

MAX IAS

RIGHT CONTENT | QUALITY TEACHING | BEST TEST SERIES

SANGRAM

All India Open Mock

Full Length Test

Test Code: AIOFLT-24-8

(SANGRAM -8)

2024



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GENERAL STUDIES FOUNDATION COURSE

COURSE FEATURES

- Quality content provided from the books referred by UPSC
- Best General Studies teaching team led by Kranthi Pavel Irigi [Director of Max IAS]
- Innovative teaching methodology through slides, pictures, flowcharts, and mindmaps for better assimilation and retention
- Focus on making the aspirant to understand the subject holistically by interlinking topics rather than by-hearting [UPSC expects this ability from aspirants]
- **10 Months of classes:**
 - 1 Month NCERT CLASSES
 - 15 Days Orientation class
 - 8 Months of Advanced Classes for Prelims cum Mains
 - 1 Month of Revision classes
 - Course includes Prelims Test Series And Mains Test Series
- **Focus on answer writing practice with:**
 - Daily Assignment
 - Chapter-Wise Test
 - Full-Length Tests
- Focus on MCQs solving through daily questions and PYQs
- One-to-one mentorship and doubt clearance
- Study Material: **Both Hardcopy/Softcopy**
- Other than study material class notes also will be provided
- Mode of Classes: **Online/Offline**
- Offline students can access recorded lectures for the missed classes

COURSE HIGHLIGHTS

- **VALIDITY OF CLASSROOM COURSE: 15 MONTHS**
- **STUDENTS CAN ATTEND CLASSES MULTIPLE NUMBER OF TIMES IN A YEAR**
- **VALIDITY OF GENERAL STUDIES PRELIMS AND MAINS TEST SERIES: LIFETIME**
- **STUDENTS CAN ATTEND PRELIMS AND MAINS TEST SERIES EVERY YEAR UNTIL HE/SHE SECURES A JOB**

**ONE-TO-ONE
MENTORSHIP BY
FACULTY**



**SCAN FOR
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DETAILS**

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GENERAL STUDIES MAINS TEST SERIES

15 TESTS

8 SECTIONAL TESTS + 4 FULL LENGTH TESTS + 3 ESSAY TESTS

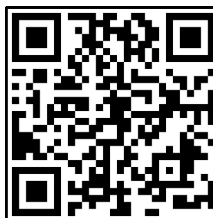
ABOUT THE TEST SERIES

- Question paper as per UPSC standard with effective coverage of entire syllabus
- Test Series will include Basic to Advanced questions with current affairs orientation
- Model answer for the questions (Hard copy/Soft copy)
- Test paper discussion by faculty after the test (**Offline/Online**)
- Paper evaluation by UPSC experts and Faculties
- Personal feedback and Mentorship by Faculty
- Number of Tests: **15 Tests**
 - 8 Section-Wise Tests
 - 4 Full-Length Tests
 - 3 Essay Tests
- Free access to Current Affairs classes on important topics for Mains
- Course Duration: **Two and a Half Months**

HIGHLIGHTS

- **DURATION OF TEST SERIES: TWO AND A HALF MONTHS**
- **STUDENTS CAN ATTEND TESTS MULTIPLE NUMBER OF TIMES (THAT IS MAINS TEST SERIES EVERY YEAR UNTIL HE/SHE SECURES A JOB)**
- **VALUE ADDITION CLASSES FOR BOOSTING SCORE**
- **FREE CURRENT AFFAIRS MAGAZINE FOR 1 YEAR**

**TEST EVALUATION
WITHIN 48 HOURS**



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MAXIAS

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GENERAL STUDIES MAINS EXTENDED TEST SERIES

38 TESTS

12 SECTIONAL TESTS + 8 FULL LENGTH TESTS + 3 ESSAY TESTS

+ 15 MAINS TEST SERIES 2025

ABOUT THE TEST SERIES

- Question paper as per UPSC standard with effective coverage of entire syllabus
- Test Series will include Basic to Advanced questions with current affairs orientation
- Model answer for the questions (Hard copy/Soft copy)
- Test Paper discussion by faculty after the Test (**Offline/Online**)
- Paper evaluation by UPSC Experts and Faculties
- Personal feedback and Mentorship by Faculties
- Students can attempt every Test Twice for improving the art of answer writing
- Number of Tests: **23 tests + 15 Mains Test Series 2025**
 - 12 Section-Wise Tests
 - 8 Full-Length Tests
 - 3 Essay Tests
- Free access to General Studies Mains Test Series 2025 [15 Test Series]
- Free access to **current affairs classes** for 6 months (worth ₹8500/-)
- Free Current affairs magazine for 1 year (both Hardcopy and Soft Copy)
(Hard copy of Current affairs magazine can be collected from the office/posted to your address)
- Student can write test as per their convenience
(can give any test on any day and at any time at the Test center)

HIGHLIGHTS

- **DURATION OF TEST SERIES: 6 MONTHS**
- **VALIDITY OF TEST SERIES: 1 YEAR 3 MONTHS**
- **STUDENTS CAN ATTEND THE MAINS TEST SERIES EVERY YEAR UNTIL HE/SHE SECURES A JOB**
- **VALUE ADDITION CLASSES FOR BOOSTING SCORES**
- **IMMEDIATE QUESTION PAPER DISCUSSION AFTER TEST BY FACULTY**
- **FREE CURRENT AFFAIRS MAGAZINE FOR 1 YEAR**

**TEST EVALUATION
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PRELIMS TEST SERIES

36 TESTS

21 SECTIONAL TESTS + 9 FULL LENGTH TESTS + 3 CSAT
+3 CURRENT AFFAIRS TESTS

MAIN FEATURES

- Prelims Test Series is designed to cover the **syllabus completely**
- **Test Questions are framed from basic to advanced** with coverage of current affairs strictly following the **UPSC pattern and trend**
- Tests are designed to ensure **multiple revisions** of the subjects with **Sectional Tests and Full-Length Tests**
- Focus on concepts, **application, analysis, and current affairs**
- **100+ hours** of value addition classes for **better conceptual clarity**
- **Test explanation is our hallmark**, test explanation sessions enable aspirants to get a better understanding of the subjects and questioning pattern
- **Detailed explanation and discussion video** - both **Online and Offline** mode
- **Detailed solutions** will be provided immediately after the test [**Hard and Softcopy**]
- Test evaluation **within 24 hours**
- **Digitally evaluated OMR** will be provided to identify your mistakes like- wrong bubbling and improper bubbling

OTHER FEATURES

- **All India Ranking**
- **Performance Tracking/ Progress Report**
- **Improve Time Management Skills**
- **Combat Negative Marking**
- **Identify your Strengths and Weaknesses**
- **Conquer exam anxiety and fear**

HIGHLIGHTS

- **Validity of Test Series: 10 Months (until Prelims 2025)**
- **Value Addition Classes** for boosting scores
- **Test evaluation within 24 hours** and evaluated OMR copy would be provided
- **Flexible exam timing** as per students' convenience (Students can attend tests any time and any day at test center)

**TEST EVALUATION
WITHIN 24 HOURS**



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ANTHROPOLOGY FOUNDATION COURSE

COURSE FEATURES

- All classes will be taught by Kranthi Pavel Irigi [Director of Max IAS]
- Quality content provided from the books referred by UPSC written by Foreign and Indian authors
- Content enrichment through case studies and current affairs
- Innovative teaching methodology through slides, pictures, flowcharts, and mind maps for better assimilation and retention
- Focus on making the aspirant understand the subject holistically by interlinking topics rather than by-hearting [UPSC expects this ability from aspirants]
- Equal focus on Paper I and Paper II [**most institutes neglect Paper II**]
- Special focus on anthropology theories which form the core of the subject
- Utmost importance to answer writing with
 - Daily assignment
 - Chapter-Wise Tests
 - Full-Length Tests
- Test Paper evaluation will be done by Kranthi Pavel Irigi sir the Faculty and Director of Max IAS with personal feedback
- One-to-one mentorship and doubt clearance by Kranthi sir
- Duration of Course: **4 months**
- Study Material: **Both Hardcopy/Softcopy**
- Other than study material class notes also will be provided
- Mode of Classes: **Online/Offline**
- Offline students can access recorded lectures for the missed classes

