Analysis of Higher Education in Indian National Education Policy Proposal 2019 and its Implementation Challenges

P. S. Aithal¹ & Shubhrajyotsna Aithal²

¹College of Management & Commerce, Srinivas University, Mangalore – 575 001, INDIA ²Faculty, College of Engineering & Technology, Srinivas University, Mangalore, India E-mail: psaithal@gmail.com

Type of the Paper: Review Paper.
Type of Review: Peer Reviewed.

Indexed In: OpenAIRE.

DOI: http://doi.org/10.5281/Zenodo.3271330.

Google Scholar Citation: IJAEML

How to Cite this Paper:

Aithal, P. S., & Aithal, Shubhrajyotsna. (2019). Analysis of Higher Education in Indian National Education Policy Proposal 2019 and its Implementation Challenges. *International Journal of Applied Engineering and Management Letters (IJAEML)*, 3(2), 1-35.

DOI: http://doi.org/10.5281/zenodo.3271330.

International Journal of Applied Engineering and Management Letters (IJAEML)

A Refereed International Journal of Srinivas University, India.

IFSIJ Journal Impact Factor for 2019-20 = 4.252

© With Authors.



This work is licensed under a Creative Commons Attribution-Non Commercial 4.0 International License subject to proper citation to the publication source of the work.

Disclaimer: The scholarly papers as reviewed and published by the Srinivas Publications (S.P.), India are the views and opinions of their respective authors and are not the views or opinions of the S.P. The S.P. disclaims of any harm or loss caused due to the published content to any party.

Analysis of Higher Education in Indian National Education Policy Proposal 2019 and its Implementation Challenges

P. S. Aithal¹ & Shubhrajyotsna Aithal²

¹College of Management & Commerce, Srinivas University, Mangalore – 575 001, INDIA ²Faculty, College of Engineering & Technology, Srinivas University, Mangalore, India E-mail: psaithal@gmail.com

ABSTRACT

Systematic education policy is essential for offering school and college education in a country due to the reason that education leads to progress in society. Different countries use different education systems with different stages during its life cycle of school and College education levels. Recently, the Government of India received a draft Education policy suggested by an expert committee headed by Dr. K. Kasturirangan, former chairman of Indian Space Research Organization (ISRO). The committee suggested both incremental and drastically changes in existing Indian education policy and give guidelines to effective implementation in the country by 2030. This is also in line with the Objectives of fourth Sustainable Development Goals to provide quality education for all citizens through fourth Educational Industry Revolution (EIR 4.0) in the country. This paper reviews the related literature during last few years on Indian Higher Education Policies and their consequences, Salient features and their focuses on the present draft of National Education policy 2019 through content analysis. The paper highlights on various policies proposed in the draft with the special emphasis on higher education section and compare them with the previous policies. The analysis also compares the possible effects of NEP 2019 proposal on private and public HEIs in terms of facilities & restrictions. The strength and weakness of the new policy are identified with respect to various stakeholders and listed. Appropriate suggestions are made to realize the policy and make it defect free and effective from a public point of reference and for the prosperity of the country.

Keywords: Higher education, National education policy, ABCD analysis, Predicted implications.

1. INTRODUCTION:

People can live on the mother earth peacefully until a favourable environment for sustainable life continues on the surface of the earth. Continuous environmental degradation activities on the surface of the earth due to uncontrolled industrial activities using non-renewable energy, and poor quality of life due to poverty led hungry, and thirsty, poor health services made the life miserable on this earth for many people. United Nations, being an intergovernmental organization in the world, is working to realize its mission of maintaining international peace, security, and cooperation along with sustainable development of member countries.

1.1 Sustainable Development Goals:

In September 2015, the General Assembly of the United Nations adopted the 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (SDGs). Building on the principle of "leaving no one behind", the new Agenda emphasizes a holistic approach for achieving sustainable development for all [1]. Table 1 lists the objectives of all 17 SDGs.

Table 1 : Objectives of SDGs

	: Objectives of SDGs	
S. No.	Sustainable Development Goals	Objectives
1	Goal 1: No poverty	End poverty in all its forms everywhere.
2	Goal 2: Zero hunger	End hunger and malnutrition by achieving food
		security and improved nutrition and promote
		sustainable agriculture
3	Goal 3: Good health and well-being	Ensure healthy lives and promote well-being for
		all.
		(Affordable health services to everyone)
4	Goal 4: Quality education	Ensure inclusive and equitable quality
		education and promote lifelong learning
		opportunities for all
5	Goal 5: Gender Equality	Achieve gender equality and empower all
		women and girls
6	Goal 6: Clean water and sanitation	Ensure access to water and sanitation for all
7	Goal 7: Affordable and clean energy	Ensure access to affordable, reliable,
		sustainable and modern energy for all
8	Goal 8: Decent work and economic	Promote inclusive and sustainable economic
	growth	growth, employment and decent work for all
9	Goal 9: Industry, innovation,	Build resilient infrastructure, promote
	infrastructure	sustainable industrialization and foster
		innovation
10	Goal 10: Reduced inequalities	Reduce economic & resource inequality within
		and among countries
11	Goal 11: Sustainable cities and	Make cities inclusive, safe, resilient and
	communities	sustainable
12	Goal 12: Responsible consumption,	Ensure sustainable consumption and production
	production	patterns
13	Goal 13: Climate action	Take urgent action to combat climate change
		and its impacts
14	Goal 14: Life below water	Conserve and sustainably use the oceans, seas
		and marine resources
15	Goal 15: Life on land	Sustainably manage forests, combat
		desertification, halt and reverse land
		degradation, halt biodiversity loss
16	Goal 16: Peace, justice and strong	Promote just, peaceful and inclusive societies
	institutions	(Peace, stability, human rights and effective
		governance based on the rule of law are
		important conduits for sustainable
		development.)
17	Goal 17: Partnerships for the goals	Revitalize the global partnership for sustainable
		development
		(The Sustainable Development Goals (SDGs)
		can only be realized with a strong commitment
		to global partnership and cooperation.)

1.2 Quality education for everyone as Sustainable Development Goal:

Quality education for everyone being the fourth goal is the basis for all other goals. It is well known that quality education converts people into human beings with responsibility for sustainable development of the society. Quality education being 4th Sustainable Development Goal of UN has 10 targets encompassing many different aspects of education (Table 2). Out of them, seven targets are expected outcomes and three targets are the means of achieving these targets [2-3].

Table 2 : Targets and objectives of SDGs in Education (4th Goal) [2]

	: Targets and objectives of SDGs in	
S. No.	Sustainable Education Targets	Objectives
1	Universal primary and secondary education	Ensure that by 2030, all girls and boys of every country have access to complete free, equitable, and primary and secondary education with acceptable quality leading to relevant, desired, and effective learning outcomes.
2	Early childhood development and universal pre-primary education	Ensure that by 2030, all girls and boys of every country have access to quality based early childhood development, suitable pre-primary education and primary education.
3	Equal access to technical/vocational and higher education	By 2030, ensure that all men and women of all countries have equal access for quality and affordable university education including technical, vocational, and tertiary education.
4	Relevant skills for decent work	By 2030, increase substantially the number of youths and adults having employability skills, including technical skills and vocational skills, for available jobs and entrepreneurship.
5	Gender equality and inclusion	Eliminate gender disparities in education by ensuring equal access by 2030 to all types of education and vocational training for all underprivileged people and children in vulnerable situations.
6	Universal youth literacy	By 2030, ensure that all youth and a substantial proportion of adults of all genders, achieve literacy and numeracy.
7	Education for sustainable development and global citizenship	By 2030, it is essential that everybody through education should acquire the knowledge and skills needed to promote sustainable development including sustainable lifestyles, global citizenship, gender equality, human rights, and promotion of a culture of peace and non-violence, and appreciation of cultural diversity and of culture's contribution to sustainable development.
8	Effective learning environments	To build and upgrade education facilities which are child, disability and gender sensitive and non-violent, provide safe, inclusive and effective learning environments for all.
9	Scholarships	By 2020, substantially expand globally the number of scholarships available to developing countries, in particular, least developed countries, for enrolment in higher education, including vocational training. They should have access to technical, information and communications technology, engineering and scientific programs in developed and other developing countries.
10	Teachers and educators	By 2030, there should be a substantial increase in the availability of qualified teachers all among the world, through international cooperation among the countries for teacher training in developing and underdeveloped countries.

Fourth Industrial Revolution (IR 4.0) helps for a radical change in the life of human beings and their development using emerging technologies and completely redefines the industries using such extraordinary technological advances. Two emerging universal technologies (Information Communication & Computation Technology (ICCT) and Nanotechnology (NT)) and their underlying

technologies are predicted as the main contributors to the fourth industrial revolution. These technologies are the part of the education industry both for study and research and hence for finding new solutions of industrial and social challenges. The technologies leading the fourth industrial revolution are going to redefine our lives in terms of providing basic needs, advanced wants, and dreamy desires including ageless immortality through the technological singularity and hence how they make job obsolescence consequently.

1.3 Indian Scenario of Higher Education Industry:

India has over 890 universities and approximately 40,000 colleges, reflecting the overall severe fragmentation and small size of HEIs currently in the country.

Remarkably, over 40% of all colleges in the country run only a single programme, far from the multidisciplinary style of higher education that will be required in the 21st century.

In fact, over 20% of colleges have enrolment below 100, while only 4% of colleges have enrolment over 3000. Some of the reasons for fragmentation of the higher education system in India are:

- Early streaming of students into different disciplines.
- Lack of access, especially in socio-economically disadvantaged areas present GER 25% only.
- Lack of teacher and institutional autonomy.
- Inadequate mechanisms for career management and progression of faculty and institutional leaders.
- The lack of research at most universities and colleges.
- Suboptimal governance and leadership of higher education institutions.
- A corrupted regulatory system allowing fake colleges to thrive while constraining excellent, innovative institutions.

By 2030-2032, India is expected to be the third largest economy at over ten trillion. Our ten trillion economy will not be driven by natural resources, but by knowledge resources. In this context, the Prime Minister's recent call on leveraging the Fourth Industrial Revolution to take India to new heights. The proposed National Education Policy 2019 envisions an India centred education system that contributes directly to transforming our nation sustainably into an equitable and vibrant knowledge society, by providing high quality education to all.

2. RELATED WORKS:

In India, the first national education policy was promulgated in the year 1968 and the second improved version in the year 1986. The 1968 national education policy (NEP –I) had called for a National School System, which meant that all students, irrespective of caste, creed, and sex would have access to education. NEP-I was not very successful due to the reason that (i) proper programme of action was not brought out, (ii) there was a shortage of funds due to poor economy, (iii) Education implementation was State affair and Central government had a little role on implementation [4, 5]. Table 3 contains the review of published scholarly literature during the last few years of Indian Higher Education Policy along with the area of education, the focus of the publication and the corresponding paper for reference.

Table 3: Review of literature during last few years of Indian Higher Education Policy

S.	Area	Focus	Reference	
No.				
1	School Education Level	The progress of school education in India	Kingdon, G. (2007). [6]	G.
2	School Education Level	Schools, teachers, and education outcomes in developing countries	Glewwe, (2006). [7]	P.
3	School Education Level	Achieving universal elementary education in India: Future strategies for ensuring access, quality and finance	Banerji, (2008). [8]	R.
4	School Education Level	Reforming elementary education in India: A menu of options	Mehrotra, (2006). [9]	S.
5	School Education Level	Implementation of Right to Education in India: Issues and Concerns	Kaushal, (2012). [10]	M.

