[Must Read] Hidden Syllabus – UPSC Prelims and CSP 2019 analysis

Introduction

UPSC Civil Services (Preliminary) exam is not so predictable and uncertain elements keep popping up year after year, we all realize this, but note that it is not the wild-wild west as many believe it to be! A halo of uncertainty has been fashioned around this exam, and it has become almost a fad to curse the examiner coming out of the examination hall.

To an experienced mind, such an exercise might seem as conventional myth-making. The exam does seem bizarre at first but it starts to make sense and feel more familiar as you look to the past. Why are we saying this? Understand that a teacher or an examiner, say here at Insights, looks at a paper quite differently from the way you do. Wider knowledge and experience allow them to draw observations that often do not occur to aspirants.

It is this experience that allows us to contextualize the UPSC Civil Services (Preliminary), 2019 question paper within a familiar pattern based on the past year papers of UPSC. Please note that this article is not a mere comment or an analysis of this year's paper, which might seem redundant at this point given that so many of its like would have been published till date. The article rather gives you **a way ahead to prepare for next year Prelims examination** so that you can avoid the mistakes you have committed earlier. You may be stumped by what you find ahead, if you had not discovered it earlier. The article is rich in information and quite dense. The central motivation behind writing this article is to help you push your marks up in next year Prelims. Please read the article carefully and patiently, and take note of important pointers as they appear.

This article picks up some of the tastes and habits of the UPSC examiners that could be observed from the past year papers. These habits and tastes may or may not change next year, and if they don't (*and they haven't despite the seemingly erratic papers of UPSC*), you will be at an advantage noting and exploiting them. Moreover, the examiners at UPSC operate under certain guidelines and limitations, and it is important to understand these limitations since they prevent this exam from becoming a game of the wild west!

To those who feel that UPSC plots against the material devised by institutions like us, we would like to comment that, for now, it remains as a fiction, and had it been the case, not even a single question would have appeared from our test series or website in the last 3-4 years, including this year. Truth is clearly to the contrary.

The constants

We have often mentioned in our articles that*"the weightage of static portion will go down considerably as UPSC exhausts its traditional base of questions and moves to more dynamic sources"* (See here in the article on ideal UPSC paper). What is important to note that even as this conventional base has been exhausted, there remains a **core hidden syllabus which has not changed much over the years**, perhaps because it was never revealed and remained un-assumed for an average aspirant. We are not including either the traditional static questions (polity/economy/geography/history) or the questions on national parks, tribes, endangered/endemic species etc. in this core hidden syllabus which are well known areas. If you remember, UPSC had revealed a detailed 5 page syllabus for Mains examination in 2013; a syllabus

that fitted within a single page previously. They revealed a lot of topics that kept appearing in Mains examination, but were never revealed by UPSC until 2013. Analogy is similar here, UPSC has not revealed the entire Prelims syllabus, but there are a set of guidelines with the examiners which perhaps include this hidden syllabus. Hopefully, they may be made more explicit in the coming years.

If you note, right from 2011, questions from some areas have been constants in this exam, i.e. they keep coming year after year or every alternate year. Some of these include:-

- **Alternative energy sources and materials** (e.g. H-CNG, bio-fuels, shale gas, photovoltaics, fly ash)
- **Bio-technology** – Hybridization, new developments such as DNA (genetic) engineering/alteration techniques (CRISPR, RNAi), use of important microorganisms (e.g. blue-green algae), symbiotics etc.
- **Nano-technology** and developments – e.g. Carbon nanotubes
- **Astrophysics** (e.g. neutron stars, gravitational waves, black holes), **Higher physics** (e.g. general theory of relativity), **space-missions**
- **Polar regions** – Issues, bodies and treaties related to Arctic and Antarctica, new developments such as seed vault
- **Diseases** in India – Outbreaks, pandemics, eradicated diseases, WHO or MoHFW guidelines
- **Patents** (issues and developments) – Evergreening, Patents Act, IPAB, WIPO
- **Emerging technologies** (**especially communication**)– Li-Fi, Wearable technologies, Internet of Things etc.
- **New Banking regulations/developments** – For e.g. Banking correspondents, payments bank, Core Banking Solutions etc.
- **Planning in India**– for e.g. objectives of 12th Plan, goals of other FYPs, bodies related to planning, Finance Commission
- **Agricultural policy in India** – Pricing and issues related, major missions and initiatives**,** regulation of agricultural markets
- **Wetlands** – Conventions, wetlands in India, benefits and issues
- **Biodiversity/National parks** – Almost every year there is a question since 2011

These are some of the hot favorite topics of UPSC and in a given year you may expect more than 15-20 questions from these topics alone like in 2019 Prelims. Therefore, they form a crucial part of your prelims preparation and due care should be taken that you read at least all the major news articles associated with these topics that have appeared in the last 1-2 years.

