कौशल युवक - कुशल भारत

parakh

AICTE Student's Learning Assessment Portal

AICTE

Student Learning Assessment Project - PARAKH

Student Learning Assessment

Concept Note

Policy Document – 1.0

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https://aslap.aicte-india.org

1. INTRODUCTION

1.1. Background

Despite rapid increases in the quantity of technical students in India however, little is known about their quality. In particular, less information is available about the major specific competencies, knowledge, and soft skills of individuals. So, in this project, want to assess the technical knowledge, creativity and cognitive skills of Under graduate and Post graduate students of India. Earlier the similar project was implemented by the Stanford University, USA. They have implemented the student assessment for various countries such as USA, China, Russia and India. For India they have selected the 167 technical institutes for their study. In the past AICTE in collaboration with Stanford University, has implemented a small-scale program to assess and improve the skills of engineering students in India.

Purpose-AICTE-Student Learning Assessment (PARAKH) is to evaluate technical students of India and to assess their overall qualitative and quantitative growth during the course of study in order to get a suitable employment. All India Council for Technical Education AICTE-SLA (PARAKH) project has been designed to measure the benchmark levels and gains in academic and higher-order thinking skills of students and faculties to understand the various factors that affect skill development in Technical Institutes across India.

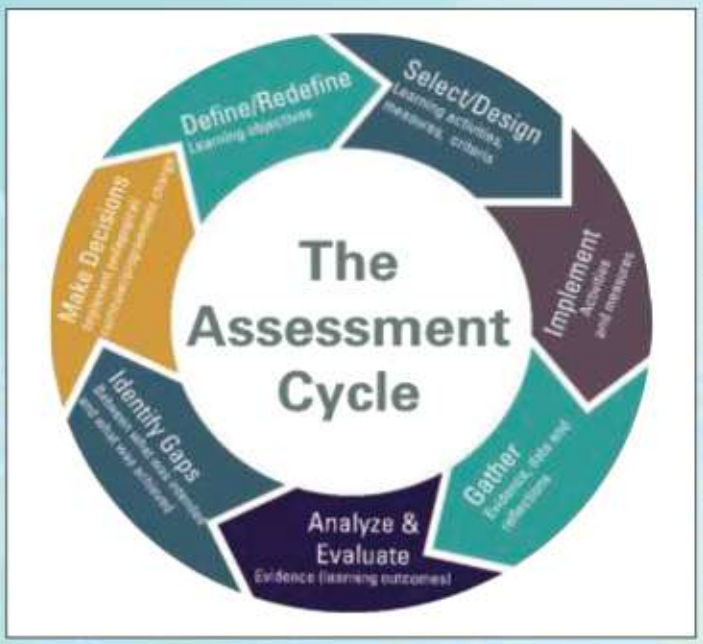
Scope-Gathering and analysing data about student's achievement is only worthwhile if the information is utilized to improve results outcomes for students. The data gathered by the project is used to evaluate the performance of lower level (Academic gain) and Higher order thinking skills gains and provide the enhancement methods by which Indian students can lead for a better opportunity in their profession and personal graph.

1.2. About the Project

All India Council for Technical Education (AICTE) is going to implement a large-scale program to assess and improve the skills of engineering students in India in AICTE Approved Technical Institutions across the country. In respect of analysis, each of the online assessments (including those testing academic skills and those testing higher order thinking skills) may be used for comparing student outcome. More specifically, each of the Online assessments will be considered as unidimensional, reliable, and good at measuring a range of student ability. The vast majority of the items should also demonstrate psychometric characteristics of students

1.3. Problem Statement

India's higher education system is the third largest in the world, next to the United States and China. As of 2021, India has over 1000 universities, with a break up of 154 central universities, 438 state universities, 126 deemed universities, 395 private universities, 7 Institute under State Legislature Act, and 159 Institutes of National Importance which include IIMs, AIIMS, IITs, IIITs, IISERs and NITs among others. Other institutions include 52,627 colleges as government degree colleges, private colleges, standalone institutes and post-graduate research institutions.