COURSE HIGHLIGHTS

- **VALIDITY OF CLASSROOM COURSE: 1 YEAR**
- **STUDENTS CAN ATTEND CLASSES MULTIPLE NUMBER OF TIMES IN A YEAR**
- **VALIDITY OF ANTHROPOLOGY MAINS TEST SERIES: LIFETIME**
- **STUDENTS CAN ATTEND THE MAINS TEST SERIES EVERY YEAR UNTIL HE/SHE SECURES A JOB**

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ANTHROPOLOGY

MAINS TEST SERIES [AMTS]

12 TESTS

8 SECTIONAL TESTS + 4 FULL LENGTH TESTS

ABOUT THE TEST SERIES

- Question paper as per UPSC standard with effective coverage of the entire syllabus
- Paper evaluation by Kranthi Pavel Irigi [Director of Max IAS] personally
- 30+ hours of Value Addition classes for boosting score
- Model answers for the questions (Hard copy/Soft copy)
- Number of Tests: **12 Tests**
 - 8 Sectional-Wise Tests
 - 4 Full-Length Tests
- Test Series Duration: **Two and a Half Months**
- Available both in **Offline/Online mode**

HIGHLIGHTS

- **VALIDITY OF TEST SERIES: TWO AND A HALF MONTHS**
- **STUDENTS CAN ATTEND TEST MULTIPLE NUMBER OF TIMES IN A YEAR**
- **STUDENTS CAN ATTEND THE MAINS TEST SERIES EVERY YEAR UNTIL HE/SHE SECURES A JOB**
- **VALUE ADDITION CLASSES FOR BOOSTING SCORE**

**TEST EVALUATION
WITHIN 48 HOURS**



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ANTHROPOLOGY

MAINS TEST SERIES PREMIUM [AMTS-P]

12 TESTS

8 SECTIONAL TESTS + 4 FULL LENGTH TESTS

ABOUT THE TEST SERIES

- Question paper as per UPSC standard with effective coverage of entire syllabus
- Paper evaluation by Kranthi Pavel Irigi [Director of Max IAS] personally
- 50+ hours of Value Addition classes for boosting score
- Model answers for the questions (Hard copy / Soft copy)
- Test paper discussion class by Kranthi Pavel Irigi (Offline/Online)
- Personalised feedback for enhancing students ability to write answers effectively and holistically
- Mentorship and Doubt Resolution until completion of Mains Exam
- Number of Tests: **12 Tests**
 - 8 Sectional-Wise Tests
 - 4 Full-Length Tests
- Test Series Duration: **Two and a Half Months**
- Test available both in **Offline/Online mode**

FEATURES	ANTHRO MAINS TEST SERIES	ANTHRO MAINS TEST SERIES - PREMIUM
Test discussion	NA	YES
Personal feedback	NA	YES
Mentorship and Doubt resolution	NA	YES
Value addition classes	30+ Hours	50+ Hours

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ANTHROPOLOGY

MAINS EXTENDED TEST SERIES

30 TESTS

14 SECTIONAL TESTS + 4 FULL LENGTH TESTS

+12 AMTS

ABOUT THE TEST SERIES

- Question paper as per UPSC standard with effective coverage of entire syllabus
- Paper evaluation by Kranthi Pavel Irigi [Director of Max IAS] personally
- Test paper discussion by Kranthi Pavel Irigi after the test (Offline/Online)
- Students can attempt every Test Twice for improving the art of answer writing
- Model answer for the questions (Hard copy/Soft copy)
- Access to classroom courses for 40 hours for doubtful and difficult topics
- Number of tests: **30 Tests (18 Tests +12 AMTS)**
 - 14 Sectional-Wise Tests
 - 4 Full-Length Tests
- Free access to 12 Tests of Anthropology Mains Test Series (AMTS)
- Free access to **Current Affairs classes** for 6 months (worth ₹8500/-)
- Free Current Affairs Magazine for 1 Year (Both Hardcopy and Soft Copy)
(Hard copy of Current affairs magazine can be collected from the office/posted to your address)
- Student can write test as per their convenience
(can give any test on any day and any time at Test center)

HIGHLIGHTS

- **DURATION OF TEST SERIES: 6 MONTHS**
- **VALIDITY OF THE TEST SERIES: 1 YEAR 3 MONTHS**
- **STUDENTS CAN ATTEND THE MAINS TEST SERIES EVERY YEAR UNTIL HE/SHE SECURES A JOB**
- **VALUE ADDITION CLASSES FOR BOOSTING SCORE**
- **IMMEDIATE QUESTION PAPER DISCUSSION AFTER TEST BY FACULTY**

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DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

Test Code: AIOFLT-24-8 (SANGRAM - VIII)

Test Booklet Series

Serial No.

**TEST BOOKLET
GENERAL STUDIES
Paper—I**

A

Time Allowed : Two Hours

Maximum Marks : 200

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet. Any omission/discrepancy will render the Answer Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. *DO NOT* write anything else on the Test Booklet.
4. This Test Booklet contains 100 items (questions). Each item is printed in English. Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose *ONLY ONE* response for each item.
5. You have to mark all your responses *ONLY* on the separate Answer Sheet provided **OMR SHEET**.
6. All items carry equal marks.
7. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator *only the Answer Sheet*. You are permitted to take this Test Booklet with you.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. **Penalty for wrong answers :**
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN ALL THE QUESTIONS.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer is given by the candidate, **one-third** of the marks assigned to that question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above to that question.
 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

1. Which of the Indus Valley sites is not located in India?

- (a) Rangpur
- (b) Balu
- (c) Rojdi
- (d) Nausharo

2. Which of the following organisations are associated with Vedic civilization?

- 1. Sabha
 - 2. Samithi
 - 3. Vidatha
- (a) 2 and 3 only
 - (b) 1 and 2 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3

3. Which of the following statements are correct regarding ancient "Ganasanghas"?

- 1. Ganasanghas consisted of single a clan.
 - 2. Buddhism and Jainism developed from these Ganasanghas.
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2

4. Which of the following bodhisattvas special character is compassion?

- (a) Avalokiteshwara

(b) Manjushri

(c) Vajrapani

(d) Maitreya

5. With reference to the religious history of India, which of the statements are correct regarding the "Yogacara school"

- 1. It is a sect of Hinayanism.
 - 2. This school was founded by Acharya Nagarjuna.
- (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2

6. "Niyativada" is the basic tenet of which of the following religions?

- (a) Jainism
- (b) Hinduism
- (c) Ajivikism
- (d) Buddhism

7. With reference to the cultural history of India, which of the following statements regarding Ashokan pillars are correct?

- 1. Ashokan sthambas were chiselled out of grey chunar sandstone.
 - 2. The entire Sthamba consisted of two monoliths.
- (a) 1 only
 - (b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

8. The term "brahmadeya" in ancient India denotes:

(a) Land gifted by kings to Brahmins

(b) Corporate organisations

(c) Village head man

(d) Caravan of traders

9. The terms "aprahata", "panikala", and "shadvala" in ancient India denote:

(a) Land taxes

(b) Measure of land

(c) Types of land

(d) Royal land

10. Consider the following pairs:

<u>Inscription</u>	<u>Location</u>
1. Bhitari	: Madhya Pradesh
2. Mandsor	: Rajasthan
3. Junagarh	: Gujarat

How many of the above pairs are correctly matched?

