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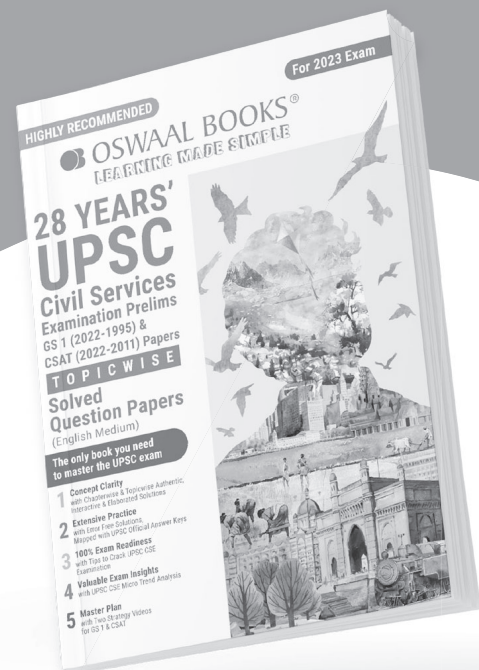


FOREWORD



**Dr. Yashovardhan Pathak, MBBS,
Indian Revenue Services (2002)
(Ex. IPS 2004)**

Dr. Yashovardhan Pathak is currently posted as Commissioner GST of Bihar. He has also served as Private Secretary to the Health Minister, MoS, Government of India.



Previous Years' Questions form the basis of the preparation of Civil Services Examination. After analysing the content of this book, I can say for sure that most of the books available in this segment are shallow and not in tune with the need, quality and framework of explanation, but this book I must say, comes as an exception.

I would like to appreciate the excellent work done by the team. The book is a one-stop solution for your UPSC preparation.

The most influential part of the book is that it comes with the expert guidance video about how to crack UPSC prelims, which is highly effective and useful.

The Topic-Wise analysis of Previous Years' Questions will definitely be the focal point of your preparation.

I wish readers, aspirants all the best for their exam.

—Dr. Yashovardhan Pathak

Latest Syllabus

Scheme And Subjects For The Preliminary And Main Examination

A. PRELIMINARY EXAMINATION:

The Examination shall comprise of two compulsory Papers of 200 marks each.

Note:

- (i) Both the question papers will be of the objective type (multiple choice questions) and each will be of two hours duration.
- (ii) The General Studies Paper-II of the Civil Services (Preliminary) Examination will be a qualifying paper with minimum qualifying marks fixed at 33%.
- (iii) The question papers will be set both in Hindi and English.
- (iv) Details of the syllabi are indicated in Part A.

B. MAIN EXAMINATION:

The Written Examination will consist of the following papers:—

Qualifying Papers:

Paper-A

(One of the Indian Language to be selected by the candidate from the Languages included in the Eighth Schedule to the Constitution). **300 Marks**

Paper-B

English **300 Marks**

Papers to be counted for merit :

Paper-I

Essay **250 Marks**

Paper-II

General Studies - I **250 Marks**
(Indian Heritage and Culture, History and Geography of the World and Society)

Paper-III

General Studies - II **250 Marks**
(Governance, Constitution, Polity, Social Justice and International relations)

Paper-IV

General Studies - III **250 Marks**
(Technology, Economic Development, Bio-diversity, Environment, Security and Disaster Management)

Paper-V

General Studies - IV **250 Marks**
(Ethics, Integrity and Aptitude)

Paper-VI

Optional Subject -Paper 1 **250 Marks**

Paper-VII

Optional Subject -Paper 2 **250 Marks**

Sub Total (Written test) 1750 Marks

Personality Test 275 Marks

Grand Total 2025 Marks

General knowledge of the candidates has been already tested through their written papers. Candidates are expected to have taken an intelligent interest not only in their special subjects of academic study but also in the events which are happening around them both within and outside their own State or Country as well as in modern currents of thought and in new discoveries which should rouse the curiosity of well-educated youth.

Contd...

Part A—Preliminary Examination

Paper I –(200 marks)

Duration: Two hours

- Current events of national and international importance.
- History of India and Indian National Movement.
- Indian and World Geography-Physical, Social, Economic Geography of India and the World.
- Indian Polity and Governance-Constitution, Political System, Panchayati Raj, Public Policy, Rights Issues, etc.
- Economic and Social Development-Sustainable Development, Poverty, Inclusion, Demographics, Social Sector Initiatives, etc.
- General issues on Environmental ecology, Bio-diversity and Climate Change - that do not require subject specialization.
- General Science.

Paper II –(200 marks)

Duration: Two hours

- Comprehension;
- Interpersonal skills including communication skills;
- Logical reasoning and analytical ability;
- Decision making and problem solving;
- General mental ability;
- Basic numeracy (numbers and their relations, orders of magnitude, etc.) (Class X level), Data interpretation (charts, graphs, tables, data sufficiency etc. – Class X level).

Note 1: Paper-II of the Civil Services (Preliminary) Examination will be a qualifying paper with minimum qualifying marks fixed at 33%.

Note 2: The questions will be of multiple choice, objective type.

Note 3: It is mandatory for the candidate to appear in both the Papers of Civil Services (Prelim) Examination for the purpose of evaluation. Therefore a candidate will be disqualified in case he/she does not appear in both the papers of Civil Services (Prelim) Examination.

Part B—Main Examination

The main Examination is intended to assess the overall intellectual traits and depth of understanding of candidates rather than merely the range of their information and memory.

The nature and standard of questions in the General Studies papers (Paper II to Paper V) will be such that a well-educated person will be able to answer them without any specialized study. The questions will be such as to test a candidate's general awareness of a variety of subjects, which will have relevance for a career in Civil Services. The questions are likely to test the candidate's basic understanding of all relevant issues, and ability to analyze, and take a view on conflicting socio-economic goals, objectives and demands. The candidates must give relevant, meaningful and succinct answers.

The scope of the syllabus for optional subject papers (Paper VI and Paper VII) for the examination is broadly of the honours degree level i.e. a level higher than the bachelors' degree and lower than the masters' degree. In the case of Engineering, Medical Science and law, the level corresponds to the bachelors' degree.

Syllabi of the papers included in the scheme of Civil Services (Main) Examination are given as follows :—

QUALIFYING PAPERS ON INDIAN LANGUAGES AND ENGLISH

The aim of the paper is to test the candidates' ability to read and understand serious discursive prose, and to express ideas clearly and correctly, in English and Indian language concerned.

The pattern of questions would be broadly as follows :

- | | |
|-------------------------------------|---------------------|
| (i) Comprehension of given passages | (ii) Precis Writing |
| (iii) Usage and Vocabulary | (iv) Short Essays |

Indian Languages :—

- (i) Comprehension of given passages
- (ii) Precis Writing
- (iii) Usage and Vocabulary
- (iv) Short Essays
- (v) Translation from English to the Indian Language and vice-versa

Note 1 : *The papers on Indian Languages and English will be of Matriculation or equivalent standard and will be of qualifying nature only. The marks obtained in these papers will not be counted for ranking.*

Note 2 : *The candidates will have to answer the English and Indian Languages papers in English and the respective Indian language (except where translation is involved).*

PAPER-I

Essay: Candidates may be required to write essays on multiple topics. They will be expected to keep closely to the subject of the essay to arrange their ideas in orderly fashion, and to write concisely. Credit will be given for effective and exact expression.

PAPER-II

General Studies-I: Indian Heritage and Culture, History and Geography of the World and Society.

- Indian culture will cover the salient aspects of Art Forms, literature and Architecture from ancient to modern times.
- Modern Indian history from about the middle of the eighteenth century until the present—significant events, personalities, issues.
- The Freedom Struggle — its various stages and important contributors/contributions from different parts of the country.
- Post-independence consolidation and reorganization within the country.
- History of the world will include events from 18th century such as industrial revolution, world wars, redrawing of national boundaries, colonization, decolonization, political philosophies like communism, capitalism, socialism etc.— their forms and effect on the society.
- Salient features of Indian Society, Diversity of India.
- Role of women and women’s organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.
- Effects of globalization on Indian society.
- Social empowerment, communalism, regionalism & secularism.
- Salient features of world’s physical geography.
- Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).
- Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., geographical features and their location—changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

PAPER-III

General Studies-II: Governance, Constitution, Polity, Social Justice and International relations.

- Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.
- Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.
- Separation of powers between various organs dispute redressal mechanisms and institutions.
- Comparison of the Indian constitutional scheme with that of other countries.
- Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.
- Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.

Contd...

- Salient features of the Representation of People's Act.
- Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
- Statutory, regulatory and various quasi-judicial bodies.
- Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
- Development processes and the development industry –the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.
- Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.
- Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
- Issues relating to poverty and hunger.
- Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.
- Role of civil services in a democracy.
- India and its neighborhood- relations.
- Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
- Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.
- Important International institutions, agencies and fora- their structure, mandate.

PAPER-IV

General Studies-III: Technology, Economic Development, Bio diversity, Environment, Security and Disaster Management

- Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.
- Inclusive growth and issues arising from it.
- Government Budgeting.
- Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.
- Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System-objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.
- Food processing and related industries in India-scope' and significance, location, upstream and downstream requirements, supply chain management.
- Land reforms in India.
- Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
- Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
- Investment models.
- Science and Technology-developments and their applications and effects in everyday life.
- Achievements of Indians in science & technology; indigenization of technology and developing new technology.
- Awareness in the fields of IT, Space, Computers, robotics, nano-technology, biotechnology and issues relating to intellectual property rights.
- Conservation, environmental pollution and degradation, environmental impact assessment.

- Disaster and disaster management.
- Linkages between development and spread of extremism.
- Role of external state and non-state actors in creating challenges to internal security.
- Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; moneylaundering and its prevention.
- Security challenges and their management in border areas - linkages of organized crime with terrorism.
- Various Security forces and agencies and their mandate.

PAPER-V

General Studies-IV: Ethics, Integrity and Aptitude

- This paper will include questions to test the candidates' attitude and approach to issues relating to integrity, probity in public life and his problem solving approach to various issues and conflicts faced by him in dealing with society. Questions may utilise the case study approach to determine these aspects. The following broad areas will be covered :
- Ethics and Human Interface: Essence, determinants and consequences of Ethics in-human actions; dimensions of ethics; ethics - in private and public relationships. Human Values - lessons from the lives and teachings of great leaders, reformers and administrators; role of family society and educational institutions in inculcating values.
- Attitude: content, structure, function; its influence and relation with thought and behaviour; moral and political attitudes; social influence and persuasion.
- Aptitude and foundational values for Civil Service, integrity, impartiality and nonpartisanship, objectivity, dedication to public service, empathy, tolerance and compassion towards the weaker-sections.
- Emotional intelligence-concepts, and their utilities and application in administration and governance.
- Contributions of moral thinkers and philosophers from India and world.
- Public/Civil service values and Ethics in Public administration: Status and problems; ethical concerns and dilemmas in government and private institutions; laws, rules, regulations and conscience as sources of ethical guidance; accountability and ethical governance; strengthening of ethical and moral values in governance; ethical issues in international relations and funding; corporate governance.
- Probity in Governance: Concept of public service; Philosophical basis of governance and probity; Information sharing and transparency in government, Right to Information, Codes of Ethics, Codes of Conduct, Citizen's Charters, Work culture, Quality of service delivery, Utilization of public funds, challenges of corruption.
- Case Studies on above issues.



Oswaal Expert Tips to Crack UPSE CSE Exam

The Civil Services Examination (CSE) conducted by the Union Public Service Commission (UPSC) is one of the toughest exams in India where lakhs of candidates appear every year to gain an opportunity to work in one of the most elite services in the Government of India. The exams are conducted over three phases: prelims, mains, and an interview. The prelims are considered the first and the most important examination in the entire journey. Many aspirants fail to plan and work according to a strategy. To secure a UPSC rank, aspirants are advised to follow the following expert recommendations:

1. Every portion of the syllabus must be thoroughly covered and revised.

2. Few topics are very important for general studies paper 1-be certain to cover these to ensure coverage.

- **Ancient History:** Sites of Indus valley civilization, Mauryan empire with special emphasis on Ashoka, literature of Gupta period.
- **Medieval History:** Political and social aspects of the Delhi sultanate, Mughal history with special focus on economic and social aspects.
- **Modern History:** Timeline, Initial European settlement, Personalities, Gandhi, Events between 1905-1947.
- **Art & Culture:** Caves architecture, sites like Ajanta, Elora, and Mahabalipuram, paintings, philosophies, and complete coverage of Buddhism and Jainism with a special focus on their sects and subjects.
- **Polity:** Schedules, Preamble, fundamental rights, fundamental duties, DPSP, Parliament with special focus on types of bills and posts of speaker, Deputy speaker, Chairman and Deputy Chairman, Legislative Council, Panchayati Raj.
- **Economy:** Basic concepts of national income, planning, inflation, external sector, banking sector with special focus on RBI, initiatives of NPCI, Government schemes, public finance, and debt
- **Agriculture:** Crops and agro-climatic conditions, special focus on rice, sugar cane, cotton, millets, minimum support price, food procurement, and distribution.
- **Geography:** Universe, climatology, oceanography, Indian climate, mineral of India, hills of North East and Eastern ghats, river system, countries around water bodies like the Mediterranean Sea, Caspian Sea, Black Sea, Red Sea.
- **Ecology and Environment:** Basic concepts of ecology, ecotone, biodiversity, community, food chain, habitat, species in news, national park and their geography, and biosphere reserves.
- **Science and Technology:** Space, viruses, diseases, latest technologies like artificial intelligence, Internet of Things, 3D printing, the basic concept of nuclear energy, classification of a living organism, cell.
- **Current Affairs:** Newspaper and monthly magazines

3. Here are a few recommendations that will help you ace the CSAT section:

- Improve your reading comprehension by reading newspaper editorials daily, preferably The Hindu and The Indian Express.
- For gaining confidence in solving questions in quantitative aptitude and logical reasoning, go through the previous years question papers to understand frequently asked questions in areas like averages, percentage number system, data interpretation, etc.

These micro listing of the topics will help students to recognize important areas of every subject. After coverage of these important topics aspirants may follow further tips to crack prelims.

Try to:

- Solve UPSC prelims previous years papers.
- Solve full-length mock papers in an exam-simulated environment.
- Re-revise these topics multiple times.
- Identify your weak areas in every subject and work upon them.
- Maintain a good balance between static and current affairs.
- Have faith in your preparation and attempt the questions with confidence.

There is a popular saying - **"The more you sweat in peace, the less you bleed in war."**

With around 2 million candidates preparing for the examination, having access to the right guidance and strategy can be a competitive advantage. Oswaal Books help aspirants in achieving their goals by providing the right mix of expert guidance, exam-oriented resources for extensive practice, and strategy through our UPSC books.

Also, remember, confidence and a positive attitude is key to success in any examination.

You are going to be amazing and we know it!

Aashirvad Kumar

UPSC Consultant-**Oswaal Books**

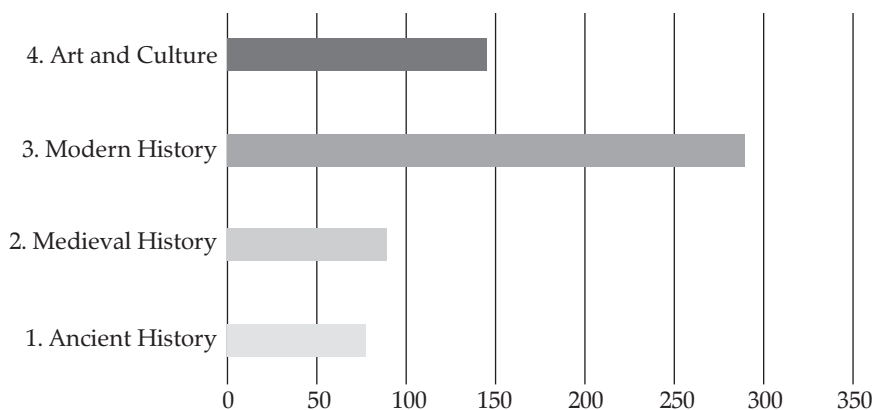
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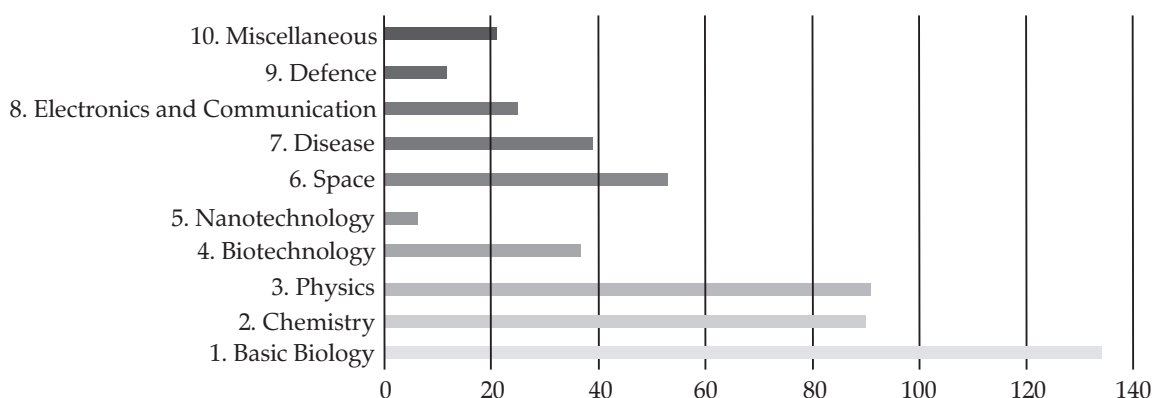
Trend Analysis

(Topic wise no. of questions asked in 29 yrs)

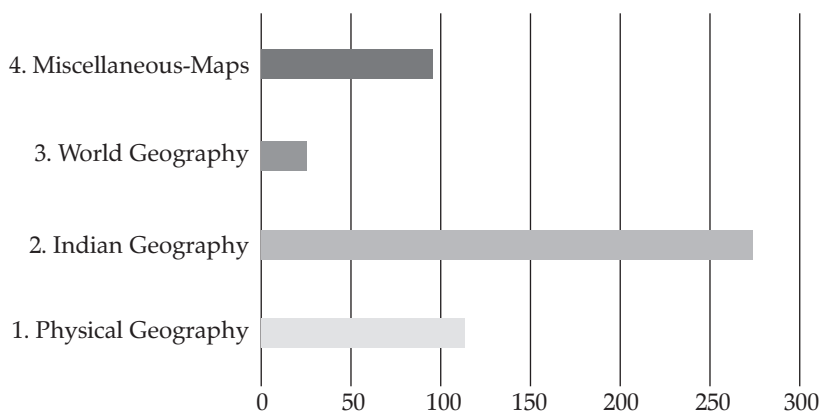
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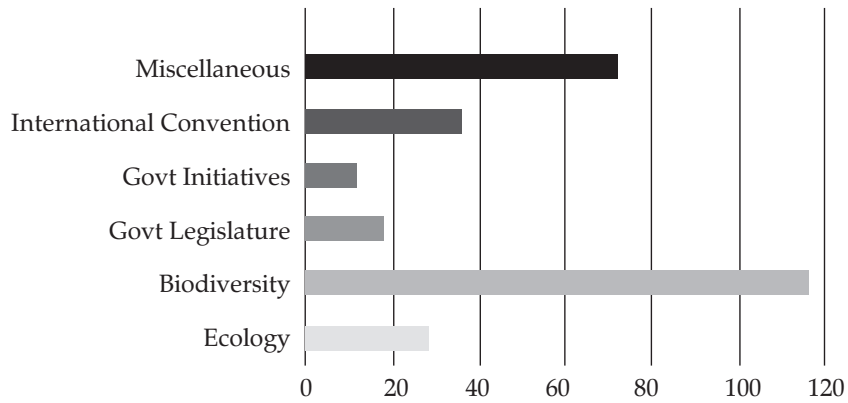