Indian higher education is radical in terms accessibility, and needs reforms in standards, providing values and pacing. A focus on enforcing both streamlining and holding higher standards of curriculum, value-oriented and innovative, personalization of the sector for students to gain immediate and valid transferable credentials in their own pace, empowering students to enter the work-force with necessary building blocks of knowledge that leads to set of skills from an academic fields. India can be a World leader by creating skill technical persons who have good academic knowledge and are able to apply academic information to innovate new research applications by the critical, analytical and cognitive skills. Prior to this project very less work has been done in India where cognitive skills are assessed to enhance growth for the students. So, through this project AICTE would be assessing the quality of students and faculty members by evaluating their academic, social, cognitive, critical and behavioral development during their course of study. Student Learning assessment is likely to be enhanced further as this information will be used by faculty members and the institutions to:

a) Build students'confidence and motivate them to make progress in personal and professional career.

b) Develop new learning programs that matches with the student's interest and their skill sets.

c) Identify the next learning phases for students and faculty members.

d) Analyze the causes of learning difficulties and make a policy to overcome these issues.

1.4. Vision

Vision of AICTE-SLA (PARAKH)is to motivate bridging the gap between academics and industry by providing a platform for self-assessment of knowledge and 21stcentury skillcapabilitiesin students and faculty members to ensure global competitiveness.

1.5. Mission

AICTE-SLA (PARAKH)will enable policymakers and institutions to assessglobal competitiveness ofstudents,faculty members and stakeholders to trigger necessary interventions creating a more effective system of education in the country.

1.6. Goals

1.6.1 Common Goals for Education System of our Country (Aligned with NEP 2020)

a) A major goal of Education system is to produce skilled graduates aligned with NEP 2020 goals.

b) Graduates capable of contributing towards the problem solving, innovation and productivity leading to healthy socio-economic growth and global competitiveness.

1.6.2 Major goal of the AICTE-Student Learning Assessment (PARAKH) of AICTE is to produce skilled graduatesby-

a) Assessing and comparing student skills (levels and gains) of country.

b) Examining types of factors (institutional, faculty, instructional, curricular, student behavioural) which help students develop skills for different types of institutions backgrounds.

c) Creating mechanism to help the students know their aptitude so as to help in deciding their professional career and aligning it with their interest/ choice of studies.

d) Producing skilled graduates by attaining high standard academic and aptitude Skills.

e) Introducing changes required in the current teaching system amongst the technical Institutes.

f) Discovering student experience in the classroom learning in the Institutes.

g) Enabling skilled graduates to contribute towards the productivity and innovation that lead to higher economic growth in the country.

h) Developing strong analytic, communicational, quantitative, application-based, comprehensive and information skills among the Indian students.

i) Developing deep understanding and hands-on experience with the disciplines that explore the natural, social, and cultural realms.

j) Inculcating in student's Intercultural knowledge and collaborative problem-solving skills.

k) Developing civic, social, and personal responsibility among the students of India.

l) Instilling Integrative thinking and the ability to transfer knowledge from one setting to another.

HOW TO FULFIL THESE GOALS?

- **AICTE is conducting a Student Learning Assessment Project to assess and improve technical students' skills all over India.**
- **Collaboration of Institutions, Faculty, Students and Industry for the success of the project.**

2. ACTION PLAN

2.1. IMPLEMENTATION

a) Willingness from Institutions for implementation of the AICTE-SLA (PARAKH) Project in their Institute.

b) Screening of willing Institutions as per AICTE AICTE-SLA (PARAKH) project Selection policy.

c) Selection of Subject Matter Experts (SMEs) including from industry to prepare Questionnaires as perAICTE-SLA (PARAKH) Selection policy.

d) Conduction ofAICTE-SLA (PARAKH) Assessment for Students, Faculty & Head of the Departments with the help Nodal Officer and AICTE Unit.

e) Compilation and Analysis of the Outcome.

f) Preparation of the Performance Reports Publishing of the Assessment Reports for students to understand the level of gains.

g) To Understand the overall gain in his/her course of study and introduce necessary interventions for their improvement.

h) Periodic annual assessment and analysis will be carried out for overall growth in Decision Making, Creativity; Critical Thinking, Quantitative Literacy, Competency Building and finding of solution to the Problem- solving skill of life and its impact on Student Proficiency.

