



VISION IAS

www.visionias.in



SUBJECT:	ESSAY	Test Code:	1253
Name of Candidate	POOJA KUMAR		
Medium Hindi/Eng.	ENGLISH	Registration Number	36343
Center	OPN	Date	4.09.19

INDEX TABLE				INSTRUCTIONS
Q. No.	Page No.	Maximum Marks	Marks Obtained	
				1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code). उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)।
				2. All questions are compulsory. सभी प्रश्न अनिवार्य हैं।
				3. The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
				4. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one. प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
				5. Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
				6. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off. उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।
Total Marks Obtained:				

1/8-B, 2nd Floor, Building- Apsara Arcade, Near Gate-7 Karol Bagh Metro Station, Pusa Road, Karol Bagh, Delhi - 110005

EVALUATION INDICATORS

1. Alignment Competence
2. Context Competence
3. Content Competence
4. Language Competence
5. Introduction Competence
6. Structure - Presentation Competence
7. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

Section
A

IS INDIA'S HIGHER EDUCATION SYSTEM FUTURE READY?

We routinely witness various national dailies reporting:

- More of the Indian universities have featured in the top 100 QS universities ranking. Unis education journey shows a dismal picture about education yet again!
- Mckinsey report has highlighted that less than quarter of the engineers are actually employable.
- Aspiring minds report has ~~also~~ held that only 95% of engineers cannot code.
- AICTE closes down 800 engineering colleges due to poor quality as well as unfilled seats.

The above mentioned statements highlights the grim state of affairs of

higher education sector. Given that the ~~future is so~~ present state of affairs is so dismal, future of higher education system in India is almost unthinkable.

In case of India, Higher education has witnessed steady decline since history. Once India was the education hub with universities like Nalanda, Varanasi & Vikramshila. Here Uthya guru-shishya parampara prevailed in gurukul system where education was given primary importance.

No wonder that back then, India gave birth to several stalwarts and enlightened scholars - Beryabata, Charvaka, Sushruta, Brachmagupta, etc. However, with degradation faced in education system in medieval times, India lost its prominent position.

This decline further worsened during British rule, whose colonial aim was to intellectually cripple India. The education system which they introduced was based on rote learning in order to produce loyalists and clerks for British administration.

This colonial regressive learning paradigm was inherited by independent India which has been held responsible for the crisis in India's education system; particularly the modern education system. Such an education system can never keep pace with the disruptive changes of modern times.

In this essay, we will first discuss what ails the university education system which consequently impacts future readers. We will

also examine why is it so as well as study if there is any glimmer of hope. Further, various ~~so~~ possible solutions to this crisis will also be evaluated.

What ails higher education system?

First and foremost, old, archaic and obsolete higher education curriculum is the ~~fountain~~ head fountainhead of all problems.

The curriculum is rarely updated which manifests in creating an unemployable workforce then.

Ramind Panagariya, former vice chairman, NITI Aayog, has held that "Under-employment and employability is a bigger problem than unemployment".

This implies that lack of industry ready skills among the Indian youth leads to their unemployment.

This can be held as one of the reasons for a 45 year high unemp-loyment situation in India with 6.1.1. unemployment rate as per periodic labour force survey.

Indian universities have further failed to offer new education courses like Data science, data analytics, etc which will cater to 21st century jobs.

Such an approach has forced Indian students to look for greener pastures in the west with over 1 lakh Indian students going to US every year.

Besides, this, another issue is that Indian universities have failed to embrace a learning paradigm based on life-long learning as even highlighted in SDG-4 - of learn-un-learn-re-learn or skill-up-skill-reskill.

With fast tectonic changes taking place created by 4th industrial revolution, there is need for constant learning with flexible learning courses. This also necessitates an organic linkage between academia - industrialist - and researchers to put various developments into reality.

Also, Indian higher education is based on rote learning ~~so~~ marked by single discipline education in silos. This limits critical thinking thereby prohibiting innovation led growth.