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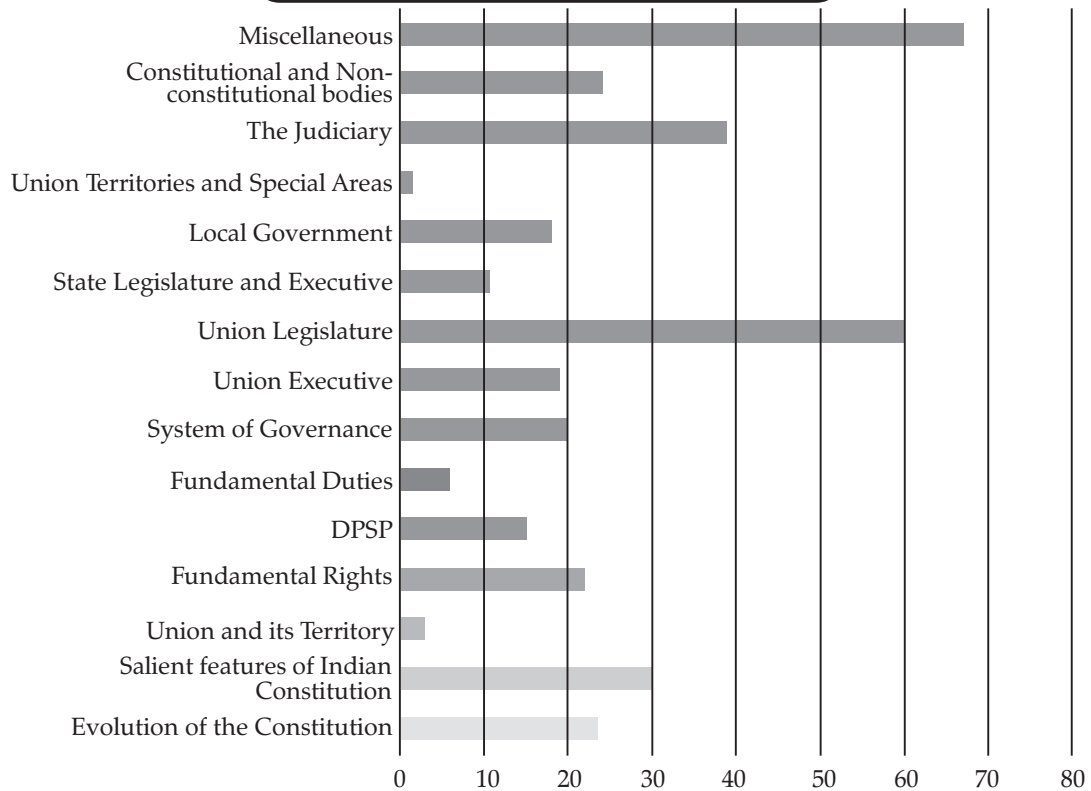


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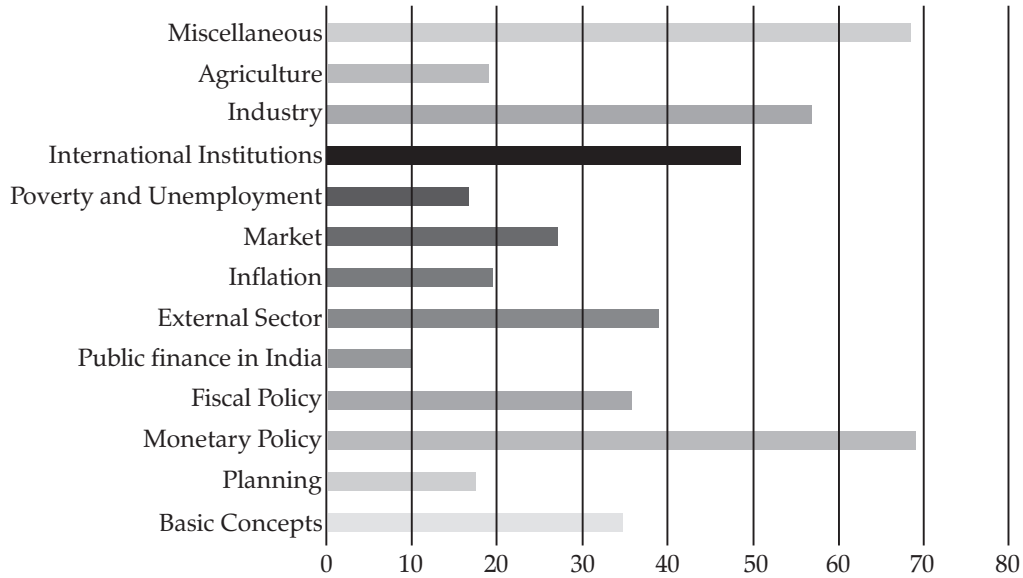
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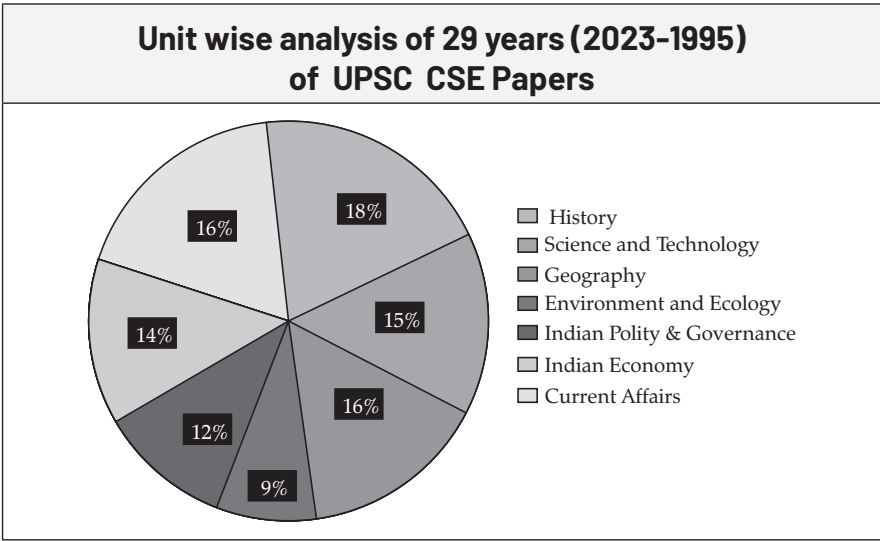
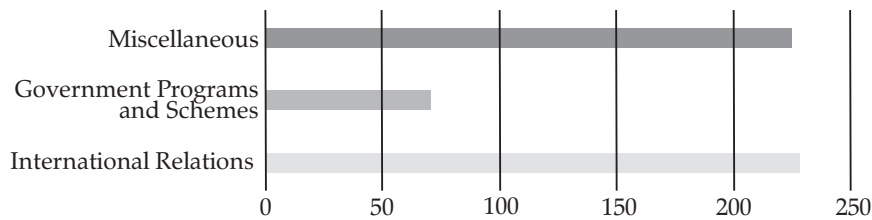
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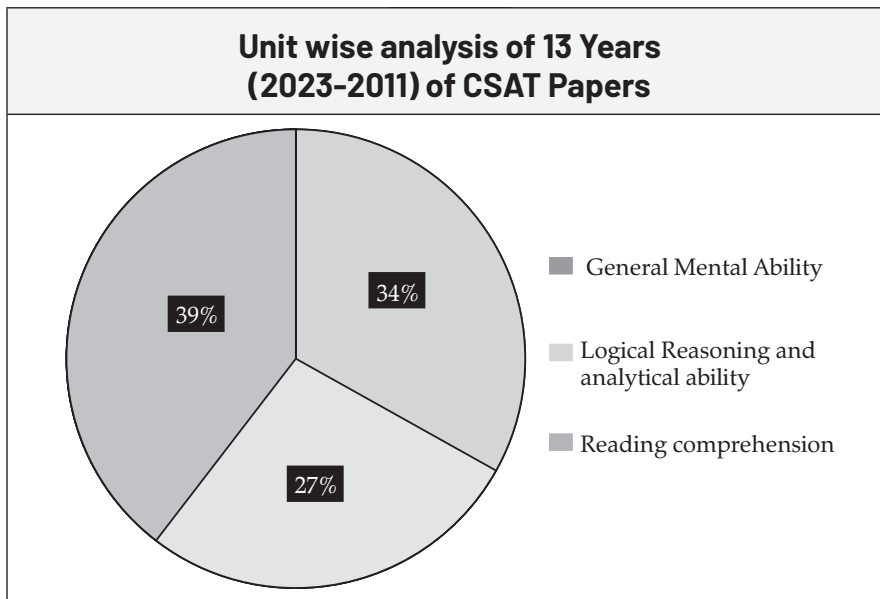
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BHILAI	Anil Book Depot, 9425234260	NASHIK Renuka Book distributor, 9765406133, Novelty Book Depot, 9657690220, Karamveer Book Depot, 9923966466, Arun Book & Stationers, 9423110953	DHULE Rahul Book Centre, 9970849681, New India Book House, 9623123458
DURG	Bhagwati Bhawani Book Depot, 0788-2327620, 9827473100	YAVATMAL Navjeevan Book Stall, 7020525561	VASAI Shri Ganesh Pustakalaya, 9423131275
KORBA	Kitab Ghar, Korba (E & C), 9425226528		ODISHA A. K. Mishra Agencies, 9437025991, 9437081319
RAIPUR	Shri Ramdev Traders, 9981761797, Gupta Pustak Mandir, 7974220323	VAHATMAL	
RAIGARH	Sindh Book Deopt, 9981935763 DELHI		
DELHI	Mittal Books, (011) 23288887, 9899037390, Singhania Book & Stationer. 9212028238, AoneBooks, New Delhi, 8800497047, Radhey Book Depot, 9818314141, Batheja Super Store, 9871833924, Lov Dev & Sons, Delhi (E & C), 9811182352, Zombozone, 9871274082 GUJARAT	CUTTACK A. K. Mishra Agencies, 9437025991, 9437081319	
AHMEDABAD	Patel Book, 9898184248, 9824386112, 9825900335, Zaveri Agency, 9979897312, 9979890330, Hardik Book Agency, (ISC) 079-24110043 9904659821	BHUBANESHWAR M/s Pragnya, 8847888616, 9437943777, Padmalaya, 9437026922, Bidyashree, 9937017070, Books Godown, 7894281110	BARIPADA Trimurti Book World, 9437034735
BHAVNAGAR	Samir Book Stall, Bhavnagar (ISC) 9586305305	KEONJHAR Students corner, 7008435418	
DAHOD	Collegian Book Corner, 9925501981	AMBALA	PUNJAB Bharat Book Depot, 7988455354
VAPI	Goutam Book Sellers, 9081790813	PATIALA Goel Sons, 9463619978, Adarsh Enterprises, 9814347613	JALANDHAR Cheap Book Store, 9872223458, 9878258592, City Book Shop, 9417440753, Subhash Book Depot, 9876453625, Paramvir Enterprises, 9878626248
VALSAD	Mahavir Stationers, 9429474177	FEROZPUR Sita Ram book Depot, 9463039199, 7696141911	LUDHIANA Amit Book, 9815807871, Gupta Brothers, 9888200206, Bhattia Book Centre, 9815277131
NAVSARI	College Store, (ISC) NO CALL 02637-258642, 9825099121	CHANDIGARH Mohindra Book Depot, 9814920226	RAJASTHAN Laxmi General Store, Ajmer, 0145- 2428942 9460652197
SURAT	Shopping Point, 9824108663	AJMER	KOTA Vardhman Book Depot, 9571365020, 8003221190 Raj Traders, 9309232829
VADODARA	Umakant Book Sellers & Stationer, 9624920709	KOTA Nakoda Book Depot, (01482) 243653, 9214983594, Alankar Book Depot, 9414707462	BHILWARA Ravi Enterprises, 9829060694, Saraswati Book House, (0141) 2610823, 9829811155, Goyal Book Distt., 9460983939, 9414782130
ROHTAK	HARYANA Mishra Traders, 9812556687, Swami Kitab Ghar, 9355611088, Babu Ram Pradeep Kumar, 9813214692	UDAIPUR Sunil Book Store, 9828682260	TRIPURA Book Corner, 8794894165, 8984657146, Book Emporium, 9089230412
REWARI	Sanjay book depot, 9255447231		TAMIL NADU Majestic Book House, (0422) 2384333, CBSC Book Shop, 9585979752
BALLABGARH	Kashi Ram Kishan Lal, 9289504004, 8920567245		
BHUNA	Khurana Book Store, 9896572520		
	JAMMU Sahitya Sangam, 9419190177		
	JHARKHAND		
BOKARO	Bokaro Student Friends, (0654) 2233094, 7360021503, Bharati Bhawan Agencies, 9431740797	JODHPUR Second Hand Book Stall, 9460004745	
RANCHI	Crown Book Distributor & Publishers, (0651) 2213735, 9431173904, Pustak Mandir, 9431115138,	AGARTALA Book Corner, 8794894165, 8984657146, Book Emporium, 9089230412	
DUMKA	Vidyarthi Pustak Bhandar, 9431310228	COIMBATORE	
HUBLI	KARNATAKA Renuka Book Distributor, (0836) 2244124	CHENNAI Arraba Book Traders, (044) 25387868, 9841459105, M.R. Book Store (044) 25364596, Kalaimagal Store, (044) 5544072, 9940619404, Vijaya Stores, 9381037417, Bookmark It-Books & Stat. Store, 7305151653, M.K. Store, 9840030099, Tiger Books Pvt. Ltd., 9710447000, New Mylai Stationers, 9841313062, Prince Book House, Chennai, 0444-2053926, 9952068491, S K Publishers & Distributors, 9789865544	PUDUCHERRY Sri Lakshmi Book Seller, 7871555145
BANGLORE	Krishna book house, 9739847334, Hema Book Stores, 9986767000, Sapna Book House Pvt. Ltd., 9980513242, Hema Book World, (Chamrajpet) (ISC) 080-40905110 9945731121	SALEM Pattu book centre, 9894816280	TRICHY P.R.Sons Book Seller, 9443370597, Rasi Publication, 9894816280
BELLERI	Chatinya book centre, 9886064731	THENI Maya Book Centre, 9443929274	MADURAI Selvi Book Shoppe, 9843057435, Jayam Book Centre, 9894658036
	KERALA Academic Book House, (0484) 2376613, H & C Store, 9864196344, Surya Book House, 9847124217, 9847238314	VELLORE G.K book centre and collections, 9894517994	
ERNAKULAM	Surya Book House, 9847124217, 9847238314		
KOTTAYAM	Book Centre, (0481) 2566992		
TRIVANDRUM	Academic Book House, (0471) 2333349, 9447063349, Ponnai Book Stall, 9037591721		
CALICUT	Aman Book Stall, (0495) 2721282, MADHYA PRADESH		
CHHINDWARA	Pustak Bhawan, (E & C), 8982150100		
GWALIOR	Agarwal Book Depot, 9425116210	TELANGANA Sri Balaji Book Depot, (040) 27613300, 9866355473, Shah Book House, 9849564564	
INDORE	Bhaiya Industries, 9893326853, Sushil Prakashan,(0731) 2503333, 2535892, 9425322330, Bhaiya Store, 9425318103, Arun Prakashan, 9424890785, Bhaiya Book Centre, 9424081874, Seva Suppliers, 9826451052	HYDERABAD Vishal Book Distributors, 9246333166	

Contd....

DEHRADUN	UTTARAKHAND Inder Book Agencies, 9634045280, Amar Book Depot , 8130491477, Goyal Book Store, 9897318047,	GORAKHPUR	Central Book House, 9935454590, Friends & Co., 9450277154, Dinesh book depot, 9125818274, Friends & Co., 9450277154
MUSSORIE	Ram Saran Dass Chanda kiran, 0135-2632785, 9761344588	JHANSI	Bhanu Book Depot, 9415031340
AGRA	UTTAR PRADESH Sparsh Book Agency, 9412257817, Om Pustak Mandir, (0562) 2464014, 9319117771, Sanjay Publication, 8126699922 Arti book centre, 8630128856, Panchsheel Books, 9412257962, Bhagwati Book Store, (E & C), 9149081912	KANPUR	Radha News Agency, 8957247427, Raj Book Dist., 9235616506, H K Book Distributors, 9935146730
ALLAHABAD	Mehrotra Book Agency, (0532) 2266865, 9415636890	LUCKNOW	Vyapar Sadan, 7607102462, Om Book Depot, 7705871398, Azad Book Depot Pvt. Ltd, 7317000250, Book Sadan, 9839487327, Rama Book Depot(Retail), 7355078254, Ashirwad Book Depot, 9235501197, Book.com, 7458922755, Universal Books, 9450302161, Sheelta Book Agency, 9235832418
AZAMGARH	Sasta Sahitya Bhandar, 9450029674	MEERUT	Ideal Book Depot, (0121) 4059252, 9837066307
ALIGARH	K.B.C.L. Agarwal, 9897124960, Shaligram Agencies, 9412317800, New Vimal Books, 9997398868	NOIDA	Prozo (Global Edu4 Share Pvt. Ltd), 9318395520, Goyal Books Overseas Pvt.Ltd., 1204655555 9873387003
ALIGARH	T.I.C Book centre, 9808039570	PRAYAGRAJ	Kanhaiya Pustak Bhawan, 9415317109
BALRAMPUR	Universal Book Center, 8933826726	MAWANA	Subhash Book Depot, 9760262264
BAREILLY	Siksha Prakashan, 9837829284	WEST BENGAL	
DEORIA	Kanodia Book Depot, 9415277835	KOLKATA	Oriental Publishers & Distributor (033) 40628367, Katha 'O' Kahini, (033) 22196313, 22419071, Saha Book House, (033), 22193671, 9333416484, United Book House, 9831344622, Bijay Pustak Bhandar, 8961260603, Shawan Books Distributors, 8336820363, Krishna Book House, 9123083874
VARANASI	Gupta Books, 8707225564	RENUKOOT	Om Stationers, 7007326732
MATHURA	Sapra Traders, 9410076716, Vijay Book House , 9897254292	COOCH BEHAR	S.B. Book Distributor, Cooch behar, 9002670771
FARRUKHABAD	Anurag Book Agencies, 8844007575	KHARAGPUR	Subhani Book Store, 9046891334
NAJIBABAD	Gupta News Agency, 8868932500, Gupta News Agency, (E & C), 8868932500	SILIGURI	Agarwal Book House, 9832038727
DHAMPUR	Ramkumar Mahaveer Prasad, 9411942550	DINAJPUR	Krishna Book House, 7031748945
		MURSHIDABAD	New Book House, 8944876176