(a) 3 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

11. Which of the following statements are correct regarding Chisti Silsilah?

1. It was founded by Khwaja Moinuddin Chishti

2. Chistis followed a few Hindu practices like tonsuring head

3. Chistis accepted Iqtas for maintenance of khanqahs

(a) 2 only

(b) 2 and 3 only

(c) 1 and 2 only

(d) 1, 2 and 3

12. With reference to inscriptions of early medieval India, the terms "dhimada", and "tadaga" are associated with:

(a) Irrigation practices

(b) Taxes

(c) Land tenure system

(d) Musical instruments

13. Which of the statements are correct regarding the "Iqta" system?

1. The Iqta System originated in the Delhi Sultanate.

2. The recipients of iqtas acquired hereditary rights on the land.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

14. In medieval India the term "pahi" denotes:

(a) Caravan trader

(b) Revenue Collector

(c) Head of guild / Corporation

(d) Peasant

15. What was an "agency house" during the rule of East India Company?

(a) These were formed by British merchants and free traders.

(b) These were established by company servants and retired personnel of the company.

(c) They represented the East India Company in England.

(d) Provided secretarial assistance to high-ranking officials of the company.

16. Consider the following pairs:

1. Jagat Mitra : Dadabhai Naoroji

2. Indian Reform Association : Keshab

Chandra Sen

3. Brahma dharma : Ram Mohan Roy

How many of the above pairs are correctly matched?

(a) 2 only

(b) 1 and 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

17. "Cunningham Circular" is associated with which movement?

(a) Swadeshi Movement

(b) Quit India Movement

(c) Non-cooperation Movement

(d) Civil Disobedience Movement

18. With reference to the Indian freedom struggle, consider the following events.

1. Cripps Mission

2. Quit India Movement

3. Wavell plan

4. Cabinet Mission Plan

What is the correct chronological sequence of the above events?

(a) 1, 2, 3, 4

(b) 1, 2, 4, 3

(c) 2, 1, 3, 4

(d) 2, 1, 4, 3

19. Thakurmar Jhuli (Grandmother Tales) collection of Bengali fairy tales was written by?

(a) Nandalal Bose

(b) Rabindranath Tagore

(c) Dakshinaranjan Mitra Majumdar

(d) Abanindranath Tagore

20. Which of the following are the tenets of socialism?

1. Egalitarian society

2. Satisfaction of basic needs

3. Individual ownership of vital instruments of production.

4. Ideal of service

(a) 1 and 2 only

(b) 1, 2 and 4 only

(c) 1, 2, 3 and 4

(d) 1, 3 and 4 only

21. Judicial control over administration emanates from the concept of :

- (a) Separation of powers
- (b) Rule of law
- (c) Independent judiciary
- (d) None of the above

22. Which of the following statements regarding Rajya Sabha is/are correct?

1. A money bill cannot be introduced in the Rajya Sabha.
2. Rajya Sabha cannot make recommendations on money bills.
3. Rajya Sabha has the power to pass a vote of no confidence in the Council of Ministers.

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

23. Which of the following statements are correct?

1. The Constitution's 42nd Amendment Act added a Tenth Schedule to the Constitution.
2. The proceedings of the house regarding disqualification under the 10th schedule are not amenable to Judicial review.

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

24. The fundamental values of the Constitution are elaborated in:

1. Fundamental rights
 2. Fundamental duties
 3. Directive Principles of State Policy
- (a) 1 only
 - (b) 1 and 3 only
 - (c) 1 and 2 only
 - (d) 1, 2 and 3

25. The basic function of the courts is:

- (a) Adjudicate disputes
- (b) Interpret the Constitution
- (c) Control over the Legislature
- (d) Advise Executive

26. In a Republic, who is/are Supreme?

- (a) Head of the state
- (b) People
- (c) The executive
- (d) The courts

27. According to the various decisions of Supreme Court so far, which of the following can be considered as the basic features of the constitution ?

1. Principle of separation of powers
 2. Judicial review
 3. Parliamentary sovereignty
 4. Balance between fundamental rights and Directive Principles of State Policy
 5. Social Justice
- (a) 1, 2, 3, 4 and 5
 - (b) 1, 2, 4 and 5 only

(c) 1, 2 and 5 only

(d) 2, 3, 4 and 5 only

28. With reference to the Indian parliamentary system, which of the following statements is/are correct?

1. The resignation or death of the Prime Minister dissolves the cabinet.

2. The allocation of business amongst the Ministers is the function of the president

3. President is incharge of coordinating the policy of the government and has, accordingly has right of supervision for all departments.

(a) 1 only

(b) 1 and 3 only

(c) 1 and 2 only

(d) 1, 2 and 3

29. Which of the following statements are correct regarding the position of the Speaker?

1. Speakers' conduct in regulating the procedure of the house will not be subjected to the jurisdiction of any Court

2. The Speaker shall preside the joint sitting of the two houses of the Parliament

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

30. The writ of Habeas Corpus cannot be issued in which of the following cases?

1. The person who is detained is not within the jurisdiction of the court.

2. To secure the release of a person who has been imprisoned by a court of law on a criminal charge

3. To interfere with the proceeding for contempt by a court of record or by parliament

(a) 1 only

(b) 2 and 3 only

(c) 1, 2 and 3

(d) 1 and 2 only

31. Which of the following statements are correct?

1. The executive power of the State shall be vested in the Chief minister

2. Advice tendered by Ministers to the Governor shall not be inquired in any court.

3. The Council of Ministers shall be collectively responsible to the Legislative Council of the State

(a) 2 only

(b) 3 only

(c) 2 and 3 only

(d) 1, 2 and 3

32. The earliest demand for fundamental rights in India was made in

(a) Constitution of India Bill

(b) Commonwealth of India Bill

(c) Nehru Committee report

(d) INC Special Bombay session in 1918

33. Which of the following items are included in the 11th schedule?

1. Minor irrigation, water management and watershed development.

2. Non-conventional energy sources.

3. Small scale industries

4. Urban forestry

(a) 1, 2, 3 and 4

(b) 1, 2 and 4 only

(c) 1, 2 and 3 only

(d) 1 only

34. Which of the following statements regarding the National Judicial Appointment Commission is incorrect?

(a) No act or proceedings of the National Judicial Appointment Commission shall be invalidated on the ground of defect in the constitution of the Commission.

(b) It recommends persons for appointment as Chief Justice of India and judges of the Supreme Court.

(c) Prime minister of India is Chairperson, *ex officio*

(d) The Union Minister in charge of Law and Justice is Member, *ex officio*

35. Which of the following statements regarding Directive Principles of State Policy is/are correct?

1. They are in the nature of civil and political rights

2. Not enforceable by any court

3. Fundamental in the governance of the country

(a) 1, 2 and 3

(b) 2 and 3 only

(c) 1 and 2 only

(d) 1 and 3 only

36. Which of the following statements regarding the Composition of the Council of States is/are correct?

1. Not more than two hundred and thirty-eight representatives of the States and of the Union territories.

2. Fifteen members to be nominated by the President having special knowledge in literature, science, art and social service.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

37. Which of the following is/are applications of Machine Learning?

1. Image recognition

2. Traffic prediction

3. Virtual Personal Assistant

4. Stock Market trading

(a) 2, 3 and 4 only

(b) 1, 2 and 3 only

(c) 1, 3 and 4 only

(d) 1, 2, 3 and 4

38. Consider the following statements regarding Enzyme-Linked Immunosorbent Assay (ELISA):

1. ELISA is a common laboratory testing technique that detects and counts both antibodies and antigens.

2. Home pregnancy tests are based on the ELISA technique.

3. The ELISA technique cannot detect and measure Autoantibodies.

How many of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

39. Which of the following diseases are considered as Auto-Immune diseases?

1. Parkinson's Disease
2. Type 1 Diabetes
3. Human Immunodeficiency Viruses (HIV)

How many of the statements given above is/are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 3 only

(d) 1, 2 and 3

40. Consider the following statements regarding genome editing using CRISPR:

1. CRISPR could randomly introduce mutations.
2. CRISPR is used to remove the mutation that causes sickle cell disease.

How many of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

41. Which of the following statements regarding nanotechnology is/are correct?

1. Many soils contain organic and inorganic nanoparticles.
2. Nanoparticles are also produced by cigarette smoking and the burning of fuels in combustion engines.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

42. Consider the following regarding cDNA/Copy DNA:

1. cDNA contains both coding and non-coding sequences.
2. cDNA naturally occurs in the human body.
3. cDNA is an effective tool in gene cloning.