6	School Education Level	Teacher absence in India: A snapshot	Kremer, M. (2005). [11]
7	School Education Level	The English-only myth: Multilingual education in India. Language Problems and	Rao, A. G. (2013). [12]
8	Higher Education	Language Planning Higher education in India: Growth, concerns and change agenda	Agarwal, P. (2007). [13]
9	Higher Education	Highlight the challenges and to point out the opportunities in higher education system in India	Sheikh, Y. A. (2017). [14]
10	Higher Education	Goals and governance of higher education in India	Carnoy, M., (2013). [15]
11	Higher Education	A demand of value based higher education system in India: A comparative study	Bhatia, K., (2011). [16]
12	Higher Education	Higher education in India: A socio-historical journey from ancient Period to 2006-07	Kaushal, M. (2012). [17]
13	Higher Education	One-third of the globe: The future of higher education in China and India	Altbach, P. G. (2009). [18]
14	Higher Education	Employment, employability and higher education in India: The missing links	Khare, M. (2014). [19]
15	Higher Education	A critical appraisal of higher education and economic development in India	Sethi, S. (2012). [20]
16	Higher Education	Quality of Education at the Beginning of the 21st Century: Lessons from India	Kumar, K. (2005). [21]
17	Higher Education	Does affirmative action work? Caste, gender, college quality, and academic success in India	Bagde, S. (2016). [22]
18	Higher Education	Accreditation in India: path of achieving educational excellence	Sinha, V., et al. (2013). [23]
19	Higher Education	Teacher performance pay: Experimental evidence from India	Muralidharan, K. et. al. (2011). [24]
20	Technical Education	Quality problems of engineering education programmes in India	Viswanadhan, K. G. (2009). [25]
21	Technical Education	Engineering education in India–the role of ICT	Bhattacharya, B. (2008). [26]
22	Technical Education	Innovation in B.Tech. Curriculum as B.Tech. (Hons) by integrating STEAM, ESEP & IPR features	Aithal, P. S. et al. (2019). [27]
23	Technology in Education	Technology-enhanced learning in developing nations: A review	Gulati, S. (2008). [28]
24	Technology in Education	Information and communication technology in higher education in India: Challenges and opportunities	Pegu, U. K. (2014). [29]
25	Technology in Education	ICT for Quality of Education in India.	Devi, S. et al. (2012). [30]
26	Teacher Education	Teacher labour force and teacher education in India: An analysis of a recent policy change and its potential implications	Chudgar, A. (2013). [31]
27	Teacher Education	Envisioning a world-class university system for India	Ramaprasad, A. (2011). [32]
28	Teacher Education	Reform of teacher education in India	Walia, K. (2004). [33]

29	Teacher Education	Teacher education scenario in India: Current	Goel, D. R., et al.
		problems & concerns	(2016). [34]
30	Distance Education	Best practices in open and distance learning	Ansari, M. M.
		systems in India: An assessment	(2002). [35]
31	Distance Education	Distance education and the role of IT in India	Subba Rao, S.
			(2006). [36]
32	Distance Education	Quality assurance in open and distance	Gandhe, S. K.
		learning in India	(2010). [37]
33	Research in Higher	The research university in transition: The	Mohrman, K., et
	Education	emerging global model	al (2008). [38]
34	Research in Higher	The performance of research-intensive higher	Prathap, G.
	Education	educational institutions in India	(2014). [39]
35	Research in Higher	Innovations and curriculum development for	Parashar, A. K.,
	Education	engineering education and research in India	et al. (2012). [40]
36	Research in Higher	Research performance of central universities	Marisha, B. S. et
	Education	in India	al. (2017). [41]
37	Research in Higher	Mapping engineering research in India	Raghavan, K. S.,
	Education		et al (2015). [42]
38	Research in Higher	Innovation in India: A review of past	Nair, A. et al
	Education	research and future directions	(2015). [43]
39	Research in Higher	State of the art in research on higher	Barth, M. et al.
	Education	education for sustainable development	(2016). [44]
40	Research in Higher	Assessment revisited: a review of research in	Pereira, D. et al.
	Education	Assessment and Evaluation in Higher	(2016). [45]
		Education	
41	Vocational Education	Vocational education and training in India:	Agrawal, T.
		challenges, status and labour market	(2012). [46]
		outcomes	
42	Vocational Education	Vocational education and training programs	Agrawal, T.
10		(VET): An Asian perspective	(2013). [47]
43	Vocational Education	MoVE: Mobile vocational education for rural	Akshay, N.,
4.4		India	(2012). [48]
44	Vocational Education	Vocational education in India	Kaushik, K.
		**	(2014). [49]
45	Vocational Education	Vocational higher secondary education	Whiteside, T. et
1.6	A 1 1/ T/1	graduates in the state of Gujarat	al (2000). [50]
46	Adult Education	Returns to education: New evidence for India	Vasudeva Dutta,
47	A dul4 Trabas - 41 - 11	Haminghaine is higher a feed to 1, 1, 0	P. (2006). [51]
47	Adult Education	How inclusive is higher education in India?	Tilak, J. B.
40	A dult Transaction	Learnality in Education of Open setting in	(2015). [52]
48	Adult Education	Inequality in Educational Opportunity in	Das, S. (2016).
		India: Evidence and Consequence of Social	[53]
		Exclusion	

The 1986 National Education policy focussed on modernization and the role of IT in education. More attention was paid on restructuring the teacher education, early childhood care women's empowerment and adult literacy. It also accepted the autonomy of universities and colleges, something which was resisted in the past. The salient features of national policy on education planned and implemented 1986 are: (1) The Essence and Role of Education, (2) National System of Education, (3) Education for Equality, (4) Re-organization of Education of Different Stages, (5) Technical and Management Education, (6) Making the System Work, (7) Reorienting the Content and Process of Education, (8) The Teacher and Teacher Education, (9) The Management of Education, (10) Resources and Review, and (11) The Future of Education. The focuses on various aspects under these

eleven features are listed in Table 4.

During 1992, an improvement called Programme of Action (PoA) of National education policy 1986 is proposed and accepted by the government and is emphasized that education must play a role of correcting the social and regional imbalance, empowering women, and in securing a rightful place for the disadvantaged and the minorities. Government should give priority for free and compulsory education for needy people, covering children with special needs, eradication of illiteracy, education for women's equality and a special focus on the education of Scheduled caste and Scheduled tribes, and Minorities. This policy had called for a National School System, which meant that all students, irrespective of caste, creed and sex would have access to education [5].

Table 4: Salient features and their focuses of National Education policy 1986 [54]

		uses of National Education policy 1986 [54]		
S.	Salient features	Focus		
No.				
1		(1) All-round Development of students		
	Education	(2) Acculturating Role for national cohesion		
		(3) Man-power Development for national self-reliance		
		(4) Education is a unique investment for all-round		
		development of nation		
2	National System of	(1) Common educational structure i.e. $10(5+3+2)+2+3$		
	Education	which was recommended by Kothari Commission (1964-66).		
		(2) National Curricular Framework with a Common Core		
		subjects along with other components that are flexible		
		(3) Equal opportunity for education to all		
		(4) National Minimum Levels of Standard of Learning		
		(5) Understanding of Cultural and Social Systems of the		
		people living in different parts of the country		
		(6) International understanding through co-operation and		
		peaceful co-existence		
		(7) Inter-regional mobility by providing equal access to every		
		Indian of requisite merit regardless of his origins.		
		(8) Pooling of Resources for nation building		
		(9) Priorities of Educational Reforms for equating it to global		
		level		
		(10) Life-long education & learning		
		(11) Strengthening of National Institutions to promote		
		research and post graduation.		
3	Education for Equality	(1) Education for women's equality		
		(2) Education of Scheduled Castes		
		(3) Education of Scheduled Tribes		
		(4) Providing education of Backward Sections and Areas		
		(5) Education for minorities		
		(6) Education for physically and mentally handicapped with		
		the general community		
		(7) Focus on Adult and Continuing Education		
4	Re-organisation of Education	(1) Early Childhood Care and Education		
	of Different Stages	(2) Focus on quality of Secondary Education		
		(3) Focus on quality of Higher Education with both campus		
		based and distance education		
5	Technical and Management	(1) Enhancing technical skills		
	Education	(2) Training on management strategies		
6	Making the System Work	(1) Teachers with responsibility and accountability		
	<i>[</i>	(2) Institutions with better infrastructure and improved		
		accreditation status		

Reorienting the Content and	(1) Enriched education by cultural content
Process of Education	(2) Value education based on our heritage, national goals and universal
	(3) Development of Languages with regional focus
	(4) Availability of Qualitative Books and Increase of Reading Habits
	(5) Improvement of Libraries in higher education institutions
	(6) Use of Educational technology in teaching – learning process
	(7) Environmental education in curriculum
	(8) Focus on Science, Mathematics, Sports and Physical
	education
	(9) Reforms in examination and evaluation process
The Teacher and Teacher	Focus on developing creative teachers
Education	
The Management of	Planning and management perspective of education and its
Education	integration with the country's development and manpower
	needs
Resources and Review	Resource mobilization through donations, community
	involvement, and fees
	Education Policy must be reviewed every five years
The Future of Education	Achieving intellectual and spiritual attainment through education
	The Teacher and Teacher Education The Management of Education Resources and Review

3. OBJECTIVES OF THE STUDY:

The draft of National Education policy has many innovative suggestions to improve quality and the broadness of education system in India. The aspirations and the challenges of implementation of such proposal is a research agenda. The objective of the study is to:

- (1) To know the necessity of new National Education policy in the country by knowing the failure of previous National Education Policy.
- (2) To know the major proposals and the framework of newly proposed National Educational Policy.
- (3) To study the essence of the educational life cycle of student from Foundation to Post-graduation stages.
- (4) To highlights on various policies proposed in the higher education system and compares them with the existing system using content analysis.
- (5) To identify and analyse the strengths and weaknesses of the new policies on various stakeholders.
- (6) To compare National Education Policy Proposal 2019 with its previous policies of India.
- (7) To compare private and public HEIs in terms of facilities & restrictions proposed.
- (8) Comments and suggestions for improvements required further to make it more effective.

4. METHODOLOGY:

The methodology consists of extraction of summary of national educational policy proposal, studying the importance of proposal with historic background, analysis of the various sections of the draft, and listing strengths and weaknesses of the proposal using focus group discussion method [55-57].

5. HIGHLIGHTS OF PROPOSED INDIAN NATIONAL EDUCATION POLICY 2019:

5.1 Over all Summary:

The National Education Policy 2019 envisions an India centred education system that contributes directly to transforming our nation sustainably into an equitable and vibrant knowledge society, by providing high quality education to all. It draws inputs and disciplines from vast amount of India's heritage. The countries education system contributed many scholars including Charaka and Susruta, Aryabhata, Bhaskaracharya, Chanakya, Patanjali, and Panini, and many others. Through such eminent people, the country made seminal contributions to world knowledge in varied fields such as

mathematics, astronomy, metallurgy, civil engineering and architecture, shipbuilding and navigation, medical science and surgery, yoga, fine arts, chess, etc. The entire Indian education system is founded and built with such background, support, and inspiration. As per the draft, the Goal of Indian Higher Education is to develop good, well-rounded and creative individuals, with intellectual curiosity, spirit of service and a strong ethical compass [58]. The objective of the draft proposal is to provide multidisciplinary and interdisciplinary liberal education to everybody based on a proposed system. The proposed education system model has integrated yet flexible approach with life cycle stages depicted in table 5.