Entrance & Competition Distributors

PATNA	BIHAR Metro Books Corner, 9431647013, Alka Book Agency, 9835655005, Vikas Book Depot, 9504780402	CUTTAK	A.K.Mishra Agencies, 9437025991
KORBA	CHATTISGARH Kitab Ghar, 9425226528, Shri Ramdev Traders, 9981761797	BHUBANESHWAR	M/s Pragnya, 9437943777
DELHI	DELHI Singhania Book & Stationer, 9212028238, Radhey Book depot, 9818314141, The Book Shop, 9310262701, Mittal Books, 9899037390, Lov Dev & Sons, 9999353491	PUNJAB	
NEW DELHI	Anupam Sales, 9560504617, A ONE BOOKS, 8800497047	JALANDHAR	Cheap Book Store, 9872223458, 9878258592
AMBALA	HARYANA Bharat Book Depot, 7988455354	RAJASTHAN	
BOKARO	JHARKHAND Bokaro Student Friends Pvt. Ltd, 7360021503	KOTA	Vardhman Book Depot, 9571365020, Raj Traders, 9309232829
INDORE	MADHYA PRADESH Bhaiya Industries, 9109120101	JAIPUR	Goyal Book Distributors, 9414782130
CHHINDWARA	Pustak Bhawan, 9827255997	UTTAR PRADESH	
NAGPUR	MAHARASHTRA Laxmi Pustakalay and Stationers, (0712) 2727354	AGRA	BHAGWATI BOOK STORE, 9149081912, Sparsh Book Agency, 9412257817, Sanjay Publication, 8126699922
PUNE	Pragati Book Centre, 9850039311	ALIGARH	New Vimal Books, 9997398868
MUMBAI	New Student Agencies LLP, 7045065799	ALLAHABAD	Mehrotra Book Agency, (532) 2266865, 9415636890
BARIPADA	ODISHA Trimurti Book World, 9437034735	GORAKHPUR	Central Book House, 9935454590
		KANPUR	Raj Book Dist, 9235616506
		LUCKNOW	Azad Book Depot PVT LTD, 7317000250, Rama Book Depot(Retail), 7355078254, Ashirwad Book Depot, 9235501197, Book Sadan, 8318643277, Book.com , 7458922755, Sheelta Book Agency, 9235832418
		PRAYAGRAJ	Format Center, 9335115561, Garg Brothers Trading & Services Pvt. Ltd., 7388100499
		DEHRADUN	UTTAR PRADESH Inder Book Agencies, 9634045280
		WEST BENGAL	
		KOLKATA	Bijay Pustak Bhandar Pvt. Ltd., 8961260603, Saha Book House, 9674827254, United Book House, 9831344622, Techno World, 9830168159

PAPER**I**

UPSC CIVIL SERVICES EXAMINATION (PRELIMS) 2023

Ancient History

1. With reference to ancient South India, Korkai, Poompuhar and Muchiri were well known as
(a) capital cities
(b) ports
(c) centres of iron-and-steel making
(d) shrines of Jain Tirthankaras

2. Which one of the following explains the practice of Vattakirutal mentioned in Sangam poems?
(a) Kings employing women bodyguards
(b) Learned persons assembling in royal courts to discuss religious and philosophical matters
(c) Young girls keeping watch over agricultural fields and driving away birds and animals
(d) A king defeated in a battle committing ritual suicide starving himself to death

3. Consider the following dynasties:

1. Hoysala 2. Gahadavala
3. Kakatiya 4. Yadava

How many of the above dynasties established their kingdoms in early eighth century AD?

- (a) Only one (b) Only two
(c) Only three (d) None

4. "Souls are not only the property of animal and plant life, but also of rocks, running water and many other natural objects not looked on as living by other religious sects."

The above statement reflects one of the core beliefs of which one of the following religious sects of ancient India?

- (a) Buddhism (b) Jainism
(c) Shaivism (d) Vaishnavism

5. Who among the following rulers of Vijayanagara Empire constructed a large dam across Tungabhadra River and a canal-cum-aqueduct several kilometres long from the river to the capital city?

- (a) Devaraya I (b) Mallikarjuna
(c) Vira Vijaya (d) Virupaksha

6. Consider the following pairs:

	Site	Well known for
1.	Besnagar	Shaivite cave shrine
2.	Bhaja	Buddhist cave shrine
3.	Sittanavasal	Jain cave shrine

How many of the above pairs are correctly matched?

- (a) Only one (b) Only two
(c) All three (d) None

Medieval History

7. Who among the following rulers of medieval Gujarat surrendered Diu to Portuguese?

- (a) Ahmad Shah (b) Mahmud Begarha
(c) Bahadur Shah (d) Muhammad Shah

Modern History

8. With reference to the Indian History, Alexander Rea, A. H. Longhurst, Robert Sewell, James Burgess and Walter Elliot were associated with

- (a) archaeological excavations
(b) establishment of English Press in Colonial India
(c) establishment of Churches in Princely States
(d) construction of railways in Colonial India

9. Consider the following statements:

Statement-I: 7th August is declared as the National Handloom Day.

Statement-II: It was in 1905 that the Swadeshi Movement was launched on the same day.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct

Art & culture

10. In which one of the following regions was Dhanyakataka, which flourished as prominent Buddhist centre under the Mahasanghikas, located?

- (a) Andhra (b) Gandhara
(c) Kalinga (d) Magadha

11. With reference to ancient India, consider the following statements:

1. The concept of Stupa is Buddhist in origin.
2. Stupa was generally a repository of relics.
3. Stupa was a votive and commemorative structure in Buddhist tradition.

How many of the statements given above are correct?

- (a) Only one (b) Only two
(c) All three (d) None

12. With reference to ancient Indian History, consider the following pairs:

	Literary work	Author
1.	Devichandragupta	Bilhana
2.	Hammira-Mahakavya	Nayachandra Suri
3.	Milinda-panha	Nagarjuna
4.	Nitivakyamrita	Somadeva Suri

How many of the above pairs are correctly matched?

- (a) Only one (b) Only two
(c) Only three (d) All four

Science and Technology

13. 'Wolbachia method' is sometimes talked about with reference to which one of the following?

[Biotechnology]

- (a) Controlling the viral diseases spread by mosquitoes
- (b) Converting crop residues into packing material
- (c) Producing biodegradable plastics
- (d) Producing biochar from thermochemical conversion of biomass

14. 'Aerial metagenomics' best refers to which one of the following situations? [Biotechnology]

- (a) Collecting DNA samples from air in a habitat at one go
- (b) Understanding the genetic makeup of avian species of a habitat
- (c) Using air-borne devices to collect blood samples from moving animals
- (d) Sending drones to inaccessible areas to collect plant and animal samples from land surfaces and water bodies

15. 'Microsatellite DNA' is used in the case of which one of the following? [Biotechnology]

- (a) Studying the evolutionary relationships among various species of fauna
- (b) Stimulating 'stem cells' to transform into diverse functional tissues
- (c) Promoting clonal propagation of horticultural plants
- (d) Assessing the efficacy of drugs by conducting series of drug trials in a population

16. Consider the following statements in the context of interventions being undertaken under Anaemia Mukt Bharat Strategy: [Miscellaneous]

1. It provides prophylactic calcium supplementation for pre-school children, adolescents and pregnant women.
2. It runs a campaign for delayed cord clamping at the time of child- birth.
3. It provides for periodic deworming to children and adolescents.
4. It addresses non-nutritional causes of anaemia in endemic pockets with special focus on malaria, hemoglobinopathies and fluorosis.

How many of the statements given above are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

17. Consider the following actions: [Miscellaneous]

1. Detection of car crash/collision which results in the deployment of airbags almost instantaneously
2. Detection of accidental free fall of a laptop towards the ground which results in the immediate turning off of the hard drive
3. Detection of the tilt of the smart- phone which results in the rotation of display between portrait and landscape mode

In how many of the above actions is the function of accelerometer required?

- (a) Only one (b) Only two
(c) All three (d) None

18. Which one of the following countries has its own Satellite Navigation System?

[Electronics & Communication]

- (a) Australia (b) Canada
- (c) Israel (d) Japan

19. Consider the following statements: [Defence]

1. Ballistic missiles are jet-propelled at subsonic speeds throughout their flights, while cruise missiles are rocket-powered only in the initial phase of flight.
2. Agni-V is a medium-range supersonic cruise missile, while BrahMos is a solid-fuelled intercontinental ballistic missile.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

Geography

20. Consider the following statements:

[Indian Geography]

1. Jhelum River passes through Wular Lake.
2. Krishna River directly feeds Kolleru Lake.
3. Meandering of Gandak River formed Kanwar Lake.

How many of the statements given above are correct?

- (a) Only one (b) Only two
(c) All three (d) None

UPSC CIVIL SERVICES EXAMINATION (PRELIMS) 2023

21. Consider the following pairs: [Indian Geography]

	Port	Well known as
1.	Kamarajar Port	First major port in India registered as a company
2.	Mundra Port	Largest privately owned port in India
3.	Visakhapatnam Port	Largest container port in India

How many of the above pairs are correctly matched?

- (a) Only one pair (b) Only two pairs
(c) All three pairs (d) None of the pairs

22. Consider the following trees: [Indian Geography]

- Jackfruit (*Artocarpus heterophyllus*)
- Mahua (*Madhuca indica*)
- Teak (*Tectona grandis*)

How many of the above are deciduous trees?

- (a) Only one (b) Only two
(c) All three (d) None

23. Consider the following statements:

[Indian Geography]

- India has more arable area than China.
- The proportion of irrigated area is more in India as compared to China.
- The average productivity per hectare in Indian agriculture is higher than that in China.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

24. Ilmenite and rutile, abundantly available in certain coastal tracts of India, are rich sources of which one of the following? [Miscellaneous]

- (a) Aluminium (b) Copper
(c) Iron (d) Titanium

25. About three-fourths of world's cobalt, a metal required for the manufacture of batteries for electric motor vehicles, is produced by: [World Geography]

- (a) Argentina
(b) Botswana
(c) The Democratic Republic of the Congo
(d) Kazakhstan

26. Which one of the following is a part of the Congo Basin? [World Geography]

- (a) Cameroon (b) Nigeria
(c) South Sudan (d) Uganda

27. Consider the following statements:

[Indian Geography]

- Amarkantak Hills are at the confluence of Vindhya and Sahyadri Ranges.
- Biligirirangan Hills constitute the easternmost part of Satpura Range.
- Seshachalam Hills constitute the southernmost part of Western Ghats.

How many of the statements given above are correct?

- (a) Only one (b) Only two
(c) All three (d) None

28. With reference to India's projects on connectivity, consider the following statements:

[Indian Geography]

- East-West Corridor under Golden Quadrilateral Project connects Dibrugarh and Surat.
- Trilateral Highway connects Moreh in Manipur and Chiang Mai in Thailand via Myanmar.
- Bangladesh-China-India-Myanmar Economic Corridor connects Varanasi in Uttar Pradesh with Kunming in China.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

29. With reference to the Earth's atmosphere, which one of the following statements is correct?

[Physical Geography]

- (a) The total amount of insolation received at the equator is roughly about 10 times of that received at the poles.
(b) Infrared rays constitute roughly two-thirds of insolation.
(c) Infrared waves are largely absorbed by water vapour that is concentrated in the lower atmosphere.
(d) Infrared waves are a part of visible spectrum of electromagnetic waves of solar radiation.

30. Consider the following statements:

[Physical Geography]

Statement-I: The soil in tropical rain forests is rich in nutrients.

Statement-II: The high temperature and moisture of tropical rain forests cause dead organic matter in the soil to decompose quickly.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct

31. Consider the following statements:

[Physical Geography]

Statement-I: The temperature contrast between continents and oceans is greater during summer than in winter.

Statement-II: The specific heat of water is more than that of land surface.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I

- (c) Statement-I is correct but Statement-II is incorrect
 (d) Statement-I is incorrect but Statement-II is correct

32. Consider the following statements:

[Physical Geography]

- In a seismograph, P waves are recorded earlier than S waves.
- In P waves, the individual particles vibrate to and fro in the direction of wave propagation whereas in S waves, the particles vibrate up and down at right angles to the direction of wave propagation.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2

33. With reference to coal-based thermal power plants in India, consider the following statements:

[Indian Geography]

- None of them uses seawater.
- None of them is set up in water-stressed district.
- None of them is privately owned.

How many of the above statements are correct?

- (a) Only one (b) Only two
 (c) All three (d) None

34. Consider the following pairs:

[Miscellaneous]

Objects in space		Description
1.	Cepheids	Giant clouds of dust and gas in space
2.	Nebulae	Stars which brighten and dim periodically
3.	Pulsars	Neutron stars that are formed when massive stars run out of fuel and collapse

How many of the above pairs are correctly matched?

- (a) Only one (b) Only two
 (c) All three (d) None

Ecology and Environment

35. Consider the following statements: [Biodiversity]

Once the Central Government notifies an area as a 'Community Reserve'

- the Chief Wildlife Warden of the State becomes the governing authority of such forest
- hunting is not allowed in such area
- people of such area are allowed to collect non-timber forest produce
- people of such area are allowed traditional agricultural practices

How many of the above statements are correct?

- (a) Only one (b) Only two
 (c) Only three (d) All four

36. Consider the following statements: [Biodiversity]

Statement-I: Marsupials are not naturally found in India.

Statement-II: Marsupials can thrive only in montane grasslands with no predators.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
 (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
 (c) Statement-I is correct but Statement-II is incorrect
 (d) Statement-I is incorrect but Statement-II is correct

37. 'Invasive Species Specialist Group' (that develops Global Invasive Species Database) belongs to which one of the following organizations?

[International Convention]

- (a) The International Union for Conservation of Nature
 (b) The United Nations Environment Programme
 (c) The United Nations World Commission for Environment and Development
 (d) The World Wide Fund for Nature

38. Consider the following fauna: [Biodiversity]

- Lion-tailed Macaque
- Malabar Civet
- Sambar Deer

How many of the above are generally nocturnal or most active after sunset?

- (a) Only one (b) Only two
 (c) All three (d) None

39. Which of the following organisms perform waggle dance for others of their kin to indicate the direction and the distance to a source of their food?

[Biodiversity]

- (a) Butterflies (b) Dragonflies
 (c) Honeybees (d) Wasps

40. 26. Consider the following statements: [Ecology]

- Some mushrooms have medicinal properties.
- Some mushrooms have psycho-active properties.
- Some mushrooms have insecticidal properties.
- Some mushrooms have bioluminescent properties.

How many of the above statements are correct?

- (a) Only one (b) Only two
 (c) Only three (d) All four

41. Consider the following statements regarding the Indian squirrels: [Ecology]

- They build nests by making burrows in the ground.
- They store their food materials like nuts and seeds in the ground.
- They are omnivorous.

How many of the above statements are correct?

- (a) Only one (b) Only two
 (c) All three (d) None

42. Consider the following statements: [Ecology]

- Some microorganisms can grow in environments with temperature above the boiling point of water.
- Some microorganisms can grow in environments with temperature below the freezing point of water.

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3. Some microorganisms can grow in highly acidic environment with a pH below 3.
How many of the above statements are correct?
(a) Only one (b) Only two
(c) All three (d) None
43. Which one of the following makes a tool with a stick to scrape insects from a hole in a tree or a log of wood? [Biodiversity]
(a) Fishing cat (b) Orangutan
(c) Otter (d) Sloth bear
44. Consider the following: [Miscellaneous]
1. Aerosols 2. Foam agents
3. Fire retardants 4. Lubricants
In the making of how many of the above are hydrofluorocarbons used?
(a) Only one (b) Only two
(c) Only three (d) All four
45. Which one of the following is the best example of repeated falls in sea level, giving rise to present-day extensive marshland? [Miscellaneous]
(a) Bhitarkanika Mangroves
(b) Marakkanam Salt Pans
(c) Naupada Swamp
(d) Rann of Kutch
46. Consider the following statements: [Miscellaneous]
Statement-1: Carbon markets are likely to be one of the most widespread tools in the fight against climate change.
Statement-II: Carbon markets transfer resources from the private sector to the State.
Which one of the following is correct in respect of the above statements?
(a) Both Statement-1 and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct
47. Consider the following heavy industries: [Miscellaneous]
1. Fertilizer plants
2. Oil refineries
3. Steel plants
Green hydrogen is expected to play a significant role in decarbonizing how many of the above industries?
(a) Only one (b) Only two
(c) All three (d) None
48. Consider the following activities: [Miscellaneous]
1. Spreading finely ground basalt rock on farmlands extensively
2. Increasing the alkalinity of oceans by adding lime
3. Capturing carbon dioxide released by various industries and pumping it into abandoned subterranean mines in the form of carbonated waters
How many of the above activities are often considered and discussed for carbon capture and sequestration?
(a) Only one (b) Only two
(c) All three (d) None
49. Consider the following statements: [Miscellaneous]
1. Carbon fibres are used in the manufacture of components used in automobiles and aircrafts.
2. Carbon fibres once used cannot be recycled.
Which of the statements given above is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
50. With reference to the role of biofilters in Recirculating Aquaculture System, consider the following statements: [Miscellaneous]
1. Biofilters provide waste treatment by removing uneaten fish feed.
2. Biofilters convert ammonia present in fish waste to nitrate.
3. Biofilters increase phosphorus as nutrient for fish in water.
How many of the statements given above are correct?
(a) Only one (b) Only two
(c) All three (d) None
51. Consider the following statements regarding mercury pollution: [Miscellaneous]
1. Gold mining activity is a source of mercury pollution in the world.
2. Coal-based thermal power plants cause mercury pollution.
3. There is no known safe level of exposure to mercury.
How many of the above statements are correct?
(a) Only one (b) Only two
(c) All three (d) None
52. With reference to green hydrogen, consider the following statements: [Miscellaneous]
1. It can be used directly as a fuel for internal combustion.
2. It can be blended with natural gas and used as fuel for heat or power generation.
3. It can be used in the hydrogen fuel cell to run vehicles.
How many of the above statements are correct?
(a) Only one (b) Only two
(c) All three (d) None
53. Consider the following statements: [Biodiversity]
1. In India, the Biodiversity Management Committees are key to the realization of the objectives of the Nagoya Protocol.
2. The Biodiversity Management Committees have important functions in determining access

and benefit sharing, including the power to levy collection fees on the access of biological resources within its jurisdiction.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

Indian Polity and Governance

54. By which one of the following Acts was the Governor General of Bengal designated as the Governor General of India?

[Evolution of Constitution]

- (a) The Regulating Act
(b) The Pitt's India Act
(c) The Charter Act of 1793
(d) The Charter Act of 1833

55. In essence, what does, Due Process of Law' mean?

[Salient Features of Constitution]

- (a) The principle of natural justice
(b) The procedure established by law
(c) Fair application of law
(d) Equality before law

56. Consider the following statements: [Miscellaneous]

Statement-I: In India, prisons are managed by State Governments with their own rules and regulations for the day-to-day administration of prisons.