How many of the statements given above is/are correct?

(a) 2 and 3 only

(b) 1 and 2 only

(c) 3 only

(d) 1, 2 and 3

43. The term Methylation in news is associated with:

(a) Climate change

(b) Space

(c) Ocean studies

(d) Biotechnology

44. Consider the following statements regarding Northern blotting:

1. Northern blot is a laboratory analysis method used to study DNA & RNA.

2. Northern Blot Technique can be used to study Influenza.

How many of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

45. Red tide observed along the Marine coasts is caused due to

(a) Oil spills

(b) Harmful algal bloom

(c) Destruction of mangroves

(d) Coral bleaching

46. With reference to the Biological Diversity Act (2002) and the Rules (2004), which of the following statements is/are correct?

1. The Act does not cover the conservation, or use of biological resources occurring in India for commercial purposes

2. The Act excludes Indian biological resources that are normally traded as commodities.

3. The Act does not cover foreigners, non-resident Indians, or organizations that are either not incorporated in India or incorporated in India with

non-Indian participation in their share capital.

(a) 2 only

(b) 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

47. New Radio technology recently in the news is associated with which of the following?

a) Climate change

(b) Energy

(c) Automobiles

(d) Communication

48. Consider the following statements regarding Web3:

1. It is a shared digital reality that enables users to connect with each other.

2. Web3 is built on blockchain and cryptocurrencies.

3. Semantic web is a component of Web3.

How many of the statements given above is/are correct?

(a) 2 and 3 only

(b) 1 and 2 only

(c) 1 and 3 only

(d) 1, 2 and 3

49. Which of the following statements regarding "Sangai" are correct?

1. It is an amphibian species.
2. It is endemic to the backwaters of the Kerala coast

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

50. Jerdon's courser (*Rhinoptilus bitorquatus*) habitat is located in which of the states?

1. Andhra Pradesh
2. Telangana
3. Punjab
4. Rajasthan

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

51. With reference to Indian biodiversity, Binturong, Indian Gazelle, Malabar Civet are:

- (a) Birds
(b) Reptiles
(c) Mammals
(d) Insects

52. Which of the following statements is/are correct?

1. Syngas is primarily Sulphur dioxide and hydrogen
2. Syngas can be used as a fuel to generate electricity

3. Syngas is produced in the gasification process.

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

53. Consider the following with respect to the application of Virtual Reality:

1. Online Shopping
2. Automobile Design
3. Healthcare
4. Tourism

How many of the above are the applications of Virtual Reality?

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

54. Which of the following are correctly matched?

1. Golden Langur – Eastern Himalayas
2. Lion-tailed Macaque – Western ghats
3. Chiru goat – Nilgiri Hills

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 only
(d) 2 only

55. Which of the following statements is/are correct?

1. Persistent organic pollutants do not have affinity to lipid membranes of cells.

2. Persistent organic pollutants can volatilize from soils into the atmosphere.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

56. Which of the following statements is/are correct?

1. A green bond is like any other bond where a debt instrument is issued by an issuer for raising funds from investors.

2. India is the largest Emerging Green Bond Market.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

57. Which of the following can be achieved with biochar?

1. Biochar decreases the rate of soil carbon sequestration

2. Improves the soil fertility and crop yield

3. Mitigation of greenhouse gas emissions

(a) 1, 2 and 3

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1 and 2 only

58. Which of the following statements is/are correct?

1. The Indian Ocean has the largest mangrove tracts in the world.

2. Shrimp culture is the greatest threat to mangrove

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

59. Which of the following is/are correct regarding the Genetic Engineering Appraisal Committee (GEAC)?

1. GEAC does not approve Recombinant therapeutics for marketing in India

2. Bt cotton is the only commercially approved crop in India.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

60. Consider the following statements regarding Cell-free DNA testing:

1. Cell-free DNA testing is used to look for genomic variants associated with a hereditary or genetic disorder.

2. Cell-free DNA testing is used for the detection of cancer and to monitor cancer therapy.

How many of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

61. Which of the following measures promote Sustainable Agricultural Development?

1. Crop rotation

2. Addition of organic matter in large quantities

3. Provision of cheap or free power for farmers

4. Greater water use efficiency

(a) 1, 2, 3 and 4

(b) 1, 2 and 4 only

(c) 1, 2 and 3 only

(d) 1 and 2 only

62. Which of the following statements correctly indicates a money supply in a country?

(a) Total sum of money available to the public in an economy in one year.

(b) Total sum of money available to the public in an economy at a point of time.

(c) Amount of money held by households, firms, institutions, banks

and government in an economy in a year.

(d) Amount of money held by households, firms, institution banks and government in an economy at a point of time.

63. Consider the following statements:

1. Bond price and interest rate vary indirectly

2. Tax on personal income reduces disposable income

Which of the following statement is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

64. Which of the following statements are correct?

1. Nowadays paper money is of convertible type.

2. Currency notes issued by RBI are fiat paper money.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

65. The objectives of monetary policy are:

1. Ensuring Price stability

2. Encourage economic growth

3. Ensuring volatility of the exchange rate of the rupee

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

66. What policy measures are suggested in the Indian economy to control inflation?

1. Increase the repo rate

2. Decrease cash reserve ratio

3. Decrease statutory liquidity ratio

(a) 1 only

(b) 2 and 3 only

(c) 1 and 2 only

(d) 1, 2 and 3

67. Which of the following statements are correct?

1. Inflation erodes the nominal income of the people.

2. Inflation harms the creditors and benefits the debtors.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

68. The growth of public expenditure in India is due to an increase in:

1. Economic growth and development

2. Subsidies

3. Debt service charges

4. Defence expenditure

(a) 1, 2, 3 and 4

(b) 2, 3 and 4 only

(c) 2 and 3 only

(d) 1, 2 and 4 only

69. Which of the following measures can be undertaken to reduce the fiscal deficit for a developing country?

1. Simplification of the tax structure

2. Stoppage of subsidies

3. Increase in foreign aid

(a) 1 and 3 only

(b) 2 only

(c) 1, 2 and 3

(d) 1 and 2 only

70. "World Development Report" is published by:

(a) World Bank

(b) World Trade Organisation

(c) International Monetary Fund

(d) Organisation for Economic Cooperation and Development

71. Which of the following is not an item on the capital account of the Balance of payments:

(a) Net Merchandise Exports

(b) Net external assistance

(c) Net commercial borrowings

(d) Net foreign investment

72. Which of the following is not a capital market instrument?

- (a) Merchant banks**
- (b) Industrial securities market**
- (c) Mutual funds**
- (d) Treasury bill market**

73. Which of the following statement is/are correct?

- 1. DCCBS and PACS are regulated by RBI.**
- 2. Credit rating agencies and credit information companies are regulated by SEBI.**

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

74. Which of the following are parameters to measure Multi Dimensional Poverty Index?

- 1. Years of schooling**
- 2. School attendance**
- 3. Child mortality**
- 4. Sanitation**
- 5. Carbon emissions**

- (a) 1, 2, 3 and 4**
- (b) 1, 2, 3, 4 and 5**
- (c) 2, 3 and 4**
- (d) 2 and 3**

75. Which of the following statements is/are correct:

- 1. Compared to the pre-reform period rate of poverty reduction is low in the post-reform period.**
- 2. Compared to the pre-reform period organized sector employment increased in the post-reform period.**

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

76. Gopuram was introduced to the Dravidian style of temple architecture by:

- (a) Pallavas**
- (b) Chalukyas**
- (c) Pandyas**
- (d) Cholas**

77. Which of the following is/are correctly matched?

- 1. Kailash Nath Temple - Rashtrakutas**
- 2. Mamallapuram rock cut temples- Pandyas**
- 3. Ajanta Caves - Mauryans**

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

78. Which of the following statement is/are correct regarding the Rig Vedic period?

1. Religion was characterized by elaborate sacrifices, a complicated procedure requiring the services of as many as 17 priests.