Table 5:	Integrated	yet flexible	e approach to	education	Model life	e cycle Stages :

S.	Life cycle Stage	Corresponding	School/College	Duration (years)
No.		Education Level	Grade	
1	Pre-primary school	Foundational education	KG (3 years),	5 years
	level	stage	Grade 1 & 2	
2	Primary school level	Preparatory education	Grade 3, 4, & 5	3 years
		stage		
3	High school level	Middle school education	Grade 6, 7, & 8	3 years
		stage		
4	Pre-university level	Secondary education	Grade 9, 10, 11,	4 years
		stage (adolescents)	12	
5	College level	Under-graduation	Grade 13, 14, 15,	4 years
		Education stage	& 16	
6	University level	Post-graduation	Grade 17, 18	1 to 3 years
		Education stage		
7	Doctoral level	Research leading to	Grade 19-22	3 to 4 years
		Ph.D. stage		
8	Post Doctoral level	Independent research	Grade 22-25	2 to 3 years
		stage		
9	Life-long learning	Updating the knowledge	-	Lifelong
		& skills lifelong.		

(1) Foundation Stage:

The Foundational Stage will comprise five years of flexible, multilevel, play-based, activity-based, and discovery-based learning, continuously improved based on research and incorporating various time-tested Indian traditions and cultures for cognitive and emotional stimulation of children.

(2) Preparatory Stage:

Three years of education after the foundation stage is considered as the Preparatory Stage. This will comprise, building on the play-, discovery-, and activity-based pedagogical and curricular style of the Foundational Stage. In addition to it, this stage gradually introduces textbooks for more formal classroom learning. Students are also exposed to different subjects and prepare them to delve deeper insight specialized subjects in future stages.

(3) Middle school education Stage:

The Middle school education which will comprise three years of education aims to build a more formal pedagogical and curricular style of the preparatory stage, focus on more abstract concepts in each subject that students will be ready across subjects like sciences, mathematics, arts, social sciences, and humanities. This stage encourages experiential learning within each subject, and explorations of relations among different subjects, and emphasized to introduce more specialized subjects and subject teachers.

(4) Secondary education Stage:

Secondary school education comprising of four years duration and will facilitate multidisciplinary studies with appropriate exit options besides preparing for the next phase of undergraduate programme of study, including an early introduction to Liberal Arts education. This stage will be built on the subject-oriented pedagogical and curricular style of the Middle stage, but with greater depth,

greater critical thinking, greater attention to life aspirations, and greater flexibility and student choice. Students are exposed to the semester system and during these 8 semesters, they will study 5 to 6 subjects in each semester. They will study both common subjects for all and flexible elective courses from liberal arts subjects. The board examinations will be restructured to test principles, concepts, critical thinking, and higher skills in each subject. Eleventh and twelfth grades will be considered an integral part of secondary school education stage and there will not be a category such as higher secondary or junior college.

(5) Under-graduation Education Stage:

Liberal education based undergraduate degrees regardless of the subject will be of either three- or four-year duration. Three years of undergraduate degree programmes without research components and four years of undergraduate degree programmes with research projects may be offered in liberal education. Bachelor of Liberal Arts (BLA) or Bachelor of Liberal Education (BLE) degree (or BLA / BLE with Research) will be offered by those institutions which are ready to run such programmes consisting of a broad-based liberal education together with rigorous specialization in a field or fields. The three-year traditional B.A., B.Sc., as well as B.Voc. degrees will continue as well for those institutions that wish to continue such programmes, but all Bachelor's degrees will move towards taking a more comprehensive liberal education approach.

(6) Post-graduation Education Stage:

Focus on high quality research. The Master's and Doctoral levels are being strengthened with the provision of at least three routes into the Masters' degree – a one-year degree, a two-year degree, and the integrated five-year degree. The Masters' degree will also have a strong research component to strengthen the appropriate professional competence in the domain area and to prepare students for a research degree.

(7) Research Stage:

Even though research is an integral part of final year undergraduate and postgraduate stages, graduates can pursue high quality research leading to Ph.D. in any core, multidisciplinary, or interdisciplinary areas for a minimum period of 3 and 4 years for full-time and part-time respectively. During Ph.D. they should undergo 8-credit coursework in teaching/ education/ pedagogy related to their chosen Ph.D. subject. The MPhil programme will lose its importance and shall be discontinued.

(8) Lifelong Learning:

The draft of NEP 2019 proposes lifelong learning to avoid human beings becoming obsolete in society in terms of knowledge, skills, and experience to lead a comfortable life. Further education at any stage of life will give further maturity for a happy life.

5.2 Salient features and their focuses of National Education policy 2019:

The draft National Education policy 2019 consists of 23 chapters with first eight chapters pertaining to school education, next ten chapters pertaining to higher education including under-graduation, post-graduation, research, teacher education, and professional education. This also includes the process of empowerment of governance, and effective leadership in HEIs. The next four chapters pertaining to additional key focus areas which include Technology education, vocational education, adult education, and promotion of Indian languages. Finally, the last chapter is related to how to transforming education by implementing the proposal through a central governing body called Rashtriya Shiksha Ayog (National Education Commission). To understand the proposed policy, in a nutshell, it is customary to identify the salient features and their detailed focus on fulfilling the proposal. Table 6 contains the salient features of the proposal including school education, Higher education, Additional Key Focus Areas, and Transforming Education. The salient features and their focuses of various sections of the proposal give an idea on the entire system and to analyse it systematically [58].

Table 6: Salient features and their focuses of National Education policy 2019

	Tuble of Bulletin Teatures and their Toeases of Translate Education policy 2019				
S	5.	Salient	features		Focus
ľ	No.				
I	Part I - School Education				
1		Early	Childhood	Care	Action should be taken for ensuring every child in the age range

	and Education: The	of 3-6 years has access to free, safe, high quality,
	Foundation of Learning	developmentally appropriate care and education by 2025.
		Providing free and compulsory quality pre-primary education for
		all 3-6 year children through RTE Act.
2	Foundational Literacy	Students, along with their schools, teachers, parents, and
	and Numeracy	communities, must be urgently supported and encouraged in
		every way possible to help carry out this all-important target and
		mission to ensure that Every student in Grade 5 and beyond has
		achieved foundational literacy and numeracy by year 2025.
		Developing workbooks, Training Teachers through National
		Tutor Programme, Maintaining Student-teacher ratio as 30:1,
		Computer-based adaptive assessment, and use of the services of
		local community and of volunteers, the System should provide
		quality foundational literacy and numeracy.
3	Reintegrating Dropouts	Minimize dropouts by means of free and compulsory quality
	and Ensuring Universal	school education for all children in the age group of 3-18 years
	Access to Education	by 2030 through intensified Sarva Shiksha Abhiyan and the RTE
	riccess to Education	Act. Bringing the dropouts back into the school and preventing
		the habit of dropout is top priority to achieve 100 % GER. This
		can be achieved by providing good school infrastructure,
		efficient teachers, transportation facility, hostel facilities, health
		& food facilities, and ensuring security.
4	Curriculum and	Curriculum for holistic development and 21st century skills like
-	Pedagogy in Schools	critical thinking, creativity, scientific temper, communication,
	reaugogy in sensors	collaboration, multilingualism, problem solving, ethics, social
		responsibility, and digital literacy.
		(1) Proposal of developing a new curricular and pedagogical
		structure for school education in the form $5 + 3 + 3 + 4$ design.
		This include:
		5 years of the Foundational Stage: 3 years of pre-primary school
		and Grades 1, 2.
		• 3 years of the Preparatory Stage: Grades 3, 4, 5.
		• 3 years of the Middle Stage: Grades 6, 7, 8.
		• 4 years of the Secondary Stage: Grades 9, 10, 11, 12.
		(2) Holistic development of learners by reforming curriculum
		and pedagogy across all stages
		(3) Reduce curriculum content to enhance essential learning and
		critical thinking including more holistic, experiential, discussion-
		based, and analysis-based learning. Further increased flexibility
		and choice of subjects to study across the arts, humanities,
		sciences, sports, and vocational subjects.
		(4) Empower students through flexibility in course choices, and
		no hard separation between 'arts' and 'science' streams, or
		between 'academic' and 'vocational' streams.
		(5) Providing education in the local language/mother tongue;
		multilingualism and the power of language. Implementation of
		the three-language formula, Providing language teachers,
		offering Sanskrit and a foreign language as optional etc.
		(6) Curricular integration of essential subjects and skills
		including scientific temper; sense of aesthetics and art;
		languages; communication; ethical reasoning; digital literacy;
		knowledge of India; and knowledge of critical issues facing local
		communities, States, the country, and the world.
L	<u>l</u>	1

		(7) National Cumiculum Emmaryants will be mariated and
		(7) National Curriculum Framework will be revisited and
		updated by the end of 2020, taking into account the changing
		context of education and will be made available in all regional
		languages.
		(8) National textbooks with local content and flavour by
		Revision of NCERT textbooks, additional subject books at state
		level, and good translations.
		(9) Transforming assessment for student development by
		redesigning Board Examinations in college level to avoid
		coaching culture. Formative assessment and adoption of
		computerising testing to continually improve teaching-learning
		processes. Conducting college and university entrance
		examinations through National Testing Agency (NTA).
		(10) Support of students with singular interests and talents
		through Science Circles, Music Performance Circles, Chess
		Circles, Poetry Circles, Language Circles, Debate Circles, and so
		on. Supporting by establishing a system of centrally funded
		topic-based residential summer programmes, Olympiads and
		competitions, Internet-based apps, assessments, and online
5	Teachers in School	communities for such students.
3	Teachers in School Education	(1) Effective teacher recruitment and deployment by attracting
	Education	talents for teaching profession through merit-based scholarships, transparent recruitment process, additional incentives in rural
		areas, updating teachers through planned training, avoiding
		unnecessary transfers etc.
		(2) School environment and culture that is conducive to quality
		education along with adequate physical infrastructure, facilities,
		learning resources, and freedom to teachers to teach with full
		dedication.
		(3) Continuous professional development of teachers using
		Online resources and Recognising outstanding teachers.
		(4) Career management by providing parity in service conditions
		for teachers across all stages of school education through
		performance appraisals and by means of salary increases,
		promotions, and other recognitions.
		(5) New approach to teacher education by means of 4-year
		integrated Bachelor of Education (B.Ed.) programme that
		combines high-quality content, pedagogy, and practical training
		and developing Specialist teachers.
6	Equitable and Inclusive	(1) Upliftment of underrepresented groups in education by
	Education	identifying such place as special education zone where Pupil-
		Teacher Ratio has to be 25:1, scholarships, breakfast in addition
		to midday meals to the students of SEZ.
		(2) Education of girls as a cross-cutting theme through Gender-
		Inclusion Fund.
		(3) Education of children belonging to Scheduled Caste
		Communities and Other Backward Classes. This also include
		recruitment of teachers from SC and OBC communities.
		(4) Education of children from tribal communities through
		community coordinators. (5) Education of children from aducationally underrepresented
		(5) Education of children from educationally underrepresented groups within minority communities by providing scholarships,
		modernising their religious education centres.