Need of this can be understood from the fact that US where top notch premier institutions are located has higher innovation because of inter-disciplinary learning. For eg - learning potentially

inherent things - mathematics with music. This has resulted in silicon valley becoming a hub for several path breaking companies like Apple, Google & microsoft. In fact, Steve Jobs credits his success to learning calligraphy skills along with traditional higher education.

Our higher education system is also centered around creating job seekers rather than job creators. This will essentially lead to more & more unemployment because automation created due to 4th industrial revolution will create "jobless growth".

Reason for creating solely job seekers is because of university culture which teaches job stability & security over charting uncharted domains. Higher education culture looks down upon failure thereby

making students risk aneese. Hence,
they they for conventional jobs
and unconventional domains which
is ~~not~~ the road not ~~being~~ taken.

Further, future which is based
on R&D led growth is another
major bone of contention when it
comes to Indian higher education.

R&D expenditure is only 0.7% of
GDP in case of India ~~is~~ which is
far less when compared to China - 2.4%
of GDP and US 3.2% of GDP. Moreover,
whatever research is done is mostly
government led with private sector
only contributing 0.2% of GDP in research.
It is also to be noted that govern-
ment research itself is limited to
few areas like space & defence.

There appears to be a glimpse of
hope when we look at 21Ts, 22Sc
& 22SEK when we look at their

recent projects. For eg - 21T Madras students recently ~~to~~ created India's first indigenously developed micro-procure - under Project Shakti; 21T Kharagpur students using AI have created an online platform to weed out fake news; 21T Indore students ~~are~~ initiating "Smaha" - a solid waste management system in the city of Indore.

However, we must remember that these institutions exist as islands of excellence amidst oceans of ~~mediocrity~~ mediocrity in terms of higher education opportunities.

Not only technological future readiness has been overlooked by India's higher education but societal future readiness has ~~been~~ also been neglected.

Indian higher education system has largely failed in its future

quest of creating an inclusive, egalitarian & bahumanan society

this is because education instead of being a leveler has become a source of inequality. This has been a product of commercialisation of higher education.

A student from a well to do family gets an enabling learning environment, guidance about various career opportunities as well as financial support to pursue a field of his choice. While on the other hand, a student from a poor background is forced to drop out. No wonder that that years enrollment ratio is only 25:21 in higher education.

Further, higher education which overlooks future problems of unskilled living as well as modern life disorients is no education at all.

India's higher education system has only taught students how to make a living and not how to live. This thereby has created issues of ~~some~~ reckless and indiscriminate consumerism & materialism leading to unsustainable development. Lack of value based higher education has also resulted into modern day problems of depression, anxiety and "corporate burn-outs".

Window of opportunity

Realising the various problems, go-
-vernment has made some headway
by introducing AI and big data
curriculum in universities. In
order to improve education quality,
Indian universities have attempted
to tap on global resources under VAKA
and G2AN.

Attempt has been made to

constantly survey and rank in order
to infuse healthy competition under
-NERF & A2SHE

Focus on building world class
institutions - under ~~best~~ institutions
of eminence (IIE) based on the recom-
mendation of Niyapalanam committee

These initial baby steps is sure
to have a large multiplier impact-
on the future. As even George Bernard
Shaw has held "An investment in
education pays the best interest."

Hence in order to build a bright
future, we need to focus on the
solid foundation which is educa-
-tion.

→ X → X → X → X →

section 13
Data is the oil of the 21st century:
The raw material that modern civilis-
-ations are increasingly being built
on

History of human civilisation has been fuelled by few remarkable discoveries - first being fire, wheel, and cultivation. With steady progress of humans, man reached industrial age. While the 1st industrial revolution was fuelled by steam power, 2nd industrial revolution fuelled by electricity & assembly line manufacture, 3rd industrial revolution fuelled by electronics, the current ongoing 4th industrial revolution is fuelled by data.