For instance, **go to the "news" section of Google search** and type emerging technologies. The search will lead you to major websites like Nature, Science Daily, MIT and NASA where you will find updated articles on the same. Make sure you review such articles quickly and makes notes. Regular reading of newspapers, like the Hindu and Indian Express, is also extremely helpful. Given the dynamic nature of these topics, many aspirants often skip preparing them and end up leaving these questions in the examination.

Below, these topics and all the questions appearing from them between 2014-19 have been categorized. This is an exhaustive account of the appearance of these topics in Prelims. As you would note **UPSC keeps repeating topics (for e.g. gene silencing in 2014 and RNAi, which employs gene silencing, in 2019).** So, **the list below is EXTREMELY important**. You should save this list, do some research on each of these topics and make notes for there is a high chance of repetition. Moreover,

it is important to study these areas independently; some of the sources will be mentioned below in the article.

Insights Analysis (COPYRIGHTED – ALL RIGHTS RESERVED)		
BROAD AREA	**QUESTION**	**YEAR**
Astrophysics, Higher physics and space-missions	Major Space Missions like Cassini-Huygens	2014
	Goldilocks Zone	2015
	Remote Sensing (from ISRO's website)	
	Astrosat observatory of India	2016
	Manglayaan ISRO	
	'Event Horizon', 'Singularity', `String Theory' and 'Standard Model' are terms appearing in?	2017
	'evolved Laser Interferometer Space Antenna (eLISA)' for detection of gravitational waves (GR) - (UPSC is obsessed with GR!)	
	Indian Regional Navigation Satellite System (IRNSS)	2018
	Prediction/predictions of Albert Einstein's General Theory of Relativity (Gravitational lensing)	
	India's satellite launch vehicle – PSLV, GSLV Mk III	
	Merger of giant 'blackholes' – detection of gravitational waves	2019
	Remote sensing applications	
Bio-technology and nano-technology	Vegetative propagation	2014
	Methods of creating transgenic crops (gene silencing, cytoplasmic male sterility, budding and grafting)	
	Adverse effects of nano-particles in industry emissions	
	Nano-tech in health sector (targeted drug delivery and nano-tech in gene therapy)	2015
	Genetic Engineering Appraisal Committee	
	Bio-toilets in railways	
	Bio-informatics - Transcriptome	2016
	Bioremediation for tackling pollution	2017
	Algae based biofuels production limitations for developing countries	
	Genome sequencing – Potential applications	
	Somatic Cell Nuclear Transfer Technology – application in biolarvicides, biodegradable plastics or cloning?	
	GM Mustard	2018
	Functional chromosomes, Artificial gene synthesis, tissue culture	2019
	RNA interference	
	Cas9	

Emerging technologies/threats	Biometrics (Iris Scanning, Retinal Scanning and Voice Recognition)	2014
	Net Metering	2016
	Greased Lightning-10 (GL-10) – Electric plane NASA	
	Bitcoins	
	Organic Light Emitting Diodes (OLEDs) – Advantage over LCDs	2017
	Cyber security incident reporting	
	Belle 2 experiment, blockchain, CRISP-cas9 (all asked together)	2018
	Internet of things	
	GPS technology usage (GPS tech isn't exactly an emerging technology, but its usage are)	
	'WannaCry, Petya, Eternal Blue' – Cyber security	
	3D printing	
	'Aadhar' provides open "Application Programming Interfaces (APIs)". What does it imply?	
	'Storage of Payment System Data' – Data localization	2019
	Digital technologies for entertainment – Augmented Reality (AR) and Virtual Reality (VR)	
	Digital Signature	
	Wearable technology	
	Geo-engineering (cirrus cloud thinning technique and the injection of sulphate aerosol into stratosphere)	
	Waste-to-energy: Pyrolysis and plasma gasification	
Emerging Communication technologies	Near-field Communication (NFC) technology	2015
	Li-fi technology	2016
	VolTe and LTE	2019
Polar regions	Arctic Council	2014
	IndARC	2015
	'IceCube' – detector at South Pole	2015
Patents	Evergreening of patents	2013?
	'National Intellectual Property Rights Policy'	2017
	Indian Patents Act and Plant patents	2019
Alternative Energy and Materials	Photovoltaics	2014
	Coalbed methane and shale gas	2014
	Cluster bean (Guar) for Shale gas	
	Maize oil for bio-diesel	
	Neem oil for bio-fuels and hospital detergents	
	Fly Ash	2015
	Fuel Cells	
	Shale gas sources - India	2016
	Bureau of Energy Efficiency Star Label	
	'International Thermonuclear Experimental Reactor' – Advantage for India as a member	