		(6) Education of children from urban poor families by taking the
		help of social workers and counsellors if required.
		(7) Education of transgender children.
		(8) Education of children with special needs through prioritising
		barrier-free structures, ramps, handrails, disabled-friendly toilets,
		and suitable transportation.
7	Efficient Resourcing and	(1) Ending the isolation of small schools through school
	Effective Governance	complexes giving education from Foundational stage to
	through School	Secondary stage.
	Complexes	(2) Better resourcing of schools through school complexes
		including teachers, laboratories, libraries, improved resourcing of
		ICT equipment, musical instruments, sports equipment, sports fields etc. and optimum utilization of available resources.
		(3) Fostering integrated education through school complexes like
		vocational and adult education, children with special needs, etc.
		(4) Improved support to teachers through school complexes by
		allowing interaction among various levels.
		(5) Administration and management of school complexes
		through enabling peer interaction and support, and creating a
		single point of contact with government.
		(6) Effective governance through school complexes by a
		government committee.
		(7) Effective governance and management of individual schools within school complexes, performance management of teachers
		through School Management Committees (SMC).
8	Regulation and	(1) System architecture and roles in school education system.
	Accreditation of School	(2) Accreditation for autonomy with accountability by means of
	Education	an independent State School Regulatory Authority. A separate
		board of Assessment will reform and improve the examination
		system.
		(3) Regulation, accreditation, and oversight of private schools
		and Public availability of information relating to accreditation and its audit. Reasonable increase in fee is allowed for private
		schools.
		(4) Implications for the RTE Act effectively.
		(5) Assessment of functioning of the school education system by
		identifying students with learning difficulties, developmental
		challenges, and other kinds of support needs should be carried
		out within schools and must involve teachers and parents, and
		must be done sensitively.
		(6) Protection of rights of the child and adolescent education
		which includes prevention of corporal punishment, absence of emotional and physical harassment or abuse, precautions against
		injury during school activities, safe infrastructure, use of child
		friendly language and actions, non-discrimination; etc.
Part I	I - Higher Education	, gamga ara ara ara ara ara ara ara ara ara a
9	Quality Universities and	Revamp the higher education system, create world class
	Colleges: A New and	multidisciplinary higher education institutions across the country
	Forward Looking Vision	- increase GER from present 25% to at least 50% by 2035.
	for India's Higher	A regulatory system is ineffective and allowing fake colleges to
	Education System	thrive while constraining excellent, innovative institutions. NEP
		supports faculty and institutional autonomy with light but tight
1		regulations.

10	Institutional Restructuring and Consolidation	Vibrant multidisciplinary institutions of high quality that increase capacity of higher education in India and ensure equitable access. The overall higher education sector will be integrated into one higher education system - including professional and vocational education. Focus on starting both public and private institutions, with strong emphasis on developing a large number of outstanding public institutions of Types 1, 2 and 3 of multidisciplinary model. These three kinds of institution will differ in their focus of goals and work, but will have equal commitment to ensuring high quality. All HEIs, by 2030, will develop into one of three types of institutions. Type 1: 150-300 Research universities with 5,000 to 25,000 students with mainly Central funds. Type 2: 1000 to 2000 Teaching universities with 5,000 to 25,000 students with mainly State funds. Type 3: 5,000-10,000 Autonomous Colleges 2,000-5,000 students with mainly State funds and have degree granting power. By 2032, all HE qualifications (all degrees and diplomas) shall be granted only by accredited Type 1, 2, or 3 institutions. Universities will not have affiliated colleges. All (currently) affiliated colleges must develop into autonomous degree granting colleges (Type 3) or merge completely with the affiliated university. Mission Nalanda (MN) and Mission Takshashila (MT) will be launched and monitor such transition. All the institutions will get support from National Research Foundation for innovative research projects. Private HEIs will be encouraged to develop into Type 1 and 2 institutions, and must develop to become Type 3 institutions. They will be treated equally with public HEIs for research funding. All types of institutions may run Open Distance Learning (ODL) programmes of high quality to support life-long learning.
		There should be at least one Type 1 - 3 institution for every district within 5 years.
11	Towards a More Liberal Education	(1) Liberal education to energise undergraduate programmes to develop both creative side and analytical side of the brain. This includes STEAM model approach and establishment and strengthening of departments needed for multidisciplinarity and cross-disciplinarity. (2) Liberal education approach to energise graduate programmes by providing rigorous specialisation in chosen disciplines or fields in order to develop deeper expertise in one or more subjects. Master's and Doctoral programmes will be called 'graduate' programmes and aim to involve in teaching undergraduates through the liberal education approach, involved with internships in industry, involved with service in the community, and involved in collaboration with research faculty, in order to foster the highest possible quality education and research in graduate programmes. (3) Enhancing professional education through a liberal education

	1	1 0 1 0 0 1 1 0 1 77 1
		approach. Starting four years arts & design focussed BLA or BLE or even four years research focussed BLA or BLE degree courses. (4) Liberal education and research to foster and bolster each other by encouraging and strengthening high quality, and locally and societal relevant research by faculty and by graduate students, including on interdisciplinary subjects of high importance to society such as clean water, energy, environmental sustainability, gender equality, preservation of endangered languages, preservation of local arts, etc. Further, access to high quality multidisciplinary libraries and online journals supports high quality research. (5) Programmes, degrees, and other certifications in higher education should be planned in such a way that the
		undergraduate degree will move towards a strong liberal education approach, regardless of subject, and be of either three-or four-year duration. Three years undergraduate degree
		programmes without research components and four years undergraduate degree programmes with research projects may be
		offered in liberal education.
		Certain professional streams (e.g. teacher education, engineering,
		medicine, law) may only have programmes of four-year duration
		(or more) for the undergraduate degree. HEIs may also offer multiple exit options within this period, with
		appropriate certification, e.g. an advanced diploma in a discipline
		or field (including vocational and professional areas) after
		completing two years of study or a diploma after completing one
		year. There shall be two years Masters programme, five years
		integrated Masters degree programme, and one year Masters programme for four years undergraduates with strong research
		focus at final year. Undertaking a Ph.D. shall require either a
		Master's degree or a four-year Bachelor's degree with Research.
		The M.Phil. programme shall be discontinued. All admissions to
12	Optimal Learning	undergraduate programmes in public universities through NTA. (1) Innovative and responsive curriculum and pedagogy through
12	Environments and	complete autonomy on curricular, pedagogical, and assessment-
	Support for Students	and resource-related (including qualification of faculty) matters.
		A compulsory social engagement for each student equal to at
		least a full one semester course, across the duration of the
		programme. HEI has full autonomy in student's assessment. The Choice
		Based Credit System (CBCS) is revised as Competency Based
		Education System (CBES) by giving focus to continuous
		evaluation. A range of tools and processes should be used for the
		assessment like peer and self-assessment, portfolios, assignments, projects, presentations, and dissertations. The
		criteria and rubrics for assessment must be determined in a
		collaborative manner by the faculty and shared with students.
		Assessment is also suggested for HEI, its programmes and
		curriculum, its faculty members through self assessment, student
		evaluations, peer reviews, and other relevant mechanisms. This
		is also a part of Accreditation process.(2) Student support for learning and development by Career
	1	(2) Student support for featining and development by Career

		support through placement/ sourcelling assistance to halm
		support through placement/ counselling assistance to help
		employment, physical health and emotional wellness programs,
		financial support by means of scholarships and educational
		loans, facilities for sports, visual and performing art, involving
		students in institutional processes, supporting students clubs and
		activities, and student grievance redressal services. Private HEIs
		are required to offer 100% scholarships for 20% students and
		50% scholarships for 30% students.
		(3) Open and distance learning: Curriculum and pedagogy for
		enhancing access and opportunities for life-long learning. ODL
		focus on (i) enhance access to higher education, including
		professional and vocational education; (ii) promote life-long
		learning and certification through reaching out to people engaged
		in various livelihoods as well as those who wish to re-enter the
		formal education system; and (iii) support the continuous
		professional development of teachers in school and higher
		education. Only HEIs accredited to offer ODL will be allowed to
		offer ODL programmes. ODL offering institutions provide
		services like learning materials, help desk services, tutoring and
		counselling, online classes (through webinars, discussion forums,
		webcasting), library facilities, virtual labs, e-learning modules,
		timely feedback on performance, online examinations,
		declaration of results, granting of certifications, redressal of
		grievances, etc. The quality of MOOC offered by HEIs should be
		maintained and a policy for credit recognition and accumulation
		should be decided it individual HEIs level.
		(4) Internationalisation of higher education is expected by
		creating a nationally and internationally competitive education.
		The curriculum, its delivery, assessment processes, and the entire
		educational experience of students must equip them with the
		knowledge, skills, and competencies they need to become global
		citizens. Collaboration between foreign and Indian institutions
		should be facilitated for twinning programmes, dual degree
		programmes, Facilitating entry of international students and
		researchers to India by simplifying Visa procedure, short term
		employment after degree, Indian students exchange, faculty
		exchange, hosting visiting scholars under the Global Initiative of
		Academic Networks (GIAN) scheme, encouraging international
		research collaborations, starting off-shore campuses by
		universities, inviting foreign universities to India, and setting an
		interuniversity centre for international education by building
		international brand.
13	Energised, Engaged and	Faculty motivation through providing good infrastructure,
	Capable Faculty	service conditions, optimum teaching loads, responsibility and
		accountability, optimum student-teacher ratios etc.
		(1) Putting faculty back into the heart of higher education
		institutions by motivating and energising them to achieve high
		quality teaching & research in higher education. This can be
		achieved by improving service conditions, work environment,
		faculty empowerment, performance management or career
		progression, and institutional leadership in HEIs.
		(2) Institutional decisions regarding faculty recruitment,
		retention, salary increases, promotions, recognition, and vertical

National F Foundation	Research	mobility into institutional leadership must all be based entirely on merit and performance with respect to the quality of teaching, research, and service. Meanwhile, faculty who do not deliver on basic norms must be held to account. (3) Outstanding and enthusiastic institutional leadership that cultivates excellence and innovation through creating a merit and performance-based culture is essential and can be realizable through appointing Role model – all round leadership. (4) Various outstanding faculty with high academic and service credentials as well-demonstrated leadership and management skills should be identified early, and trained through a ladder of leadership positions. (5) Culture of empowering academic freedom for the faculty, including the freedom to pursue their research, write, and adopt innovative pedagogical and curricular practices is essential and is responsibility of leaders. (6) Ensuring adequate physical infrastructure & facilities, permanent faculty members (30:1), (7) Faculty members should act as teachers, mentors, and guides. Faculty team should contain mix of academicians and field practitioners. (8) Orientation programs for new faculty, Faculty development programs, Faculty mentoring by seniors, (9) Faculty evaluation could include 360 degree feedback (supervisor, peer and student review) on assessment of contribution to teaching, research, practice (e.g. engagement with practising professionals, adult education, community service, field intervention projects), institutional development (e.g. serving on academic/administrative committees, student support) and other dimensions. Annual Performance Indicator Scores can be used for faculty performance & ranking. (10) All matters pertaining to faculty, from number of faculty to be recruited to recruitment criteria and processes, to career progression, and compensation determination will be part of the Institutional Development Plan (IDP). (1) Establishing a new National Research Foundation with the goal to enable a culture of rese
		will be eligible to compete for NRF funding. Other funding agencies will continue to independently fund research according to their priorities and needs.
		(2) Funding research proposals through rigorous peer review process based on its importance. NRF will call Research proposals for funding under various schemes. NRF will evaluate
		the research performance and impose accountability of used funds and refunding decisions. NRF also ensures that IPR of research outcome belongs to researchers.
		(3) Building research capacity at all universities and colleges through funding long term mega projects, international collaborations, mentoring for grant applications & outcomes etc.

