# **INNOVATION IN HIGHER EDUCATION**

# Prof. Sheikh Javid Ahmed Cluster University Srinagar (J&K)

### **EDUCATION : India's Innovation Agenda ?**

Former President of India, Mr. Pranab Mukerjee, remarked :

"India cannot aspire to become a sustainable superpower without becoming a knowledge superpower. India cannot fuel its imagination of becoming an industrial power-house, if it is dependent on borrowed ideas of innovation and entrepreneurship. Within the next decade it needs to produce educated/ skilled people and new ideas."

### Campuses as Incubation Centres :

Scientific ideas that led to the invention of the simple electronic transistor, optic fiber, or computing, in turn, led to the development of entire industries of electronics, telecom or computers respectively; all of these innovations were incubated on the campuses of University of Pennsylvania, MIT and University of Illinois, respectively.

### The Global Competitiveness Index 2017–2018 Rankings

Covering 137 economies, the Global Competitiveness Index 2017–2018 measures national competitiveness – defined as the set of institutions, policies and factors that determine the level of productivity.

Economy	Score <sup>1</sup>	Prev. <sup>2</sup>	Trend <sup>3</sup>	Belgium	5.23	17	
Switzerland	5.86	1		Australia	5.19	22	
Jnited States	5.85	з		France	5.18	21	
apore	5.71	2		Malaysia	5.17	25	*********
etherlands	5.66	4		Ireland	5.16	23	
ermany	5.65	Б		Qatar	5.11	18	*******
ong Kong SAR	5.53	9		Korea, Rep.	5.07	26	
weden	5.52	6		China	5.00	28	
nited Kingdom	5.51	7		lceland	4.99	27	********
apan	5.49	8		Estonia	4.85	30	·····
nland	5.49	10		Saudi Arabia	4.83	29	******
orway	5.40	11		Czech Republic	4.77	31	
enmark	5.39	12		Thailand	4.72	34	********
lew Zealand	5.37	13		Chile	4.71	33	
Canada	5.35	15		Spain	4.70	32	********
aiwan, China	5.33	14		Azerbaijan	4.69	37	
srael	5.31	24	·····	Indonesia	4.68	41	
Inited Arab Emirates	5.30	16	31	Malta	4.65	40	
Nustria	5.25	19		Russian Federation	4.64	43	
uxembourg	5.23	20		Poland	4.59	36	********
			4	India	4.59	39	

## India



WORLD ECONOMIC FORUM

Key indicators, 2016						Source: Inter	national Mone	tary Fund; Wor	1d Economic C	utlook Databa	se (April 2017)
Population millions 1,309.3					GDP per capita US\$ 1,7						1,723.3
GDP US\$ billions				2,256.4	GDP (F	PPP) % world GI	OP				7.23
Index Component	Rank/137	Score (1-7)	Trend	Distance from best	Edition	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Global Competitiveness Index	40	4.6	-	-	Rank	59/144	<b>60</b> / 148	<b>71</b> / 144	<b>55</b> /140	<b>39</b> / 138	40 / 137
Subindex A: Basic requirements	63	4.7	~		Score	4.3	4.3	4.2	4.3	4.5	4.6
🚔 1st pillar: Institutions	39	4.4	-								
++ 2nd pillar: Infrastructure	66	4.2	-					1st pillar: Institutions			
🗧 3rd pillar: Macroeconomic environment	80	4.5	~			12th J Innov		1	2nd pill Infrastr		
👌 4th pillar: Health and primary education	91	5.5	-				A	-	A		
Subindex B: Efficiency enhancers	42	4.5	$\sim$			11th pillar: Business sophistication	$\langle \rangle$	A a	NY.	3rd pillar: Macroeconor environment	nic
🧐 5th pillar: Higher education and training	75	4.3	-				X	320	7		
$\circledast$ 6th pillar: Goods market efficiency	56	4.5	-			10th pillar: Market size	$\leq$		P	4th pillar: Health and education	
💐 7th pillar: Labor market efficiency	75	4.1	-				K		PLI.		
🖨 8th pillar: Financial market development	42	4.4	$\sim$			9th pillar: Technological readiness	$\langle \rangle \rangle$			5th pillar: Higher educat and training	ion
🚸 9th pillar: Technological readiness	107	3.1	~				X	1	Y	1	
🐁 10th pillar: Market size	3	6.4				Financia	th pillar: Il market lopment	7th pillar:	6th pillar Goods m efficienc	arket	
Subindex C: Innovation and sophistication factors	30	4.3	~					Labor market efficiency			
"/ 11th pillar: Business sophistication	39	4.5	~					= .			
🔆 12th pillar: Innovation	29	4.1	-				India	a 📃 South	n Asia		

### China

The Global Competitiveness Index 2017-2018 edition

33

28

4.5

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### 27th/137

ECONOMIC FORUM

#### Key indicators, 2016

11th pillar: Business sophistication

12th pillar: Innovation

not a

Source: International Monetary Fund; World Economic Outlook Database (April 2017)