	Hydrogen-enriched CNG (H-CNG)	2019
	Methane hydrates	
Wetlands and Watersheds	Montreux Record	2014
	Integrated Watershed Development Program	
	Desert- development program, National Watershed Development Project for rain-fed areas and drought-prone area program	
	Wetlands International	
	Wetlands (harike, Keoladeo and Kolleru) at the confluence of rivers	
	Artificial lakes in India	2018
	Consequences of heavy sand mining in riverbeds	
	Wetlands (Conservation and Management) Rules, 2010 and Ramsar Convention	2019
Diseases in India and World	Diseases eradicated in India	2014
	Ebola outbreak	2015
	H1N1 virus	
New developments in Banking	Banking Correspondent	2014
	Core Banking Solutions	2016
	Payments Bank	
	Monetary Policy Committee (MPC)	2017
	Small Finance Banks (SFBs)	
	Unified Payments Interface (UPI)	
	'Scheme for Sustainable Structuring of Stressed Assets (S4A)'	
	National Payments Corporation of India (NPCI) and RuPay card	
	Digital payments – BHIM app and chip based debit card	2018
	Emerging governance of 'public sector banking in India'	
	Inter-Creditor Agreement	2019
	Bank Boards Bureau (BBB)	
Planning in India	Objectives of 12th FYP	2014
	Bodies related to Planning	
	14th Finance Commissions recommendations	2015
	NITI Aayog to replace?	
	Fiscal Responsibility and Budget Management (FRBM) Review Committee Report	2018
Agricultural policy in India, initiatives and food safety	National Seed Policy and Seed Replacement rate	2014
	Sustainable Sugarcane initiative	
	Fair and Remunerative Prices are approved by?	2015
	Agriculture markets regulated under which act?	
	Agreement on Agriculture and Phytosanitary measures	

	Seed Village Concept	
	Globally Important Agricultural Heritage System (GIAHS) of FAO	2016
	Food Safety and Standards (Packaging and Labelling) Regulations, 2011	
	'Initiative for Nutritional Security through Intensive Millets Promotion'	
	Pradhan Mantri Fasal Bima Yojana	
	Neem-coated Urea' in agriculture	
	National Nutrition Mission	2017
	'National Agriculture Market' scheme	
	Water conservation in agriculture – Tillage etc.	
	'Soil Health Card Scheme'	
	NSSO 70th Round - Situation Assessment Survey of Agriculture Household	2018
	Quantity of imported edible oils more/less than domestic production of oilseed and import duty on such oilseeds	
	Concept of "Conservation Agriculture"	
	The Food Safety and Standards Act, 2006 replaced the Prevention of Food Adulteration Act, 1954? And about FSSAI.	
	National Food Security Act, 2013	
	MSP announced for which crops?	
	National Programme for Organic Production' (NPOP) and Agricultural and Processed Food Products Export Development Authority' (APEDA)	
	Global Alliance for Climate-Smart Agriculture (GACSA)	
	Economic cost of food grains	2019
	Cultivation of Kharif crops in India in the last five years - Statistics	
	Highest imported agricultural commodity	
	Pesticides - Carbofuran, methyl parathion, phorate and triazophos	

Please note that we are not including general questions on environment and sciences for the document would become too voluminous. Questions on national parks, conventions, species should also be prepared thoroughly alongside this hidden syllabus.

There is **another emerging part of the syllabus** – **regulatory bodies**, e.g. PGNRB, commissions or committees that assist in regulatory functions - in 2019 Prelims. Other regulatory bodies like TRAI, CCI etc. should also be prepared.

OBSERVATIONS from the above table and SOURCES to prepare

- There were about **22 questions from this hidden syllabus in CSP 2019**!! About 12 of these 22 were from emerging technologies and bio-technology!
- On an average, agriculture forms the biggest chunk of this hidden syllabus, and perhaps one of the most neglected amongst aspirants. There were **10 questions alone from agricultural developments in CSP 2018**! Use agritech.tnau.ac.in, Ministry of Agriculture and Farmers

Welfare website, FAO, IFPRI, Downtoearth.org.in and latest updates at PIB, The Hindu and Indian Express to prepare for these topics.