	T	
		(4) Creating beneficial linkages among government, industry,
		and researchers by identifying research requirements of various stakeholders including government and industry of the country.
		NRF will also gets additional funds through industry donations
		from CSR funds with income tax exemption offers from
		government.
		(5) NRF recognises outstanding research funded by it through
		awards and by organizing national seminars on such research in
		order to promote such inventions.
15	Teacher Education	(1) Restoring integrity to teacher education is important due to
13	Teacher Education	the fact that they shape the next generation by maintaining only
		standard institutions and closing all substandard institutions
		pertaining to teacher's education.
		(2) Moving teacher education into multidisciplinary colleges and
		universities and offering integrated four years programmes and
		rigorous improvements in Curriculum and pedagogy. Four-year
		integrated B.Ed. will become the minimal degree qualification
		for all school teachers by 2030. All admissions to teachers
		education programme (integrated B.Ed.) will be carried out by
		the National Testing Agency. Individual one programme teachers
		education institutions will be merged with either autonomous
		multidisciplinary colleges or Universities
		(3) Departments of Education in universities will be strengthened
		and developed as spaces for research and innovation in
		education. Departments of Education must include diverse
		faculty who represent the range of expertise required for teacher
		preparation: knowledge of and experience of teaching,
		multidisciplinary perspectives on society, aims of education,
		nature of knowledge and inclusion, and knowledge of pedagogy,
		curriculum, and evaluation. In addition, facilities like online
		education for working teachers for their masters degree, inter
		departmental collaborations, further opportunities like M.A. in Education (Research) in varied list of subjects, Ph.D.
		programmes should be offered as full time/part time.
		(4) Faculty for teacher education with specialisation in areas of
		curriculum and pedagogy, foundational areas of education
		technology, and research in teacher education will be required as
		core educators. They must be supplemented by faculty with
		Master's and Ph.D. degrees in various related disciplines such as
		science education, psychology, cognitive studies, human
		development, linguistics and many other disciplines along with
		teaching experience, research experience, and scholarly
		publications.
		(5) Faculty in higher education should have Ph.D. During Ph.D.
		they should undergo 8-credit coursework in teaching/ education/
		pedagogy related to their chosen PhD subject. Exposure to
		pedagogic practices, designing curriculum, credible evaluation
		systems and so on, is desirable.
16	Professional Education	Professional education will be an integral part of the overall
		higher education system.
		(1) All higher educational institutions including those offering
		professional education will be empowered to widen the scope of
		their course offerings so that each of them becomes a large

multidisciplinary institution offering a wide selection of courses. Providing vocational education at all institutions offering senior secondary level, liberal undergraduate and in all professional educations is also a major target. Time and age limits for entering and completing programmes will be relaxed to allow learners to take breaks in between their studies, and a system for transferring credits between institutions will be developed.

- (2) Capacity planning for professionals is required to address over-capacity of some professions such as engineering graduates and dentists, and severe under-capacity in many other professions such as doctors, nurses, radiologists and agriculture graduates.
- (3) The curriculum of Postgraduate education and research must be revamped to ensure that post-graduates acquire knowledge, skills, self-confidence and entrepreneurship training, to enable them to contribute to social and national productivity.
- (4) Apart from regular faculty, people with industry/ business/ hospital experience must be invited to come back and teach with appropriate preparation. It must be ensured that new faculty receive induction training and continuous in-service professional development. To strengthen professional education, department of education in each University may start teacher training programmes in every professional field.
- (5) Governance, Regulation and Accreditation are important. All institutions offering professional education will also be mandatorily accredited once for every 5 years, by accreditation agencies empanelled by National Assessment and Accreditation Council (NAAC) in consultation with the professional councils. Independent accreditation agencies with the necessary mandate to accredit all professional streams of education will be empanelled. In both public and private institutions the decision of charging fees for professional education courses will be left to them with obligation of providing free education for 20% students admitted to every programme and 50% scholarship 30% students admitted to every programme.
- (6) To cope up the huge demand of graduates in Agriculture and allied disciplines, HEIs should plan to provide integrated undergraduate education, in all the related disciplines of agriculture and veterinary sciences. Integrating agricultural education of different universities and focussing on agricultural research is essential by attracting public grants.
- (7) To make Indian Legal Education globally competitive, adopting best practices and embracing new technologies are essential for wider access to justice and timely delivery of justice. This should be achieved by improved Curriculum, and Multilingual education.
- (8) In healthcare education, the first year or two of the MBBS course will be designed as a common period for all science graduates after which they can take up MBBS, BDS, Nursing or other specialisations. Graduates from other medical disciplines such as nursing, dental etc., will also be allowed lateral entry into the MBBS course.

Like common entrance examination for the MBBS admission

	<u> </u>	
		(NEET), a common exit examination for the MBBS will be introduced that will play a dual role as also the entrance examination for admission into postgraduate programmes. (9) Technical Education includes degree and diploma programmes in engineering, technology, management, architecture, town planning, pharmacy, hotel management and catering technology. These programmes will be revised to prepare professionals who are well prepared for both current and future practices, and are able to exploit emerging science and technology while being responsive to changing socio-economic and environmental contexts. Strategic thrust will be on new and emerging disciplines including cutting-edge areas such as artificial intelligence, 3-D machining, big data analysis and machine learning among others in technical education, genomic studies, bio-technology, nanotechnology, neuroscience and so on in the sciences.
17	Empowered Governance and Effective Leadership for Higher Education Institutions	Leadership and governance deeply influence all aspects of institutions. All other efforts can be brought together for developing good institutions by strong governance and effective leadership. (1) Each higher education institution will be governed by an Independent Board - this will ensure a clear chain of responsibility and accountability within.
		The Vice-chancellor or Chief Executive must be a person of high competence, integrity and public spirit and appointed by the BoG. Sensibilities and capacities for leadership and management will be the criterion for choosing and appointing institutional leaders. Institutions should identify people with leadership potential early
		in their careers and put them through capability building experiences (e.g. additional responsibilities, roles that require handling varieties of people, courses on leadership and on legal/financial issues in higher education) that would ensure their readiness at the right time. This should include succession planning for all leadership roles, including for that of the CE. Forums for Vice Chancellors/Directors to share their experiences and learn from each other will be encouraged and developed. Govt. must ensure all short term and long term funds for
		administration of public universities and it should not impinge the academic and administrative autonomy of HIEs. Finally, HIEs should have financial autonomy and accountability.
18	Transforming the Regulatory System	The functions of standard setting, funding, accreditation, and regulation are conducted by independent bodies, eliminating concentration of power and conflicts of interest. (1) The National Higher Education Regulatory Authority will be the only regulator for all higher education including professional education. NHERA shall develop a detailed plan for the implementation of the new regulatory regime, in collaboration with NAAC and other relevant bodies. This plan should include the details of the roles of all bodies (NHERA, NAAC, PSSBs, GEC, HEGC, AIs, HEIs, etc.), mechanisms and processes of
		functioning, authorities and responsibilities, and accountability mechanisms. The RSA will review this plan and approve it

before it can be implemented.

(2) Accreditation is the basis for regulation and NAAC shall be reinvented and separated from the UGC into a completely independent, autonomous body and be given the responsibility of overseeing accreditation of all institutions of higher education, across all disciplines and field. For the next 10 years, the graded accreditation (GA) of HEIs with concomitant graded autonomy, as per the system already in place, will continue. This will be reviewed for improvement by 2020. After 10 years (by 2030) there shall only be a "Yes or No" accreditation - Binary Accreditation (BA). The BA system should be introduced at the earliest, certainly by 2022. Till 2030, HEIs would be free to choose between the GA or BA regime. Accreditation is for institutional and no programme accreditation is needed. Based on assessment of the capacity of the HEI to offer high quality ODL, may lead to accreditation with or without ODL.

Licenses to function as an AI, called "meta-accreditation", shall be awarded to an appropriate number of public as well as private not-for-profit institutions by NAAC. HEIs and other not for profit bodies can also choose to set up accreditation agencies/cells, and they can charge for their services to recover cost. The entire accreditation process is transparent and available to public online.

(3) Standard setting bodies

All the other current regulatory authorities such as NCTE, AICTE, MCI, BCI, etc. shall transfer their regulatory function to NHERA which shall become the sole regulator for higher education. These other regulatory authorities transform into Professional Standard Setting Bodies. General Education Council (GEC) will be constituted which is an academic leadership institution, to define attributes and learning expected from students who graduate from the higher education system.

- (4) Role of other bodies: The UGC and AICTE shall transition into HEGC (Higher Education Grant Council) shall focus its energy on scholarships and on developmental funds to start new focus areas in HEIs across fields and disciplines.
- (5) Establishing new higher education institutions shall be only by the Parliament or a State Legislature or with an 'HEI Charter' from NHERA. Setting up new HEIs will be made easier, while ensuring with great effectiveness that these are set up with the spirit of public service and with due financial backing for long term stability. Constituent colleges, off-campuses and multiple campuses may be freely started by (existing or new) HEIs across the country these shall not require any regulatory approval. Constituent colleges will be integrally a part of the University that starts and runs them. All newly-constituted HEIs must receive accreditation as mandated by NHERA within 5 years of being established and again for next 5 years.
- (6) Common regulatory regime: All HEIs public and private shall be treated on par within this regulatory regime. The audited financial statement of all private HEIs must be made public after due endorsement by the Board to eliminate commercialisation of education. Private HEIs shall not be mandated to adhere to

reservation guidelines and except their formative Acts with respect to local State students. Private HEIs shall run all programmes, such that they meet the fee waiver obligations in full, on the average over a rolling four year period. If they do not meet this obligation, they shall have to discontinue the programme. Admissions will be done on a 'need blind' basis, and the HEI will make best efforts to arrange funding for all those offered admission, and in need of financial support. The fees set by private HEIs for all their programmes, must be transparently and fully disclosed, with no increase during the tenure of the student cohort of that programme.

Part III - Additional Key Focus Areas

19 **Technology in Education**

Use of Information Communication and Computation Technology (ICCT) in various processes of teaching-learning of Education. Promotion of use of Free and Open Source Software for Educational Experience (FOSSEE) and any challenges in this regard must be addressed. Use of SWAYAM must be promoted for both students and faculty.

- (1) Setting up of a new National Educational Technology Forum which will be a platform for the free exchange of ideas on the use of technology to improve learning, assessment, planning, and administration. NETF will be to facilitate decision making on the induction, deployment, and use of technology, by providing to the leadership of educational institutions, State and Central governments and other stakeholders the latest knowledge and research as well as the opportunity to consult and share best practices with each other.
- (2) Approach to the induction of technology

Centres of Excellence in Educational Technology: Centres of Excellence in Educational Technology will be established at prominent Universities and other institutions to perform research as well as support functions for the uptake of appropriate technology solutions. It will provide directions to use hardware. software and data for technology based interventions to support translation of content into multiple languages; assist differentlyabled learners; improve the quality of pedagogy and learning processes through the use of intelligent tutoring systems and adaptive assessment systems; create new types of interactive and immersive content (e.g. using augmented and virtual reality); strengthen educational planning and management and bring greater transparency and efficiency to the examination system as well as to administrative and governance processes; assist in the management of education such as supporting teacher development programmes; and scale up the ODL system so that it can respond to the growing demand for education from all age groups, across school education, higher education, professional and vocational education, adult education, and lifelong learning.