2.2. PILOT ASSESSMENT

The main purpose of conducting the pilot survey is to validate the assessment properties and ensure that the program could be implemented smoothly. Thus, any results that will be presented in pilot survey will be initial and tentative – as such, they must be viewed with the caveat that sample of students in the Pilot assessment does not represent the overall community of engineering students in India. However, the main study for AICTE-SLA (PARAKH) Project has been designed to capture a representative population of the technical students – thus, AICTE will be able to provide the final results and a report after completion of the end-line phase of the survey tentatively by June 2023.

COMMITMENTS

To assess the Higher Order Thinking Skills of students: This includes Assessing the student Decision Making, Creativity; Critical Thinking, Quantitative Literacy, Competency Building and finding of solution to the Problem- solving skill of life and its impact on Student Proficiency.

To Promote Human Values, professional ethics leading to overall development and professional competence in Technical Students.

To Develop an independent and dedicated Web Platform for AICTE SLA (PARAKH)project to analyses and store the vast data captured during the survey.

To Formulate Standard Operating Procedures (SOP) for various activities and its implementation processes to ensure testable, verifiable and accurate assessment implementation across the institutions, disciplines, and over a period of successive years.

Designing of Learning Assessment Tools and Methods, for both UG & PG level students, with provision to change the items / questionnaire as required to provide a value addition and deeper insight.

Generation of Assessment items /questionnaire(s) that can judge the Student proficiency in various fields such Mathematics, Physics, Core Subject Skills and Higher Order Thinking Skills (i.e. Decision Making, Creativity & Critical Thinking, Quantitative Literacy, Competency Building and Problem Solving) with life long- learning, and their impact on Student Proficiency.

3. SELECTION CRITERIA

3.1. Institutions

Prior to the selection of institution, a willingness from all the institutions will be taken for accepting the survey project in the Institutions covered under NEP 2020.

The Selection process of the institutions will be measured using following parameters:

a) Willingness of the Institution.

b) Enrolment of the Institution.

c) Lab Capacity with Internet facilities for AICTE-SLA (PARAKH) assessment.

d) Geographical Location of Institution (State-District, Urban-Rural)

e) Inclusivity of Students in Institutions participating underAICTE-SLA (PARAKH).

3.2. Subject Matter Experts

A wide variety of Question banks will be prepared by Subject Matter Experts (SMEs) for different courses and disciplines in various subjects and areas. Following parameters will be taken into consideration for selection of the Subject Matter Experts SMEs):

a) Industry/Professional/Professor/ Associate Professor.

b) 10 Years or more of Experience in Professional Teaching, Industry etc.

Exceptional Subject Matter Experts (SMEs) will be nominated as the coordinators for that respective discipline with recommendations of the Advisory Committee and the approval of competent authority.

3.3. Reviewers

Verification of Question bank prepared by Subject Matter Experts (SMEs) for different courses and disciplines in various subjects and areas will be done by Reviewers. Following parameters will be taken into consideration for selection of the Reviewers:

a) Industry/Professional/Professor/ Associate Professor in NEP 2020 Approved Institutions.

b) 12 Years or more of Experience in Professional Teaching, Industry etc.

Exceptional Reviewers will be nominated as the coordinators for that respective discipline with recommendations of Advisory Committee and approval of competent authority.

4. COURSES AND DISCIPLINES

The items towards assessment & learning achievements to be utilized for the purposes of assessment / evaluation of the students to have a mix of the following: -

4.1. Engineering Core specific

Core subject means a subject required for completion of a course, major or specialization, and may include compulsory and elective subjects. Core specific -20% (in one of the following major disciplines based on Bloom's Taxonomy levels -

a) Civil Engineering
b) Mechanical Engineering
c) Electrical Engineering
d) Electronics and Communication Engineering
e) Computer Science & Engineering
f) Mathematics
g) Physics
h) Chemistry
i) Any other stream as per NEP 2020

4.2. APTITUDE

Aptitude:

a) **Physical:** Physical qualities, actions, or things are connected with a person's body, rather than with their mind. Physical aptitude is a natural physical ability. You could have several types of physical aptitudes, such as excellent hand-eye coordination, strength or agility.

b) **Mental:** Mental aptitude assessments are one such method used to assess a candidate's ability to think and provide new and innovative solutions. These assessments are made compulsory in the pre-hire stages by most organizations across different industries and sectors.

c) **Integrity:** Integrity means the quality of a person that integrates his heart with his body. The heart teaches him what action is right and what action is wrong

d) **Social:** Societal Thinking, Empathetically Understanding and sustainability contributing to bridging of the socio-economic and digital divide.

e) **Values:** Human values are the virtues that guide us to take into account the human element when we interact with other human beings. Human values are, for example, respect, acceptance, consideration, appreciation, listening, openness, affection, empathy and love towards other human beings.

f) **Higher Order thinking Skills(HOTS):** Problem Identification, Critical Thinking, Problem Solving, Innovation, Collaboration, Communication, Entrepreneurial, Team Work etc.

g) **General Knowledge:** Knowledge of a broad range of facts about various subjects.