The world is at the cusp of data revolution. But first let us understand and whether data is a new thing or an old one? As per history,

data has been collected since centuries. Mauryan age collected data to estimate taxes. British imperialism conducted one of the 1st census to collect data.

If data is an old concept, then what is new about 21st century data? The fact that makes data useful is its anceal usage in every segment possible in human society under what is known as data analytics.

This data is no ordinary data; it is actually Big data which means data which is so large & complex, which is beyond the capacity of traditional software applications to process it.

This data can be summarised in 5 Vs as major characteristics which makes it the raw material of

modern civilization of Volume - the high quantum of data

- b) Variety - the various types of data
- c) Velocity - swift movement of data
- d) Value - ~~trustworthiness~~ ^{trustworthiness} and ~~usefulness~~ ^{usefulness} of data
- e) Veracity - quality & trustworthiness

Concept of data as the new oil has been widely recognised. It was first coined by UK based Mathematician, Clive Humby. Recently, Economic Survey, 2018-19, also recognised its potential as a raw material of modern civilization.

First let us compare data with oil. Just like crude oil which is unprocessed is worthless, similarly, data which is unprocessed is useless. It needs to be productively harnessed.

In this essay, we will now discuss how data serves as the building block of modern civilization by examining its applications then discuss potential ills of ~~the~~ misuse of data. Further, discuss various steps taken world over focusing particularly on India in order to capitalise on data.

Data: in modern life

Data has several modern applications in various facets. First & foremost, in case of industry, data is being collected particularly by GAFAM oligopoly (Google, Amazon, Facebook, Apple) to optimise search results, micro-target advertisements showcasing one possible interest.

Industry players are using data in predictive analytics in order to understand consumer demand.

and accurately address demand-supply mismatch. It is also being used for better supply chain management.

The field of data is also bringing up new employment opportunities. Like oil exploration led to polymer & chemical technology, data has led to data science, leading to rise in demand for data scientists. As per, TS2 survey, jobs in data segment has in the last one year has increased by over 400% (2017 survey). There is a new gold rush in this field.

In the health segment, big data is being used in accurate diagnosis, preventive healthcare as well as personalised health treatment plans by providing optimised health solutions.

In the education sector, data can help in monitoring school mile, student mile, region mile and nation mile progress. It can help provide personalised learning solutions suited for each and every child as every child is different.

City planning will become much easier by providing smart solutions. For eg - Smart traffic lights linked to Google maps in order to provide most optimised route planning. Already, Sabarpur city has adapted big data in smart waste management by providing for smart bin concept which is geo-tagged.

If we look at the individual level, smart homes has already made in-roads through various virtual assistants like Amazon Alexa, Google Home etc. which has started

to use data for home automation.

In agriculture sector which is currently facing agrarian distress, can be revitalised through data. This can be done through adapting predictive analysis in the emerging concept of precision agriculture. This will enable our farmers to become "agri-preneurs".

In case of disaster management, data can be used in prevention, mitigation, preparedness, response as well as recovery. For instance, in disaster mapping, disaster zoning as well as early warning & dissemination system. In fact 217 Koseki, has already established an elaborate earthquake warning system in Uttarakhand. Even Sendai Framework for disaster risk reduction has recognised central role of data in

avoiding disaster.

If we look at security aspect, both internal & external, data can be used to identify crime hotspots. ~~this~~ This will enable more target based approach. Also, using data for automated facial recognition system may be helpful in tracking criminals.

In governance, data can be key enabler in bringing about good governance. Data can be used in formulating "evidence based policy making" which will increase the efficiency, effectiveness & economy of government approach.

Also, data being used in several government schemes like DBT, PMFBY, etc can potentially help to identify & address any leakages thereby preventing corruption.

Data: destroying modern civilisation

Data like any modern technology is like a good slave but bad master. Hence, data can prove to be a "double edged sword".

First concern is that it can be misused by companies to encroach on individual privacy which is a basic human right. Google CEO once held that it knows the past, present as well as can predict future to an extent.