(3) Teacher preparation and continuous professional development will include special training for usage of technology in teaching-learning, and evaluation processes. Videos in the open educational repository will be used for teacher training discussions in every subject to improve the teaching competencies. An online training platform - linked to

		annronriate mechanisms to certify trainees in specific areas - will
		appropriate mechanisms to certify trainees in specific areas - will be developed to empower in-service teachers at all levels of education to stay at the cutting edge of pedagogical techniques. (4) Improving teaching, learning and evaluation processes by integrating educational technology and computational thinking into school curriculum, by developing educational software for students and teachers of all levels. These software will help teachers create adaptive assessments, formative as well as summative, evaluate the assessments, formative as well as summative, evaluate the assessments, and provide appropriate feedback to learners. (5) Enhancing educational access both in schools and HIEs by providing low cost, high quality video viewing equipment to watch advanced online courses as well as for publishing course materials using multiple sources and to process online assessments. Accessing technology in remote areas, availability of high quality contents in open educational repositories, automated language translation, and technology usage policies are important issues. (6) Streamlining educational planning and management includes Educational information storage in the form of repositories using ICT, through National Repository of Educational Data will maintain all records related to institutions, teachers and students in digital form. Technology is also used for surveillance data and improving governance and administration. (7) Disruptive technologies like ICCT and its underlying technologies like AI, Blockchain, Virtual reality etc., Nanotechnology and its underlying technologies, and other emerging technologies are going impact and change education industry. Monitoring, usage, and harnessing advantages such technologies at appropriate time like any other industry is the responsibility of RSA. Supporting research & development in disruptive technologies by starting Master's and Ph.D. programmes in these core and multi-disciplinary areas in Universities will be encouraged. Such courses will be developed
20	Vocational Education	level. (1) Integrating vocational education into all schools, colleges and
20	vocational Education	universities and Providing access to vocational education to at least 50% of all learners by 2025. It aims for students to acquire a defined set of practical competences in specific areas of work in the economy that requires knowledge, skills and attitudes relating to that field of work. Vocational education is different from skilling in such that it integrates not just the hands-on skilling component but also the theoretical knowledge, attitudes and mindsets, and soft skills that are required for particular occupations, through a broad-based education that is necessary for students to be able to take on a fast-changing world of work. All educational institutions - schools, colleges and universities -

		must integrate vegetional advection programmes in a phased
		must integrate vocational education programmes in a phased manner.
		(2) Frameworks and standards : Aligning Indian occupational
		standards with International occupational standards that is
		maintained by the International Labour Organisation (ILO).
		(3) Vocational education in secondary school : All school
		students must receive vocational education in at least one
		vocation during Grades 9-12.
		(4) Vocational education as an integral part of higher education.
		HIEs will collaborate with ITIs, polytechnics, local businesses
		and industries, hospitals, farms, and NGOs. Each educational
		institution will make a careful choice of a few areas that they
		would like to offer, based on an analysis of the jobs available in
		their regions. The focus will be the development of practical
		skills as well as the associated theoretical knowledge along with
		a broad-based education. Funding support for integrating
		Vocational education with main education through MHRD and
		MSDE will be encouraged. Certificate courses also planned in
		HEIs for vocational courses in addition to main courses.
		(5) Vocational education for adults and youth include
		Assessment and Recognition of Prior Learning, Upskilling and
		reskilling requirements, campus based and online certificate
		courses for organized and unorganized sectors etc. (6) Areas of special focus including traditional and cultural
		skills, Crafts and artisans called Lok Vidya - knowledge
		developed in India - will be an integral part of vocational
		education programmes with special focus on rural and tribal
		areas.
21		
	Adult Education	(1) Developing a curriculum framework for adult education
	Adult Education	(1) Developing a curriculum framework for adult education which should be flexible enough to adjust to local needs, and
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy,
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas.
21	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support.
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone apps - with a view to enabling all young people and adults to be
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone apps - with a view to enabling all young people and adults to be literate and to acquire knowledge needed to respond to the fast
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone apps - with a view to enabling all young people and adults to be literate and to acquire knowledge needed to respond to the fast transforming economy and skills requirements of the nation.
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone apps - with a view to enabling all young people and adults to be literate and to acquire knowledge needed to respond to the fast transforming economy and skills requirements of the nation. (3) Training a cadre of adult education volunteers through
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone apps - with a view to enabling all young people and adults to be literate and to acquire knowledge needed to respond to the fast transforming economy and skills requirements of the nation. (3) Training a cadre of adult education volunteers through Creating a large team of one-on-one tutors through a newly-
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone apps - with a view to enabling all young people and adults to be literate and to acquire knowledge needed to respond to the fast transforming economy and skills requirements of the nation. (3) Training a cadre of adult education volunteers through Creating a large team of one-on-one tutors through a newly-established National Adult Tutors Programme (NATP).
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone apps - with a view to enabling all young people and adults to be literate and to acquire knowledge needed to respond to the fast transforming economy and skills requirements of the nation. (3) Training a cadre of adult education volunteers through Creating a large team of one-on-one tutors through a newly-established National Adult Tutors Programme (NATP). (4) Ensuring widespread participation in adult education by
	Adult Education	which should be flexible enough to adjust to local needs, and include foundational literacy and numeracy, critical life skills, vocational skills development, basic education equivalent to middle, and secondary school stage, and continuing education in interested areas. (2) Ensuring infrastructure and universal access by identifying trainers/ volunteers and ICT enabled medium. Starting Adult Education Centres (AEC) in the premises of each school complexes and providing those required resources and support. AECs will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing. Adult education model will be redesigned for enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and Smartphone apps - with a view to enabling all young people and adults to be literate and to acquire knowledge needed to respond to the fast transforming economy and skills requirements of the nation. (3) Training a cadre of adult education volunteers through Creating a large team of one-on-one tutors through a newly-established National Adult Tutors Programme (NATP).

22	Promotion Languages	of Indian	programmes across higher education institutions, Setting up a National Institute for Pali, Persian and Prakrit, Recruitment of teachers and faculty for language programmes, promoting research on Indian languages, literature, language education, and related cultural areas will be supported by the NRF with adequate funds.
	I <mark>V - Transfor</mark> n	ning Educati	
23	Rashtriya Aayog	Shiksha	

5.3 Implementation & Monitoring:

The planned transformations in higher education and research is implemented and monitored through three major institutions named Mission Nalanda, Mission Takshashila, and National Research Foundation will oversee and manage the development and research funding of the new institutional architecture with a clearly articulated plan, milestones, and commitments towards funding from both the Central and State governments. The missions will also enable and support private HEIs aspiring to develop into Type 1 or 2 HEIs.

- (1) **Mission Nalanda** will ensure that there are at least 100 Type 1 and 500 Type 2 HEIs functioning vibrantly by 2030, with the equitable regional distribution.
- (2) **Mission Takshashila** will strive to establish at least one high quality HEI in or close to every district of India, with 2 or 3 such HEIs in districts with larger populations, each with residential facilities for students.
- (3) **National Research Foundation** will fund innovative research projects of all types of institutions of both public and private sector.

5.4 Techniques for liberalizing Undergraduate Education :

NEP has suggested many techniques to be implemented to realize liberal education like STEAM (Science, Technology, Education, Arts & Design, Mathematics), multi-disciplinary, and cross-disciplinary education. A liberal arts education enables students to develop both sides of the brain – both the creative/artistic side and the analytic side. Aesthetic, social, and moral capabilities can greatly enhance one's scientific capabilities, and vice versa; and education across all such fields can

improve the capacity and desire for creativity and innovation, and enhance the students skills in communication, ethics, service, critical thinking, cooperation, and collaboration. Similarly, research on STEAM model is consistently showed positive learning outcomes, including increased creativity and innovation, critical thinking and higher order thinking capacities, problem solving abilities, teamwork, communication skills, deeper learning and mastery of curricula across fields, an increase in social and moral awareness, besides general engagement and enjoyment of learning. Table 7 summarizes some of the steps suggested in NEP for liberalization of undergraduate education.

Table 7: Steps suggested in NEP for liberalization of undergraduate education

S. No.	Techniques/Steps	Details
1	Multidisciplinary	Student choice and competency based STEAM model of
	environments and institutions	multidisciplinary subjects across the different disciplines offered in multidisciplinary HEIs. All universities and autonomous colleges must aim to become composite multidisciplinary HEIs.
2	Breaking silos within universities	In the present system, students are streamed into narrow areas such as science, or engineering, or art, or professional or vocational subjects, and allowed to study within their stream. This is a harmful practice and if allowed flexible to develop cross-disciplinary capabilities they will develop both the creative and analytic sides of their brains. This also supports cross-disciplinary collaborative study and research among faculties.
3	Imaginative curriculum and pedagogy	Offering flexibility in curriculum, and choice based course options to students in STEAM subjects is possible by increasing faculty and institutional autonomy in setting curricula. Accordingly, pedagogy will emphasize on communication, discussion, and opportunities for cross-disciplinary and interdisciplinary thinking.
4	Establishment and strengthening of departments needed for multidisciplinary and cross-disciplinary	Departments related to all areas of society are truly needed for a multidisciplinary and stimulating Indian education and environment will be established and strengthened at HEIs across the country.
5	Liberal education to be accompanied by rigorous specialisation	Liberal education will consist of great flexibility in choosing courses to satisfy core subject distribution requirements, together with a selection of courses to establish expertise in a chosen field or fields (called majors, dual majors, or minors). This will ensure well-rounded individuals to become experts in given disciplines or fields.
6	Inclusion of lessons in seva / service as part of liberal education	Where ever possible, courses will include relevant and educational local community services as part of their curricula to help develop socially conscious individuals, and to help connect the subjects that students study to life.
7	Internships and research opportunities	In liberal education, students will be provided with opportunities for internships with local industry as well as research internships with faculty and researchers at their own or other HEIs or research institutions. This component earns fixed credits and is considered as the part of the liberal arts degrees.
8	Flexible Bachelor's degree options	Liberal education based undergraduate degrees regardless of the subject will be of either three- or four-year duration. Three years of undergraduate degree programmes without research components and four years undergraduate degree

		programmes with research projects may be offered in
		liberal education.
		Bachelor of Liberal Arts (BLA) or Bachelor of Liberal
		Education (BLE) degree (or BLA / BLE with Research)
		will be offered by those institutions which are ready to run
		· · · · · · · · · · · · · · · · · · ·
		such programmes consisting of a broad-based liberal
		education together with rigorous specialisation in a field or
		fields.
		The three-year traditional B.A., B.Sc., as well as B.Voc.
		degrees will continue as well for those institutions that
		wish to continue such programmes, but all Bachelor's
		degrees will move towards taking a more comprehensive
		liberal education approach.
9	Implementing STEAM model	Implementing STEAM (Science, Technology, Education,
	[27]	Arts & Design, Mathematics), multi-disciplinary, and
		cross-disciplinary education in all universities and
		autonomous Colleges to make true liberal education.
10	Focus on language, literature,	All undergraduate programmes shall emphasise on Indian
	arts, sports, and music	and foreign language, music, visual arts, performing arts,
	-	yoga, and sports. This shall include India's deep traditions
		in the arts, music, yoga, and sports, including the
		numerous remarkable local regional traditions. Institutions
		will be encouraged and funded to offer full-fledged
		programmes and courses in these areas. Every student in
		under graduation should able to present a project in Indian
		language other than English.
		milguage onto than Diignon.

A four-year duration programme will offer the full possibilities for such a transformed liberal undergraduate education programme, and shall be called a Liberal Arts programme, resulting in a BLA or BLE degree. The BLA or BLE will also offer students the possibility of in-depth research in their final year, resulting in a BLA or BLE with Research. In our previous studies we have discussed and suggested many innovations in higher education to liberalize the subjects, curriculum, and pedagogy for student centric learning and employability skill generation [59-61].

5.5 Comparison of Private and Public HEIs based on NEP proposal 2019 :

Private universities and private colleges are contributing the education system of the country since many years. Such HEIs contributing to the quality education and research comparatively better than public funded HEIs without any financial support due to the fact that they have better autonomy in making quick decisions to provide quality and contemporary education. In the last few years, private HEIs in India are playing important role in the process of providing quality education both in school education sector and college education sector. Presently there are 500 private universities (both State private universities and deemed universities) functioning in India out of total 892 universities. Private universities are also facing many challenges in the process of offering quality education and contributing to the new knowledge through research [62-64]. Table 9 depicts some of the supports and regulations suggested to private HEIs as compared to public HEIs.