Statement-II: In India, prisons are governed by the Prisons Act, 1894 which expressly kept the subject of prisons in the control of Provincial Governments.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct

57. Which one of the following statements best reflects the Chief purpose of the 'Constitution' of a country?

[Salient Features of Constitution]

- (a) It determines the objective for the making of necessary laws.
(b) It enables the creation of political offices and a government.
(c) It defines and limits the powers of government.
(d) It secures social justice, social equality and social security.

58. In India, which one of the following Constitutional Amendments was widely believed to be enacted to overcome the judicial interpretations of the Fundamental Rights?

[Miscellaneous]

- (a) 1st Amendment (b) 42nd Amendment
(c) 44th Amendment (d) 86th Amendment

59. Consider the following organizations/ bodies in India:

[Constitutional and Non Constitutional Bodies]

1. The National Commission for Backward Classes
2. The National Human Rights Commission
3. The National Law Commission
4. The National Consumer Disputes Redressal Commission

How many of the above are constitutional bodies?

- (a) Only one (b) Only two
(c) Only three (d) All four

60. Consider the following statements:

[Union Executive]

1. If the election of the President of India is declared void by the Supreme Court of India, all acts done by him/her in the performance of duties of his/her office of President before the date of decision become invalid.
2. Election for the post of the President of India can be postponed on the ground that some Legislative Assemblies have been dissolved and elections are yet to take place.
3. When a Bill is presented to the President of India, the Constitution prescribes time limits within which he/she has to declare his/her assent.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

61. With reference to Finance Bill and Money Bill in the Indian Parliament, consider the following statements:

[Union Legislature]

1. When the Lok Sabha transmits Finance Bill to the Rajya Sabha, it can amend or reject the Bill.
2. When the Lok Sabha transmits Money Bill to the Rajya Sabha, it cannot amend or reject the Bill, it can only make recommendations.
3. In the case of disagreement between the Lok Sabha and the Rajya Sabha, there is no joint sitting for Money Bill, but a joint sitting becomes necessary for Finance Bill.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

62. With reference to 'Scheduled Areas' in India, consider the following statements: [Miscellaneous]

1. Within a State, the notification of an area as Scheduled Area takes place through an Order of the President.
2. The largest administrative unit forming the Scheduled Area is the District and the lowest is the cluster of villages in the Block.
3. The Chief Ministers of the concerned States are required to submit annual reports to the Union Home Ministry on the administration of Scheduled Areas in the States.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

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63. Consider the following statements:

[Fundamental Rights]

Statement-I: The Supreme Court of India has held in some judgements that the reservation policies made under Article 16(4) of the Constitution of India would be limited by Article 335 for maintenance of efficiency of administration.

Statement-II: Article 335 of the Constitution of India defines the term 'efficiency of administration'.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- Statement-I is correct but Statement-II is incorrect
- Statement-I is incorrect but Statement-II is correct

64. With reference to Home Guards, consider the following statements: [Miscellaneous]

- Home Guards are raised under the Home Guards Act and Rules of the Central Government.
- The role of the Home Guards is to serve as an auxiliary force to the police in maintenance of internal security.
- To prevent infiltration on the international border/coastal areas, the Border Wing Home Guards Battalions have been raised in some States.

How many of the above statements are correct?

- Only one
- Only two
- All three
- None

65. With reference to India, consider the following pairs: [Miscellaneous]

Action	The Act under which it is covered
1. Unauthorized wearing of police or military uniforms	The Official Secrets Act, 1923
2. Knowingly misleading or otherwise interfering with a police officer or military officer when engaged in their duties	The Indian Evidence Act, 1872
3. Celebratory gunfire which can endanger the personal safety of others	The Arms (Amendment) Act, 2019

How many of the above pairs are correctly matched?

- Only one
- Only two
- All three
- None

66. Consider the following statements: [Miscellaneous]

Statement-I: Israel has established diplomatic relations with some Arab States.

Statement-II: The 'Arab Peace Initiative' mediated by Saudi Arabia was signed by Israel and Arab League.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- Statement-I is correct but Statement-II is incorrect
- Statement-I incorrect is but Statement-II is correct

67. Consider the following statements in respect of the National Flag of India according to the Flag Code of India, 2002: [Miscellaneous]

Statement-I: One of the standard sizes of the National Flag of India is 600 mm × 400 mm.

Statement-II: The ratio of the length to the height (width) of the Flag shall be 3:2.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- Statement-I is correct but Statement-II is incorrect
- Statement-I is incorrect but Statement-II is correct

68. Consider the following statements in respect of the Constitution Day: [Miscellaneous]

Statement-I: The Constitution Day is celebrated on 26th November every year to promote constitutional values among citizens.

Statement-II: On 26th November, 1949, the Constituent Assembly of India set up a Drafting Committee under the Chairmanship of Dr. B. R. Ambedkar to prepare a Draft Constitution of India.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- Statement-I is correct but Statement-II is incorrect
- Statement-I is incorrect but Statement-II is correct

69. Consider the following statements: [Miscellaneous]

1. According to the Constitution of India, the Central Government has a duty to protect States from internal disturbances.
2. The Constitution of India exempts the States from providing legal counsel to a person being held for preventive detention.
3. According to the Prevention of Terrorism Act, 2002, confession of the accused before the police cannot be used as evidence.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

70. Consider the following statements in respect of election to the President of India: [Union Executive]

1. The members nominated to either House of the Parliament or the Legislative Assemblies of States are also eligible to be included in the Electoral College.
2. Higher the number of elective Assembly seats, higher is the value of vote of each MLA of that State.
3. The value of vote of each MLA of Madhya Pradesh is greater than that of Kerala.
4. The value of vote of each MLA of Puducherry is higher than that of Arunachal Pradesh because the ratio of total population to total number of elective seats in Puducherry is greater as compared to Arunachal Pradesh.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

Economy

71. Consider the following statements: [Miscellaneous]

Statement-I: India, despite having uranium deposits, depends on coal for most of its electricity production.

Statement-II: Uranium, enriched to the extent of at least 60%, is required for the production of electricity. Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct

72. Consider the following statements: [Market]

Statement-I: Interest income from the deposits in Infrastructure Investment Trusts (InvITs) distributed to their investors is exempted from tax, but the dividend is taxable.

Statement-II: InvITs are recognized as borrowers under the 'Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002'.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct

73. Consider the following statements:

[Monetary Policy]

Statement-I: In the post-pandemic recent past, many Central Banks worldwide had carried out interest rate hikes.

Statement-II: Central Banks generally assume that they have the ability to counteract the rising consumer prices via monetary policy means.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct

74. Which one of the following activities of the Reserve Bank of India is considered to be part of 'sterilization'? [Monetary Policy]

- (a) Conducting 'Open Market Operations'
(b) Oversight of settlement and payment systems
(c) Debt and cash management for the Central and State Governments
(d) Regulating the functions of Non-banking Financial Institutions

75. Consider the following markets: [Market]

1. Government Bond Market
2. Call Money Market
3. Treasury Bill Market
4. Stock Market

How many of the above are included in capital markets?

- (a) Only one (b) Only two
(c) Only three (d) All four

76. Which one of the following best describes the concept of 'Small Farmer Large Field'? [Agriculture]

- (a) Resettlement of a large number of people, uprooted from their countries due to war, by giving them a large cultivable land which they cultivate collectively and share the produce

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- (b) Many marginal farmers in an area organize themselves into groups and synchronize and harmonize selected agricultural operations
- (c) Many marginal farmers in an area together make a contract with a corporate body and surrender their land to the corporate body for a fixed term for which the corporate body makes a payment of agreed amount to the farmers
- (d) A company extends loans, technical knowledge and material inputs to a number of small farmers in an area so that they produce the agricultural commodity required by the company for its manufacturing process and commercial production
77. Consider the following statements: [Agriculture]
1. The Government of India provides Minimum Support Price for niger (*Guizotia abyssinica*) seeds.
 2. Niger is cultivated as a Kharif crop.
 3. Some tribal people in India use niger seed oil for cooking.
- How many of the above statements are correct?
- (a) Only one (b) Only two
(c) All three (d) None
78. Consider the investments in the following assets: [Miscellaneous]
1. Brand recognition
 2. Inventory
 3. Intellectual property
 4. Mailing list of clients
- How many of the above are considered intangible investments?
- (a) Only one (b) Only two
(c) Only three (d) All four
79. Consider the following: [Fiscal Policy]
1. Demographic performance
 2. Forest and ecology
 3. Governance reforms
 4. Stable government
 5. Tax and fiscal efforts
- For the horizontal tax devolution, the Fifteenth Finance Commission used how many of the above as criteria other than population area and income distance?
- (a) Only two (b) Only three
(c) Only four (d) All five
80. Consider the following infrastructure sectors: [International Institutions]
1. Affordable housing
 2. Mass rapid transport
 3. Health care
 4. Renewable energy
- On how many of the above does UNOPS Sustainable Investments in Infrastructure and Innovation (S3i) initiative focus for its investments?
- (a) Only one (b) Only two
(c) Only three (d) All four
81. Consider the following statements: [External Sector]
- Statement-I:** Switzerland is one of the leading exporters of gold in terms of value.
- Statement-II:** Switzerland has the second largest gold reserves in the world.
- Which one of the following is correct in respect of the above statements?
- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct
82. Consider the following statements: [International Institutions]
- Statement-I:** Recently, the United States of America (USA) and the European Union (EU) have launched the 'Trade and Technology Council'.
- Statement-II:** The USA and the EU claim that through this they are trying to bring technological progress and physical productivity under their control.
- Which one of the following is correct in respect of the above statements?
- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct
83. Consider the following statements: [Miscellaneous]
- Statement-I:** India accounts for 3.2% of global export of goods.
- Statement-II:** Many local companies and some foreign companies operating in India have taken advantage of India's 'Production-linked Incentive' scheme.
- Which one of the following is correct in respect of the above statements?
- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct
84. Consider the following statements: [International Institutions]
- The 'Stability and Growth Pact' of the European Union is a treaty that

- limits the levels of the budgetary deficit of the countries of the European Union
- makes the countries of the European Union to share their infrastructure facilities
- enables the countries of the European Union to share their technologies

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

85. Consider the following statements:

[International Institution]

- Recently, all the countries of the United Nations have adopted the first-ever compact for international migration, the 'Global Compact for Safe, Orderly and Regular Migration (GCM)'.
- The objectives and commitments stated in the GCM are binding on the UN member countries.
- The GCM addresses internal migration or internally displaced people also in its objectives and commitments.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

86. Consider the following statements in relation to Janani Suraksha Yojana: [Miscellaneous]

- It is a safe motherhood intervention of the State Health Departments.
- Its objective is to reduce maternal and neonatal mortality among poor pregnant women.
- It aims to promote institutional delivery among poor pregnant women.
- Its objective includes providing public health facilities to sick infants up to one year of age.

How many of the statements given above are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

87. Consider the following statements with reference to India: [Industry]

- According to the 'Micro, Small and Medium Enterprises Development (MSMED) Act, 2006', the 'medium enterprises' are those with investments in plant and machinery between ₹ 15 crore and ₹25 crore.
- All bank loans to the Micro, Small and Medium Enterprises qualify under the priority sector.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

88. With reference to Central Bank digital currencies, consider the following statements: [Miscellaneous]

- It is possible to make payments in a digital currency without using US dollar or SWIFT system.
- A digital currency can be distributed with a condition programmed into it such as a time-frame for spending it.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

89. In the context of finance, the term 'beta' refers to

[Miscellaneous]

- (a) the process of simultaneous buying and selling of an asset from different platforms
(b) an investment strategy of a portfolio manager to balance risk versus reward
(c) a type of systemic risk that arises where perfect hedging is not possible
(d) a numeric value that measures the fluctuations of a stock to changes in the overall stock market

90. Consider the following statements: [Miscellaneous]

- The Self-Help Group (SHG) programme was originally initiated by the State Bank of India by providing microcredit to the financially deprived.
- In an SHG, all members of a group take responsibility for a loan that an individual member takes.
- The Regional Rural Banks and Scheduled Commercial Banks support SHGs.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

91. Consider the following statements: [Miscellaneous]

Statement-I: India's public sector health care system largely focuses on curative care with limited preventive, promotive and rehabilitative care.

Statement-II: Under India's decentralized approach to health care delivery, the States are primarily responsible for organizing health services.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-I is incorrect but Statement-II is correct

Current Affairs

92. Consider the following pairs:

[International Relations]

	Regions often mentioned in news	Reason for being in news
1.	North Kivu and Ituri	War between Armenia and Azerbaijan
2.	Nagorno-Karabakh	Insurgency in Mozambique
3.	Kherson and Zaporizhzhia	Dispute between Israel and Lebanon

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How many of the above pairs are correctly matched?

- (a) Only one (b) Only two
(c) All three (d) None

93. Consider the following pairs with regard to sports awards: [Miscellaneous]

	List I	List II
1.	Major Dhyan Chand Khel Ratna Award	For the most spectacular and outstanding performance by a sportsperson over period of last four years
2.	Arjuna Award	For the lifetime by achievement a sportsperson
3.	Dronacharya Award	To honour eminent coaches who have successfully trained sportspersons or teams
4.	Rashtriya Khel Protsahan Puraskar	To recognize the contribution made by sportspersons even after their retirement

How many of the above pairs are correctly matched?

- (a) Only one (b) Only two
(c) Only three (d) All four

94. Consider the following statements in respect of the 44th Chess Olympiad, 2022: [Miscellaneous]

- It was the first time that Chess Olympiad was held in India.
- The official mascot was named 'Thambi'.
- The trophy for the winning team in the open section is the Vera Menchik Cup.
- The trophy for the winning team in the women's section is the Hamilton-Russell Cup.

How many of the statements given above are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

95. Consider the following pairs:

[International Relations]

	Area of conflict mentioned in news	Country where it is located
1.	Donbas	Syria
2.	Kachin	Ethiopia
3.	Tigray	North Yemen

How many of the above pairs are correctly matched?

- (a) Only one (b) Only two
(c) All three (d) None

96. In the recent years Chad, Guinea, Mali and Sudan caught the international attention for which one of the following reasons common to all of them?

[Miscellaneous]

- Discovery of rich deposits of rare earth elements
- Establishment of Chinese military bases
- Southward expansion of Sahara Desert
- Successful coups

97. Consider the following statements about G-20:

[International Relations]

- The G-20 group was originally established as a platform for the Finance Ministers and Central Bank Governors to discuss the international economic and financial issues.
- Digital public infrastructure is one of India's G-20 priorities.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

98. Consider the following countries:

[International Relations]

- Bulgaria
- Czech Republic
- Hungary
- Latvia
- Lithuania
- Romania

How many of the above-mentioned countries share a land border with Ukraine?

- (a) Only two (b) Only three
(c) Only four (d) Only five

99. Consider the following statements: [Miscellaneous]

Statement-I: According to the United Nations' 'World Water Development Report, 2022', India extracts more than a quarter of the world's groundwater withdrawal each year.

Statement-II: India needs to extract more than a quarter of the world's groundwater each year to satisfy the drinking water and sanitation needs of almost 18% of world's population living in its territory.

Which one of the following is correct in respect of the above statements?

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- Statement-I is correct but Statement-II is incorrect
- Statement-I is incorrect but Statement-II is correct

100. Which one of the following countries has been suffering from decades of civil strife and food shortages and was in news in the recent past for its very severe famine? [Miscellaneous]

- (a) Angola (b) Costa Rica
(c) Ecuador (d) Somalia

ANSWERS

Ancient History

1. Option (b) is correct

Explanation: Poompuhar is a town in the Mayiladuthurai region in the southern Indian province of Tamil Nadu. It was a thriving old port city known as Kaveri Poompattinam and Kaveripattinam (not to be mistaken for current Kaveripattinam), which for some time filled in as the capital of the early Chola rulers in Tamilakam.

Korkai was the capital of Pandya Kingdom. This city was centre of trade and important port of early Pandya Kingdom. Earlier, it was situated on the banks of the Tamiraparani Stream and at the ocean coast, making a natural harbour. Because of extreme sedimentation, the ocean has reduced around 6 km in the past 2000 years, leaving Korkai well inland today.

Muchiri found notice in the Periplus of the Erythraean Ocean, the bardic Tamil sonnets and various old style sources. It was the significant port city of Cheras. Center of the city is arranged in the present day Kodungallur, North Paravoor region.

2. Option (d) is correct

Explanation: Vatakkiruttal was a Tamil ritual of fasting till death which was especially widespread during the Sangam age. It was a Tamil martial art. This was either done alone, or as a group with the supporters of the captured king. In order to save their honour, and prestige the Tamil kings were prepared to meet their death facing North ('Vatakkiruttal') and never would they turn their back in battle.

3. Option (d) is correct

Explanation: The Hoysala Empire was a Kannadiga power originating from the Indian subcontinent that ruled most of what is now Karnataka between the 10th and the 14th centuries.

The Kakatiya dynasty was a Telugu dynasty that ruled most of the eastern Deccan region in present-day India between the 12th and 14th centuries.

The Seuna, Sevuna, or Yadavas of Devagiri was a Medieval Indian dynasty, (12th and 13th century) which at its peak ruled a kingdom stretching from the Narmada river in the north to the Tungabhadra river in the south. The Yadava kingdom reached its peak under Simhana II, and flourished until the early 14th century, when it was annexed by the Khalji dynasty of the Delhi Sultanate in 1308 CE.

The Gahadavala dynasty was a Rajput dynasty that ruled parts of the present-day Indian states of Uttar Pradesh and Bihar, during 11th and 12th centuries.

4. Option (b) is correct

Explanation: Jainism is an ancient Indian religion that places a strong emphasis on non-violence, compassion, and the principle of ahimsa (non-harming). One of the fundamental teachings in Jainism is the belief in the existence of souls (jivas) in all living beings, including humans, animals, and plants. However, Jain philosophy goes beyond this and extends the concept of souls to non-living entities as well, including rocks, water, and other natural objects. According to Jainism, all entities possess a soul, regardless of whether they are traditionally considered living or not.

This belief in the inherent presence of souls in various natural objects is a unique aspect of Jainism's worldview and distinguishes it from other major Indian religions such as Buddhism, Vaishnavism, and Shaivism.

5. Option (a) is correct

Explanation: Krishna Deva Raya was one of the most famous rulers of the Vijayanagara Empire, and he undertook numerous infrastructure projects to improve the irrigation and agricultural capabilities of his kingdom.

The credit for making the capital city of the Vijayanagara Empire one of the biggest cities in the 15th century goes to Deva Raya I. In 1410 CE he had a barrage constructed across the Tungabhadra river and commissioned a 24 km long aqueduct from the Tungabhadra river to the capital.