4.3. Emerging Areas

Assessment in Subjectsaligned to the Industry in different specializations (not limited to the following) -

a) Artificial Intelligence / Machine Learning
b) Augmented Reality (AR)/ Virtual Reality (VR)
c) Block chain
d) Cyber Security
e) Data Science
f) Internet of Things (IoT)
g) Quantum Computing
h) 3D Printing and Design
I) Robotics
j) Any other Emerging Areas

4.4. Management

MBA and PGDM is considered for assessment in different specializations for 2 years of duration-

a) Sales and Marketing Management
b) Organizational Behavior + HR
c) Information Technology
d) Operations Management
e) Business Communication
f) Statistics + Business Research
g) Strategy
h) Economics
i) Retail Management
j) Disaster Management
k) Supply Chain Management
l) Logistic Management
m) Fin-tech Management
n) Well-being and wellness management
o) Innovation and Entrepreneurship management
p) Any other management as per NEP 2020

4.5. MCA

Assessment in MCA Courses by Computer Science specializations.

(Note: For all the core disciplines as mentioned above to have further 10 to 20 sub divisions / chapters covering curriculum for the 1st and 2nd year.)

5. ASSESSMENT

A wide variety of question bank will be prepared by Subject Matter Experts (SMEs) for different courses and disciplines in various subjects and areas (i.e., Mathematics, Physics& Chemistry, Core Subject Skills (Engineering) &Aptitude, etc.) that can judge the student's proficiency in various fields like Critical thinking and Creativity Logical Reasoning to ensure evolving needs of competencies with the time. AICTE has ensured to validate the Question bank at multiple levels.

5.1. Selection of Questions for Assessment

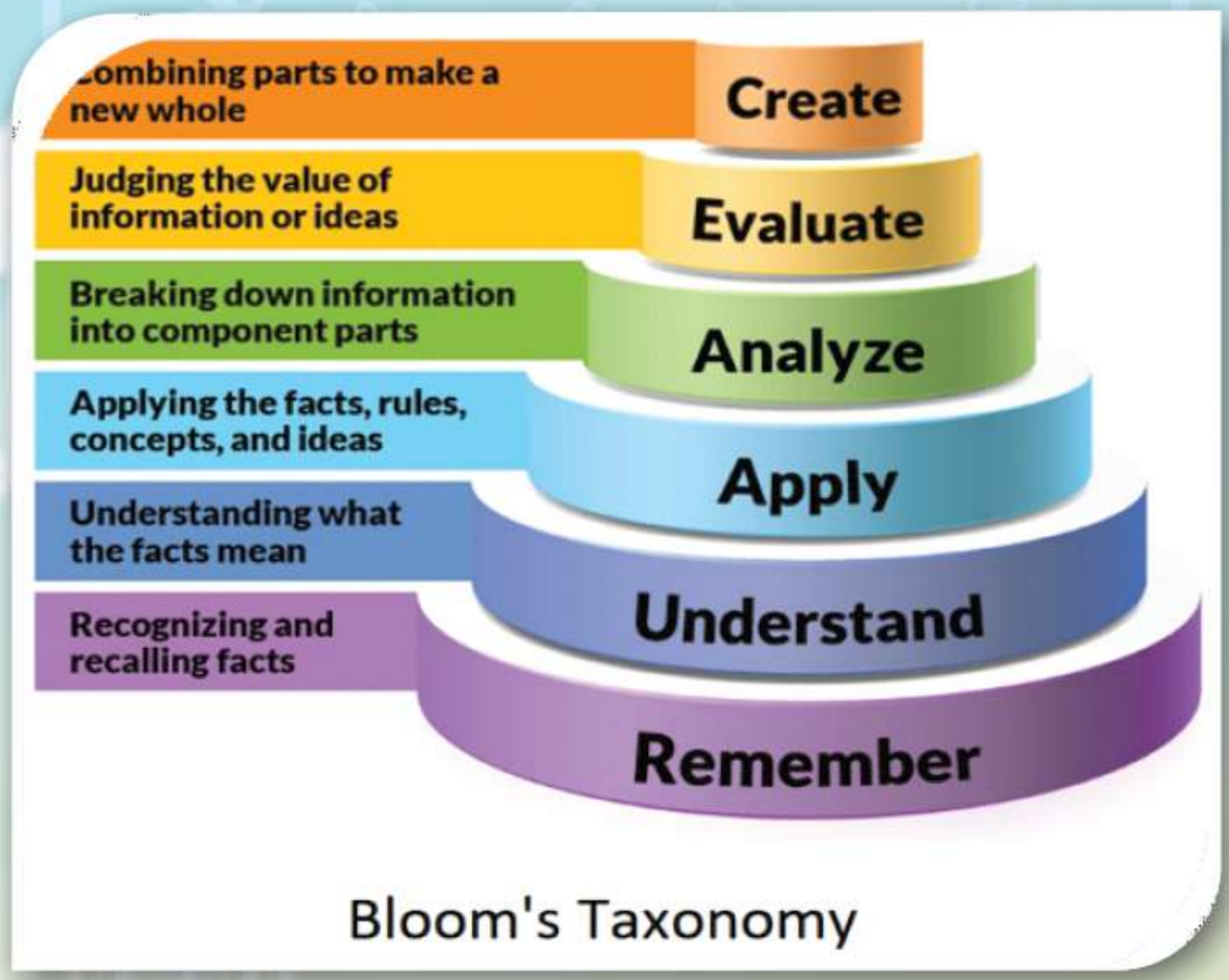
"A Good Assessment gives an equal opportunity to fully demonstrate their learning" by the students