Table 9: Comparison of public and private HEIs as proposed in NEP 2019

Tuble 9. Comparison of public and private Tiblis as proposed in 1421 2019		
S. No.	Public HEIs	Private HEIs
1	All three types of HEIs in Public sector	All three types HEIs in Private sector are
	are allowed	allowed
2	Both Central and State governments will	No funding from Central and State
	invest to create campus infrastructure and	governments.
	maintenance.	
3	Restriction on expansion due to financial	No restriction on expansion from government

	constraints	side
4	Less autonomy due to various hidden restrictions	More autonomy for starting innovative, industry oriented programmes
5	All undergraduate and post graduate admissions are based on NTA scores	All undergraduate and post graduate admissions are direct and need blind basis.
6	Regulated fee for students as per funding Government decision	No fee restriction. However, the fees set by private HEIs for all programmes must be transparent and fully disclosed.
7	Mandated to adhere reservation policy in both student admission and faculty appointment to give social justice.	Not Mandated to adhere reservation policy in both student admission and faculty appointment so that preference will be given to academic performance only.
8	Can start any courses after getting permission from government.	Can start all programmes such that they meet the fee waiver obligations in full on the average over a rolling four years period. If they do not meet this obligation, they have to discontinue the programme.
9	Common regulatory regime for both public and private HEIs.	Common regulatory regime for both public and private HEIs.
10	National research foundation allocates research funds for projects	National research foundation allocates research funds for projects with equal consideration
11	No proposal of free education to the students. The fee structure is subsidized from government and is very low	20% students who have high academic and research calibre will get free education and 30% students in each course will get 50% discount in the fee during entire duration of the programme.
12	Single department colleges will be expanded as multi-department college through government support	Single department colleges will be closed down if they fail to expand as multi department college due to infrastructural constraints.

6. STRENGTH & WEAKNESS ANALYSIS OF THE NEP PROPOSAL 2019:

The strength and weakness of the proposal are identified from its structure and implementation point of views [65] and are listed below:

6.1 Strengths of the Proposal:

- (1) The draft is prepared by a team of highly educated & vastly experienced authorities in varied fields.
- (2) The draft contains a comprehensive proposal on all aspects of education for all levels of the people.
- (3) Systematic education for children is proposed from the 3rd year of their age.
- (4) Emphasis is on manpower development and employability.
- (5) The entire proposal is based on the concept of education for equality.
- (6) Private HEIs will prosper due to full autonomy for admission, choosing the curriculum, freedom in teacher's appointment without following reservation policy, research funds support, and ability to retain only performers through accountability models.
- (7) Private HIEs will get the freedom of admission whereas Public HEIs admit students through NEA ranking & counselling.
- (8) All types of HEIs will be multidisciplinary, accredited, and autonomous degree granting institutions at undergraduate and postgraduate levels.
- (9) Marks scored by each student in each subject is based on the continuous evaluation by the concerned faculty members of the department so that the performance grade of the student will be based on true academic scores not based on his/her fate or luck.
- (10) Well written by considering all aspects of education and all levels of people in society.

- (11) The experience and thoughts of many experts are embedded in the Proposal.
- (12) Supports to fulfill the United Nations Sustainable development goals by 2030.
- (13) Addressed the systematic education requirement for the citizen for lifelong learning.
- (14) Free education with the liberal concept along with breakfast and lunch makes education as means not punishment in the initial stage of the lifecycle.
- (15) Liberalization in choosing the subjects in school and college education allows to all-round development with innovating abilities and critical & design thinking.
- (16) The policy of 20% free education and 30% subsidized education in private HEIs will give opportunities for availing free education lifelong for brilliant students.
- (17) Autonomy is given to Type 3 HEIs to decide their curriculum may lead to contemporary education as per industry requirement.
- (18) The proposal is innovative and supportive to break the silos of the existing system.
- (19) Multiple entries and multiple exits in the under-graduate system allow students to redefine their career path based on interest and external opportunities.
- (20) Quality of B.Ed. will improve due to the fact that only type 1, and type 2 HEIs are able to offer teacher education and is the basic qualification required to all levels of school education.
- (21) Digitization of the libraries leads to online information on any subjects for students and faculty in support of the liberal education model.
- (22) Intensive research in every subject is supported at undergraduate, post-graduate, and research level through extensive funding support to all HEIs by National Research Foundation.
- (23) Teachers are made as to the centre of the system and the measures are proposed for continuous improvement of both quality and performance of the teachers.
- (24) Autonomy is given to teachers both for innovations in curriculum and innovations in evaluation methods.
- (25) Students have the liberty to choose subjects both from specialization areas and across many multi-disciplinary subject areas.
- (26) Priority is given to research based customized education at all levels by involving both students and faculties.
- (27) A compulsory social engagement for each student equal to at least a full one semester course across the duration of an undergraduate programme so that every student is exposed to the problems of underprivileged and learns a sort of social responsibility in their life.
- (28) Drastic improvement in the quality & exposure of school teachers by making four years integrated B.Ed. as a minimum qualification for them.
- (29) Opportunities to provide ODL mode of offering degree programmes for all accredited HEIs.
- (30) The objective of providing education to all and higher education GER to at least 50% from the current 25% by 2030.
- (31) The proposed student faculty ratio in the schools and colleges is increased from 20:1 to 30:1 and this liberalization allows HEIs to use more industry experts (field practitioners) for part time experience sharing.
- (32) Encouragement for HEIs to involve in foreign university collaboration for twining programmes, dual degree programmes, student exchange programmes, faculty exchange programmes, international research collaborations, starting off-shore campuses by Indian universities, etc.
- (33) Liberal education based on STEAM (Science, Technology, Engineering, Arts & design, and Mathematics) model is proposed from the school education to the college education system.
- (34) 360 degree feedback based faculty evaluation is given importance to assess the contribution to teaching, research, and practice.
- (35) Further encouragement for research is provided by proposing a policy for National research foundation to retain IPR with the researchers.
- (36) At school education level, providing free and compulsory quality pre-primary education, primary education, and secondary education for all 3-18 years children through RTE Act.
- (37) Multiple regulatory bodies are merged into a single regulatory body to remove the corruption by agencies and lobbying by HEIs. Light but tight regulations are suggested.
- (38) The research fund proposed for NRF (Rs. 20,000 crores) is substantially impressive and may contribute enhanced research output in all important areas of human development.

- (39) Secondary stage of school education comprises of four years with eight semesters so that repeated board exams at the state level are eliminated.
- (40) All private HEIs will be treated equally with public institutions for research funding so that researchers will get equal importance and encouragement for their research contributions irrespective of the type of the institution they work.

6.2 Weakness of the Proposal:

- (1) The subject identification and specialization into science, commerce, arts in order to choose the type of professional education are not clear.
- (2) Implementation details at school levels and college levels are also not clear.
- (3) The three years exit with a degree and four years exit with a research project based degree is also confusing to get a government job under a similar degree qualification.
- (4) One year and two years Masters degree programmes are also suggested and it is not clear that under what circumstances these different duration Master degree programmes have to be offered.
- (5) Online Distance Learning (ODL) permission should be restricted to only universities instead of autonomous colleges too.
- (6) Less importance and information is given for diploma programmes under higher education.
- (7) No substantial support to improve the quality for contributing global ranking.
- (8) Accumulating required land and infrastructure for affiliated colleges to be transformed into multidisciplinary autonomous colleges is a major constraint.
- (9) If all types of HEIs start offering ODL programmes the system will become worse due to unhealthy competitions.
- (10) Since top class foreign universities are allowed to enter and offer educational services in India with huge investments, sustainability for Indian organizations becomes a challenge.
- (11) Encouragement & motivation for lifelong research by suggesting Post doctoral degrees is not visible.
- (12) No strong & effective suggestion on faculty performance measurement is included for determining accountability.
- (13) Promotion of open system leads ignoring of proprietary software and proprietary knowledge.
- (14) Regulatory policies support lobbying & corruption.
- (15) The vision statement is India centric and not reflecting global relevance.
- (16) The transition from the current system to the proposed future system is not progressive but disruptive.
- (17) Autonomy should be earned by the HEIs based on their quality and not to be given forcefully by the government.
- (18) Removing affiliated colleges leads to chaos and confusion.
- (19) The proposed binary accreditation system leads no incentives to achievers.
- (20) Proposed compulsory one semester equivalent social engagement in the form of the internship is difficult for certain professional programmes.
- (21) Specific procedures to increase patent filing and scholarly publications in the country is not suggested apart from encouragement for research based on enhanced funding.

7. SUGGESTIONS:

The following suggestions may be appropriate to realize the policy and make it effective and defect free from a public point of reference :

- (1) Only Type 1 & Type 2 HEIs should be allowed to offer B.Ed. programme to improve the quality of teachers in School education.
- (2) Technology should be used extensively in the student evaluation process.
- (3) Annual accountability should be set to the faculty members and based on faculty Annual Performance Indicator scores, annual increments should be decided and for every four years, faculty continuation/termination should be decided.
- (4) The individual colleges and single departmental colleges which fails to acquire autonomy based on attaining accreditation can merge with any other HEIs instead of only merging with affiliating universities.

- (5) National Research Foundation while funding for research, certain minimum funds should be given to all types of HEIs irrespective of public and private organizations to provide minimum research facilities as a central facility.
- (6) National Research Foundation should fund for developing Common Central facilities in each State to help researchers and to avoid repetition and underutilization of repeated facilities in every HEIs.
- (7) In five years integrated degree programmes, multiple exits after 3rd and 4th years should be possible.
- (8) At least one year Masters degree should be compulsory as a minimum educational qualification to join Ph.D. research degree to maintain uniformity. But the present proposal allows students who completed four years under-graduation with substantial research components are eligible to join Ph.D. programme. Also one year Masters Degree in the subject and one year Masters Degree in Teaching (M.Ed.) should be compulsory for Lecturer/Assistant professor for teaching under-graduation degree programmes.
- (9) The NEP 2019 consequently eliminates the examination and evaluation section of the universities due to the incorporation of continuous evaluation system at departmental level itself.
- (10) Students should compulsorily register and complete at least one online course from SWAYAM or NPTEL per year as a part of their grading system. Every faculty member irrespective of their seniority also takes at least two online FDP to update them to become eligible for annual increments.

8. CONCLUSION:

A periodic improvement in the education system is essential for human development and sustainable progress in society. Reforms in the education system by considering various success models in developed countries and customizing such things with local needs is the present requirement for a country to prosper. India, being a fast developing country with 130 crores human capital can prosper and overtake other developing countries by planning and adopting an appropriate education model. In this aspect, the present National Education Policy proposal 2019 is an inclusive model with many innovations to provide liberal but specialized and customized both school and college education by incorporating research components both at school and college levels [66]. Apart from highlighting the features of the proposal, in this paper, we have analysed the strengths and weaknesses of the proposal and offered some suggestion to further improve the model as an optimum model by considering the local conditions of the country.