6. Option (b) is correct

Explanation:

- A town called Besnagar, also called Vidisha, is situated in contemporary Madhya Pradesh. The charming Heliodorus Pillar, erected by a Greek named Heliodorus who is supposed to have converted to Hinduism and become a disciple of Lord Vishnu, is located on the outskirts of Besnagar (Vidisha). It is dedicated to the God Vishnu. The pillar is now revered as "Khamba Baba" by the villagers, and as a result, the Besnagar location is better renowned for the Vaishnavite religion than the Shaivite sect.
- In India's Bhaja Caves, you may see the best example of Buddhist cave building. It is situated close to Lonavala in Mumbai's Pune district. The Caves belong to the Hinayana Buddhism sect in Maharashtra.
- Sittanavasal is a small village in Pudukottai district of Tamil Nadu. It was a major centre of Jain influence for 1,000 years just before the Christian era.

Medieval History

7. Option (c) is correct

Explanation: In 1535, after a long siege, Sultan Bahadur Shah was compelled to surrender the island of Diu to the Portuguese led by Nuno da Cunha. This event marked as the beginning of Portuguese control and influence in the region, particularly in the maritime trade routes of the Indian Ocean.

In 1538 Siege of Diu resulted in the permanent occupation of Diu by Portuguese which lasted till 1961.

Modern History

8. Option (a) is correct

Explanation: The rock-cut caves, stupas, chaityas, viharas, and silamandpas of Andhra Pradesh serve as examples of Buddhist architecture. There are rock-cut caves in Guntupalli, Kapavaram, Erravaram, Gopalpatnam, and other places.

A.H. Longhurst, Walter Elliot, Alexander Rea, James Burgess, Robert Sewell, and many others carried out methodical and careful excavations at Bhattiprolu, Ghantasala, Amaravati, etc. and exposed relic caskets that sparked Indian scholars' interest in a variety of topics related to these priceless reliquaries.

9. Option (a) is correct

Explanation:

- India observes National Handloom Day on August 7 every year to remember the "Swadeshi" Movement.
- The Handloom Day and the Swadeshi Movement are closely related.

Art & Culture

10. Option (a) is correct

Explanation: Dharanikota is a village in Palnadu district of Andhra Pradesh. Its old name was Dhanyakataka, or Dhanyakatakam. Many historical sources attest that Gautama Buddha visited Andhaka country and gave his sermons. Archaeological excavations at Dharanikota revealed viharas in Dharanikota and nearby areas. It is the site of the ancient Dhanyakataka which was the capital of the Satavahana kingdom which ruled in the Deccan around the 1st to 3rd centuries A.D. It was the site of a great Buddhist Stupa built in pre-Mauryan times, ruled by Satavahana kings.

11. Option (c) is correct

Explanation: A stupa is a reliquary, a shrine containing the remains of a holy or sainted person and/or relics

associated with them, originating in India prior to the 5th century BCE as tombs of holy men and evolving afterwards into sacred sites dedicated to the Buddha. It is a hemispherical structure, with a spire at the top, sometimes situated on a base that varies in shape and size (depending on the designated purpose of that particular stupa) surrounded by a walkway for visitors.

Later, stupas were also raised to honour Buddhist arhats (saints), bodhisattvas (enlightened ones), other saintly figures, or local deities.

According to Buddhist sources, the remains of the Buddha's body (relics) were divided into eight parts and placed under the stupas.

According to **A. Cunningham**, Maisey and Foucher the Stupas can be classified in to five categories

- Relic stupas: These are those in which the relics of Buddha and other religious persons are buried. - SANCHI.
- Object stupas: They are those in which the objects belonging to the Buddha or his disciples are buried. - VAISHALI.
- Commemorative stupas: These are those which are built to commemorate events in the life of Buddha and his disciples. - ANURADHAPURA
- Symbolic stupas: They are those which are built to symbolise various aspects of Buddhist theology. - LEH
- Votive stupas: They are constructed to commemorate visits or gain spiritual benefits. can be made from metal, stone, glass, etc

12. Option (b) is correct

Explanation: Devi-Chandraguptam or Devi-Chandragupta is an Indian political drama in Sanskrit-language which is attributed to Vishakhadeva, who is generally identified with Vishakhadatta.

Hammira Mahakavya is a 15th-century Indian Sanskrit epic poem which is written by the Jain scholar Nayachandra Suri.

Milinda-panha is a Buddhist text between 100 BC and 200 AD written by Nagasena.

It consists of dialogue between the Indian Buddhist sage Nagasena, and the Indo-Greek king Menander of Bactria, who reigned in the 2nd century BC.

Nitivakyamrita was the work of Jaina writer Somadeva of tenth century A.D. He writes a treatise on niti which is called Nitivakyamrta. He quotes fragments of the metrical works on polity attributed to Atri, Angiras, Kausika, Garga, Devala, Narada, Parasara, Bhaguri, Bharadvaja, Bhrgu, Brhaspati, Sukra, Vyasa etc.

Science and Technology

13. Option (a) is correct

Explanation: Controlling the viral diseases spread by mosquitoes:

To stop the spread of mosquito-transmitted viral infections like dengue, Zika, and chikungunya, the "Wolbachia method" is a biological control strategy. The bacterium Wolbachia is naturally present in many insects, including mosquitoes. Wolbachia-carrying male mosquitoes that are released mate with wild female mosquitoes, but the resulting eggs do not hatch or develop normally, gradually lowering the insect population. This approach has been used as a technique for the control of diseases carried by mosquitoes since it has demonstrated positive results in limiting the transmission of viral diseases by mosquitoes.

14. Option (a) is correct

Explanation: "Aerial metagenomics" refers to the study of genetic material, which involves gathering DNA samples from the air in a habitat all at once. Aerial metagenomics includes collecting and analysing genetic material, such DNA, that is present in the atmosphere. It tries to identify and investigate the microbial communities—including bacteria, viruses, fungus, and other microorganisms—that are present in the air. Without taking direct samples from individual organisms, this method enables researchers to examine the genetic diversity and distribution of airborne creatures.

15. Option (a) is correct

Explanation: In molecular genetics and genomics, especially, microsatellite DNA is used in genetic analysis. Small DNA sequences called microsatellites are made up of units that repeat. They are also referred to as simple sequence repeats (SSRs) or short tandem repeats (STRs). The number of times these repeating units—which are typically 1-6 base pairs long—are repeated in tandem varies from person to person. Due to the considerable variability of microsatellite DNA, the number of repetitions at a particular microsatellite locus may differ significantly between individuals in a community.

By examining microsatellite DNA, researchers can examine the genetic makeup, population trends, and historical ties of various animal species. In population genetics, conservation genetics, and phylogenetic study, microsatellite markers are extremely useful.

16. Option (c) is correct

Explanation: Interventions under Anaemia Mukh Bharat are:

Prophylactic Iron and Folic Acid supplementation
Deworming Intensified year round Behaviour Change Communication Campaign (Solid Body, Smart Mind) focusing on four key behaviours –

- Improving compliance to Iron Folic Acid supplementation and deworming. (b) Appropriate infant and young child feeding practices.
- Increase in intake of iron-rich food through diet diversity/quantity/frequency and/or fortified foods with focus on harnessing locally available resources.
- Ensuring delayed cord clamping after delivery (by 3 minutes) in health facilities.
- Testing and treatment of anemia, using digital methods and point of care treatment, with special focus on pregnant women and school-going adolescents.
- Mandatory provision of Iron and Folic Acid fortified foods in government funded public health programmes.
- Intensifying awareness, screening and treatment of non-nutritional causes of anemia in endemic pockets, with special focus on malaria, haemoglobinopathies and fluorosis.
- Hence, only statement 1 is wrong and statement 2, 3 & 4 is correct.

17. Option (c) is correct

Explanation:

- When a car crash or collision is detected, the airbags nearly immediately deploy: Vehicles have accelerometers to detect rapid changes in acceleration, like those that occur in collisions or car crashes. The airbags can be deployed to protect the occupants when the accelerometer detects a sudden deceleration or force of impact. Therefore, this activity needs an accelerometer's functionality.
- When a laptop is discovered in an unintentional free fall towards the ground, the hard disc is immediately turned off. Laptops frequently have accelerometers to track changes in orientation or motion. The laptop is falling freely, and the accelerometer may detect this sudden downward motion or acceleration. The accelerometer can activate a safety feature such as instantly turning off the hard drive to prevent damage after sensing a fall. Therefore, this activity needs an accelerometer's functionality.
- Identification of the smartphone's tilt, which causes the display to rotate between portrait and landscape mode: Smartphones frequently have accelerometers to track orientation changes. The smartphone's accelerometer can recognise a tilt as it occurs and automatically rotate the display between portrait and landscape modes. Therefore, this activity needs an accelerometer's functionality.

18. Option (d) is correct

Explanation: Japan has its own satellite navigation system, known as the Quasi-Zenith Satellite System (QZSS), among the available options. In Japan and the Asia-Oceania region, the QZSS satellite-based positioning system is intended to supplement and improve the Global Positioning System (GPS). It offers better time, navigation, and positioning services. Australia lacks a satellite navigation system of its own. For positioning and navigation, it makes use of the Global Positioning System (GPS) and other satellite navigation systems. Additionally, Canada lacks a satellite navigation system of its own. The GPS system is largely used by it for locating and navigation. Israel lacks a satellite navigation system of its own. The GPS system is primarily used for location and navigation.

19. Option (d) is correct

Explanation:

- During their entire flight, ballistic missiles are not jet-propelled at subsonic speeds. During their trajectory of flight, ballistic missiles are propelled by rocket engines, reaching supersonic or hypersonic speeds. They travel along a parabolic path, mostly relying on initial propulsion to get where they are going.
- Agni-V is not a medium-range supersonic cruise missile; it is an intercontinental ballistic missile (ICBM). Although BrahMos is a supersonic cruise missile, it lacks intercontinental range and solid fuel.

Geography

20. Option (b) is correct

Explanation: The main source of water is River Jhelum for Wular Lake. Wular lake also has a small island in its centre called the 'Zaina Lank'.

Krishna river does not feed the kolleru lake directly. The Krishna is the second-largest east-flowing river of the Peninsula.

The Kanwar Taal or Kabar Taal Lake or Kabartal Wetland located in Begusarai district of Bihar, India, is Asia's largest freshwater oxbow lake. The Kanwar lake draws water from the confluence of the river Gandak, the Bia and the Kareh river, and is situated near Manjhaul.

21. Option (b) is correct

Explanation: Kamarajar Port is located on the Coromandel Coast about 24 km north of Chennai Port, Chennai. It is the 12th major port of India, and the first port in India which is a public company.

The mega port at Mundra is a major economic gateway that caters to the northern hinterland of India with multimodal connectivity. The deep draft, all-weather port is the largest commercial port in India with state of the art infrastructure.

Mundra Port is India's biggest commercial port by volumes. It has overtaken state-run Jawaharlal Nehru Port Trust (JNPT) to become the country's largest container gateway by handling 5.65 mn twenty-foot equivalent units in FY21.

22. Option (b) is correct

Explanation: Jackfruit is an evergreen tree characterised by its dense foliage and exudation of latex from above ground plant parts including fruits when injured.

Mahua tree is known as Indian Butter Tree. It is a medium to large sized deciduous tree with a large rounded crown.

Teak is a tropical hardwood tree species in the family Lamiaceae. It is large, deciduous tree that occurs in mixed hardwood forests.

23. Option (b) is correct

Explanation: Irrigated area accounts for nearly 48.8% of the 140 million hectare of agricultural land in India. China's irrigation cover is 41% of cultivated area, and India's irrigation cover is 48%. China's productivity in most crops is 50 - 100% which is higher than India's.

24. Option (d) is correct

Explanation: India has large resources of heavy minerals which occur mainly along coastal stretches of the country and also in inland places.

Heavy mineral sands consists of a group of seven minerals, such as, ilmenite, leucosene (brown ilmenite), rutile, zircon, sillimanite, garnet and monazite. Ilmenite (FeO.TiO₂) and rutile (TiO₂) are the two main minerals of titanium.

25. Option (c) is correct

Explanation: About three-fourths of the world's cobalt, is produced by Democratic Republic of the Congo. The Democratic Republic of the Congo is the largest producer of cobalt globally. Cobalt is a metal required for the manufacture of batteries for electric motor vehicles, Cobalt is a critical component in the production of lithium-ion batteries, which are widely used in electric vehicles and various electronic devices.

26. Option (a) is correct

Explanation: Cameroon is a part of the Congo Basin. The Congo Basin is a vast region in Central Africa that encompasses several countries, including Cameroon. It is the world's second-largest river basin next to that of the Amazon.

Countries wholly or partially in the Congo region:

- Angola
- Gabon
- Burundi
- Cameroon

- Central African Republic
- Democratic Republic of the Congo
- Republic of the Congo
- Rwanda
- Tanzania
- Zambia



This map is not to scale and is for reference only.

Figure: Congo Basin

27. Option (d) is correct

Explanation: Amarkantak are at the confluence of the Vindhya and Satpura mountain ranges.

Seshachalam Hills are hilly ranges which are parts of the Eastern Ghats.

The Biligirirangana Hills or Biligirirangan Hills is a hill range situated in south-western Karnataka, at its border with Tamil Nadu.

28. Option (d) is correct

Explanation: The East-West Corridor under the Golden Quadrilateral Project connects Silchar in Assam to Porbandar in Gujarat, and not Dibrugarh and Surat.

The Trilateral Highway connects Moreh in Manipur, India, with Mae Sot in Thailand via Myanmar, not Chiang Mai.

The Bangladesh-China-India-Myanmar Economic Corridor (BCIM EC) connects Kolkata in India with Kunming in China, not Varanasi to Kunming.

29. Option (c) is correct

Explanation: Earth's surface receives most of its energy in short wavelengths. The energy received by the Earth is known as incoming solar radiation, which is commonly termed as insolation. The insolation received at the surface varies from about 320 Watts/m² in the tropics to about 70 Watts/m² at the poles. Therefore, the total amount of insolation received at the equator is roughly about five times that received at the poles. Insolation is generally

referred to as shortwave radiation, as it falls primarily within the ultraviolet and visible portions of the electromagnetic spectrum.

Radiation emitted from Earth is called long-wave radiation, which falls within the infrared portion of the spectrum.

The atmosphere is largely transparent to shortwave solar radiation. The incoming solar radiation passes through the atmosphere before striking the Earth's surface. Within the troposphere, water vapor, ozone, and other gases absorb much of the near-infrared radiation.

Water vapor is the most abundant greenhouse gas in the Earth's atmosphere, and it has strong absorption properties in the infrared portion of the electromagnetic spectrum. As infrared radiation passes through the atmosphere, water vapor molecules can absorb and re-emit a significant portion of the longwave radiation. Infrared waves are not part of the visible spectrum of electromagnetic waves in solar radiation. Infrared waves have wavelengths longer than approximately 700 nanometers. Most of the radiation emitted by a moderately heated surface is infrared.

30. Option (d) is correct

Explanation: Contrary to popular belief, tropical rainforests often have less fertile soil than other types of soil. This is due to the fact that, despite the fact that these woods are lush and home to a wide variety of plant life, the soil in these ecosystems can become somewhat deficient in nutrients due to the heavy rainfall that is typical of them.

Statement-II: It is true that tropical rainforests' high temperatures and humidity speed up the decomposition of decaying organic matter. This process restores nutrients to the ecosystem quickly, where plants and other species swiftly absorb them, adding to the variety and richness of life in these woods.

31. Option (a) is correct

Explanation: Both Statement-I and Statement-II are correct, and Statement-II is the correct explanation for Statement-I

Statement-I: The temperature difference between continents and oceans is bigger in the summer than in the winter, according to statement I. This assertion is true. Due to variations in their heat capacity, terrestrial surfaces heat up more quickly than ocean surfaces throughout the summer. Warmer land temperatures result from this, resulting in a bigger temperature difference between continents and oceans.

Statement-II: This assertion is true: The surface of the sea has a higher specific heat than the land. The specific heat capacity of water is greater than that of land. A substance's specific heat is the quantity of heat needed to raise its temperature by a specific amount. Water has a higher specific heat capacity

than land, which allows it to absorb and store more heat energy. Because of this, water takes longer to heat up and cool down than land does, which adds to the difference in temperature between continents and seas.

Statement-II explains why land surfaces warm up faster in summer, resulting in a greater temperature disparity between continents and seas. The higher specific heat capacity of water is the cause of this.

32. **Option (c) is correct**

Explanation: P waves, also known as primary waves, are the quickest seismic wave type and the first to reach seismographs during an earthquake, hence the term "Primary". The slower S waves (Secondary waves), which arrive after the P waves.

P waves are compressional or longitudinal waves, which means that they cause the ground to vibrate in the same direction as the wave. The ground particles vibrate perpendicular to the wave's propagation direction (up and down or side to side) when S waves, which are shear or transverse waves, are present.

33. **Option (d) is correct**

Explanation: None

- In India, a few coal-based thermal power plants do employ seawater for cooling.
- According to a report, 40 per cent of the country's thermal power plants are located in areas facing high water stress, a problem since these plants use water for cooling. Scarce water is already hampering electricity generation in this region.
- In addition to those operated by the government or public sector, India also has privately owned coal-based thermal power facilities. For example Mundra Thermal Power Station is located at Mundra in Kutch district in the Indian state of Gujarat. The power plant is one of the coal-based power plants of Adani Power. Source of water for the power plant is sea water from the Gulf of Kutch.

34. **Option (a) is correct**

Explanation:

- Cepheids are not enormous gas and dust clouds. Instead, they are a particular class of variable star that experiences cyclical variations in brightness. Cepheids are employed in astronomy as significant distance markers.
- Nebulae are not periodically brightening and dimming stars. Nebulae are enormous clouds of plasma, gas, and dust in outer space. They could be areas of star development or the remains of stars that have burst.

- Pulsars, which are neutron stars created when huge stars exhaust their fuel and crash, This summary is accurate. Pulsars are rotating neutron stars with intense magnetic fields that produce electromagnetic radiation beams. They are created when huge stars explode as supernovae and collide with one another as a result of their own gravitational pull.

Ecology and Environment

35. **Option (c) is correct**

Explanation: When an area is notified as a 'Community Reserve', the Chief Wildlife Warden of the State or a designated authority becomes responsible for the management and governance of the reserve.

In a Community Reserve, hunting is strictly prohibited to protect and conserve the wildlife.

Such areas are designated as conservation areas if they are uninhabited and completely owned by the Government of India but used for subsistence by communities and community areas if part of the lands are privately owned. Thus, people of such areas are allowed to collect non-timber forest produce.

Traditional agricultural practices are generally not allowed within a Community Reserve. The main focus of a Community Reserve is to conserve biodiversity and natural habitats, so restricting agricultural activities is done to protect the ecological integrity of the area.

36. **Option (c) is correct**

Explanation: Marsupials, a group of mammals which is characterised by carrying their young in a pouch, are not naturally found in India. They are primarily found in Australia and surrounding regions.

While some marsupials, such as kangaroos and wallabies, are known to inhabit grassland habitats, they are not limited to montane grasslands. They can be found in a variety of habitats, including forests, woodlands, and even deserts. Their survival is not limited to areas without predators, as marsupials have evolved various adaptations to coexist with predators.

37. **Option (a) is correct**

Explanation: The 'Invasive Species Specialist Group' (ISSG), which develops the Global Invasive Species Database, belongs to the International Union for Conservation of Nature (IUCN).