There is a fear that GAFAM companies (Google, Amazon, Facebook & Apple) may create oligopoly thereby destroying level playing field for new companies. Also, potentially leading to a new and more potent form of colonialism which is "Data colonialism" by harvesting data through data mining.

Arundhati Ray in her seminal work "The God of small things" has commented that this new form of colonialism will be a mutant form of colonialism which is remotely controlled & digitally operated.

Further, micro-targeting of consumers by various social media companies for advertising has been held to fuel reckless consumerism & indiscriminate materialism.

Second, data can be manipulated in order to sway election outcomes thereby threatening democracy itself. This was recently highlighted by the Cambridge Analytica scam which has potentially impacted us as well as Indian elections.

Third, data can be misused by the government to create a new form of "surveillance state".

Productively harnessing Data

We are living in the age of data. Data is the most powerful concept of our time without a doubt. We need to work about building safeguards and defined approaches to unleash its true potential as it is an idea whose time has come.

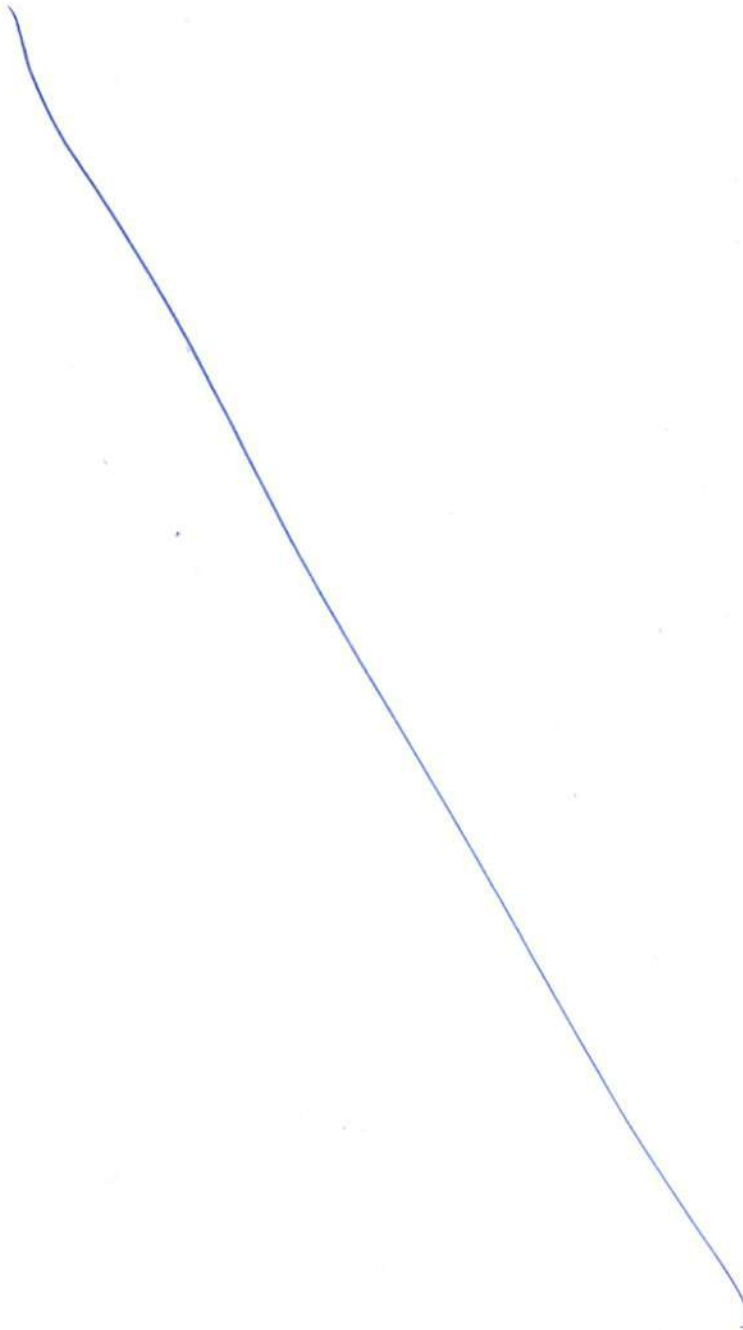
Government needs to first provide for a robust data protection mechanism which protects privacy like EU GDPR. Indian government should also adapt Justice BN Sri Krishna report on data protection which is long overdue.

