applied research leading to creation and dissemination of knowledge.

Mission of the Institution:

To provide an environment in which teachers love to facilitate and students love to learn, consisting of infrastructure facilities at par with the best institutions in India and abroad. The aim is:
(i) To inculcate skills and impart knowledge to the ignited minds in the fields of science and technology and soft skills including leadership, team building and communication.

(ii) To create human beings with golden heart who work and dedicate themselves for the advancement of humanity.

(iii) To undertake research and development activities in collaboration with the world of work leading to creation of new knowledge in the fields of science, commerce, engineering and technology, management, health sciences and therapies, sports, multi-media, applied and performing arts.

The mission is fully reflective of the distinguishing characteristics of the university in terms of societal needs, the target student population groups and the values and vision of the institution. The university is active in meeting its institutional responsibilities and has a wide range of technical, professional and general courses which address the different needs of the society. The university places high importance on moral and ethical values. Institutes tradition and value orientation is also imparted through its course on Holistic Wellness and Life Skills which is taught in all departments of the university.

2. DEPARTMENT VISION AND MISSION

Vision of the Department:

Mission of the Department:

3. PROGRAM EDUCATIONAL OBJECTIVES

The Department of …….. keeping in view interests of all their stakeholders have formulated the Program Educational Objectives (PEO's) that are comprehensive statements describing the career and professional accomplishments that the program is preparing the learner for.

Department's Program Educational Objectives (PEOs) are derived from the Department's Vision and Mission.

PEO's of ……. Program in …….. are:

PEO 1:

PEO 2:

PEO 3:

PEO 4:

PEO 5:

The Program Educational Objectives of ……..Program are consistent with the Mission of the ……. department of Manav Rachna International Institute of Research & Studies (MRIIRS), and the PEOs flow naturally from the Missions of MRIIRS.

4. PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

Department POs & PSOs are listed as below:

PO1

PO2

PO3

PO4

PO5 and so on

PSO1

PSO2

PSO3

5. MAPPING OF DEPARTMENT MISSION STATEMENTS AND PEOS

The matrix showing mapping of mission statements of the department with PEOs is as below:

PEO Statements	Mission 1	Mission 2	Mission 3
PEO1:	**3**	**2**	**-**
PEO2:	**-**	**1**	**-**
PEO3:			
PEO4:			
PEO5:			

The PEO-Mission statements mapping is described by its 'Affinity (correlation)' level as following:
---Low (Slight): 1
---Medium (Moderate): 2
---High (Substantial): 3

6. MAPPING OF PROGRAMME EDUCATIONAL OBJECTIVES TO PROGRAM OUTCOMES/ PROGRAM SPECIFIC OUTCOMES

The matrix showing mapping of POs/PSOs of the department with PEOs is as below:

POs / PEOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
PEO 1	3	2	-	-	-	-	-	1	2	-	-	-	-	-	-
PEO 2															
PEO 3															
PEO 4															
PEO 5															

The PEO-POs/PSOs mapping is described by its 'Affinity' level as following:
---Low (Slight): 1
---Medium (Moderate): 2
---High (Substantial): 3

7. DEFINING COURSE OUTCOMES AS PER BLOOM'S TAXONOMY AND MAPPING WITH POs/PSOs

Course outcomes are the measurable statements defined (as per Bloom's Taxonomy) for each course that indicates the student's ability of learning at the successful completion of the course. This section includes course outcomes and respective course articulation matrix for each course of the programme. The course articulation matrix describes CO-PO/PSO mapping and will be done by course coordinator. Course articulation matrix is prepared for each course by mapping the correlation strength (1,2,3) to each course outcome defined for a particular course with all the program outcomes and program specific outcomes. Followed by this, a program articulation matrix shall be prepared for all courses in a program.

Course Title: **Course Code:**

Course Outcomes: The students will be able to:

BCH-100.1 describe ……..

BCH-100.2 evaluate ……..

BCH-100.3 identify ……..

BCH-100.4 illustrate ……..

BCH-100.5 explain ……..

BCH-100.6 classify…….

Course Articulation Matrix:

CO Statement (BCH-100)	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
BCH-100.1	3	3	1	2	-	-	-	-	-	-	-	2	-	2	-
BCH-100.2	-	-	2	-	2	-	-	-	-	-	-	-	-	-	-
BCH-100.3	-	3	-	2	-	-	-	-	-	3	-	-	-	1	-
BCH-100.4	2	-	1	-	2	-	-	-	-	-	-	2	-	1	-
BCH-100.5	-	-	2	-	-	1	-	-	-	-	-	-	-	-	-
BCH-100.6	1	-	1	-	1	2	-	-	-	2	-	-	-	1	-

The CO-POs/PSOs mapping is described by its 'Affinity' level as following:

---Low (Slight): 1

---Medium (Moderate): 2

---High (Substantial): 3

Similarly, all courses are to be added.

8. CREATION OF PROGRAM ARTICULATION MATRIX

Program articulation matrix describes CO-PO/PSO mapping for all the courses:

Course Code	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO 3**
BCH-100	✓	✓	✓	✓	✓	✓	-	-	-	✓	-	✓	-	✓	-

9. RELATIONSHIP BETWEEN COs-POs/PSOs AND PEOs

The outcomes shall be computed and assessed at three different levels. First level is course level, Course outcomes assessment and attainment analysis is done at the completion of each course. Second level includes Program Outcome/Program Specific outcome assessment and attainment that is done at the completion of degree Programme. This will be followed by the assessment and attainment computation of Program Educational Objectives within 3-5 years of graduation. This indicates the ability of graduated students to utilize their acquired skillset while performing at different levels during his/her early professional career of 3 to 5 years.