The ISSG, as a specialist group within the IUCN, focuses specifically on invasive species and their impacts on biodiversity and ecosystems. It works to raise awareness, conduct research, and develop tools and resources related to invasive species management. The Global Invasive Species Database

is providing valuable information on invasive species worldwide.

38. Option (b) is correct

Explanation:

- Lion-tailed Macaque: Lion-tailed Macaques (*Macaca silenus*) are diurnal primates, that means they are active during the day and rest at night. They are not generally nocturnal or most active after sunset.
- Malabar Civet: The Malabar Civet is a nocturnal mammal found in the Western Ghats of India. It is primarily active during the night, making it nocturnal.
- Sambar Deer: The Sambar Deer is a large deer species found in various habitats across India. They are generally crepuscular, which means they are most active during dawn and dusk. While they may be active during the night, they are not strictly nocturnal.

39. Option (c) is correct

Explanation: Honeybees are well known to perform a waggle dance as a means of communication within their colony. This dance is performed by worker bees to indicate the direction and distance to a source of food, such as nectar or pollen. By observing the direction and intensity of the waggle dance, other worker bees can determine the location of the food source and navigate to it. This behaviour is a Unique example of how honeybees communicate and share information within their colony.

40. Option (d) is correct

Explanation: Some mushrooms possess bioactive compounds that exhibit medicinal properties. For ex: species like Reishi (*Ganoderma lucidum*) and Turkey Tail (*Trametes versicolor*).

Some mushrooms contain psychoactive compounds like psilocybin and psilocin, which can induce hallucinogenic effects. These are often referred to as "magic mushrooms" or "psilocybin mushrooms."

Some mushrooms contain natural insecticidal compounds that can be used as a natural alternative to the synthetic insecticides like the entomopathogenic fungus *Beauveria bassiana* is used as a biocontrol agent against insect pests.

Some mushrooms have bioluminescent properties such as the Jack-O'-Lantern mushroom (*Omphalotus olearius*), have bioluminescent properties. These mushrooms emit a faint greenish glow in the dark because of the presence of luciferin-luciferase reaction.

41. Option (c) is correct

Explanation: Indian squirrels, such as the Indian palm squirrel, do build nests by making burrows in

the ground. They usually build nests called "dreys" in tree branches or tree hollows.

They store their food materials like nuts and seeds in the ground. They create small caches in various locations, such as tree hollows or crevices, to store their food.

Indian squirrels, including the Indian palm squirrel, are primarily herbivorous and they feed on a diet consisting mainly of plant material such as fruits, seeds, nuts, and tree bark.

42. Option (c) is correct

Explanation: Some microorganisms can grow in environments with temperatures above the boiling point of water and are known as "thermophilic" and can withstand and thrive in extreme heat, such as hot springs or deep-sea hydrothermal vents.

Some microorganisms can grow in environments with temperatures below the freezing point of water and are known as "psychrophiles or cryophiles". They can survive and reproduce in extremely cold conditions, such as glaciers or Arctic regions.

Some microorganisms can grow in highly acidic environments with a pH below 3 and are known as "acidophilus".

43. Option (b) is correct

Explanation: Orangutans are known to use tools in their natural behaviour, including making tools with sticks to scrape insects from holes in trees or logs of wood. They demonstrate unique problem-solving abilities and tool use in their foraging activities. This kind of behaviour is observed in both wild and captive orangutans and is a demonstration of their intelligence and adaptability.

44. Option (d) is correct

Explanation: Hydrofluorocarbons (HFCs) are used in the making of all four substances that are mentioned above:

- Aerosols: HFCs are commonly used as propellants in aerosol products, for ex: sprays for personal care, household cleaning, and automotive applications.
- Foam agents: HFCs are used as blowing agents in the production of foam materials, which includes foam insulation, foam packaging, and foam cushions.
- Fire retardants: HFCs are also used in fire extinguishing systems and fire retardant formulations.
- Lubricants: HFCs are used as lubricants, especially in the aerospace industry.

45. Option (d) is correct

Explanation: The Rann of Kutch was formed due to multiple instances of fluctuations in sea level and

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geological processes over millions of years, resulting in the deposition of salts and minerals in the region.

The Rann of Kutch is a large seasonal salt marsh located in the Thar Desert of Gujarat, India. It has a unique ecosystem featured by the vast stretches of saline marshland that gets flooded during monsoon season and dries up during rest of the year.

Bhitarkanika Mangroves, Marakkanam Salt Pans, and Naupada Swamp, are also wetland ecosystems but they don't exhibit the same characteristics because of extensive marshland resulting from repeated falls in sea level.

46. Option (a) is correct

Explanation: Carbon markets such as emissions trading or cap-and-trade systems, have emerged as significant tools in the fight against climate change. They provide economic incentives for reducing greenhouse gas (GHG) emissions and promoting the transition to cleaner technologies. Private sector entities in carbon markets are required to purchase/acquire emission allowances/credits to cover their emissions. The revenue generated from the sale of these allowances/credits can be used by the State for various purposes, like funding climate change mitigation and adaptation initiatives.

47. Option (c) is correct

Explanation: Oil refineries, fertiliser manufacturers, and the chemical sector are likely to be the main targets for the adoption of green hydrogen. The main market potential for green hydrogen in the short- to medium-term include the oil refineries that use grey hydrogen for desulfurization, ammonia production for the fertiliser and chemicals industries, and the treatment of basic metals. In a proposed national transition to green energy, oil refineries, fertiliser industries, and steel producers may be required to fulfil a mandatory green hydrogen purchase obligation (GHPO).

48. Option (c) is correct

Explanation:

- Broadly spreading finely ground basalt rock on farmland: This improved weathering technique involves widely dispersing finely ground basalt rock on farmland to speed up the pace at which carbon dioxide is removed from the atmosphere by chemical reactions. Basalt stores carbon in a solid form by reacting with carbon dioxide to generate carbonate minerals.
- Adding lime to the oceans to improve their alkalinity: This practise, also known as ocean alkalinity augmentation, is putting lime or other alkaline materials into the oceans to raise their alkalinity. This procedure increases the ocean's ability to operate as a carbon sink by

encouraging the ocean to absorb carbon dioxide from the atmosphere.

- Pumping carbonated water into defunct underground mines after capturing carbon dioxide generated by numerous industries: This operation is known as carbon capture and storage (CCS), which entails removing carbon dioxide from industrial processes and burying it underground in suitable geological formations, such as deep saline aquifers or depleted oil and gas reserves.

All three of the aforementioned activities are frequently thought of and debated as viable strategies for carbon capture and sequestration to slow down climate change by lowering atmospheric carbon dioxide concentrations.

49. Option (a) is correct

Explanation:

- Components for cars and aeroplanes are made with the help of carbon fibres: This assertion is true. Because of its exceptional strength-to-weight ratio, carbon fibres are frequently employed in several sectors, including the automotive and aerospace industries. Due to their small weight and high strength, they are utilised in the production of body panels, frames, wings, and other structural parts for cars and aeroplanes.
- Carbon fibres can be recycled, albeit it is a more involved process than it is for other materials. Carbon fibre composites can be recycled by using techniques like pyrolysis or solvent-based processes to dissolve the resin matrix and recover the carbon fibres. Reusing the priceless carbon fibre material through recycling carbon fibres helps to reduce waste and environmental damage.

50. Option (b) is correct

Explanation:

- It is true that uneaten fish food is removed by biofilters during waste treatment. By treating effluent, biofilters are essential components of recirculating aquaculture systems (RAS). Unconsumed fish food and other organic waste build up in the system. Fish feed that hasn't been consumed and other organic debris are broken down and removed by biofilters, which helps to preserve the purity of the water.
- This claim is true; biofilters turn the ammonia in fish waste into nitrate. One of the main jobs of biofilters in RAS is to use the nitrification process to change poisonous ammonia, which fish expel as waste, into less damaging nitrate. Beneficial microorganisms in the biofilters

convert ammonia to less hazardous forms like nitrate and nitrite for fish.

- This statement is not correct. Biofilters primarily focus on waste treatment and nitrification processes in RAS, and they do not directly increase phosphorus as a nutrient for fish. The role of biofilters is to remove organic waste and convert ammonia, not to increase phosphorus levels thus statement 3 is incorrect.

51. Option (c) is correct

Explanation:

- Gold mining activity is a source of mercury pollution in the world. During the gold extraction process, mercury is used to bind with gold particles, forming an amalgam. This technique, known as amalgamation, is commonly used in artisanal and small-scale gold mining (ASGM) operations. The amalgam is then heated to evaporate the mercury, leaving behind the gold. This process releases significant amounts of mercury vapour into the atmosphere.
- It is true that mercury contamination is caused by thermal power plants powered by coal. Mercury contamination is largely a result of coal burning in thermal power plants. Mercury that is found in coal is released into the atmosphere as mercury emissions when it is burned. There are concerns to the environment and human health if these emissions are later dumped in soil and water.
- It is true that there is no established safe level of exposure to mercury. Mercury is a poisonous heavy metal that can impair people's health, especially the neurological system. There is no established safe level of mercury exposure, not even at low exposure levels. In the body, it can build up over time and result in a variety of health difficulties, such as neurological illnesses and developmental problems, particularly in sensitive groups like infants and children.

52. Option (c) is correct

Explanation:

- It is true that green hydrogen can be used directly as fuel for internal combustion. Green hydrogen can be used as a fuel for internal combustion engines because it is created utilising sustainable energy sources. In cars and other uses, it can be utilised as a direct replacement for fossil fuels.
- Natural gas can be mixed with green hydrogen to create a fuel that can be used to generate heat or electricity. Green hydrogen can be utilised as a fuel for the production of heat or electricity

by blending it in specific amounts with natural gas. This mixture, also known as "hydrogen-enriched natural gas," can aid in lowering the carbon emissions brought on by the combustion of natural gas.

- Vehicles using hydrogen fuel cells can be powered by green hydrogen: This is a true statement. Fuel cells may generate power using green hydrogen. Vehicles powered by hydrogen fuel cells can replace traditional internal combustion engines, lowering greenhouse gas emissions.

53. Option (c) is correct

Explanation:

- The Biodiversity Management Committees in India are essential to achieving the Nagoya Protocol's goals: This assertion is true. The Nagoya Protocol is a global accord created by the Convention on Biological Diversity (CBD) that strives to guarantee the equitable and fair distribution of gains from the use of genetic resources. The Biodiversity Management Committees (BMCs) in India are essential to the local implementation of the Nagoya Protocol. They are in charge of fostering the preservation, ethical sharing, and sustainable use of benefits derived from biological resources under their control.
- The Biodiversity Management Committees play a significant role in deciding on access and benefit sharing, including the authority to impose collection charges on the use of biological resources under their purview: This assertion is also true. In India, the access and benefit.

Indian Polity and Governance

54. Option (d) is correct

Explanation: The office of the Governor General of Bengal was designated as the Governor General of India through the Government of India Act of 1833. This act, was also known as the Charter Act of 1833. It was passed by the British Parliament and granted expanded powers to the Governor General of Bengal, transforming the position into the Governor General of India. Lord William Bentinck was the first Governor General of India under this new designation, serving from 1833 to 1835.

Features of Charter Act of 1833

The Governor-General of Bengal became the Governor-General of India with exclusive legislative powers. The Governor-General of India was given civil and military powers.

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The presidencies of Bombay and Madras were deprived of their legislative powers.

The Government of India was created for the first time having the authority over the entire territorial area possessed by the British in India.

The members of the Governor General's council were reduced by the Pitt's India act 1784 was again increased to 4 and the fourth member had very limited powers, he was not entitled to act as a member of the council except for legislative purposes.

The Governor General Council had the authority to amend, repeal or alter any law in the entire length and breadth of India for any British, Foreigner or Indian.

The activities of East India Company as a commercial body came to an end and it purely became an administrative body.

The act attempted to introduce a system of open competition for selection in Civil Services. It stated that Indians should not be debarred from holding any place, office and employment under the company but this was nullified after opposition from the Court of Directors.

The concept of a merit based modern Civil Service in India was introduced on the recommendations of Lord Macaulay's Report in 1854.

The Act permitted the English to settle freely in India this effectively legalised British Colonisation of India.

The act provided for the mitigation of slavery in India. The slavery was abolished by British Parliament in Britain and all its possessions in 1833.

The Indian Law Commission was established in 1833 through this act and Lord Macaulay was made its first chairman. It aimed to codify all kinds of law in India.

55. Option (c) is correct

Explanation: Due process refers to just, rational and fair treatment under the regular judicial process. For instance, the accused must be given the chance to present their own defence before being sentenced. "Due Process of Law" is a doctrine that not only checks if there is a law to deprive the life and personal liberty of a person but also ensures that the law is made fair and just.

Procedure Established by Law means that a law approved by Parliament would be valid if it had followed the proper procedure. It originates from the British Constitution. The legal scope of procedure is more limited.

56. Option (a) is correct

Explanation: The Prisons of 1894 Act dealt with provisions for accommodation, food, clothing, bedding segregation, and the discipline of prisoners,

including solitary confinement. It also laid down provisions for the prisoners' employment, health, and visits.

'Prisons' is a State subject under the Seventh Schedule to the Constitution of India. So, the management and administration of Prisons fall exclusively in the domain of the State Governments.

The responsibility of prison management and prisoners administration solely vested in hand with State Governments who alone are competent to make appropriate legislative provisions in this regard.

57. Option (c) is correct

Explanation: The main purpose of a constitution is to establish the framework for governance and define the structure of the government. It defines and outlines the powers and functions of various branches of government, such as the executive, legislative, and judiciary.

58. Option (a) is correct

Explanation: The main objectives of the 1st Constitutional Amendment were, accordingly to amend article 19 for the purposes indicated above and to insert provisions fully securing the constitutional validity of zamindari abolition laws in general and certain specified State Acts in particular. The opportunity has been taken to propose a few minor amendments to other articles in order to remove difficulties that may arise.

59. Option (a) is correct

Explanation: The National Commission for Backward Classes is a constitutional body under the jurisdiction of the Ministry of Social Justice and Empowerment. It is established through 102nd Amendment Act, 2018 by inserting article 338B in the Indian Constitution. The National Human Rights Commission of India is a statutory body established in 1993. It was given a statutory basis through the Protection of Human Rights Act, 1993.

Law Commission of India is a non-statutory body and is constituted by a notification of the Government of India, Ministry of Law & Justice.

The National Consumer Disputes Redressal Commission of India is a quasi-judicial commission in India which was set up in 1988 under the Consumer Protection Act, 1986. It is headed by a sitting or retired judge of the Supreme Court of India.

60. Option (d) is correct

Explanation: If the election of the President of India is declared void by the Supreme Court, it does not render all acts done by the President in the performance of their duties before the date of the decision as invalid. The President's actions and decisions taken during their tenure remain valid unless specifically declared otherwise.

The election of the President follows a specific schedule and process outlined in the Constitution.

The elections for the post of the President of India cannot be postponed solely on the ground that some Legislative Assemblies have been dissolved and elections are yet to take place.

The Constitution of India does not prescribe specific time limits within which the President has to declare their assent when a bill is presented to them. The President has the power to return a bill for reconsideration, withhold their assent, or give their assent based on their discretion.

61. **Option (a) is correct**

Explanation: The Question asks about Finance bill and not financial bill. Finance bill is an example of money bill. It is passed during the budget for enacting tax proposals.

Statement 1 is incorrect because Rajya Sabha cannot amend or reject the finance bill but only can recommend changes which the Lok Sabha can accept or not.

Statement 2 is correct as After a money bill is passed by the Lok Sabha, it is transmitted to the Rajya Sabha for its consideration. The Rajya Sabha has restricted powers with regard to a money bill. It cannot reject or amend a money bill. It can only make the recommendations.

Statement 3 is incorrect because finance bill is a money bill and there is no provision for holding joint sitting for a money bill.

62. **Option (b) is correct**

Explanation: The notification of an area as a Scheduled Area within a State is done through a Presidential Order. The President has the authority to declare certain areas as Scheduled Areas based on the criteria specified in the Constitution.

In a Scheduled Area, the administrative units are organised from the district level to the cluster of villages in the Block. The District is the largest administrative unit, and within the District, there are smaller administrative units such as Blocks and Clusters of villages.

The Governor of the concerned State is responsible for submitting annual reports to the President of India, and not the Chief Ministers.

The Governor acts as the representative of the President in the State and is responsible for reporting on the administration and development activities in the Scheduled Areas to the President through the Union Home Ministry.

63. **Option (c) is correct**

Explanation: The Supreme Court has held in certain judgments that while reservation policies can be implemented under Article 16(4) to provide

opportunities to backward classes, they should also be balanced with the consideration of maintaining the efficiency of administration, as stated in Article 335 of the constitution of India.

Article 335 states that the claims of the SC/ST candidates should be taken into consideration in appointments and posts under the State, but without compromising the efficiency of administration.

Article 335 does not provide a specific definition of 'efficiency of administration'. Instead, it emphasises the need to balance the claims of the Scheduled Castes and Scheduled Tribes (SC/ST) with the maintenance of efficiency in administration.

64. **Option (b) is correct**

Explanation: In order to assist the police in controlling riots and public unrest, the "Home Guards" voluntary forces was originally established in India in December 1946.

Home Guards are raised under the Home Guards Act and Rules of the States/Union Territories (not central Government). They are recruited from amongst all classes of people and walks of life, who give their spare time to the organisation for betterment of the community.

The role of Home Guards is to serve as an auxiliary Force to the Police in maintenance of internal security situations, help the community in any kind of emergency such as an air-raid, fire, cyclone, earthquake, epidemic etc., help in maintenance of essential services, promote communal harmony and assist the administration in protecting weaker sections, participate in socio-economic and welfare activities and perform Civil Defence duties.

Fifteen Border Wing Home Guards (BWHG) Battalions have been raised in the border States viz. Punjab (6 Bns.), Rajasthan (4 Bns.), Gujarat (2 Bns.) and one each Battalion for Meghalaya, Tripura and West Bengal to serve as an auxiliary to Border Security Force for preventing infiltration on the international border/coastal areas, guarding of VA/VPs and lines of communication in vulnerable area at the time of external aggression

65. **Option (b) is correct**

Explanation:

- Unauthorised people are not allowed to wear police or military uniforms, according to the Official Secrets Act of 1923. It is a terrible felony to wear military or police clothes without authorization.
- The Arms Amendment Act of 2019 outlaws celebratory gunfire that puts other people's personal safety in peril, and the Indian Evidence Act of 1872 forbids intentionally misleading or interfering with a police officer or military officer while they are performing their duty. It also forbids the use, ownership, and

sale of firearms and ammunition, as well as the occasional celebratory use of firearms.

66. **Option (c) is correct**

Explanation: A important new trend of the Middle East in the twenty-first century is the emergence of open, friendly relations between Israel and some Gulf Arab states.

Although the diplomatic agreements that the United Arab Emirates (UAE) and Bahrain signed with Israel in 2020 marked a milestone in ties, the Gulf states and Israel have long maintained channels of contact and collaboration. After Israel and the Palestine Liberation Organisation (PLO) signed the Oslo Accords in the 1990s, a number of nations in the region, including Qatar, Bahrain, and Oman, developed relations with Israel. Hence statement 1 is correct.