Already, Indian government has initiated its quest of harnessing data. NITI Aayog has proposed data & analytics platform. Andhra Pradesh government is using data for real time monitoring of departments.

CAG has also adapted Big data management policy for using data in more appropriate and accurate audit. Income tax department has started Project insight which uses user data to catch tax evaders. This it does so by matching spending patterns across various social media sites.

Government has also initiated open data platform - ~~open~~ "data.gov.in" on the lines of US data collection machinery.

For progress & prosperity of modern civilisation, data needs to be used as a raw material like "public good" as suggested by Economic survey 2018-19 and not as a commercial good. Thus, data needs to be used as - "data for the people, data by the people, data of the people".

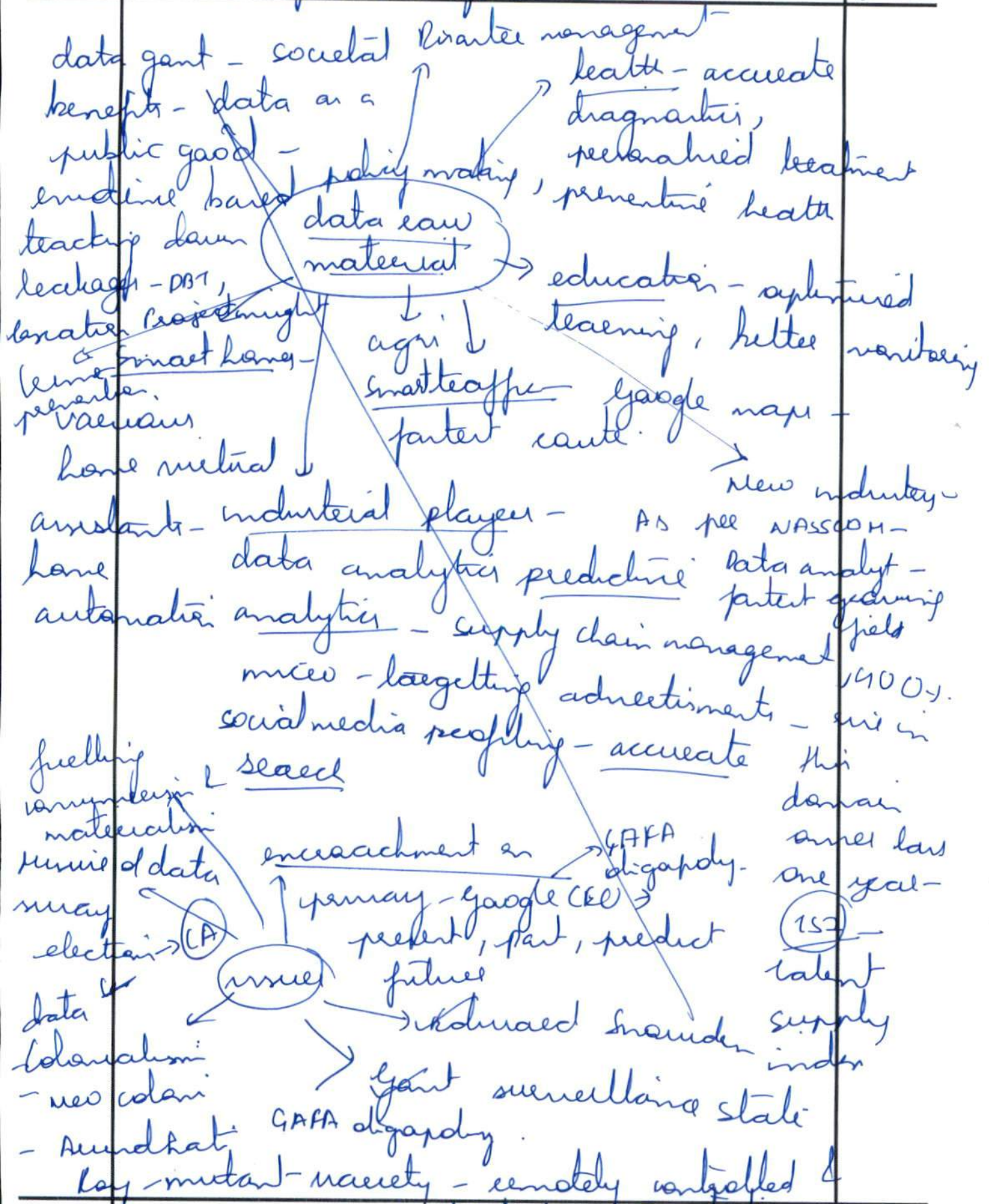


data present in all facets

Economic survey can be recognised -

VISION IAS™

Don't write anything this margin
(इस मार्ग में कुछ ना लिखें)



"Land of small things"

Indian urban → data is breached, misused & sold.

predictive analytics

data of the year - public good.

data colonisation maybe worse than physical colonisation.

Infosys co-founder - Nandan Nilekani

- need to urgently regulate data protection laws.

- Dirac Humbly - UK Mathematician 2006 -

data is the new oil. Like oil if unrefined - cannot be used.

conclusion → Data/technology bad master, but good servant. double edged sword.

Introduction → ancient age - wheel, fire & river bank.

1st, 2nd, 3rd & 4th industrial revolution.

data apt
term coined → explain → explain.

data not competing, new → redefined
→ new language → data & big data →

→ world at the cusp of new revolution.

dynamism of hope ✓ window of opportunities

→ G20 & U20 ✓ 10E N Gopalakrishnan committee