REFERENCES:

- [1] Sachs, J. D. (2012). From millennium development goals to sustainable development goals. *The Lancet*, 379(9832), 2206-2211.
- [2] Hák, T., Janoušková, S., & Moldan, B. (2016). Sustainable Development Goals: A need for relevant indicators. *Ecological Indicators*, 60, 565-573.
- [3] Lu, Y., Nakicenovic, N., Visbeck, M., & Stevance, A. S. (2015). Policy: Five priorities for the UN sustainable development goals. *Nature News*, 520(7548), 432.
- [4] Kochar, A. (2002). Emerging Challenges for Indian Education Policy. *Economic Policy Reforms and the Indian Economy*, 303-28.
- [5] Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of studies in international education*, 11(3-4), 290-305.
- [6] Kingdon, G. G. (2007). The progress of school education in India. *Oxford Review of Economic Policy*, 23(2), 168-195.
- [7] Glewwe, P., & Kremer, M. (2006). Schools, teachers, and education outcomes in developing countries. *Handbook of the Economics of Education*, 2, 945-1017.
- [8] Banerji, R., & Mukherjee, A. N. (2008). Achieving universal elementary education in India: Future strategies for ensuring access, quality and finance. *Margin: The Journal of Applied Economic Research*, 2(2), 213-228.

- [9] Mehrotra, S. (2006). Reforming elementary education in India: A menu of options. *International Journal of Educational Development*, 26(3), 261-277.
- [10] Kaushal, M. (2012). Implementation of Right to Education in India: Issues and Concerns. *Journal of Management & Public Policy*, 4(1).
- [11] Kremer, M., Chaudhury, N., Rogers, F. H., Muralidharan, K., & Hammer, J. (2005). Teacher absence in India: A snapshot. *Journal of the European Economic Association*, 3(2-3), 658-667.
- [12] Rao, A. G. (2013). The English-only myth: Multilingual education in India. *Language Problems and Language Planning*, *37*(3), 271-279.
- [13] Agarwal, P. (2007). Higher education in India: Growth, concerns and change agenda. *Higher Education Quarterly*, 61(2), 197-207.
- [14] Sheikh, Y. A. (2017). Higher Education in India: Challenges and Opportunities. *Journal of Education and Practice*, 8(1), 39-42.
- [15] Carnoy, M., & Dossani, R. (2013). Goals and governance of higher education in India. *Higher Education*, 65(5), 595-612.
- [16] Bhatia, K., & Dash, M. K. (2011). A demand of value based higher education system in India: A comparative study. *Journal of Public Administration and Policy Research*, 3(5), 156-173.
- [17] Choudhary, S. K. (2009). Higher education in India: A socio-historical journey from ancient Period to 2006-07. *The Journal of Educational Enquiry*, 8(1).
- [18] Altbach, P. G. (2009). One-third of the globe: The future of higher education in China and India. *Prospects*, 39(1), 11.
- [19] Khare, M. (2014). Employment, employability and higher education in India: The missing links. *Higher Education for the Future*, *1*(1), 39-62.
- [20] Sethi, S., Ghuman, R. S., & Ukpere, W. I. (2012). A critical appraisal of higher education and economic development in India. *African Journal of Business Management*, 6(23), 6795-6801.
- [21] Kumar, K. (2005). Quality of Education at the Beginning of the 21st Century: Lessons from India. *Indian Educational Review*, 40(1), 3-28.
- [22] Bagde, S., Epple, D., & Taylor, L. (2016). Does affirmative action work? Caste, gender, college quality, and academic success in India. *American Economic Review*, 106(6), 1495-1521.
- [23] Sinha, V., & Subramanian, K. S. (2013). Accreditation in India: path of achieving educational excellence. *Business education & accreditation*, 5(2), 107-116.
- [24] Muralidharan, K., & Sundararaman, V. (2011). Teacher performance pay: Experimental evidence from India. *Journal of political Economy*, *119*(1), 39-77.
- [25] Viswanadhan, K. G. (2009). Quality problems of engineering education programmes in India. *International Journal of Management in Education*, 3(1), 40-55.
- [26] Bhattacharya, B. (2008). Engineering education in India—the role of ICT. *Innovations in education and teaching International*, 45(2), 93-101.
- [27] Aithal, P. S., & Aithal, Shubhrajyotsna (2019). Innovation in B.Tech. Curriculum as B.Tech. (Hons) by integrating STEAM, ESEP & IPR features. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, 3(1), 56-71. DOI: http://doi.org/10.5281/zenodo.3248630.
- [28] Gulati, S. (2008). Technology-enhanced learning in developing nations: A review. *The International Review of Research in Open and Distributed Learning*, 9(1).
- [29] Pegu, U. K. (2014). Information and communication technology in higher education in india: Challenges and opportunities. *International Journal of Information and Computation Technology*, 4(5), 513-518.

- [30] Devi, S., Rizwaan, M., & Chander, S. (2012). ICT for Quality of Education in India. *International Journal of Physical and Social Sciences*, 2(6), 542-554.
- [31] Chudgar, A. (2013). Teacher labor force and teacher education in India: An analysis of a recent policy change and its potential implications. In *Teacher reforms around the world: Implementations and outcomes* (pp. 55-76). Emerald Group Publishing Limited.
- [32] Ramaprasad, A. (2011). Envisioning a world-class university system for India. *International Journal of Technology Management & Sustainable Development*, 10(1), 45-54.
- [33] Walia, K. (2004). Reform of teacher education in India. In *Reform of teacher education in the Asia-Pacific in the new millennium* (pp. 93-106). Springer, Dordrecht.
- [34] Goel, D. R., & Goel, C. (2016). Teacher education scenario in India: Current problems & concerns. *MIER journal of educational studies, Trends and Practices*, 2(2), 231-242.
- [35] Ansari, M. M. (2002). Best practices in open and distance learning systems in India: An assessment. *Indian Journal of Open Learning*, 11(2), 219-228.
- [36] Subba Rao, S. (2006). Distance education and the role of IT in India. *The Electronic Library*, 24(2), 225-236.
- [37] Gandhe, S. K. (2010). Quality assurance in open and distance learning in India. *Open Praxis*, 4(1), 26-32.
- [38] Mohrman, K., Ma, W., & Baker, D. (2008). The research university in transition: The emerging global model. *Higher education policy*, 21(1), 5-27.
- [39] Prathap, G. (2014). The performance of research-intensive higher educational institutions in India. *Current Science*, 389-396.
- [40] Parashar, A. K., & Parashar, R. (2012). Innovations and curriculum development for engineering education and research in India. *Procedia-Social and Behavioral Sciences*, *56*, 685-690.
- [41] Marisha, B. S., & Singh, V. K. (2017). Research performance of central universities in India. *Current Science*, 112(11), 2198-207.
- [42] Raghavan, K. S., & Rao, I. R. (2015). Mapping engineering research in India. *Collnet Journal of Scientometrics and Information Management*, 9(1), 73-81.
- [43] Nair, A., Guldiken, O., Fainshmidt, S., & Pezeshkan, A. (2015). Innovation in India: A review of past research and future directions. *Asia Pacific Journal of Management*, 32(4), 925-958.
- [44] Barth, M., & Rieckmann, M. (2016). State of the art in research on higher education for sustainable development. *Routledge handbook of higher education for sustainable development*, 100-113.
- [45] Pereira, D., Flores, M. A., & Niklasson, L. (2016). Assessment revisited: a review of research in Assessment and Evaluation in Higher Education. Assessment & Evaluation in Higher Education, 41(7), 1008-1032.
- [46] Agrawal, T. (2012). Vocational education and training in India: challenges, status and labour market outcomes. *Journal of Vocational Education & Training*, 64(4), 453-474.
- [47] Agrawal, T. (2013). Vocational education and training programs (VET): An Asian perspective. *Asia-Pacific Journal of Cooperative Education*, *14*(1), 15-26.
- [48] Akshay, N., Sreeram, K., Anand, A., Venkataraman, R., & Bhavani, R. R. (2012, January). MoVE: Mobile vocational education for rural India. In 2012 IEEE International Conference on Technology Enhanced Education (ICTEE) (pp. 1-5). IEEE.
- [49] Kaushik, K. (2014). Vocational education in India. *International journal of education and information studies*, 4(1), 55-58.

- [50] Whiteside, T., & Desai, G. (2000). Vocational higher secondary education graduates in the state of Gujarat. *Journal of Vocational Education and Training*, 52(1), 49-61.
- [51] Vasudeva Dutta, P. (2006). Returns to education: New evidence for India, 1983–1999. *Education Economics*, 14(4), 431-451.
- [52] Tilak, J. B. (2015). How inclusive is higher education in India?. Social Change, 45(2), 185-223.
- [53] Das, S. (2016). Inequality in Educational Opportunity in India: Evidence and Consequence of Social Exclusion. *Child Indicators Research*, 9(1), 51-71.
- [54] Bhawna Bawa, http://www.yourarticlelibrary.com/education/11-salient-features-of-national-policy-on-education-1986/76821
- [55] Rogers, E. M., (1995). Diffusion of Innovation. The Free Press, NY.
- [56] Aithal, P. S., & Varambally, K. V. M. (2009). Mobile Business Technology and Business Proliferation of Banks A futuristic Approach. *Amity Business Review an Indian Journal*, 10(1), 9–25.
- [57] Aithal, P. S., & Shubhrajyotsna Aithal (2015). An Innovative Education Model to realize Ideal Education System. *International Journal of Scientific Research and Management (IJSRM)*, 3(3), 2464 –2469. DOI: http://doi.org/10.5281/zenodo.61654.
- [58] Draft National Education Policy 2019, https://innovate.mygov.in/wp-content/uploads/2019/06/mygov15596510111.pdf
- [59] Shubrajyotsna Aithal & Aithal, P. S. (2016). Student Centric Learning Through Planned Hardwork An Innovative Model. *International Journal of Scientific Research and Modern Education (IJSRME)*, *I*(1), 886-898. DOI: http://doi.org/10.5281/zenodo.61830.
- [60] Aithal, P. S., P. M. Suresh Kumar and Deekshitha (2015). Societal Expectation and Institutional Accountability in Higher Education. *International Journal of Management, IT and Engineering (IJMIE)*, 5(7), 361-373. DOI: http://doi.org/10.5281/zenodo.267021.
- [61] Aithal, P. S., Suresh Kumar, P. M., and Pavithra Kumari (2015). Methods and Approaches for Employability Skill Generation in Higher Educational Institutions. *International Journal of Management*, IT and Engineering (IJMIE), 5(7), 390-410. DOI: http://doi.org/10.5281/zenodo.267044.
- [62] Aithal P. S., Anil Kumar, Madhushree, & Revathi R. (2018). Investigation of Business Strategies in Higher Education Service Model of Selected Private Universities in India. *International Journal of Computational Research and Development (IJCRD)*, 3(1), 2018, 77-100. DOI: http://doi.org/10.5281/zenodo.1209910.
- [63] Aithal, P. S., Madhushree, Revathi, R. (2017). Comparison of Private Universities in India based on NIRF Ranking and Fee Charging Strategies. *International Journal of Case Studies in Business*, *IT and Education (IJCSBE)*, 1(2), 72-85. DOI: http://dx.doi.org/10.5281/zenodo.1098373.
- [64] Aithal, P. S. & Suresh Kumar, P. M. (2016). Opportunities and Challenges for Private Universities in India. *International Journal of Management, IT and Engineering (IJMIE)*, 6(1), pp. 88-113. DOI: http://doi.org/10.5281/zenodo.161157.
- [65] Aithal, P. S., and P. M. Suresh Kumar (2015). Applying SWOC Analysis to an Institution of Higher Education. *International Journal of Management, IT and Engineering (IJMIE)*, *5*(7), 231-247. DOI: http://doi.org/10.5281/zenodo.163425.
- [66] Shubhrajyotsna Aithal & Aithal, P. S. (2019). How to Customize Higher Education at UG & PG levels using Patent Analysis & Company Analysis as New Research Methods in Technology & Education. In *Information Technology and Education, Challenges and Opportunities of Smarter Learning Systems*, New Delhi Publishers, India. Chapter 3, pp.25-59. ISBN:978-93-88879-13-2.