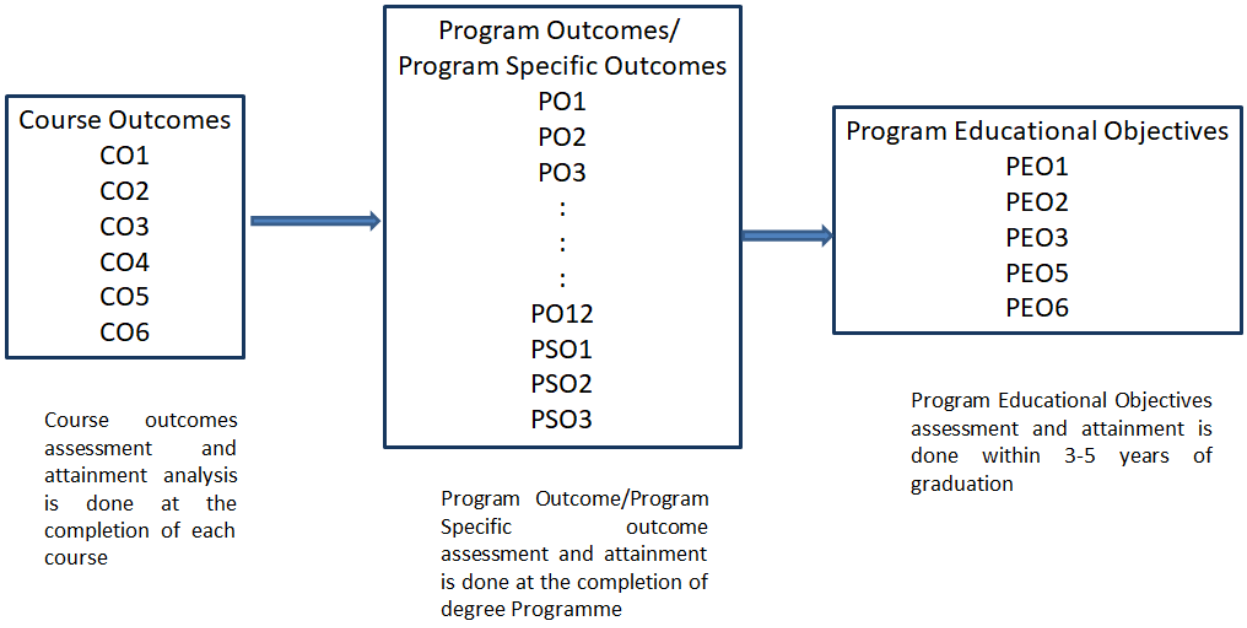


Fig 1 Levels of Outcome attainment

Keeping in view interests of all their stakeholders, departments have formulated the Program Educational Objectives (PEOs) that are comprehensive statements describing the intending career and professional accomplishments for the student.

- Program Outcomes and Program specific Outcomes (POs and PSOs) are then devised which describe what students are expected to know or will be able to do when they graduate from a program.

-Mapping of Program Education Objectives (PEOs) with Program Outcomes and Program specific Outcomes (POs& PSOs) is done in the curriculum structure.

10. FACULTY INVOLVEMENT

The course coordinators would frame measurable CO statements in consultation with involved course teachers, complete CO-PO mapping and compute CO attainments for subsequent analysis at course level. They would submit CO attainment and subsequent action recommendations to the Year wise coordinators. They will consolidate the year wise CO attainment along with recommended actions. The department academic committee under the guidance of Head of Department would consolidate CO-PO attainment and later PEO attainment, plan overall action recommendations and share with Board of studies for further action.