The items towards assessment & learning achievements to be utilized for the purposes of assessment / evaluation of the students to have a mix of the following:

a) Difficulty–Difficulty of the assessment is as between L1-(Remembering), L2-(Understanding), L3-(Appling) & L4-(Analyzing) as per Blooms Taxonomy. Questions are distributed dynamically at various difficulty level

b) Veracity- A wide variety of questions will be selected from different areas which will make it easy for students to assess for analytical and Aptitude skills

c) Weightage- To mainly focus on skills of students during the Assessment:



Bloom's Taxonomy

Year of Study	Engineering UG					
	Aptitude	Emerging Areas	1st Year	2nd Year	3rd Year	4th Year
1st Year	80	NIL	20	NIL	NIL	NIL
2nd Year	60	NIL	15	25	NIL	NIL
3rd Year	50	20	5	10	15	NIL
4th Year	50	20	NIL	5	10	15

Year of Study	Engineering PG					
	Aptitude	Emerging Areas	1st Year-UG	2nd Year-UG	3rd Year-UG	4th Year
1st Year	50	20	5	10	15	NIL
2nd Year	50	20	NIL	5	10	15

Year of Study	Engineering Diploma					
	Aptitude	Emerging Areas	1st Year	2nd Year	3rd Year	4th Year
1st Year	NIL	NIL	NIL	NIL	NIL	NIL
2nd Year	80	NIL	20	NIL	NIL	NIL
3rd Year	60	NIL	15	25	NIL	NIL

Year of Study	MCA PG						
	Aptitude	Emerging Areas	L4 Questions-CSE	1st Year-UG	2nd Year-UG	3rd Year-UG	4th Year
1st Year	50	10	10 (3rd year)	5	10	25	NIL
2nd Year	50	10	10 (Final Year)	NIL	5	10	15

Year of Study	Management-PGDM-MBA		
	Aptitude	1st Year-Management	2nd Year-Management
1st Year	60	40	NIL
2nd Year	60	15	25

Year of Study	Teachers		
	Aptitude	Core Subjects	Emerging Areas
Engineering	20	60	20
MCA	20	60+ 10 - L4 CSE Questions	10
Management	20	80	NIL

- The percentage criteria of questions are dynamic and it may be revised as per AICTE norms time to time.