→ NPTX → PPP initiatives → 1st Subcontinental

→ N2RF, A2RNE foreign uni.

→ Education most powerful weapon to change the world - Nehru.

→ Education foundation on which we build the world.

Changing → paradigm life long learning

Data is the new oil
↓
mined + manipulated GAFAM - oligarchy
surveillance capitalism hidden t&c.

Bruce Schneier → an American security technologist → "Google has all our private information metadata; behavioural data data profiling"

universities — lack diversity
 — cater to only
 few students — inequity —
 value based
 education
 neglected.
 uni-dimensional
 learning — only how to
 make a living not
 how to live
 issues due to it — depression,
 anxiety, corporate
 burn out syndrome.
 lack inter-disciplinary
 approach — potential
 unfilled —
 Children should be taught how to
 think & rather than what to think
 — Margaret Mead.
 one-size fit all approach education
 ✓ faculty vacancies, quality,
 ✓ lack of focus on upgraded &
 new course.

Higher education system future ready

as world university ranking → starting, alarming
✓ dismal state of affairs → steady decline → education
hub → UK, Canada, Australia, Germany, France, Japan, South Korea, Singapore, Malaysia, India, Brazil, Russia, China, etc.

✓ Currently → higher education → dismal situation
future presents even more grim picture.

Dismal state of affairs: What is ailing university education
→ static, old, archaic content - industry ready skills
education what remains with you after
university; Aspiring mind & McKinsey

→ skill - re-skill - re-skill

→ outflow of students abroad → greater partners -

→ 221 but R&D → 0.7% govt led;

hope; SHAKTI
microprocess, 221 index -

→ ASCTE seeking
to close over
300 colleges -
low quality;
admission
management;

lack of private
participation;
reluctant
Indian education
rote learning
continuing colonial
legacy