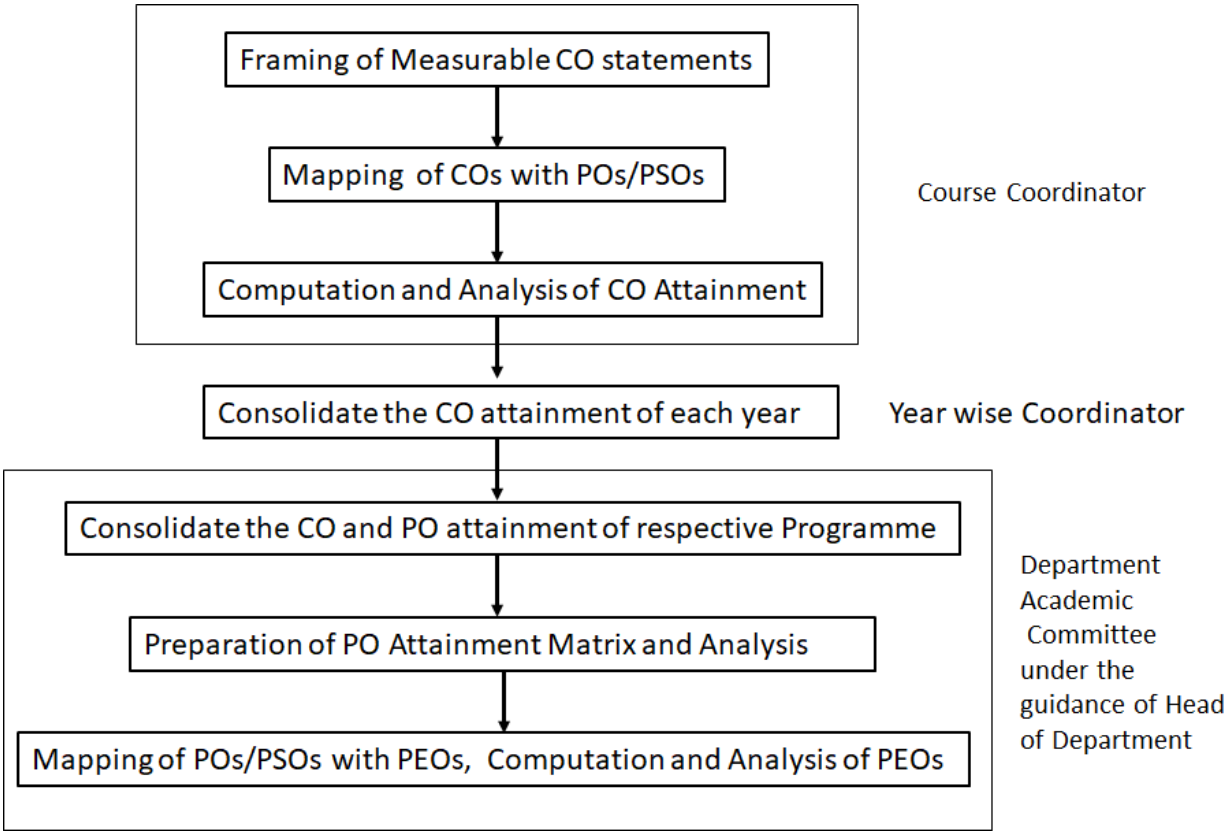


Fig 2 Faculty involvement at different levels

11. ASSESSMENT TOOLS AND PROCESS FOR COURSE OUTCOME ATTAINMENT

11.1 Assessment Tools for CO Attainment:

Direct and indirect both assessment tools shall be used for data collation. The weightage for direct and indirect methods fixed will 80% and 20%, respectively. Direct tools shall include cumulative continuous internal assessment methods (Assignments, Sessional tests, Seminars, Practical's, Presentations etc) and end semester examinations. Indirect tools will include course exit survey. The process to be followed for course outcome attainment is depicted in Fig 3.

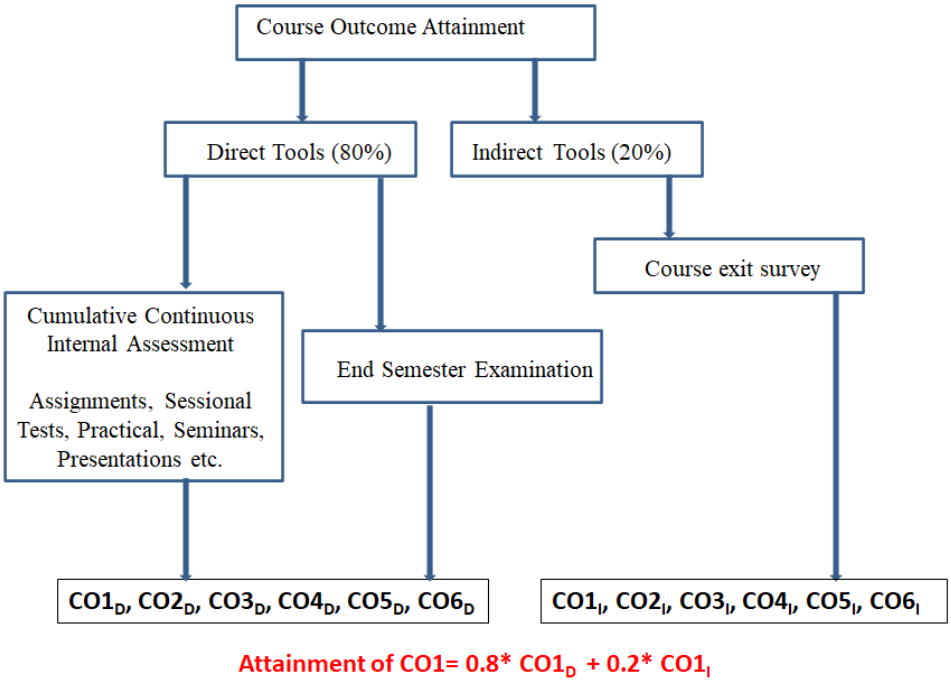


Fig 3 Assessment tools for Attainment of Course Outcomes

Different assessment tools help in evaluating student learning and attainment of course outcomes. Credit based continuous evaluation system shall be followed at the university. Evaluation of each course would be done by the respective course teacher throughout the semester. Each theory and practical course have internal as well as external assessment covering following parameters:

- Teacher's assessment: This includes assignments, tutorials, quiz, viva voce and lab report for practical courses etc.
- Sessional tests.
- End semester examination
- Technical Seminars, Colloquium and Projects
- Industrial Training: Assessment of training primarily includes feedback from the industry mentor and in-house faculty mentor. Presentations shall also be organized to assess the performance.

- Course Rubrics: These course specific evaluation charts shall be prepared by course coordinators to assess student's performance consistently for CO and subsequent PO attainment analysis for lab courses, projects, colloquium, industrial training etc. The scores (1, 2, 3, 4) would be awarded on the basis of their 'unsatisfactory', 'developing', 'satisfactory', and 'exemplary' performance in respective attributes. For students having scores less than or equal to 2, a subsequent action shall be initiated by the respective course instructor.

11.2 Process to measure CO attainment:

- Question papers of theory exams shall be mapped with each course outcome for internal sessional test and end semester examination.
- Assignment/tutorial questions shall be mapped to respective course outcomes.
- Question wise marks shall be recorded for internal sessional tests, assignment/tutorials and end semester examinations from evaluated answer sheets.
- A course wise database shall be prepared to map marks obtained in each question attempted corresponding to a particular CO.
- For Lab courses/projects/colloquium/industrial internship, experiments and respective modules shall be mapped to designed course outcomes. Rubrics shall also be used for these courses.
- For direct attainment, All the questions will be clubbed CO wise, threshold (say of 60%) can be set initially for each question and the number of students scoring more than threshold in respective questions shall be counted and divided by total number of students to compute the direct CO attainment in particular question. This will be followed by the computation of Average CO.
- This will provide the direct attainment of Course outcomes.
- For computation of indirect CO attainment, students shall fill the course exit survey at the end of each course. The weighted average shall be computed to get the indirect CO attainment.
- The weighted sum of direct and indirect attainment (0.8*Direct CO attainment +0.2*Indirect CO attainment) will provide the overall CO attainment.
- Course outcome attainment target will be set on the basis of average performance levels in that course during previous three years. a) Compute the average marks scored in each course during the last three years. b) Compute the percentage of students scoring above the calculated average marks. c) Department may add 5% to set the improved target.