2. There was no trace of Untouchability.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

79. Which of the following is not a feature of the Government of India Act 1935?

(a) The creation of a 'Federation of India'

(b) A federal court was established.

(c) Dyarchy was introduced at the provincial level

(d) Separate electorates were provided for Muslims, Sikhs and others

80. The Barisal incident in the Indian National Movement is related to:

(a) Indian National Army

(b) Quit India Movement

(c) Swadeshi Movement

(d) Non-cooperation Movement

81. A parliamentary democracy envisages:

1. Representation of the people

2. Responsible government

3. Accountability of the Council of Ministers to Legislatures

(a) 2 and 3

(b) 1 and 3

(c) 1 and 2

(d) 1, 2 and 3

82. Which of the following statements is/are correct:

1. The President is the head of government; the Prime Minister is the head of the Union of India

2. Indian citizens who are 30 years of age or more are eligible to be elected as the President

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

83. Which of the following statements are correct:

1. The validity of any law relating to the delimitation of constituencies regarding Panchayat raj institutions shall not be called into question in any court

2. The Chairperson of a Panchayat at the village level shall be directly elected

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

84. The Consolidated Fund of India includes:

1. All revenues received by the Government.
2. Loans raised by that Government by the issue of treasury bills
3. Ways and Means Advances
4. Money received by the Government in repayment of loans

(a) 1, 2 and 3

(b) 1, 2 and 4

(c) 1 and 4

(d) 1, 2, 3 and 4

85. Who among the following British officers were associated with the reconstruction of the history of Vijayanagar:

1. Mark Wilks
2. Colin Mackenzie
3. Robert Sewell

(a) 1, 2 and 3

(b) only 2

(c) 2 and 3 only

(d) 1 and 2 only

86. Emissions Gap Report 2020 is released by:

- (a) United Nations Development Programme
- (b) United Nations Environment Programme
- (c) Food and Agriculture Organization
- (d) World Trade Organization

87. Consider the following statements regarding the August offer:

1. The right of the Indians to frame the constitution for their country was rejected

2. The War Advisory Committee including the Indians would be constituted

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. Which of the following is correct regarding the doctrine of ministerial responsibility?

(a) For every act of the state, it is the ministers who are responsible to the Constitution

(b) For every act of the state, it is the ministers who are responsible to people

(c) For every act of the state, it is the ministers who are responsible to the Chief Executive

(d) For every act of the state, it is the ministers who are responsible to the Prime Minister

89. Which of the following statements are correct regarding seagrass:

1. Abundantly found in coastal areas of India, Gulf of Mannar and Palk Strait

2. Eutrophication, overfishing, and coastal construction are threats to seagrass.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

90. The Global Hunger Index is calculated based on which of the following indicators?

1. Undernourishment

2. Child wasting

3. Child stunting

4. Child mortality

(a) 1, 2, 3 and 4

(b) 1, 2 and 3

(c) 2, 3 and 4

(d) 2 and 3

91. Regarding the import of principal commodities by India which commodity is the highest in terms of value:

(a) Petroleum and crude

(b) Pulses

(c) Iron and steel

(d) Electronic goods

92. The export commodity highest in terms of value from India is:

(a) Engineering goods

(b) Petroleum products

(c) Electronic goods

(d) Ceramic products

93. The 'Diego Garcia', recently in the news, falls under the overseas territory of which of the following countries?

(a) United Kingdom

(b) USA

(c) Australia

(d) China

94. With respect to depreciation, which of the following is/are correct?

1. Increase in net Exports

2. Decrease in aggregate demand for domestically produced goods

3. Raises the price level in the country

(a) 1 and 3 only

(a) 1 and 2 only

(a) 2 and 3 only

(a) 1, 2 and 3

95. Which of the following are the reasons for low or insufficient capital formation in underdeveloped countries?

1. Low technological developments

2. Inadequate savings ratio

3. Unemployment

4. Less investment in productive instruments

(a) 1, 2, 3 and 4

(b) 2, 3 and 4 only

(c) 2 and 3 only

(d) 1, 2 and 4 only

96. Which of the statements regarding Dugong is/are correct:

1. Dugongs are both herbivorous and carnivorous.

2. They are found in coastal waters of the Indian Ocean only.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

97. Which of the following statements is/are correct:

1. In the atmosphere, nitrogen exists as nitrogen oxide, NO and nitrogen dioxide, NO₂.

2. Excess nitrogen in soil leads to Eutrophication.

3. Nitrogen is a key element in the nucleic acids DNA and RNA.

(a) 1, 2 and 3

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1 and 2 only

98. Which of the statements regarding the Ashokan edicts is/are correct?

1. Most of the major pillar edicts of Ashoka are located in South India.

2. Minor rock edicts have the widest distribution in the cluster of Andhra-Karnataka area.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

99. With reference to ancient India, "kammakaras" are:

(a) Slaves

(b) Smiths

(c) Servants

(d) Labourers

100. The plot of which of the works revolves around the machinations of Chanakya against the minister of Nanda king?

(a) Parishistparvan

(b) Arthashastra

(c) Mudrarakshasam

(d) Indika

MAX IAS

SANGRAM 8

AIOFLT-24-8 SOLUTIONS

Upcoming Sangram ...

	Date	Timing
SANGRAM 9	9 th JUNE 2024	9:30 to 11:30AM

For Sangram registration visit: www.maxias.in

1. Ans: d

Explanation-

IMPORTANT INDUS VALLEY CIVILIZATION SITES AND LOCATIONS

Rangpur - Gujarat

Balu - Haryana

Rojdi - Gujarat

Nausharo - Pakistan / Balochistan

Hence, option d is correct.

2. Ans: d

Explanation-

Rig Veda speaks of **sabha** as dicing and gambling assembly.

Samithi was a folk assembly for transacting tribal business, presided over by a king.

Vidatha is the earliest folk assembly of the Indo Aryans, which performed economic, military and religious functions.

Hence, option d is correct.

3. Ans: b

Explanation-

Ganasanghas consisted of **multiple clans** like Shakyas, Koliyas, or Mallas, or it could be a confederacy of Clans like Vajji/Vriji.

Hence, statement 1 is incorrect.

Buddha belonged to Shakyas.

Mahavira belonged to the Jnatrika clan of the Vriji Confederacy.

Hence, statement 2 is correct.

4. Ans: a

Explanation-

IMPORTANT BODHISATTVAS AND THEIR CHARACTERS

Avalokiteshwara – Padmapani (lotus bearer) - Compassion

Manjushri - stimulates understanding, represented by a naked sword and book in the hands

Vajrapani - holds a thunderbolt- a foe of sin and evil

Maitreya - Future Buddha

Hence, option a is correct.

5. Ans: d

Explanation-

Yogacara and Madhyamika belong to **Mahayana Buddhism**

Hence, statement 1 is incorrect

Yogacara was founded by Mitreyanatha

Madhyamika founded by Acharya Nagarjuna

Hence, statement 2 is incorrect

6. Ans: c

Explanation-

niyati-vada ('the doctrine of destiny', or determinism), Saogati-vada ('the doctrine of predetermined concurrence of factors'), svabhava-vada ('the doctrine of intrinsic nature), or data-vada ('the doctrine of fate, or fatalism), are tenets of **Ajivikism**

Hence, option c is correct.

7. Ans: c

Explanation -

Ashokan sthambas were chiselled out of grey chunar sandstone quarried near Varanasi.

