

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.

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All the Best

IS INDIA'S HIGHER EDUCATION SYSTEM FUTURE READY?

The Prime Minister of India, launched a mission to bring India's higher education institutions, among the top ranked institutions in the world. This was driven by the fact that none of the Indian higher education, featured among the top 200 institutions worldwide.

In the era of fourth industrial revolution, artificial intelligence, skills multidisciplinary integrated studies are research, Indian system appears to be left behind. India system have issues of quality, lack of research, regulatory issues, cut-throat edge technology among others. These issues and constraints, doesn't make Indian education system, future ready. There exist need for developing an ecosystem of research, quality education with strong institution, to ensure education system is future ready, and guide the future destiny of the nation.

Education system have always been foundation of any social and economic progress. Education system provides vision, knowledge, direction, for the society.

To come out of dark age in Europe, modern education played a critical role. To spread and permeate the values of humanism, science, progress and modernity.

Similarly, to guide the industrial revolution and economic advancement of society, education system played a significant role. For example, the strength of educational institutions in Britain helped in research, scientific inventions like steam engines, which prepared and guided society for the future.

This has been the role of higher educational institution, in preparing the ground for the future. It encourages the changes inevitable and delivers

in the society, and trains society in that direction. So, readiness of higher education system, for the future, invariably sets the society in the path of future progression.

In contemporary time, the conception of future incorporates the path of progress, equity, inclusivity, sustainability. Future is age of ever increasing use of technology in every sphere. Use of artificial intelligence, big data, supercomputing are the currency of future. Fourth industrial revolution is the direction of economic development of future society.

In such demand for future readiness, the Indian education system possesses myriad of challenges. Firstly, there are no higher education among the top universities of the world. There exists lack of quality research among higher education. ~~but~~ without quality research.

higher education system, cannot be ready to address the future increasing demand for technology.

Along with it, there are infrastructure issues as well. The issue is terms of numbers of teachers, professors, researchers, and infrastructural support of laboratory, incubation centres, centres of excellence. Without this, the quality education to large Indian population, to skill them for future cannot be possible.

In the existing institutions as well, there are challenges in outcomes of education. The learning outcome are considerably low. There exists huge skill deficiency among passout from our educational institutions. According to NAACOM, only 17% of student from higher educational institute are skilled and employable. So, without relevant skilling, education system fails to prepare youth for present as well as future.

Even socially, there exists huge divide and lack of equity in higher educational system. The gross enrolment ratio is considerably low among groups like tribals, scheduled caste, minority and women. Without equitable access for all, the future of inclusive society, cannot be realised by educational system.

Indian higher education system, also fails short to align itself according to past changes in economic and industrial needs the industry demands upcoming technologies, internet of things, automation and robotics. Whereas, no Indian university specialises itself in such emerging domain. There exist industry and academia gap. This gap hinders higher education system chooses future path.

Indian higher education also fails to equitably address the needs of the pressing and critical sectors of economy and society. For example, research for agriculture, allied sector, rural development has been minimal in our country. Without addressing those challenges, higher education system cannot claim to be either future or present ready.

Moreover, in the era of globalisation, there is need for convergence integration and collaboration. Indian education system often work in silos without such multidisciplinary engagements. There is lack of converge among stakeholders, nor adequate collaboration. Finland have revamped its educational system, to integrated various streams to ensure holistic learning. So, future readiness,

requires our system to prepare itself with such integrated approach.

There also exists shortcoming of educational system in inhibiting values, sensitivity, and empathy. These values which are essential to make society peaceful, inclusive and compassionate. Without such values, educated individual becomes self centered and often resort to misusing their knowledge. For example, kidney racket by educated doctors, corruption by bureaucrats, insider trading, satyam, scada scam are outcome of it. So, without adequate focus on social skills, education system remains short of being ready for the future.

So, what are the reasons for education system not being future ready? The education budget is low, around 2.5% of GDP. ~~that is~~

Moreover, the amount spent on higher education and research is even less. Without adequate resources, nurturing of quality, world class institutions for the future remains a challenge.

Along with the funding issue, there also exist social and cultural challenge. The nation with large poverty (21%), and emerging middle class, often lack the motivation, inspiration and vision to attain higher education. So, there exists lack of social demand to acquire higher education.

There also exist administrative and regulatory issue, which hinders the growth of higher educational system. For example, system corruption, in medical institutes, hinders quality, equity and justice. Similarly, educational institute like IIT/NIT/IIM are often constrained by government regulation.

to take independent measures, in line with future needs.