Target setting parameters	Target %age from previous 3 years results	0.8*Direct + 0.2*Indirect
Set Target (Direct)		
Set Target (InDirect)		
Weighted		
Overall Set Target		

Add 5% to consider continuous improvement

- Overall CO attainment shall be analyzed (attainment is achieved/not achieved) by comparing attained CO with the target set for each course.

Course outcome	Direct Attainment %age	0.8*Direct attainment %age	Indirect Attainment %age	0.2*Indirect attainment %age	Overall CO attainment
CO1					
CO2					
CO3					
CO4					
CO5					
CO6					

≥Set target: Attainment is achieved

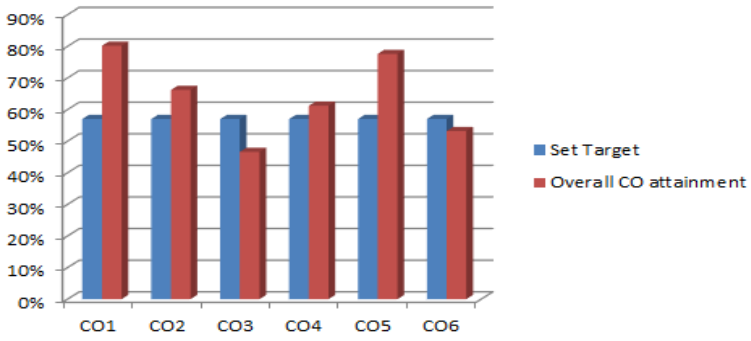
< Set target : Attainment is not achieved

< Set target : Attainment is not achieved

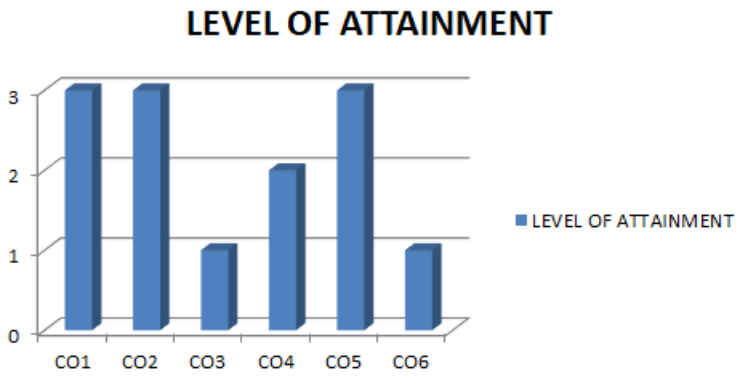
- The overall CO attainment shall be mapped to levels (1, 2, 3) of attainment. A middle level (level '2') can be assigned to a range of set target + 5% of CO attainment. Considering the trends of overall results/Course outcome, The lower level (level '1') can be set for %age of CO attainment which is less than set target %age. The higher level (level '3') can be set for %age of CO attainment which is greater than set target %age+5%.

Course outcome	Direct Attainment %age	0.8*Direct attainment %age	Indirect Attainment %age	0.2*Indirect attainment %age	Overall CO attainment	Level of Attainment (Example)
CO1						3
CO2						3
CO3						1
CO4						2
CO5						3
CO6						1
Average CO attainment of Course						2.16

- The bar graphs shall be plotted to analyze the CO attainment and planning of subsequent actions.



Percentage CO attainment



Level of CO attainment

Manav Rachna International Institute of Research and Studies

(Deemed to be University under Section 3 of the UGC Act, 1956)

(NAAC Accredited 'A' Grade)

Sector-43, Delhi-Surajkund Road, Faridabad.

Course Exit Survey

1. Name:	**2. Roll No.:**
3. Program:	**4. Batch:**
5. Semester:	**6. CGPA till present semester:**
7. Course Title:	**8. Course Code:**
9. Name of Course Teacher:	

Rate your understanding of each course outcome on the scale of 5 to 1

5- completely satisfied, 4 – very satisfied, 3- moderately satisfied, 2- slightly satisfied and 1 – not at all satisfied

Course Outcome	**Please Grade the attainment of following course outcomes**	**Rating**				
		5	**4**	**3**	**2**	**1**
CO1	Rate your understanding to .....CO1 statement					
CO2	Rate your understanding to .....CO2 statement					
CO3	Rate your understanding to .....CO3 statement					
CO4	Rate your understanding to .....CO4 statement					
CO5	Rate your understanding to .....CO5 statement					
CO6	Rate your understanding to .....CO6 statement					

Suggestions for improvement:

Signatures:

Date:

Consolidated Course exit Survey and Analysis

Total no. of students, N:
Course Title and Course Code:
Semester: Even/Odd
Academic Year:

Course Outcome	No. of students rated '5'	%age of students	No. of students rated '4'	%age of students	No. of students rated '3'	%age of students	No. of students rated '2'	%age of students	No. of students rated '1'	%age of students	Avg %age
CO1	A5	A5/N	A4	A4/N	A3	A3/N	A2	A2/N	A1	A1/N	
CO2											
CO3											
CO4											
CO5											
CO6											

Weighted average, WA=(5*A5 +4*A4+ 3*A3 +2*A2+1*A)/5

Avg %age= (WA/N)*100

The weighted sum of direct and indirect attainment (0.8*Direct CO attainment +0.2*Indirect CO attainment) will provide the overall CO attainment.