Hence, statement 1 is correct.

The capital and superstructure are made of one piece of stone, while the shaft of the column is made of another piece of stone. **These two pieces are joined by a copper bolt.**

Hence, statement 2 is correct.

8. Ans: a

Explanation -

Brahmadeya - Land gifted by kings to Brahmins

There is a reference to brahmana gamas (gama- village), where brahmins were dominant landholders, these villages were originally brahmadeyas

Hence, option a is correct.

9. Ans: c

Explanation -

12 Categories of land -

Urvara (fertile), Ushara (barren), Maru(desert), **aprahata (fallow)**, **shadvala (grassy)**, **pankila (muddy)**, jalaprayamanupam (wet), kachcha (adjacent to water),sharkara (full of pebbles and limestone),sharkavati (sandy), nadimatrika (watered by river), Devamatrika (watered by rain)

Hence, option c is correct.

10. Ans: a

Explanation -

Bhitari inscription - Uttarpradesh - exploits of Skandagupta

Mandsor inscription - Madhya Pradesh - silk weavers guild financed the construction of Sun Temple

Junagarh / Girnar rock inscription - Gujarat – Rudradaman

Hence, option a is correct.

11. Ans: a

Explanation -

Chisti Silsilah was founded at Chisti (a village near Herat, Afghanistan) by **Khwaja Abu Ishaq** Sami in 940 A.D, it was brought to India by Khwaja Moinuddin Chishti in the 12th century and established Chisti mystic order at Ajmer ‘

Hence, statement 1 is incorrect.

Chistis followed a few Hindu practices like bowing before the saint, presenting water to the visitors, and tonsuring the head of the new entrant into the mystic order.

Hence, statement 2 is correct.

Chistis laid great emphasis on the life of poverty, humility and selfless devotion. **They did not accept the iqtas**

Hence, statement 3 is incorrect.

12. Ans: a

Explanation -

Inscriptions of Western Rajasthan where water was scarce mention of types of Wells (**dhimada**, vapi, araghatta) and reservoirs (**tadaga**, tatakini, pushkarini).

Hence, option a is correct.

13. Ans: d

Explanation -

The Institution of **iqtas** was **developed by Seljukids in West Asia** and subsequently became universal in all Muslim States.

Hence, statement 1 is incorrect.

The recipients of iqtas **did not acquire any hereditary right on the land** and iqtas could be transferred by the sultan at his will.

Hence, statement 2 is incorrect.

14. Ans: d

Explanation -

Pahi's practised agriculture on the lands of zamindars or landlords, the services of pahi's were used in the expansion of agriculture.

Hence, option d is correct.

15. Ans: a

Explanation -

British Merchants and traders organised themselves into agency houses, attracted deposits from the company servants and retired personnel and invested the same in a variety of commercial operations.

Prominent agency houses were Palmer and Co., Bruce Fawcett and Co.

Hence, option a is correct.

16. Ans: a

Explanation -

Jagat Mitra, Jagat Premi - Sorabji Shapurji Bengalee / S S Bengalee

Indian Reform Association, Navavidhan - **Keshab Chandra Sen**

Brahma dharma , Tatvabodhini Sabha ,Tatvabodhini patrika - Debendranath Tagore .

Hence, option a is correct.

17. Ans: d

Explanation -

During the **civil disobedience movement**, in Assam powerful movement was led by students against the infamous **Cunningham circular**, which forced students and their guardians to furnish assurances of good behaviour.

Hence, option d is correct.

18. Ans: a

Explanation-

Cripps Mission – March 1942

Quit India Movement- August 1942

Quit India Movement was launched after the failure of the Cripps Mission

Wavell plan – 1945

Cabinet Mission Plan -1946

Hence, option a is correct.

19. Ans: c

Explanation -

Thakurmar Jhuli's (Grandmother Tales) collection of Bengali fairy tales was written by **Dakshinaranjan Mitra Majumdar** as a part of the Swadeshi Movement, published in 1907.

Hence, option c is correct.

20. Ans: c

Explanation -

Socialism means the following interconnected things:

1. Egalitarian society
2. Satisfaction of basic needs
3. Common ownership of vital instruments of production
4. Ideal of service

Hence, option c is correct.

21. Ans: b

Explanation

We are governed by **the rule of law** and Judicial review of Administrative action is an essential part of the rule of law.

Hence, option b is correct.

22. Ans: a

Explanation

Money bill Cannot be introduced in the Rajya Sabha

Hence, statement 1 is correct.

Rajya Sabha **can make recommendations** on money bill

Hence, statement 2 is incorrect.

Rajya Sabha has **no power to pass a vote** of no confidence in the Council of Ministers, which is exclusively responsible to the Lok Sabha.

Hence, statement 3 is incorrect.

23. Ans: d

Explanation -

The Constitution's 52nd Amendment Act 1985, amended articles 101,102,190 and 191 of the constitution regarding vacation of seats and disqualification from membership of Parliament and state legislature and **added a new schedule 10th schedule to the constitution** setting out certain provisions as to disqualification on the ground of defection.

Hence, statement 1 is incorrect.

Supreme Court held that when operating under anti-defection law, the speaker knew the position of a tribunal, and therefore his decisions, like those of all tribunals, **were subject to Judicial review.**

Hence, statement 2 is incorrect.

24. Ans: d

Explanation -

Our supreme constitutional values are said to be sovereignty, socialism, secularism, democracy, republicanism, justice, liberty, equality, fraternity, individual dignity, unity and integrity of the nation.

These values were further elaborated in **fundamental rights, Directive Principles of State Policy and fundamental duties of the citizens.**

Hence, option d is correct.

25. Ans: a

Explanation -

The basic function of the courts is to adjudicate disputes between individuals, between individuals and the state, between the states and between the union and states and while so adjudicating the courts may be required to interpret the constitution and laws.

Hence, option a is correct.

26. Ans: b

Explanation -

A republic is a government that derives its power directly or indirectly from the great body of people. **It is a state in which people are Supreme.** There is no privileged class, and all public offices are open to every citizen without any discrimination. There is no hereditary ruler, and the head of the state is elected by the people for a fixed term.

Hence, option b is correct.

27. Ans: b

Explanation -

Parliamentary Sovereignty is not a feature of the Indian Constitution, we have a written constitution and the powers and functions of every organ are defined and delimited by the constitution there is no question of any organ not even parliament being sovereign.

Hence, option b is correct.

28. Ans: a

Explanation -

The resignation or death of the Prime Minister dissolved the cabinet.

Hence, statement 1 is correct.

The allocation of business amongst the Ministers is the function of the **Prime minister.**

Hence, statement 2 is incorrect.

The prime minister is in charge of coordinating the policy of the government and accordingly has the right to supervise all departments.

Hence, statement 3 is incorrect.

29. Ans: c

Explanation -

Speakers conduct in regulating the procedure of the house or maintaining order in the house **will not be subjected to jurisdiction of any Court** (Article 122).

Hence, statement 1 is correct.

The speaker shall preside over the joint sitting of the two houses of the Parliament (Article 118).

Hence, statement 2 is correct.

30. Ans: c

Explanation -

The writ of habeas corpus is available for the enforcement of fundamental rights guaranteed under Article 21. It is also issued where the order of imprisonment or detention is ultra-vires, the statute authorising the imprisonment or detention.

The writ of Habeas Corpus cannot be issued in the following cases.

- **The person who is detained is not within the jurisdiction of the court.**
- **To secure the release of a person who has been imprisoned by a court of law on a criminal charge.**
- **To interfere with the proceeding for contempt by a court of record or by parliament**
- where a person is committed to jail custody by a competent court, by an order which prima facie does not appear to be without jurisdiction or wholly illegal.

Hence, option c is correct.

31. Ans: a

Explanation-

The executive power of the State shall be vested in the **Governor**.

Hence, statement 1 is incorrect.