Having highlighted the lacunas of Indian higher education, the brighter side of it i.e strength also needs to be reflected. For example, in certain niche sector like software, IT institutions like IIT have emerged as a lighthouse. They have created engineers, and technocrats who have proved their quality throughout the globe.

So, there ^{exists} need to build upon strength, work on weakness to prepare India's educational institutions for the future. Government needs to increase financing of higher institute, so that they can compete with the global ones, and emerge as future ready.

Along with it, framework for wider integration of institute is required.

there has to be industry-academia collaboration. So that educational institutions can be more reflective of needs and challenges of society, economy and industry. There should be collaboration between countries and various disciplines of learning, to bring out holistic, integrated learning.

In addition to this, Government should improve the regulatory framework of institutions. More autonomy needs to be granted to help in nurturing ecosystem of creativity, learning, experimentation and progress.

In line with these, measures have been taken, like creating Institute of excellence, Medical Council of India restructuring, etc. Steps to increase financial sustainability through higher education financing Agency (HEFA) has also been attempted.

So, there exist lacunae, a challenges and constraints in higher education system to be able to be future ready. The challenges needs to be tackled by holistic approach of state, industry, society, ~~gov~~ and institutes coming together. coming together to make institutions which are future ready, and guides society, economy, polity and nation towards path of progression, equity, inclusivity and sustainability.

DATA IS THE OIL OF THE 21ST CENTURY:
THE RAW MATERIAL THAT MODERN CIVILIZATIONS
ARE INCREASINGLY BEING BUILT ON

Ninety percent of the data of overall human civilization, has been generated in last 2 years. In the 21st century, data has become more "fluid" than ever.

The quantity, variety, volume of data created and being used has been expansive, in the recent time.

In recent time, data is being used extensively in economy, data driven planning, data based policy making, governance, security architecture, prediction and so on. It has become a raw material across sectors. Given its all pervasive usage and importance it is also termed as "oil of 21st century".

In the past, the discovery of oil changed the socio-economic and political landscape of human civilization. With oil, industrial revolution and economic development found new paradigms and scope. Machines, heavy industry, automobile, engine, catalysed economic growth and progress of human civilization.

Similarly has been the potential and impact of data, that they are famously termed as "21st century oil". Data provides vital information. In the information era, processing of those information, provides valuable insights which can be used as meaningful raw material in modern civilization:

For example, the economic development and industrial processes

of modern civilization are based on data. Businesses use data for inventory management, planning, understanding customer preference and market dynamics. This data driven insights help make decision for businesses. For example, companies like Flipkart, Amazon uses search data, to understand the demand of their product. So, just like oil fueled machines in the past for their enhanced performance, data serves the purpose in ~~base~~ modern civilization.

Similar correlation of data and oil can be found in the transportation and mobility sector. Oil in the past was raw material for railways, vehicle, transport. Similarly in modern time, data is being used for intelligent transport system. For example, during

London Olympics, Britain Government used data of matches, demand, and so on, to schedule railways accordingly. So, just like oil brought speed and efficiency in the past, data as a raw material serves similar purpose in modern civilization.

From the administrative realm as well, the raw material of oil and data have correlation. oil taxation provided revenue to state, and helped in increasing its fiscal capacity. Similarly, the raw material of data, is being used increasingly in administration to bring in efficiency. For example, the Indian taxation department's Project Insight, uses data to check cases of tax avoidance. This is used in bringing efficiency, and bringing in era of data-centric governance and planning.

In health sector as well, data as a raw material is being widely used. Data is being used to predict disease, map health indicators and make data governed decisions for health issues. For example, Google uses search data of any geographic region to understand early disease symptoms in an area. Similarly, various health surveys and data like National Health Survey, provides information about the sector, to help in addressing the challenges effectively.

Similarly in education sector, raw material of data, has been increasingly used. Indian government has been using education data to track learning outcomes, regional inequity and dropout of students. Various survey like ASER, are used to collect data. These data are raw material for targetted education intervention in modern civilization.

The security dimension brings about convergence and similarity of data and oil. Just like oil ~~was~~ is used extensively for defence preparedness, for arms, ammunition, tanks during war, data also has its relevance. Data as a raw material has become crucial for security. For example NATURID to collate intelligence data, becomes crucial for security dimension. So, just like oil during wartime, raw material of data is currency for modern day security architecture.