For Lab courses/projects/colloquium/industrial internship, experiments and respective modules shall be mapped to designed course outcomes and Rubrics shall also be used for analysis.

Sample Course Rubrics

Name of the student:
Course:
Semester:
Score = 1 or 2: Action initiated by instructor **Score =** 3 or 4: No action initiated by instructor

Performance Indicator (PI)	**Course Outcomes**	**Unsatisfactory 1**	**Developing 2**	**Satisfactory 3**	**Exemplary 4**	**Score**	**Action initiated**
Able to demonstrate....							
Able to relate							
Able to develop							
Able to illustrate.....							
Able to analyze.....							
Able to implement							
					Average Score	**2.7**	

Number of students registered in course- (Course Code:)	**Percentage of students with score ≥2 in course .....(Course Code)**

12. TOOLS AND PROCESS FOR POs/PSOs ATTAINMENT AND ANALYSIS

12.1 Tools for PO/PSO Attainment:

Direct and indirect both assessment tools shall be used for data collation. The weightage for direct and indirect methods fixed will 80% and 20%, respectively. Direct tools shall include course outcome attainment levels. Indirect tools will include 50% weightage for program exit survey and 50% weightage for alumni. The process to be followed for course outcome attainment is depicted in Fig 4.

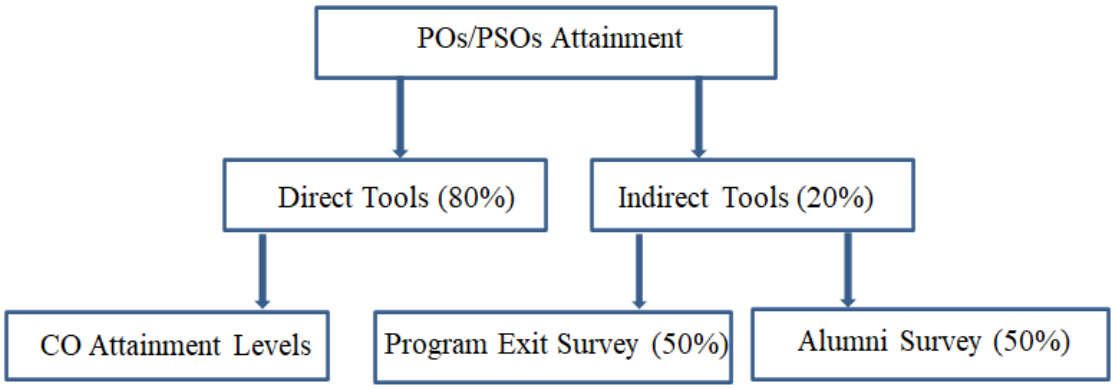


Fig 4 Assessment tools for Attainment of POs/PSOs

Program exit survey shall be conducted after the completion of respective programme, which helps in providing the valuable inputs to assess what should be improved, modified or remain intact. The University has Manav Rachna Alumni Association, most of the alumnus are entrepreneur or working at very high positions in the industry. The university has also launched an app "Manav Rachna Alumni Connect" to interconnect the alumni. The alumni help the students in training and placement; have also been called for the Expert lecture to deliver the new technologies. Their feedback is also considered for imparting the advice related to the establishment of new labs, workshops and the new subjects to be included in the curriculum.

12.2 Process of PO/PSO Attainment:

- The average attainment of POs (PO1, PO2, ..., PO..) and respective PSOs (PSO1, PSO2, PSO3....) through direct assessment tools shall be calculated using the following steps:
  - Course Correlation/Affinity factor in Program articulation matrix will be converted into respective levels as follows:
    Correlation/Affinity factor '3' shall be mapped to level '1'
    Correlation/Affinity factor '2' shall be mapped to level '0.66'
    Correlation/Affinity factor '1' shall be mapped to level '0.33'
  - Average Course attainment level of each course shall be recorded
  - The course wise attainment of POs (PO1, PO2, ...,) and respective PSOs (PSO1, PSO2, PSO3....) through direct assessment tools shall be calculated using the following formula:

$$\mathbf{PO_j \text{ or } PSO_k \text{ attainment of course } C_i} = \textit{Course Attainment level of } CO_l \textit{ for } C_i * \textit{Correlation level of } CO_l \textit{for } C_i$$

Where PO_j : represents POs with j=1 to total number of POs.
PSO_k: represents PSOs with k=1 to 3 or 4 as per number of PSOs designed for Programme.
C_i : represents course 1, 2,3….,n
CO_l: represents course outcome 1,2,….6

- The overall attainment level of twelve POs (PO1, PO2, ….) and respective PSOs (PSO1, PSO2, PSO3…..) through direct assessment tools has been calculated using the following formula:

$$\mathbf{PO_j \text{ or } PSO_k \text{ attainment}} = \frac{\sum_{i=1}^{n} \mathbf{PO_j \text{ or } PSO_k \text{ attainment of course } C_i}}{\mathbf{Number \text{ of } Mapped \text{ Courses with respective } PO_j \text{ or } PSO_k}}$$

➢ The average attainment of POs (PO1, PO2, ….) and respective PSOs (PSO1, PSO2, PSO3….) through indirect assessment tools is calculated using the following steps:

- The parameters of Program exit survey and Alumni survey shall be mapped to respective POs/PSOs.
- For the computation of indirect PO/PSO attainment, students shall be asked to fill the Program exit survey (Table 2) after the programme and alumni survey (Table 3) by alumni members. The weighted average shall be computed for all the parameters.
- The weighted average of direct (80%) and indirect (20%) PO/PSO attainment shall be computed to know about overall PO/PSO attainment.

Example for understanding:

1. For direct computation of PO/PSO attainment, Program articulation matrix describing CO-PO/PSO mapping for all the courses is given below:

Course Code	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
BCH-100	2	3	1	2	2	2	-	-	-	3	-	2	-	1	-

*Complete the matrix for all courses.