Advice tendered by Ministers to the Governor shall not be inquired in any court.

Hence, statement 2 is correct.

The Council of Ministers shall be collectively responsible to the **Legislative Assembly** of the State.

Hence, statement 3 is incorrect.

32. Ans: a

Explanation-

The demand for fundamental rights was made as far back as 1895 in the **Constitution of India Bill**, popularly called the **Swaraj Bill**, which was inspired by Lokmanya Tilak. It contained 110 articles and covered a number of individual rights – right to free speech, right to property, inviolation of one's home, equality before the law etc.

In 1918, INC, at its special session held in Bombay, demanded that the new Government of India Act should contain a "declaration of the Rights of the People of India"

Annie Besants Commonwealth of India bill, 1925, reiterated the demand for a specific declaration on fundamental rights.

1928, the Motilal Nehru Committee report strongly recommended the adoption of Fundamental Rights.

Hence, option a is correct.

33. Ans: c

Explanation -

Urban forestry is included in 12TH schedule.

34. Ans: c

Explanation-

Article 124A. National Judicial Appointments Commission.—(1) There shall be a commission to be known as the National Judicial Appointments Commission consisting of the following, namely:—

(a) **the Chief Justice of India, Chairperson, *ex officio*;**

(b) two other senior Judges of the Supreme Court next to the Chief Justice of India—Members, *ex officio*;

(c) **the Union Minister in charge of Law and Justice**—Member, *ex officio*;

(d) two eminent persons to be nominated by the committee consisting of the Prime Minister, the Chief Justice of India and the Leader of Opposition in the House of the People or where there is no such Leader of Opposition, then, the Leader of the single largest Opposition Party in the House of the People—Members:

Provided that one of the eminent persons shall be nominated from among the persons belonging to the Scheduled Castes, the Scheduled Tribes, Other Backward Classes, Minorities or Women:

Provided further that an eminent person shall be nominated for a period of three years and shall not be eligible for renomination.

(2) No act or proceedings of the National Judicial Appointments Commission shall be questioned or be invalidated merely on the grounds of the existence of any vacancy or defect in the constitution of the Commission.

Hence, option c is correct.

35. Ans: b

Explanation -

Article 37. Application of the principles contained in this Part(DPSP)-The provisions contained in this Part (DPSP)**shall not be enforceable by any court**, but the principles therein laid down are nevertheless **fundamental in the governance of the country and it shall be the duty of the State** to apply these principles in making laws.

Directive Principles of State Policy are in the **nature of social and economic rights**.

Fundamental rights are in nature of civil and political rights.

Hence, option b is correct.

36. Ans: a

Explanation-

Twelve members to be nominated by the President having special knowledge in Literature, science, art and social service.

Hence, option a is correct.

37. Ans: d

Explanation-

Machine Learning is said as a subset of artificial intelligence that is mainly concerned with the development of algorithms which *allow a computer to learn from the data and past experiences on their own.*

A Machine Learning system learns from historical data, builds the prediction models, and whenever it receives new data, predicts the output for it.

Applications of Machine Learning:

1. **Image Recognition** and face detection, like Automatic friend tagging suggestion
2. Speech Recognition- Speech recognition is a process of converting voice instructions into text

Google Assistant, Siri, Cortana, and Alexa are using speech recognition technology to follow voice instructions.

3. Traffic prediction

Real-time location of the vehicle from the Google Maps app and sensors

Average time has taken on past days at the same time.

4. Product recommendations- used by various e-commerce and entertainment companies such as Amazon, Netflix, etc., for product recommendation to the user.

5. Self-driving cars

6. Email Spam and Malware Filtering

7. **Virtual Personal Assistant**

8. Online Fraud Detection

9. **Stock Market trading**

10. Medical Diagnosis

11. Automatic Language Translation

Hence, option d is correct.

38. Ans: a

Explanation-

ELISA is a common laboratory testing technique that **detects and counts certain Antibodies, Antigens, Proteins and Hormones in bodily fluid samples**. This includes blood, plasma, pee, saliva (spit) and cerebrospinal fluid (CSF).

Hence, statement 1 is correct.

Tests that use ELISA can help diagnose a wide range of conditions, from bacterial and viral infections (like Lyme disease and HIV) to endocrine conditions, like thyroid disease.

Home pregnancy tests are even based on the ELISA technique. They detect the presence of a hormone called Human Chorionic Gonadotrophin (HCG) — the “pregnancy hormone.”

Hence, statement 2 is correct.

One common use of the ELISA technique is to detect and measure antibodies, including:

- Antibodies against bacterial, viral or fungal infections: Examples of bacterial infections include Lyme disease, brucellosis and syphilis. Examples of viral infections include HIV and hepatitis A, B and C. An example of a fungal infection is a yeast infection (candida).
- **Autoantibodies: These are antibodies your immune system uses to destroy your own cells. Many autoimmune diseases result from autoantibody attacks.** Type 1 diabetes is an example of this. Your body sends out autoantibodies to destroy the insulin-producing cells in your pancreas for unknown reasons.

Other common uses of ELISA include:

- Detecting and estimating hormone levels, like human chorionic gonadotropin (HCG), follicle-stimulating hormone (FSH) and testosterone.
- Tracking disease outbreaks in communities, like chlamydia or influenza (the flu) outbreaks.
- Screening blood donations for possible viral components, like HIV.
- Detecting non-medical drug use, like the presence of amphetamines or cocaine in your body. These are only screening tests.
- Detecting and estimating the levels of tumour markers. These are any substance in your body that provides information about cancer. One example is prostate-specific antigen (PSA) for prostate cancer.
- Detecting dust and food allergies.
- Check if you’ve received a vaccine for certain conditions, like mumps and rubella.

Hence, statement 3 is incorrect.

How do antibodies and antigens function in our body?

Antibodies are substances the immune system makes that bind to unwanted substances in order to eliminate them from your body.

An antigen is any kind of marker that antibodies can recognize. Antigens are usually proteins or sugars found on the surfaces of cells or viruses.

Antigens exist in several types of cells, including:

- Viruses.
- Bacteria.
- Allergens, like food allergens or airborne allergens.
- Parasites.
- Proteins.
- Tumor cells.
- Normal cells in your body.

For immunoassays, laboratory scientists use antigens or antibodies they have in the lab to check for the presence of certain antigens or antibodies in your bodily fluid sample (like a blood sample).

Different tests that use the ELISA technique can check for the presence of specific antigens and antibodies.

How does the ELISA technique work - an illustration

Let's say you're getting screened for HIV (human immunodeficiency virus) through the ELISA technique, and you've already given a blood sample. A medical laboratory scientist or technician first attaches a portion of the HIV virus to a solid surface, like a medical tube or plastic plate. This virus acts as the antigen.

The laboratory scientist will then add your blood sample to the tube or plate. If your blood sample contains antibodies for HIV, they'll bind to the antigen (the virus, in this case). If your blood sample doesn't contain antibodies for HIV, nothing will happen.

The laboratory scientist then adds another antibody that "knows" the HIV antibodies. They bind to any antibody that's already attached to the antigen. This second antibody is linked with an enzyme (a substance that speeds up a chemical reaction). This is the "enzyme-linked" portion of ELISA.

In the final step, the laboratory scientist adds a substance that reacts with the enzyme. This makes the substances change colour if the antibodies are present. In other words, if the test is positive, then a colour reaction will occur. If you don't have antibodies to that certain antigen (the HIV virus, in this case), there will be no colour change. This would read as a negative result.

The intensity of the colour change is proportional to the amount of the antibody. So, ELISA can determine both the presence of the antibody and how much of it there is.

39. Ans: a

Explanation-

An **autoimmune disease** is the result of the immune system accidentally attacking your body instead of protecting it. It's unclear why your immune system does this.

There are over 100 known autoimmune diseases.