Similarly as a security and strategic threat as well, oil and data are related. There has been wars due to oil. Gulf crisis, Arab war, Iraq crisis were traced on monopoly and appropriation of oil. Similarly, in modern day, "data wars" have been a new phenomena. Data hacking, attacks,

stealing of crucial sensitive data are strategic threats posed by adversarial countries. like attack on Iran's nuclear data, by USA using stuxnet. so, just like currency of oil, ~~the~~ data has been strategic asset being fought over.

In the modern geopolitics, data mirrors oil of the past. Data is being used to influence election in other countries. For example, Cambridge analytica used facebook data to influence USA presidential election. So, data has been a raw material that modern operations are using to influence and shape the political discourse.

In the similar context, data in international trade and exchanges have emerged. Data as a sovereign entity, has been debated upon. Just like,

oil was seen as a tool of neo imperialism by middle east countries, similarly data is being viewed at, in recent time. The call for data localisation, data sovereignty is ~~similar~~ similar ~~mean~~ expression of events in the past.

So, there exist similarity of oil and data, the data being used extensively as raw material in modern times. There are many challenges associated with leveraging the benefits of data as an effective raw material.

The challenge being the technological and human capacity, to process large amount of data to bring out meaningful insight. Without processing, data donot have any value. Processing requires computational ability, IT infrastructure, algorithms.

and human skill. In India, there exists inadequacy of these infrastructural capacity.

Along with it, security architecture to equitably use data for welfare of all without conflict is necessary. There is need for cyber security framework, data literacy and governance regime, to check data hacking, its misuse and abuse. This is essential so that conflict due to oil, in the past, don't occur with the data in the modern civilization.

So, data in the modern civilization offers immense opportunities to society, polity, economy at large. Just like oil, it can open up new chapters to the progress of human civilization and growth story. There exists need to have built upon capacity, so that the opportunities offered by data, can be leveraged

for welfare of all. Along with it, security architecture and global framework to ensure that conflicts due to oil in the past, remains a thing of past - Such an state would make society inclusive, economic progressive, polity participative, nations empowered and world peaceful.