2. Course Correlation/Affinity factor in Program articulation matrix will be converted into respective levels as follows:

Correlation/Affinity factor '3' shall be mapped to level '1'
Correlation/Affinity factor '2' shall be mapped to level '0.66'
Correlation/Affinity factor '1' shall be mapped to level '0.33'

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO 3**
BCH-100	.66	1	.33	.66	.66	.66	-	-	-	1	-	.66	-	.33	-

***Similarly, complete it for rest of the courses**

3. The average level of CO attainment for each course will be recorded as follows:

Course Code	Course Title	Average level of CO attainment
BCH-100		2.16

4. The course wise attainment of twelve POs (PO1, PO2, ..., PO12) and respective PSOs (PSO1, PSO2, PSO3....) through direct assessment tools shall be calculated using the following formula:

$$\mathbf{PO_j \text{ or } PSO_k \text{ attainment of course } C_i} = \textit{Average Course Attainment level for } C_i * \textit{Average correlation level for } C_i$$

Where PO_j : represents twelve POs with j=1 to 12.

PSO_k : represents four PSOs with k=1 to 3 or 4 as per number of PSOs designed for Programme.

C_i : represents course 1, 2,3....,n

- The overall attainment level of twelve POs (PO1, PO2, …., PO12) and respective PSOs (PSO1, PSO2, PSO3…..) through direct assessment tools shall be calculated using the following formula:

$$\mathbf{PO_j \text{ or } PSO_k \text{ attainment}} = \frac{\sum_{i=1}^{n} \mathbf{PO_j \text{ or } PSO_k \text{ attainment of course } C_i}}{\mathbf{\text{Number of Mapped Courses with respective } PO_j \text{ or } PSO_k}}$$

Course Code	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO 3**
BCH-100	.66 *2.16	1* 2.16	.33 * 2.16	.66 *2.16	.66 *2.16	.66 *2.16	-	-	-	0.33 *2.16	-	.66 * 2.16	-	.33* 2.16	-
Average Direct PO/PSO Attainment (A)	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D-PSO1	D-PSO2	D-PSO3

5. For Indirect PO/PSO Attainment, the parameters of Program exit survey and alumni survey shall be mapped to respective POs/PSOs.

Manav Rachna International Institute of Research & Studies

(Deemed to be University under Section 3 of the UGC Act, 1956)

(NAAC Accredited 'A' Grade)

Sector-43, Delhi-Surajkund Road, Faridabad.

Program Exit Survey-Engg and FCA

A. General Information:

1. Name:
2. Roll No:
3. Department and Faculty:
4. Year of Passing:
5. Email Id:
6. Phone No.:
7. Programme:

Please mention your current status:

a. Campus Placed:.....
b. Going for Higher Studies:.....
c. Others(Specify):.....

B. Evaluation of Programme Effectiveness:

Please identify the degree to which you believe your undergraduate education helped you to develop the skills and abilities in the following areas to be successful in your professional life. Rate your understanding of each parameter on the scale of 5 to 1:

5- completely satisfied, 4 – very satisfied, 3- moderately satisfied, 2- slightly satisfied and 1 – not at all satisfied

S.No.	Please rate the following	Rating				
		5	4	3	2	1
1	Comprehend the basic knowledge to identify & analyse the real-world problems, interpret data and design the possible solutions/processes					
2	Able to apply research-based approach and techniques in various fields to provide valid conclusions					
3	Skills gained to apply innovative tools for prediction and modelling of complex problems in various fields					
4	Responsibility level acquired to develop solutions for sustainable developments (in *societal*, environmental, cultural and economic contexts).					
5	Leadership qualities and team-spirit inculcated through various student development programmes.					
6	Able to communicate effectively in both verbal and written form and develop intrapersonal & interpersonal skills					
7	Able to acquire and apply new knowledge as needed, using appropriate learning strategies.					
8	Able to secure employment or be an entrepreneur with ability to apply professional knowledge in multidisciplinary environment with ethical responsibility.					

C. Additional Information:

Rating Scale: (Outstanding-5, Very good-4, Good-3, Average-2, Below Average-1)

S.No.	Please rate the following	Rating				
		Outstanding	Very Good	Good	Average	Below Average
1.	Head of the Department					
2.	Teaching Faculty/Staff					
3.	Infrastructure					
4.	Library					
5.	Laboratories					
6.	Exam Cell					
7.	Administration					
8.	Career Development Centre (CDC)					
9.	Corporate Resource Centre (CRC)					
10.	Discipline					
11.	Canteen					
12.	Sports Facilities					

D. Highlight your achievements

1.Placement/Higher Studies:

2. Academics:

1. Extra-Curricular:

Suggestion for improvement: _____

_____

Signature

Date:

Manav Rachna International Institute of Research & Studies

(Deemed to be University under Section 3 of the UGC Act, 1956)

(NAAC Accredited 'A' Grade)

Sector-43, Delhi-Surajkund Road, Faridabad.

Program Exit Survey-Other than FET &FCA

A. General Information:

1. Name:
2. Roll No:
3. Department and Faculty:
4. Year of Passing:
5. Email Id:
6. Phone No.:
7. Programme:

Please mention your current status:

a. Campus Placed:.....

b. Going for Higher Studies:.....

c. Others(Specify):.....