The Arab Peace Initiative is a comprehensive peace strategy that was put forth in 2002 by Saudi Arabia's then-Crown Prince Abdullah. In exchange for Israel's withdrawal from the territories it captured in the 1967 Six-Day War and a "just settlement" to the Palestinian refugee problem, the Initiative demands an end to the conflict between Israel and the Palestinians and normalisation of ties between Israel and the entire Arab world. The plan was approved by the Arab League in March 2002 and again in March 2007.

The Middle East Quartet had supported the plan in 2003, but it was immediately rejected by the Israeli government, which labelled it a "non-starter." Hence statement 2 is not correct.

67. **Option (d) is correct**

Explanation:

Statement 1 is incorrect as The flag code states that the tricolor can be of nine standard dimensions — 6300 × 4200, 3600 × 2400, 2700 × 1800, 1800 × 1200, 1350 × 900, 900 × 600, 450 × 300, 225 × 150 and 150 × 100 (all sizes in mm).

Statement 2 is correct as the tricolor should be rectangular in shape and the length-to-width ratio should always be 3:2. The national flag should always be made of hand-spun and hand-woven wool or cotton or silk khadi bunting, it further adds.

68. **Option (c) is correct**

Explanation:

Statement 1 is correct because On 26th November 1949, the Constituent Assembly of India adopted the Constitution of India, which came into effect from 26th January 1950. But one of the objective of such commemoration is to to promote the constitutional values.

Statement 2 is incorrect as 26th November is the day of adoption of the constitution and not the day on which the Drafting committee had been constituted.

69. **Option (a) is correct**

Explanation: According to Article 355 of the Constitution, the Union has a responsibility to defend every State from external invasion and internal unrest.

Statement 2 is incorrect: A person imprisoned for preventative detention does not have a right to legal representation under the Indian Constitution. According to Article 22 of the Constitution, everyone, even those held in preventive custody, has the right to legal representation. This right is a fundamental one.

Statement 3 is incorrect: The 2002 Prevention of Terrorism Act is no longer in effect. The Unlawful Activities (Prevention) Act, 1967 took its place. Confessions are admissible as evidence under the terms of the Indian Evidence Act; the law relating to terrorism does not, however, expressly forbid them.

70. **Option (a) is correct**

Explanation: The value of vote of each MLA of Puducherry (16) is higher than that of Arunachal Pradesh (8) because the ratio of total population to total number of elective seats in Puducherry is greater as compared to Arunachal Pradesh.

Value of the vote of an MLA

$$= \frac{\text{Total population of state}}{\text{Total number of elected member in the state legislative assembly}} \times \frac{1}{1000}$$

Value of the vote of an MP

$$= \frac{\text{Total value of votes of all MLAs of all states}}{\text{Total member of elected members of Parliament}}$$

Statement 4 is correct: Based on the state's population and the number of elected seats in the legislative assembly, the value of each Member of Legislative Assembly (MLA) vote in the presidential election is calculated. Because of this calculation, the value of each MLA's vote may differ from state to state.

- **Statement 1:** The members of the Electoral College for the election of the President of India are not members of either the House of Parliament or the Legislative Assemblies of the States. The Electoral College is comprised only of individuals who have been elected to serve in both Houses of Congress and state legislatures.
- **Statement 2:** The number of elective assembly seats does not immediately relate to the weight of each MLA's vote. The number of elected seats in the assembly and the state's population are used to calculate it.
- **Statement 3:** The value of each MLA's vote is not directly correlated with the size of the state's population. Based on the formula described above, it is determined.

Economy

71. Option (c) is correct

Explanation: India does not have significant uranium deposits, but its reliability on coal for electricity production is higher compared to uranium. Coal continues to be the primary source of energy for electricity generation in India due to its abundant availability and existing infrastructure.

Uranium is used as a fuel for nuclear power generation, the level of enrichment required for electricity production is not fixed at 60%. The enrichment level can vary depending on the type of reactor and its design. Typically, for light-water reactors, the enrichment level is around 3-5% uranium-235, not 60%

72. Option (d) is correct

Explanation: In Infrastructure Investment Trusts (InvITs), both interest income and dividend income distributed to the investors are taxable. There is no exemption from tax for interest income.

InvITs are recognized as borrowers under the 'Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002'. The act mainly deals with the securitization and reconstruction of financial assets and enforcement of security interests in relation to the loans and borrowings.

73. Option (a) is correct

Explanation: In the post-pandemic period, as economies recover and inflationary pressures increase, some central banks had raised interest rates to manage inflation and stabilise their economies. These hikes in interest rate are implemented as a part of monetary policy measures.

Central banks assume that they have the ability to influence and control inflation through various monetary policy tools, including interest rate adjustments. By increasing interest rates, central banks (RBI in case of India) aim to curb inflationary pressures by reducing borrowing and spending, hence addressing the rising consumer prices.

74. Option (a) is correct

Explanation: 'Sterilization' - An activity undertaken by the central bank (RBI in case of India) to offset the impact of its interventions in the foreign exchange market on the domestic money supply.

When the central bank intervenes in the foreign exchange (Forex) market by buying foreign currency, it increases the domestic money supply. Central bank conducts sterilisation operation to prevent the excess liquidity in the economy.

One of the methods of sterilization is 'Open Market Operations' (OMOs), particularly by the sale/purchase of government securities.

In case of intervention to buy foreign currency, the central bank can sterilize the increased money supply by selling government securities in the open market, and thus reducing the availability of money in the economy.

On the other side, if the central bank intervenes to sell foreign currency, it can sterilise the reduction in money supply by purchasing government securities. Thus, conducting 'Open Market Operations' of settlement is considered as a part of 'sterilization' by the RBI.

75. Option (b) is correct

Explanation: In the given options, only two of them are included in the capital markets. These are:

- **Government Bond Market:** It involves the buying & selling of government bonds, which are debt securities issued by the government to raise funds. It allows governments to borrow money from investors.
- **Stock Market:** Also called the equity market or share market, is a market where shares/ownership interests in publicly-traded companies are bought and sold. It's a crucial component of the capital market, allowing companies to raise capital through the issuance of shares and investors to trade in those shares.

The other two options are Call Money Market and Treasury Bill Market which, are part of money market rather than the capital market.

- **Call Money Market:** a segment of the money market where banks and financial institutions borrow and lend money for short durations, typically overnight.
- **Treasury bills (T-bills):** These are short-term government securities with a maturity period of less than one year. This Treasury Bill Market is a part of the money market where these T-bills are traded.

76. Option (b) is correct

Explanation: The Small Farmers, Large Field (SFLF) model is founded on the same principles of aggregation and achieving economies of scale, through strengthening backward and forward integration along with the supply chain and lowering the costs by synchronizing key agricultural operations from field preparation to harvest.

77. Option (c) is correct

Explanation: The Gond tribals of Satpura hill ranges in Madhya Pradesh traditionally grow niger (*Guizotia abyssinica*) on the top of the plateau, where water does not stagnate. But due to amarbel - a twining parasitic plant, the productivity has declined rapidly due to which assured paddy cultivation has been trending.

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78. Option (c) is correct

Explanation:

Inventory: It refers to the raw materials used in production as well as the goods produced that are available for sale.

A company's inventory represents one of the most important assets. The turnover of inventory represents one of the primary sources of revenue generation and subsequent earnings for the shareholders of the company. There are three types of inventory, which includes raw materials, work-in-progress, and finished goods. It is categorized as a current asset on a company's balance sheet.

Thus, Raw material is a tangible asset and other three are intangible.

79. Option (b) is correct

Explanation: Governance reforms and Stable governments are not considered under horizontal tax devolution criteria.

Criteria and Weights Assigned for Horizontal Devolution.

Criteria	Weight (%)
Population	15.0
Area	15.0
Forest and Ecology	10.0
Income Distance	45.0
Demographic Performance	12.5
Tax Effort	2.5
	100.0

80. Option (c) is correct

Explanation: UNOPS was founded in 1973 and became an integral part of the United Nations Development Programme (UNDP) in 1995. Since then, it has gained autonomy and financial independence. The primary goal of UNOPS is to advance sustainable methods of implementation in the fields of peacebuilding, humanitarian assistance, and development. The creation of sustainable and climate-resilient infrastructure is essential for all industries that contribute significantly to sustainable development.

- **Affordable housing:** The S3i initiative aims to invest in projects that promote affordable housing particularly in regions where there is a significant housing shortage or lack of adequate housing options.
- **Mass rapid transport:** Mass Rapid Transport is not included in the UNOPS S3i initiative.
- **Health care:** The initiative also focuses on investments in healthcare infrastructure, including the development of hospitals, clinics, and healthcare facilities, especially in underserved areas.

- **Renewable energy:** Renewable energy is another sector where the S3i initiative focuses on for its investments. It aims to support projects related to renewable energy generation, such as wind farms, solar power plants, and other sustainable energy initiatives.

81. Option (c) is correct

Explanation: Switzerland consistently ranks as the world's top exporter of gold in terms of value, according to a number of organisations.

The United States has the largest gold reserves, followed by Germany, according to a number of organisations.

82. Option (c) is correct

Explanation: The commerce and Technology Council, a strategic coordinating framework to address issues at the intersection of commerce, dependable technology, and security, was recently established by the United States of America and the European Union.

The European Union and the United States can coordinate their responses to important global trade, economic, and technological challenges in the EU-US Trade and Technology Council. This forum also helps to strengthen transatlantic trade and economic ties based on these common ideals.

83. Option (d) is correct

Explanation: India wants to increase the current 2% proportion of its exports in world trade to 3% by 2027. Therefore, assertion 1 is incorrect.

Both domestic and international businesses have benefited from the PLI programme. As a result, assertion two is true.

84. Option (a) is correct

Explanation: All 27 of the European Union's member states have signed the Stability and Growth Pact (SGP) in order to promote and uphold the stability of the Economic and Monetary Union (EMU). The agreement was made to guarantee that budgetary restraint would be upheld and enforced within the EMU. It addresses the EU members' financial restraint.

85. Option (d) is correct

Explanation: The Global Compact for Safe, Orderly, and Regular Migration, which has 164 signatories, establishes a framework that is cooperative and not legally obligatory and builds on the pledges made by member states in the New York Declaration for Refugees and Migrants in December 2016.

It encompasses all forms of domestic migration but excludes external migration.

86. Option (b) is correct

Explanation:

- The State Health Departments' Janani Suraksha Yojana (JSY) does not expressly promote safe motherhood. It is a centrally funded programme that the Indian government has put in place with the goal of enhancing maternal and newborn health outcomes all over the nation. The programme is not only implemented at the state level by the State Health Departments, despite their involvement.
- **Its goal is to lower maternal and newborn mortality among pregnant, low-income women:** Reducing maternity and newborn death rates, especially for women from economically disadvantaged households, is one of the Janani Suraksha Yojana's main goals. The programme offers financial aid and incentives to entice underprivileged expectant mothers to give birth in hospitals, boosting access to expert care during childbirth and lowering the hazards of home deliveries.
- **It encourages institutional delivery among low-income expectant mothers:** Promoting institutional deliveries among pregnant poor women is one of the key objectives of the Janani Suraksha Yojana. The programme offers financial assistance to expectant mothers who decide to give birth at a government hospital, a private hospital that has received accreditation, or a public health centre.
- **Its goal includes offering public health services to unwell infants up to the age of one:** The provision of public health facilities to ill newborns up to one year of age is not expressly addressed by the Janani Suraksha Yojana, which primarily focuses on maternal and neonatal health during childbirth. The provision of healthcare facilities and services for infants with illnesses may be the focus of other government efforts or programmes, but it is not a specific goal of JSY.

87. Option (d) is correct

Explanation: According to the MSME classification requirements, medium-sized businesses must have an annual sales of no more than \$100 billion and an investment in plant and mechanical equipment of no more than \$20 billion.

All bank loans to MSMEs that meet the criteria outlined in the Master Direction on "Priority Sector Lending (PSL) - Targets and Classification" dated September 4, 2020 are eligible to be classified as priority sector lending.

88. Option (c) is correct

Explanation:

- Central Bank Digital Currencies (CBDCs) are digital currencies issued by central banks that can be used as an alternative to conventional payment methods like the US dollar or SWIFT (Society for Worldwide Interbank Financial Telecommunication). CBDCs are central bank-issued digital tokens that represent the fiat money of a nation. Indirect channels of payment, such as the US currency or SWIFT, can potentially be avoided by making payments directly in CBDCs.
- CBDCs have the potential to be programmable currencies, enabling the addition of restrictions to their use. A CBDC may, for instance, be programmed with an expiration date or time limit, which would encourage rapid use of the money and boost economic activity.

89. Option (d) is correct

Explanation: Beta is a measure of a stock's historical volatility in comparison with that of a market index such as the S&P 500. Stocks with a beta above 1 tend to be more volatile than their index, while stocks with lower betas tend to be less volatile.

90. Option (b) is correct

Explanation:

- The State Bank of India did not start the Self-Help Group (SHG) movement in India. Non-governmental organisations (NGOs) and other grassroots organisations founded it to meet the financial requirements of the socially and economically disadvantaged groups.
- It is true that in a SHG, each group member is accountable for whatever loans they take out on their own. In a typical SHG model, everyone in the group shares responsibility for the debts that individual group members have taken out. Loans are made to members out of a pooled fund that members contribute to. The group members work together to guarantee that any individual member's loans are repaid.
- In India, SHGs are actively supported by Regional Rural Banks (RRBs) and Scheduled Commercial Banks (SCBs). They offer SHGs financial support, including banking and credit services. In order to support the members financially and promote the SHG movement, these banks frequently work with NGOs and government organisations.

91. Option (b) is correct

Explanation:

Statement-I: The public health care system in India primarily prioritises curative care and places less emphasis on preventative, promotive, and rehabilitative care. This assertion is true. India's public health care system has historically placed a strong emphasis on hospitals and specialised medical care, with a greater emphasis on curative care.

Statement-II: The States are principally in charge of planning health services under India's decentralised system for providing medical care. The federal government offers direction, regulatory frameworks, and financial support to the states, but it is up to the states to plan, administer, and deliver healthcare services in accordance with local priorities and needs. Despite the fact that both statements are true, Statement-II does not adequately explain Statement-I.

Current Affairs

92. Option (d) is correct

Explanation: North Kivu and Ituri are the Provinces of the Democratic Republic of the Congo. Humanitarian Emergency in North Kivu, Ituri and South Kivu in 2023.

The landlocked mountainous region of Nagorno-Karabakh is the subject of an unresolved dispute between Azerbaijan, in which it lies, and its ethnic Armenian majority, backed by neighbouring Armenia.

Russia carried out so-called referendums on joining Russia in the Ukrainian regions of Luhansk, Donetsk, Zaporizhzhia and Kherson – which represent 15 percent of Ukraine's territory and are controlled by Russia.

93. Option (b) is correct

Explanation:

- Major Dhyan Chand Khel Ratna Award: For most spectacular and outstanding performance by a sportsperson over a period of the last four years.
- Arjuna Award: It is officially known as Arjuna Awards for Outstanding Performance in Sports and Games and is the second-highest sporting honour of India.
- Dronacharya Award: To honour eminent coaches who have successfully trained sportspersons or teams.
- Rashtriya Khel Protsahan Puraskar: The award recognizes the "involvement of corporates, voluntary organisations, and sports control

boards, in the promotion and development of sports in the country" over the previous three years.

94. Option (b) is correct

Explanation:

- Recently, the Prime Minister declared the 44th Chess Olympiad at JLN Indoor Stadium in Chennai. The Chess Olympiad is a prestigious competition that has been organized since 1927. It is being hosted in India for the first time and in Asia after 30 years.
- The official mascot was named "Thambi," a chess knight dressed in the traditional Tamil male attire, vetti, with a white shirt. He was depicted with folded hands, extending the Tamil greeting "Vanakkam."
- The winner in the Open section was awarded the Hamilton-Russell Cup, while the winner in the Women's section received the Vera Menchik Cup.

95. Option (d) is correct

Explanation:

- The Donbas is a historical, cultural, and economic region in eastern Ukraine. It comprises two heavily industrialized regions: Donetsk and Luhansk, which were occupied by Russian forces last year.
- Kachin State is the northernmost state of Myanmar. In 2022, military airstrikes reportedly killed dozens of people, including civilians, in Kachin State.
- Tigray is Ethiopia's northernmost region. The region is at the center of an ongoing civil conflict involving ethno-regional militias, the federal government, and the Eritrean military. This conflict has attracted the concern of humanitarian groups and external actors since November 2020. In October 2022, the first formal African Union-led peace talks between an Ethiopian government team and Tigray forces took place in South Africa.

96. Option (d) is correct

Explanation:

- The governments of Mali, Chad, Guinea, Sudan and Burkina Faso have been toppled by the military leaders in the past 18 months.
- In Mali and Guinea over the past 18 months, the army has overthrown administrations.
- In Chad, where President Idriss Deby lost his life fighting insurgents on the battlefield in the north of the country, the military similarly took over last year (2021).



This map is not to scale and is for reference only.

97. **Option (c) is correct**

Explanation: In order to provide Finance Ministers and Central Bank Governors with a forum for discussing global economic and financial challenges, the G20 group of 19 nations plus the EU was founded in 1999. Together, the G20 nations make up over two-thirds of the world's population, 75% of its trade, and 85% of its gross domestic product. Hence statement 1 is correct.

At the G20, India is promoting its digital infrastructure as an open-access platform that may help to improve the results of development efforts. Hence statement 2 is correct.

98. **Option (a) is correct**

Explanation: Belarus lies to the north of Ukraine, followed by Russia to the east, the Sea of Azov, the

Black Sea, Moldova, Romania, Hungary, Slovakia, and Poland to the southwest.



This map is not to scale and is for reference only.

99. **Option (c) is correct**

Explanation:

According to the United Nations' 'World Water Development Report, 2022,' India, which accounts for more than 25% of the annual worldwide groundwater withdrawal, is one of the nations with considerable groundwater extraction.

About 89% of this groundwater is used in India for irrigation.

100. **Option (d) is correct**

Explanation: Following five consecutive failed rainy seasons, 6.5 million people in Somalia are suffering from severe food insecurity in the midst of the driest conditions in 40 years. The effects of other recurring climate shocks, ongoing insecurity, and ongoing instability are being exacerbated by drought. Acute malnutrition affects 1.84 million children under the age of five.



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Reading Comprehension

Directions for the following 5 (five) items:

Read the following three passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.

Passage - 1

In India, the segregation of municipal waste at source is rare. Recycling is mostly with the informal sector. More than three-fourths of the municipal budget goes into collection and transportation, which leaves very little for processing/resource recovery and disposal. Where does waste-to-energy fit into all this? Ideally it fits in the chain after segregation (between wet waste and the rest), collection, recycling, and before getting to the landfill. Which technology is most appropriate in converting waste to energy depends on what is in the waste (that is biodegradable versus non-biodegradable component) and its calorific value. The biodegradable component of India's municipal solid waste is a little over 50 per cent, and bio-methanation offers a major solution for processing this.