90% of data in last 20 years

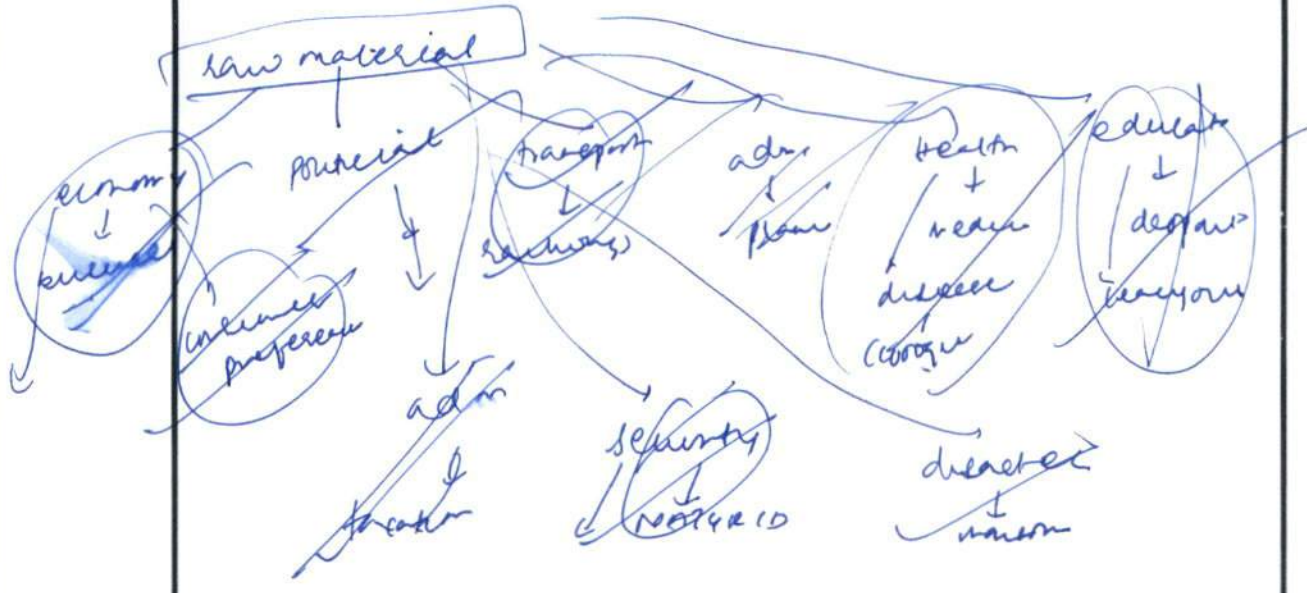
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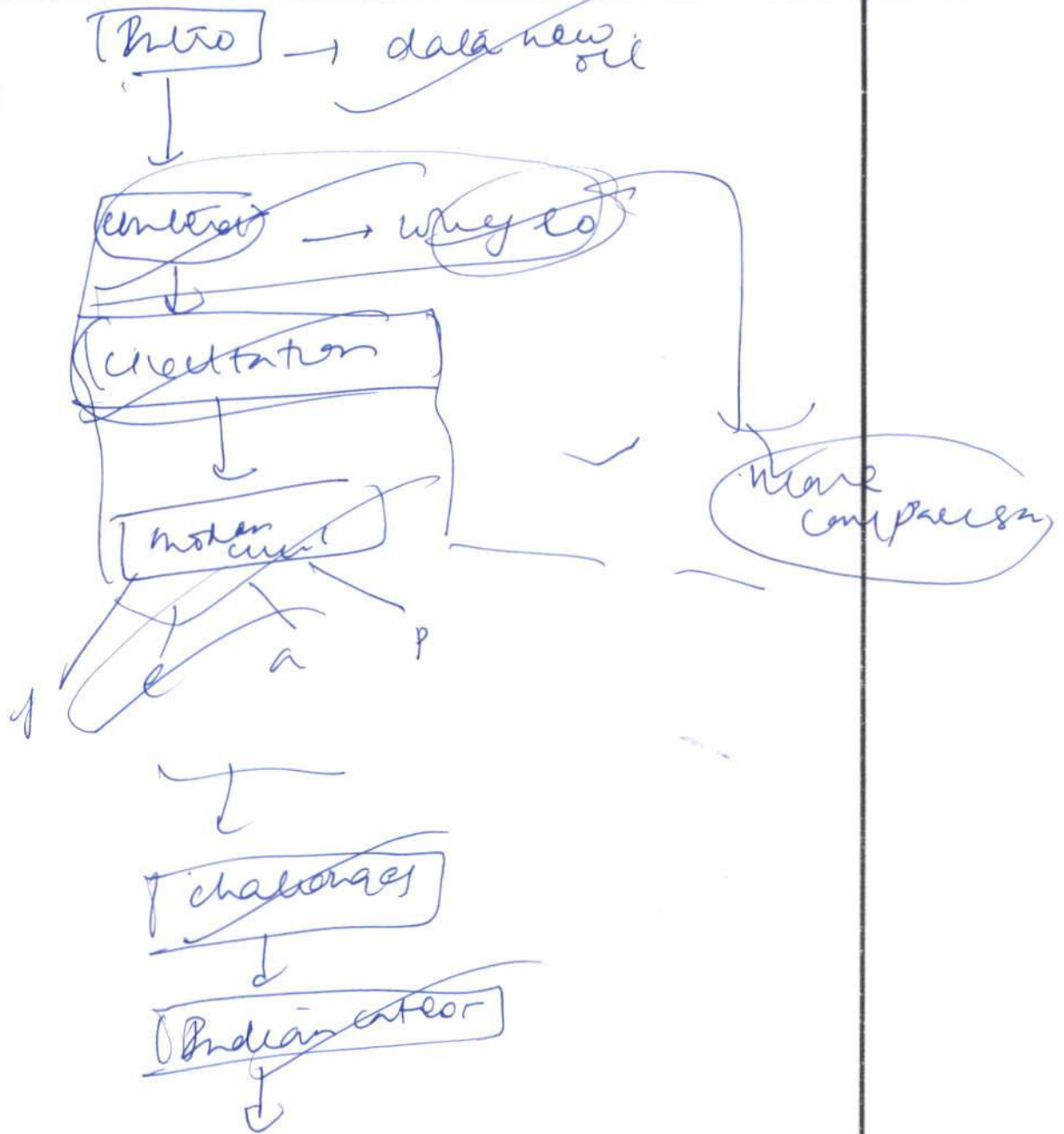
Oil is the oil of 21st century:
the raw material that modern civilization are being built on.

(Why data is new oil → fluid economic value strategic value)



Modern civilization → progress with me
science, IT, ... dev

succ return.



"Best answer to poverty & world class edu"

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Is India's higher edu system future ready?