B. Evaluation of Programme Effectiveness:

Please identify the degree to which you believe your undergraduate education helped you to develop the skills and abilities in the following areas to be successful in your professional life. Rate your understanding of each parameter on the scale of 5 to 1:

5- completely satisfied, 4 – very satisfied, 3- moderately satisfied, 2- slightly satisfied and 1 – not at all satisfied

S.No.	Please rate the following	Rating				
		5	4	3	2	1
1	Comprehend the basic knowledge of analysis and decisions					
2	Able to apply research-based approach using innovative tools and techniques in various fields					
3	Able to communicate effectively in both verbal and written form and develop intrapersonal & interpersonal skills					
4	Able to develop competencies through self-education for lifelong learning					
5	Able to secure employment or be an entrepreneur with ability to apply professional knowledge with ethical responsibility.					
6	Responsibility level acquired to develop sustainable solutions ethically in *societal*, environmental, cultural and economic contexts					

C. Additional Information:

Rating Scale: (Outstanding-5, Very good-4, Good-3, Average-2, Below Average-1)

S.No.	Please rate the following	Rating				
		Outstanding	Very Good	Good	Average	Below Average
1.	Head of the Department					
2.	Teaching Faculty/Staff					
3.	Infrastructure					
4.	Library					
5.	Laboratories					
6.	Exam Cell					
7.	Administration					
8.	Career Development Centre (CDC)					
9.	Corporate Resource Centre (CRC)					
10.	Discipline					
11.	Canteen					
12.	Sports Facilities					

D. Highlight your achievements

1.Placement/Higher Studies:

2. Academics:

3. Extra-Curricular:

Suggestion for improvement: _____

_____

Signature
Date:

Consolidated Program exit Survey

Total no. of respondents, N:
Programme:
Academic Year:

Parameter	No. of students rated '5'	%age of students	No. of students rated '4'	%age of students	No. of students rated '3'	%age of students	No. of students rated '2'	%age of students	No. of students rated '1'	%age of students	Weighted Avg %age
Comprehend the basic knowledge to identify & analyse the real-world problems, interpret data and design the possible solutions/processes	A5	A5/N	A4	A4/N	A3	A3/N	A2	A2/N	A1	A1/N	
Able to apply research-based approach and techniques in various fields to provide valid conclusions											
Skills gained to apply innovative tools for prediction and modelling of complex problems in various fields											

Responsibility level acquired to develop solutions for sustainable developments (in *societal*, environmental, cultural and economic contexts).											
Leadership qualities and team-spirit inculcated through various student development programmes.											
Able to communicate effectively in both verbal and written form and develop intrapersonal & interpersonal skills											
Able to acquire and apply new knowledge as needed, using appropriate learning strategies.											
Able to secure employment or be											

an entrepreneur with ability to apply professional knowledge in multidisciplinary environment with ethical responsibility.											

Weighted average, WA(Prog exit)=(5*A5 +4*A4+ 3*A3 +2*A2+1*A)/5

Avg %age= [WA(Prog exit)/N]*100

Manav Rachna International Institute of Research & Studies

(Deemed to be University under Section 3 of the UGC Act, 1956)

(NAAC Accredited 'A' Grade)

Sector-43, Delhi-Surajkund Road, Faridabad.

Alumni Survey

A. General Information:

1. Name and Address:
2. Programme:
3. Year of Passing:
4. Current Organization / Occupation:
5. Designation:
6. Email Id:
7. Phone No.:
8. Additional degree undergoing/obtained:

B. Evaluation of Programme Effectiveness:

For each parameter mentioned below, rate your satisfaction with the academic preparation you received in that area as student. Rate your understanding of each parameter on the scale of 5 to 1:

5- completely satisfied, 4 – very satisfied, 3- moderately satisfied, 2- slightly satisfied and 1 – not at all satisfied

S.No.	Please rate the following	Rating				
		5	4	3	2	1
1	Ability to exhibit, communicate knowledge and design processes/take decisions to meet desired specifications and needs.					
2	Excel in analytical and problem-solving skills in multidisciplinary environment.					
3	Benefit from elective courses, Project/research work, value added certifications, workshops and training programmes conducted during your course.					
4	Ability to learn new technology, innovative tools to resolve contemporary issues.					
5	Willingness in life-long learning for professional development.					
6	Extent of ethical, social and environmental values inculcated, helping you to relate knowledge and skills gained with societal needs					
7	Professional competency developed to work as per the requirements of any organization including interpersonal and intrapersonal communication skills.					
8	Exhibit good leadership skills to be an entrepreneur with ability to apply professional knowledge and ethical responsibility.					

C. Additional Information:

How well is the institute keeping in touch with you since graduation? Please select the appropriate box.

a. **Extremely well** b. **Very well**

c. **Somewhat well** d. **Not at all well**

D. Highlight your achievements

1.Placement/Higher Studies:

2. Academics:

3.Extra-Curricular:

Suggestion for improvement:

_____

_____

Signature

Date:

Consolidated Alumni Survey

Total no. of respondents, N:

Programme:

Academic Year:

Parameter	No. of students rated '5'	%age of students	No. of students rated '4'	%age of students	No. of students rated '3'	%age of students	No. of students rated '2'	%age of students	No. of students rated '1'	%age of students	Avg %age
Ability to exhibit, communicate knowledge and design processes/take decisions to meet desired specifications and needs.	A5	A5/N	A4	A4/N	A3	A3/N	A2	A2/N	A1	A1/N	
Excel in analytical and problem-solving skills in multidisciplinary environment.											
Benefit from elective courses, Project/research work, value added certifications, workshops and training programmes conducted during your course.											
Ability to learn new technology, innovative tools to resolve contemporary issues.											
Willingness in life-long learning for professional development.											

Extent of ethical, social and environmental values inculcated, helping you to relate knowledge and skills gained with societal needs											
Professional competency developed to work as per the requirements of any organization including interpersonal and intrapersonal communication skills.											
Exhibit good leadership skills to be an entrepreneur with ability to apply professional knowledge and ethical responsibility.											