Population millions				1,382.7	GDP pe	er capita US\$					8,113.3
GDP US\$ billions				11,218.3	GDP (P	PPP) % world GDF	Р				17.76
Performance overview											
Index Component	Rank/137	Score (1-7)	Trend	Distance from best	t Edition	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Global Competitiveness Index	27	5.0		-	Rank	29/144	29/148	28/144	28 / 140	28 / 138	27 / 137
Subindex A: Basic requirements	31	5.3			Score	4.8	4.8	4.9	4.9	5.0	5.0
🚔 1st pillar: Institutions	41	4.4	-	-							
++ 2nd pillar: Infrastructure	46	6 4.7	-	-				1st pillar: Institutions			
🗧 3rd pillar: Macroeconomic environment	17	6.0	-			12th pillar: Innovation 7		7	2nd pillar: Infrastructure		
$\circlearrowright$ 4th pillar: Health and primary education	40	6.2									
Subindex B: Efficiency enhancers	28	3 4.9	-			11th pillar: Business sophistication		-	7	3rd pillar: Macroeconol environment	
🗐 5th pillar: Higher education and training	47	4.8	-				1	AD?			
oth pillar: Goods market efficiency	46	<b>4</b> .5	-	-		10th pillar: Karket size	It	1982	TP	4th pillar: Health an education	nd primary
🖉 7th pillar: Labor market efficiency	38	4.5	-				R	XXX	1		
🖨 8th pillar: Financial market development	t 48	4.2	~	-		9th pillar: Technological readiness		000		5th pillar: Higher educal and training	tion
It pillar: Technological readiness	73	4.2	-	-			ut sillen				
📲 10th pillar: Market size	1	7.0	_			Financial market Good		6th pillar Goods m efficienc	is market		
Subindex C: Innovation and sophistication factors	29	4.3	_				in the saidth	Labor market efficiency		2	

China

East Asia and Pacific

### **United States**

12th pillar: Innovation

The Global Competitiveness Index 2017-2018 edition

2

5.8

NAMES OF TAXABLE PARTY.



WORLD

FORUM

Key indicators, 2016 Source: International Monetary Fund; World Economic Outlook Database (April 2017) **Population** millions 323.3 GDP per capita US\$ 57.436.4 **GDP** US\$ billions 18,569.1 GDP (PPP) % world GDP 15.49 Performance overview Rank/137 Score (1-7) Trend Distance from best Edition 2012-13 2013-14 2014-15 2015-16 2016-17 2017-18 Index Component 3/138 2/137 **Global Competitiveness Index** 5.9 7/144 5/148 3/144 3/140 2 Rank 25 5.5 5.5 5.5 5.5 5.6 5.7 5.9 Subindex A: Basic requirements ADDRESS ADDRES ADDRESS Score 20 1st pillar: Institutions 5.3 1st pillar: 9 Institutions 6.0 ++ 2nd pillar: Infrastructure 12th pillar: 2nd pillar: 3rd pillar: Macroeconomic environment 83 4.5 Innovation Infrastructure 29 6.3 -4th pillar: Health and primary education And a summer statement state 11th pillar: 3rd pillar: 1 Subindex B: Efficiency enhancers 6.0 Business Macroeconomic And the local division of the local division sophistication environment 3 5th pillar: Higher education and training 6.1 10th pillar: 4th pillar: 7 6th pillar: Goods market efficiency 5.5 Market size Health and primary NAME ADDRESS OF TAXABLE education 7th pillar: Labor market efficiency 3 5.6 9th pillar: 5th pillar: 2 Sth pillar: Financial market development 5.7 Technological Higher education STREET, STREET, SQUARE, SQUARE readiness and training 6.2 9th pillar: Technological readiness 6 NAMES AND POST OFFICE 8th pillar: 6th pillar: **Financial market** Goods market 2 6.9 10th pillar: Market size Including statement in contract, in contract development efficiency 7th pillar: Labor market 2 5.8 Subindex C: Innovation and sophistication factors ----efficiency 2 11th pillar: Business sophistication 5.8 Europe and North America United States

### **NATURE INDEX ( JULY 1, 2017 – JUNE 30, 2018)**

#### **Total Publications**

	AC	FC
USA	26138	19142.65
China	13129	9631.82
••••		
India	1422	961.12

#### **Nature Communications**

USA	2415	1559.73
China	987	573.95
India	60	22.43

### AC Article Count FC Fractional Count



- 1. Examination/Evaluation system needs to be completely overhauled
- Problem/applied based questions;
- ➢ More emphasis on assignments, project work and field study.

### 2. Research at UG/PG level

Each undergraduate/postgraduate student should be assigned research group for mentorship.

### **3. Innovation in Teaching**

Each teacher should prepare a set of 100-500 **original** problems/ questions/ assignments on the subject at the beginning of each academic year.