- Minor areas receive disproportionate attention sometimes, for e.g there were **6 Qs alone from Wetlands in CSP 2014**! You need to be careful not to ignore any part of the syllabus. MoEFCC's website, Ramsar convention, ENVIS portal, WWF, IUCN and Wiki are good sources to prepare.
- Questions from **bio-technology** (genetic engineering etc.) **have always been technical** are likely to remain so. You should be conceptually clear with regards to the basics and new developments. You should prepare them from the initiatives section in the website of the Department of Bio-technology (http://www.dbtindia.gov.in/), Nature, Science Daily and newspaper readings. You will often need to research the basics of a topic.
- **RBI's website** (what's new section, press releases section, Functionwise and notifications) is very important to cover the banking section of the syllabus, apart from newspaper readings.
- While **emerging technologies** are difficult to cover from any particular source, keep your eyes and ears open, the questions are most likely to be asked from familiar terms (like Organic LED tvs, 3D printing etc.). Alternative energy sources are easier to cover – **Ministry of New and Renewable Energy's website** and newspapers are the best sources.
- It has been our observation for several years that some questions appear from **Ministry and official websites** irrespective of how erratic the paper is. These sources are safe for an examiner since they are officially released, error-proof, relevant to governance and updated on a regular basis.
- Not merely to promote our test series, but **we cover these topics every year** (right from our 2016 test series and more prominently in 2019 test series) and if you have solved Insights Prelims Test Series you will know what are talking about. Needless to say, the students reap the benefits since we get a decent hit-rate every year (you can check this out in the article on Qs from Insights in CSP 2019 posted alongside). If we miss a question, it is not because UPSC had picked up an entirely different branch of the syllabus, rather that UPSC picked up a slightly different topic than we picked, for e.g. we picked bio-CNG in the tests instead of H-CNG. Some years we are very lucky, some years not so lucky, but our approach has always worked.
- Also, there were at least **15 questions** in CSP 2019 that were based directly or indirectly on topics covered in past year UPSC papers. Topics appearing this year and the (topics they were based on are mentioned from previous years):
    - Ease of Doing Business index, Wearable Devices (*Internet of Things*), Extended Producer Responsibility (*E-waste management*), Service Area Approach (*Lead Bank Scheme*), Remote sensing, Economic Cost of Food grains (*MSP management*), Social Capital (*Human Capital asked several times)*, vegetable oil imports (*edible oil imports asked already*), definition of liberty, Forest Rights Act and Fifth Schedule provisions (asked several times), Environment Protection Act, 1986, Digital signature (asked in Mains once), RNA interference (*based on gene silencing*), anti-biotic resistance etc. could have been easily solved had someone researched on the topics appearing in past year papers sincerely.
    - UPSC papers from 2011-19, if done well, can fetch you some bonus points in the exam. Understanding this, we have been covering them right from our 2016 test series, and there are a few lucky hits each year. Even if the pattern is erratic, at least some questions would appear, if you are luckier there will be many more, like in

2019. **We cannot emphasize how important is it to solve past year papers and research the topics mentioned in them.**

Concluding remarks

These are some of safe harbors to stick to even in the most unorderly situations and these areas of coverage are important because they are emerging as important threats and opportunities to governance. The hidden or implicit syllabus may nor may not be made explicit by the UPSC (like it did in Mains 2013), but you should be prepared nonetheless.

No administrator can afford to ignore developments in important fields such as bio-technology and space sciences and it is perhaps this that the UPSC has been wanting to remind aspirants, time and again, who are comfortable sticking to a bunch of old NCERT books and newspapers. The pattern may have changed, but the habits of a lot of aspirants remain unchanged, and they keep referring to the same old sources.

It may be crucial to read and revise the same few sources multiple times from the point of view of Mains examination, but Prelims is a different ball game altogether. You need not limit your sources for Prelims preparation and the wider you read (within the syllabus), the better are your chances of being selected.

NCERT books have not become irrelevant but the way you should use them has changed. A mere reading of these books will not suffice, for the examiner now picks up keywords from these books, goes to the internet, designs a well-researched question and puzzles you in the exam hall. This tells you that you should start to use internet research more frequently than before.

Basic strategies remain the same, and are unlikely to change. The more well-read you are, the luckier you will find yourself in the examination hall. If this year was tough for you, you should not feel disappointed and brace yourself for a more calibrated effort for next year. Put all the hard work you can. All the best!