Weighted average, WA(Alumni)=(5*A5 +4*A4+ 3*A3 +2*A2+1*A)/5

Avg %age= [WA(Alumni)/N]*100

Indirect tools	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	P O 12	PS O 1	PSO 2	PSO 3

Parameters	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**……..**	**PO12**	**PSO 1**	**PSO 2**	**PSO 3**
Comprehend the basic knowledge to identify & analyse the real-world problems, interpret data and design the possible solutions/processes											
Able to apply research-based approach and techniques in various fields to provide valid conclusions											
Skills gained to apply innovative tools for prediction and modelling of complex problems in various fields											
Responsibility level acquired to develop solutions for sustainable developments (in *societal*, environmental, cultural and economic contexts).											
Leadership qualities and team-spirit inculcated through various student development programmes.											
Able to communicate effectively in both verbal and written form and develop intrapersonal & interpersonal skills											
Able to acquire and apply new knowledge as needed, using appropriate learning strategies.											
Able to secure employment or be an entrepreneur with ability to apply professional knowledge in multidisciplinary environment with ethical responsibility.											
Average PO/PSO attainment using Program exit survey											

6. The weighted average percentage will provide the indirect PO attainment.

In this way the Average indirect PO/PSO attainment using both Program exit (PI- P: Program exit, I-Indirect) and Alumni survey (AI- A:Alumni survey, I-Indirect) will be computed. The overall weighted PO/PSO attainment using Program exit and Alumni survey would be computed as: Overall weighted PO/PSO attainment using indirect tools = 0.5*PI + 0.5*AI

Average PO/PSO Attainment using Program Exit Survey (PI)															
Average PO/PSO Attainment using Alumni Survey (AI)															
Overall indirect PO/PSO Attainment, B= 0.5*PI + 0.5*AI	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	IPSO-1	IPSO-2	IPSO-3

7. The weighted average of direct (80%) and indirect (20%) PO/PSO attainment shall be computed to know about overall PO/PSO attainment.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO2	PSO3
Average Direct PO/PSO Attainment (A)	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D-PSO1	D-PSO2	D-PSO3
Average indirect PO/PSO Attainment (B)	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	IPSO-1	IPSO-2	IPSO-3
Overall PO/PSO Attainment= A*0.8 + B*0.2	O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O-PSO1	O-PSO2	O-PSO3

The bar graphs shall be plotted to show PO/PSO attainment and subsequent analysis. The POs/PSOs attainment levels shall be analyzed to plan the subsequent actions.

12. TOOLS AND PROCESS FOR PEOs ATTAINMENT AND ANALYSIS

The assessment and attainment of PEOs shall include both direct and indirect tools as follows:

1. Direct Tools (Weightage: 60%):
    a. Program Outcome/Program Specific Outcome attainment level as calculated in the previous section for the mapped PEOs. Weightage: 80%
2. Indirect Tools (Weightage: 40%):
    a. Program exit survey. Weightage: 10%
    b. Alumni survey. Weightage: 10%
    c. Employer feedback. Weightage: 20%

- For direct attainment, the Program Outcome/Program Specific Outcome attainment level as calculated in the previous section shall be used directly for the mapped PEOs.
- For indirect attainment, the weighted average will collectively provide the indirect PEO attainment.
- The weighted average of direct (60%) and indirect (40%) attainment shall be computed to know about overall PEO attainment.

The PEO attainment matrix shall be formulated and respective PEO attainment shall be analyzed for subsequent actions.

Levels of attainment for PEOs

PEO Attainment	**Level of Attainment**
Greater than equal to 70%	Excellent
Greater than equal to 60% and less than 70%	Very Good
Greater than equal to 50% and less than 60%	Good
Greater than equal to 40% and less than 50%	Satisfactory
Less than 40%	Not Satisfactory

PEO Attainment Matrix:

PEOs / PO/PSOs	PEO1	PEO2	PEO3	PEO4	PEO5
PO 1					
PO 2					
PO 3					
PO 4					
PO 5					
PO 6					
PO 7					
PO 8					
PO 9					
PO 10					
PO 11					
PO 12					
PSO 1					
PSO 2					
PSO 3					
Average PEO attainment					
Level of PEO Attainment					
Whether the expected level of PEO is attained or not? (Yes/No)					

The PEO attainment levels shall be analyzed to plan the subsequent actions.

Course Outcome Attainment Report (Session-….)

Date:

To

The Member Secretary,
Department Academic Committee (DAC)
Department of …….

Subject: Submission of Course Outcome Attainment Report of the course……..

The course outcome attainment report for the course '……..' is being submitted for the perusal and review of Department Academic Committee members.

Course Title with code	CO	CO Statement	Attainment Percentage			Target Achieved/Not Achieved	Action Planned to Improve the CO Attainment
			Direct Attainment	Indirect Attainment	Overall Attainment		
	CO1						
	CO2						
	CO3						
	CO4						
	CO5						
	CO6						

Graphical Analysis as downloaded from EMS

Course Coordinator

Academic Year: …….(odd/even semester)

Institute/Branch: MRIIRS-Faculty of ……………….

Program:

S. No.	Class/Semester	Consolidated CO-Direct Indirect Attainment Report (As downloaded from EMS)							
		Course Title	Course Code	Lecture type	Course Teacher	CO	Direct Attainment	Indirect Attainment	Overall Attainment
1	B.Tech. CSE Sem 1					CO1			
						CO2			

EMS Coordinator

Department of……..

Academic Year: ………….**(odd/even semester)**

Institute/Branch: MRIIRS-Faculty of ……………….

Program:

S. No.	Class/ Sem	CO PO Direct Indirect Attainment								Target Achieved / Not Achieved	Action Planned	Recommendations of DAC
		Course Title	Course Code	Lecture type	Course Teacher	CO	Direct Attainment	Indirect Attainment	Overall Attainment			
1						CO1						
						CO2						

Details of DAC Members	Signatures with date