1. **Based on the above passage, the following assumptions have been made:**

1. Collection, processing and segregation of municipal waste should be with government agencies.
2. Resource recovery and recycling require technological inputs that can be best handled by private sector enterprises.

Which of the assumptions given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

2. **Which one of the following statements best reflects the crux of the passage?**

- (a) Generation of energy from municipal solid waste is inexpensive.
- (b) Bio-methanation is the most ideal way of generating energy from municipal solid waste.
- (c) Segregation of municipal solid waste is the first step in ensuring the success of waste-to-energy plants.
- (d) The biodegradable component of India's municipal solid waste is not adequate to provide energy from waste efficiently/effectively.

Passage - 2

There is a claim that organic farming is inherently safer and healthier. The reality is that because the organic farming industry is still young and not well-regulated in India, farmers and consumers, alike, are not only confused

about what products are best for them, but sometimes use products in ways that could harm them as well. For example, since organic fertilizers are difficult to obtain on a large scale in India, farmers often use farmyard manure, which may contain toxic chemicals and heavy metals. Certain plant sprays, such as Datura flower and leaf spray, have an element called atropine. If it is not applied in the right dose, it can act on the nervous system of the consumer. Unfortunately, how much and when to use it are not well-researched or regulated issues.

3. **Based on the above passage, the following assumptions have been made:**

1. Organic farming is inherently unsafe for both farmers and consumers.
2. Farmers and consumers need to be educated about eco-friendly food.

Which of the assumptions given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

4. **Which one of the following statements best reflects the most logical, rational and practical message conveyed by the author of the passage?**

- (a) In India, organic farming should not be promoted as a substitute for conventional farming.
- (b) There are no safe organic alternatives to chemical fertilizers.
- (c) In India, farmers need to be guided and helped to make their organic farming sustainable.
- (d) The aim of organic farming should not be to generate huge profits as there is still no global market for its products.

Passage - 3

Food consumption patterns have changed substantially in India over the past few decades. This has resulted in the disappearance of many nutritious foods such as millets. While food grain production has increased over five times since independence, it has not sufficiently addressed the issue of malnutrition. For long, the agriculture sector focused on increasing food production particularly staples, which led to lower production and consumption of indigenous traditional crops/grains, fruits and other vegetables, impacting food and nutrition security in the process. Further, intensive, monoculture agriculture practices can perpetuate the food and nutrition security problem by degrading the quality of land, water and food derived through them.

5. Based on the above passage, the following assumptions have been made:

1. To implement the Sustainable Development Goals and to achieve zero-hunger goal, monoculture agriculture practices are inevitable even if they do not address malnutrition.
2. Dependence on a few crops has negative consequences for human health and the ecosystem.
3. Government policies regarding food planning need to incorporate nutritional security.
4. For the present monoculture agriculture practices, farmers receive subsidies in various ways and government offers remunerative prices for grains and therefore they do not tend to consider crop diversity.

Which of the above assumptions are valid?

- (a) 1, 2 and 4 only (b) 2 and 3 only
(c) 3 and 4 only (d) 1, 2, 3 and 4

Directions for the following 3 (three) items:

Read the following three passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.

Passage - 1

To tackle the problem of pollution in cities, policy makers think that drastic actions like temporary use of odd-even number scheme for vehicles, closing schools, factories, construction activities, and banning the use of certain type of vehicles are a way forward. Even then the air is not clean. Vehicles more than 15 years old comprise one percent of the total; and taking them off the road will not make any difference. Banning certain fuels and car types arbitrarily is not proper. Diesel engines produce more PM 2.5 and less CO₂ than petrol or CNG engines. On the other hand, both diesel and CNG engines produce more NOx than petrol engines. No one has measured the amount of NOx that CNG engines are emitting. Arbitrary bans on vehicles that have passed mandated fitness tests and periodic pollution tests are unfair. What is needed is the scientific and reliable information about the source of pollutants on a continuing basis and the technologies that will work to reduce pollution from them.

6. Which one of the following statements best reflects the most logical and rational implication conveyed by the passage?

- (a) Arbitrary curbs on vehicles to reduce pollution are difficult to implement.
- (b) Knee-jerk reactions cannot solve the problem of pollution but an evidence-based approach will be more effective.
- (c) A heavy penalty should be enforced on those driving without periodic pollution tests.
- (d) In the absence of laws to deal with the problems of pollution, the administration tends to make arbitrary decisions.

Passage - 2

Good corporate governance structures encourage companies to provide accountability and control. A fundamental reason why corporate governance has moved onto the economic and political agenda worldwide has been the rapid growth in international capital markets. Effective corporate governance enhances access to external financing by firms, leading to greater investment, higher growth and employment. Investors look to place

their funds where the standards of disclosure, of timely and accurate financial reporting, and of equal treatment to all stakeholders are met.

7. Which of the following statements best reflects the logical inference from the passage given above?

- (a) It is an important agenda of the countries around the world to ensure access to good external financing.
- (b) Good corporate governance improves the credibility of the firms.
- (c) International capital markets ensure that the firms maintain good corporate governance.
- (d) Good corporate governance paves the way for robust supply chains.

Passage - 3

Elephants are landscape architects, creating clearings in the forest, preventing overgrowth of certain plant species and allowing space for the regeneration of others, which in turn provide sustenance to other herbivorous animals. Elephants eat, plants, fruits and seeds when they defecate in other places as they travel. Elephant dung provides nourishment to plants and animals and acts as a breeding ground for insects. In times of drought, they access water by digging holes which benefits other wildlife.

8. Which one of the following statements best reflects the most logical and rational inference that can be drawn from the passage?

- (a) The home range of elephants needs to be a vast area of rich biodiversity.
- (b) Elephants are the keystone species and they benefit the biodiversity.
- (c) Rich biodiversity cannot be maintained in the forests without the presence of elephants.
- (d) Elephants are capable of regenerating forests with species as per their requirement.

Directions for the following 3 (three) items:

Read the following three passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.

Passage - 1

The emissions humans put into the atmosphere now will affect the climate in the middle of the century and onwards. Technological change, meanwhile, could make a future transition away from fossil fuels cheap or it might not, leaving the world with a terrible choice between sharply reducing emissions at huge cost or suffering through the effects of unabated warming. Businesses that do not hedge against the threat of uncertain outcomes fail. The world cannot afford such recklessness on climate change.

9. Which one of the following statements best reflects the crucial message conveyed by the author of the passage?

- (a) Businesses that cause emissions may need to close down or pay for pollution in future.
- (b) The only solution is technological development related to the issues of climate change.
- (c) Waiting to deal with carbon emissions until technology improves is not a wise strategy.
- (d) Since future technological change is uncertain, new industries should be based on renewable energy sources.

Passage - 2

Environmental problems cause health problems. Substantial changes in lifestyle can reduce environmental or health problems, but this idea appears almost impossible to adopt. With environmental problems, individual efforts can be perceived as having a negligible effect and therefore lead to inertia. With health, on the other hand, individual choices can make the difference between life and death, literally. And yet, barring a few, there seems to be the same collective lethargy towards making their choices.

10. Which one of the following statements best implies the most rational assumption that can be made from the passage?
- We are likely to spend more money on cure than prevention.
 - It is the job of the government to solve our environmental and public health problems.
 - Health can be protected even if environmental problems go unattended.
 - Loss of traditional lifestyle and the influence of western values led to some unhealthy ways of living.

Passage - 3

Many people are not eating the right food. For some, it is simply a decision to stick with food they enjoy but which is not too healthy. This is leading to an increase in non-communicable diseases. This in turn leads to major burden on our health-care systems that have the potential to derail the economic progress which is essential for the poor to improve their lives. For others, it is about limited access to nutritious food or a lack of affordability, leading to monotonous diets that do not provide the daily nutrients for them to develop fully. Part of the reason nutrition is under threat worldwide is that our food systems are not properly responding to nutritional needs. Somewhere along that long road from farm to fork, there are serious detours taking place.

11. Which one of the following statements best reflects the crux of the passage?
- The scheme of Universal Basic Income should be implemented worldwide as a way of poverty alleviation.
 - We must place food-based nutrition at the centre of our policy debate.
 - Nutritional status of food should be improved by creating appropriate genetically modified crops.
 - Using modern food processing technologies, we must fortify food items with required nutrient elements.

Directions for the following 3 (three) items:

Read the following three passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.

Passage - 1

We often hear about conflicts among different States in India over river waters. Of the 20 major river systems, 14 are already water-stressed; 75% of the population lives in water-stressed regions, a third of whom live in water-scarce areas. Climate change, the demands of rising population and the need for agriculture to keep pace, and increased rate of urbanization and industrialization will exacerbate water stress. According to the Constitution of India, water is a State subject and not that of the Union, except for regulation of inter-State rivers. Key to

ensuring balance between competing demands of various stakeholders is a basin-based approach to allocate water amongst constituent regions and States. Allocating fair share of water to them requires assessments based on objective criteria, such as specificities of the river basin, size of dependent population, existing water use and demand, efficiency of use, projected future use, etc. while ensuring the environmental needs of the river and aquifers.

12. Which one of the following statements best reflects the most rational, practical and immediate action required to ensure fair and equitable allocation of water to different stakeholders?
- A national, pragmatic, legal and policy framework for water allocation should be made.
 - All river systems of the country should be linked and huge aquifers created.
 - Water channels between regions of water surplus and regions of water deficit should be created.
 - To mitigate water crisis, water demand of sectors such as agriculture and industry should be reduced.

Passage - 2

More than half of Indian women and almost a quarter of Indian men of working age suffer from anaemia. According to studies, they are anywhere from 5 – 15% less productive than they could be, as a result thereof. India also has the largest tuberculosis burden in the world, costing 170 million workdays to the country annually. But what is just as important as lost productivity now is lost potential in the future. It is becoming increasingly clear that on many measures of cognitive ability, malnourished Indian children perform two or three times worse than their adequately nourished peers. For an economy that will be more dependent on highly skilled workers, this poses a significant challenge. And it is one that really should be addressed given India's demographic outlook.

13. Which one of the following statements best reflects what is implied by the passage?
- Education system must be strengthened in rural areas.
 - Large scale and effective implementation of skill development programme is the need of the hour.
 - For economic development, health and nutrition of only skilled workers needs special attention.
 - For rapid economic growth as envisaged by us, attention should be paid to health and nutrition of the people.

Passage - 3

In India, a majority of farmers are marginal and small, less educated and possess low adaptive capabilities to climate change, perhaps because of credit and other constraints. So, one cannot expect autonomous adaptation to climate change. Even if it was possible, it would not be sufficient to offset losses from climate change. To deal with this, adaptation to climate change is paramount, alongside a fast mitigation response. Another solution is to have a planned or policy-driven adaptation, which would require the government to come up with policy recommendations. Perception is a necessary pre-requisite for adaptation. Whether farmers are adapting agricultural practices to climate change depends on whether they perceive it or not. However, this is not always enough for adaptation. It is important how a farmer perceives the risks associated with climate change.

14. Which one of the following statements best reflects the most logical and rational message conveyed by the author of the passage?
- Adaptation to climate change and mitigation response are basically the responsibilities of the government.
 - Climate change causes a change in government policies regarding land use patterns in the country.
 - Risk perceptions of farmers are important for motivating them for taking adaptation decisions.
 - Since mitigation is not possible, governments should come up with policies for quick response to climate change.

Directions for the following 3 (three) items:

Read the following three passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.

Passage - 1

In India, while the unemployment rate is a frequently used measure of poor performance of the economy, under conditions of rising school and college enrolment, it paints an inaccurate picture. The reported unemployment rate is dominated by the experience of younger Indians who face higher employment challenges and exhibit greater willingness to wait for the right job than their older peers. The unemployment challenge is greater for people with secondary or higher education, and rising education levels inflate unemployment challenges.

15. Which one of the following statements most likely reflects as to what the author of the passage intends to say?
- Enrolment in schools and colleges is high but there is no quality education.
 - Unemployment must be seen as a function of rising education and aspirations of young Indians.
 - There are no labour-intensive industries to accommodate the huge number of unemployed people.
 - The education system should be properly designed to enable the educated people to be self-employed.

Passage - 2

"Science by itself is not enough, there must be a force and discipline outside the sciences to coordinate them and point to a goal. It is not possible to run a course aright when the goal itself has not been rightly placed. What science needs is philosophy — the analysis of scientific method and the coordination of scientific purposes and results; without this, any science must be superficial. Government suffers, precisely like science, for lack of philosophy. Philosophy bears to science the same relationship which statesmanship bears to politics: movement guided by total knowledge and perspective, as against aimless and individual seeking. Just as the pursuit of knowledge becomes scholasticism when divorced from the actual needs of men and life, so the pursuit of politics becomes a destructive bedlam when divorced from science and philosophy."

16. Which one of the following statements best reflects the most rational, logical and practical message conveyed by the passage?
- Modern statesmen need to be well trained in scientific methods and philosophical thinking to

enable them to have a better perspective of their roles, responsibilities and goals.

- It is not desirable to have Governments managed by empirical statesmen unless well mixed with others who are grounded in learning and reflect wisdom.
- As the statesmen/bureaucrats are the products of a society, it is desirable to have a system of education in a society that focuses on training its citizens in scientific method and philosophical thinking from a very early age.
- It is desirable that all scientists need to be philosophers as well to make their work goal-oriented and thus purposeful and useful to the society.

Passage - 3

"The last end of the state is not to dominate men, nor to restrain them by fear; rather it is so to free each man from fear that he may live and act with full security and without injury to himself or his neighbour. The end of the state, I repeat, is not to make rational beings into brute beasts and machines. It is to enable their bodies and their minds to function safely. It is to lead men to live by, and to exercise, a free reason; that they may not waste their strength in hatred, anger and guile, nor act unfairly toward one another."

17. Based on the above passage, which one of the following terms best expresses the ultimate goal of the state?
- Personal safety
 - Health of body and mind
 - Communal harmony
 - Liberty

Directions for the following 4 (four) items:

Read the following four passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.

Passage - 1

The paradox of choice is illustrated by the story of Buridan's ass. Jean Buridan, the 14th century philosopher, wrote about free will and the inability to choose due to numerous choices and uncertainties. In the story, a donkey stands between two equally appealing stacks of hay. Unable to decide which to eat, it starves to death. Changes in technology and innovations such as smart phones and tablets only exacerbate our glut of choices. Constant connectivity and overconsumption of real-time data and social media can leave little room for self-reflection and rest, making decisions more difficult. Life is about choices. Many people are overwhelmed with attractive life choices, yet find themselves unhappy and anxious.

18. Which one of the following statements best reflects the most logical message implied by the above passage?
- Modern technology enfeebles societal structure and makes life difficult.
 - Modern life is full of uncertainties and endless difficult choices.
 - We are influenced by the opinion of others and have no courage to follow our own convictions.
 - In our lives, having too few choices may not be a good thing, but having too many can be equally as difficult.

Passage - 2

Household finance in India is unique. We have a tendency to invest heavily in physical assets such as gold and property. Steps to encourage the financialization of savings are critical. A populace accustomed to traditional processes will not simply jump into financialization. Hurdles to change include onerous bureaucracy, a scepticism of organized financial institutions, a lack of basic information about which of the myriad services and providers is best for each family, and how (and even if) one can make the transition between them if necessary.

19. **Regarding the financialization of household savings, which of the following statements best reflect the solutions that are implied by the passage?**

1. A flexible environment is needed to develop solutions.
 2. Households need customised solutions.
 3. Innovations in financial technology are required.
- Select the correct answer using the code given below:
- (a) 1 and 2 only (b) 2 and 3 only
(c) 1 and 3 only (d) 1, 2 and 3

Passage - 3

Pharmaceutical patents grant protection to the patentee for the duration of the patent term. The patentees enjoy the liberty to determine the prices of medicines, which is time-limited to the period of monopoly, but could be unaffordable to the public. Such patent protection offered to the patentees is believed to benefit the public over the longer term through innovations and research and development (R&D), although it comes at a cost, in the nature of higher prices for the patented medicine. The patent regime and price protection — through a legally validated high price for the medicine during the currency of the patent — provide the patentee with a legitimate mechanism to get returns on the costs incurred in innovation and research.

20. **Based on the above passage, the following assumptions have been made:**

1. Patent protection given to patentees puts a huge burden on public's purchasing power in accessing patented medicines.
2. Dependence on other countries for pharmaceutical products is a huge burden for developing and poor countries.
3. Providing medicines to the public at affordable prices is a key goal during the public health policy design in many countries.
4. Governments need to find an appropriate balance between the rights of patentees and the requirements of the patients.

Which of the above assumptions are valid?

- (a) 1 and 2 (b) 1 and 4
(c) 3 and 4 (d) 2 and 3

Passage - 4

India should ensure the growth of the digital economy while keeping personal data of citizens secure and protected. No one will innovate in a surveillance-oriented environment or in a place where an individual's personal information is compromised. The ultimate control of data must reside with the individuals who generate it; they should be enabled to use, restrict or monetise it as they wish. Therefore, data protection laws should enable the right kind of innovation — one that is user-centric and privacy protecting.

21. **Based on the above passage, the following assumptions have been made:**

1. Protection of privacy is not just a right, but it has value to the economy.
2. There is a fundamental link between privacy and innovation.

Which of the above assumptions is/are valid?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

22. **Which one of the following statements best reflects the most logical and rational message conveyed by the author of the passage?**

- (a) Food yielding trees should replace other trees in rural and tribal areas and community owned lands.
- (b) Food security cannot be ensured in India with the present practice of conventional agriculture.
- (c) Wastelands and degraded areas in India should be converted into agroforestry systems to help the poor.
- (d) Agroecosystems should be developed in addition to or along with conventional agriculture.

Passage - 2

While awareness on use/misuse and abuse of antibiotics is common knowledge, as is the impact of dosing poultry with antibiotics, the environmental impact of antibiotics-manufacturing companies not treating their waste has scarcely been discussed at any length or seriousness thus far. Pollution from antibiotics factories is fuelling the rise of drug-resistant infections. The occurrence of drug-resistant bacteria surrounding the pharma manufacturing plants is well known.

23. **Which one of the following statements best reflects the most logical and practical message conveyed by the passage?**

- (a) It is necessary to put proper effluent treatment protocols in place.
- (b) It is necessary to promote environmental awareness among people.
- (c) Spread of drug-resistant bacteria cannot be done away with, as it is inherent in modern medical care.
- (d) Pharma-manufacturing companies should be set up in remote rural areas, away from crowded towns and cities.

Passage - 3

Benefits of good quality school education accrue only when students complete and leave school after having acquired the gateway skills. Like one learns to walk before running, similarly one picks up advanced skills only after picking the basic foundational skills. The advent of the knowledge economy poses new challenges, and one of the severe consequences of having an uneducated workforce will be our inability to keep pace with the global economy. Without a strong learning foundation at the primary level, there can be no improvement in higher education or skill development.

24. **Which one of the following statements best reflects the crux of the passage?**

- (a) To become a global power, India needs to invest in universal quality education.
- (b) India is unable to become a global power because it is not focussing or promoting knowledge economy.