6. ROLES AND RESPONSIBLITY

6.1. PRINCIPAL/ DIRECTOR OR HEAD OF THE INSTITUTE

a) Principal/ Director of the Institution will be the overall In-charge of AICTE-SLA (PARAKH) Project in the Institute.

b) Principal/ Director will be responsible for giving willingness for implementing AICTE-SLA (PARAKH) survey in their Institution.

c) Owner of the Login credentials provided by the AICTE for the SLA (PARAKH) Project.

d) Principal/ Director will be responsible for smooth conduction of the Online Assessment as per schedule given by the AICTE.

e) Principal/ Director will be responsible for providing data to AICTE for SLA (PARAKH) Project well in time.

f) They will act Mentors of the project at the institute level and ensure that the benefits are taken by faculties and Students from all branches.

g) Principal will also appoint a Nodal Officer at the institute level for AICTE-SLA (PARAKH) Project

h) Feedback or grievance can be raised by the Nodal Officer in case of any issues or suggestion for better development of the AICTE-SLA (PARAKH) project.

i) Ensure Lab (Power Backup, Internet and seating arrangements) facility during conduct of the Assessment

Note: Any Authority Defined as per NEP 2020

6.2. NODAL OFFICER

a) Single Point of Contact (SPOC) for entire project and to the Industry.

b) Submission of the pre-Assessment data on the portal in coordination with principal

c) To Follow the schedule provided by AICTE

d) Regularly check the announcement, FAQs, User manuals, SMS and emails sent by AICTE and further update their faculties and students bulletin board

e) Appoint a coordinator for assistance

f) Inform AICTE in case of any difficulty during the entire process

g) Feedback or raise grievance in case of any issue or any suggestion for development of AICTE AICTE-SLA (PARAKH) project.

h) Ensure Infrastructure and LAB (Power Backup, Internet and seating arrangements) Facility during conduction of Assessment

i) Mentor & Motivate Students and Faculties to participate in the Assessment

6.3. HEAD OF DEPARTMENT

a) Mentor of the project at department level & Ensure Benefits be taken by Maximum Faculties and Students from all batches.

b) Himself participate in Assessment

c) Provide data to Nodal officer to further update it on AICTE portal in time.

d) Regularly check the announcement, FAQs, User manuals, SMS and emails sent by AICTE and further update their faculties and students bulletin board

e) Feedback or raise grievance in case of any issue or any suggestion for development of AICTE AICTE-SLA (PARAKH)project.

f) Responsible for Smooth Conduction of AICTE-SLA (PARAKH)Assessment in their Department

6.4. AICTE UNIT

The Project administered by AICTE Unit. The following are the role and responsibilities of theAICTE-SLA (PARAKH) Project:

a) Device policies for the Project and periodic assessments.

b) Design and develop an online platform for the project for smooth conduction ofAssessment.

c) Nomination of Institutions and SMEs to conduct the project.

d) Resolve the grievances of each entity.

e) Prepare User Manual, FAQs and Other Supporting documents for Assessment.

f) Providing Professional Training to the AICTE-SLA (PARAKH) Team by the Stanford unit and thereafter to other stakeholders by AICTE-SLA (PARAKH) Team in their respective areas of involvement in assessment process.

g) Prepare Timelines.

h) Conduction of Assessment.

i) Analyze data and Prepare Reports keeping in mind various parameters.

7. REPORTS

The score for the students based on their responses will be computed and the Data of students, faculty and institutions will be analyzed based on the clusters for reporting.Reports will be visualized in formats with respect to students, faculties and institutions

a) Overall Performance Report of the Institution

b) Topic-wise Performance Report

c) Time series analysis (Performance report over the years)

d) Cluster wise Performance Report

i. Rural vs Urban

ii. Demographic (State/Region)

iii. Category wise

iv. Government vs Private

v. Elite institutions vs non-Elite

8. FUTURE ROAD MAPS

Future Road Maps:Assessment and necessary interventions may be expanded horizontally and vertically

a) Vertical Expansion may be carried out at international levels so as to assess potential of students globally.

b) Horizontal Expansion may be carried out at Institutional Level to give benefits of the assessment to all the disciplines.

c) Patent of process and platform.

d) Making the platform multilingual.

e) Continuous expansion of the assessment items as per the needs of NEP 2020.

f) Policy will be reviewed in every 6months duration and updated as per the requirements.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