List of Auto-Immune diseases:

- Rheumatoid arthritis (RA)
- Crohn's disease
- Celiac disease
- Ulcerative colitis
- Graves' disease
- Hashimoto's thyroiditis
- Addison's disease
- Dermatomyositis
- Psoriasis
- Multiple sclerosis (MS)
- Myasthenia gravis
- **Type 1 diabetes**
- **Parkinson's disease**

Parkinson's disease is a chronic, progressive disorder. Its characteristics tend to include tremors, rigidity, slowness of movement, and impaired balance.

Around 1 million people in the United States and 10 million people throughout the world have the disease.

Parkinson's results from a loss of nerve cells in a part of the brain called the substantia nigra. These cells produce dopamine, a chemical messenger or neurotransmitter, involved in controlling movement.

A new study adds to evidence that autoimmunity plays a role in the development of Parkinson's disease.

Human immunodeficiency viruses enter human white blood cells and then alter those cells' genomes. Then, it makes copies of itself to infect the person's immune system, making them vulnerable to other infections. **Human immunodeficiency viruses is not an autoimmune disorder.**

Hence, option a is correct.

40. Ans: c

Explanation-

Scientists have used laboratory methods to make changes in an organism's genome for many years, primarily to study its biology or to introduce commercially advantageous changes.

But in 2012, a new technique called CRISPR was developed and has revolutionised genome editing. **The scientists who developed CRISPR recognised that they could borrow tools from the immune system of bacteria and develop "bacterial scissors" for surgically editing any DNA in any organism.**

CRISPR has made genome editing much simpler, faster, cheaper, and more accurate than previous methods, and the method is now used in laboratories all over the world.

Sickle cell disease causes severe pain and premature death in millions of people worldwide. Scientists have already used CRISPR to remove the mutation that causes sickle cell disease in a mouse model and are working toward clinical trials in humans.

Hence, statement 2 is correct.

Another CRISPR application now entering clinical trials aims to combat human immunodeficiency virus (or HIV) infection.

CRISPR is now being investigated for use in either cutting out the HIV-derived DNA from the genome as well as engineering a person's genome so that HIV cannot enter their cells. However, it is important to stress that these techniques are still relatively new and very much still in testing mode.

CRISPR editing is not perfect and can even be inadvertently harmful. **Although CRISPR is much more precise than previous genome-editing methods, it is sometimes imprecise and edits the wrong place in a genome. This means that it could randomly introduce mutations at the wrong sites rather than the genomic location being targeted.** Many scientists are working to reduce this risk of imprecise editing.

Hence, statement 1 is correct.

41. Ans: c

Explanation-

Many naturally occurring materials have nanoscale dimensions, including proteins, the genetic molecule deoxyribonucleic acid (DNA), and viruses.

Volcanoes and forest fires produce nanoparticles, and **many soils contain organic and inorganic nanoparticles.**

Nanoparticles are also produced by human activities, such as cigarette smoking and the burning of fuels in combustion engines.

Hence, option c is correct.

42. Ans: c

Explanation-

cDNA (short for copy DNA; also called complementary DNA) is synthetic DNA that has been transcribed from a specific mRNA through a reaction using the enzyme reverse transcriptase. **While DNA is composed of both coding and non-coding sequences, cDNA contains only coding sequences.** Scientists often synthesize and use cDNA as a tool in gene cloning and other research experiments.

Hence, statement 1 is incorrect.

Using a special enzyme called reverse transcriptase, **we can convert RNA back to DNA, but the resulting DNA will look a little different from the original gene.** For example, it will be much shorter than the gene from where it came from. **This is why scientists use another word, cDNA, copy or complementary DNA, to tell these versions apart.**

Hence, statement 2 is incorrect.

cDNA has a spectrum of applications in cDNA library construction, gene discovery, gene cloning, and miRNA profiling.

Industrial applications of cDNA

- In pharma companies, cDNA is synthesized to understand the disease conditions and develop targeted therapies. It's also used to develop some proteins like insulin to treat diseases and gene therapies.
- In biotech, cDNA synthesis is used as a routine workflow to clone desired genes into organisms. It's an effective way to express proteins in organisms that can't naturally produce them. Also, **the technique is useful for creating a cDNA library, storing genomic information of organisms, and gene cloning.**

Hence, statement 3 is correct.

- The cDNA synthesis is a useful tool for studying gene expression in a host of organisms. Moreover, they are used to express thousands of genes for polymorphism screening, genomic DNA clone mapping, and large-scale gene discovery.

43. Ans: d

Explanation-

Methylation is a chemical modification of DNA and other molecules that may be retained as cells and divided to make more cells. When found in DNA, methylation can alter gene expression. In this process, chemical tags called methyl groups attach to a particular location within DNA where they turn a gene on or off, thereby regulating the production of proteins that the gene encodes.

Hence, option d is correct.

44. Ans: b

Explanation-

Northern blot is used to detect specific RNA sequences in a sample. Therefore, it is also called the RNA blot.

Hence, statement 1 is incorrect.

Northern blot is a technique based on the principle of blotting for the analysis of specific RNA in a complex mixture.

- The technique is a modified version of the Southern Blotting, which was discovered for the analysis of DNA sequences.
- The detection of certain sequences of nucleic acids extracted from different types of biological samples is essential in molecular biology, which makes blotting techniques imperative in the field.
- The principle is identical to southern blotting except for the probes used for the detection, as northern blotting detects RNA sequences.
- This technique provides information about the length of the RNA sequences and the presence of variations in the sequence.

- Even though the technique is primarily focused on the identification of RNA sequences, it has also been used for the quantification of RNA sequences.
- Since its discovery, the technique has been modified to analyse mRNAs, pre-mRNAs, and short RNAs.
- Northern blotting was employed as the primary technique for the analysis of RNA fragments for a long time; however, new, more convenient, and cost-effective techniques like RT-PCR have slowly replaced the technique.

Some of the key applications of northern blotting are listed below:

- Gene expression studies – to observe overexpression of cancer-causing genes and gene expression in case of transplant rejection.
- In diagnosis of several diseases, e.g., Crohn's disease.
- For detection of viral microRNAs that play key roles in viral infection.
- To screen recombinants - by detecting the mRNA formed by the transgene.

H5N1 influenza virus encodes a microRNA-like small RNA. Solexa deep sequencing, Quantitative RT-PCR, and northern blot are used to detect Influenza.

Hence, statement 2 is correct.

45. Ans: b

Explanation-

Red Tides refer to **toxic groups of microscopic algae** that occur worldwide. Red tides produce extremely potent biotoxins, which, when such biotoxins accumulate in the food chain, cause massive mortalities of fish and marine mammals and impact humans.

Hence, option b is correct.

46. Ans: a

Explanation-

The Act covers conservation, use of biological resources and associated knowledge occurring in India for commercial or research purposes or for the purposes of bio-survey and bioutilisation.

It provides a framework for access to biological resources and sharing the benefits arising out of such access and use.

The Act also includes in its ambit the transfer of research results and application for intellectual property rights (IPRs) relating to Indian biological resources.

The Act covers foreigners, non-resident Indians, body corporate, associations or organizations that are either not incorporated in India or incorporated in India with non-Indian participation in its share capital or management. These individuals or entities require the approval of the National Biodiversity Authority when they access/ use biological resources and associated knowledge occurring in India for commercial or research purposes or for the purposes of bio-survey or bio-utilisation.

Indians and Indian institutions do not require the approval of the National Biodiversity Authority when they engage in the above-mentioned activities. However, they would need to

inform the State Biodiversity Boards prior to undertaking any research with the intent of commercialisation.

Any application for IPR based on biological resources should be approved by the NBA.

Hence, option a is correct.

47. Ans: d

Explanation-

5G New Radio (NR) is the global standard for a unified, more capable 5G wireless air interface. It delivers significantly faster and more responsive mobile experiences.

5G wireless technology is meant to deliver higher multi-Gbps peak data speeds, ultra-low latency, more reliability, massive network capacity, increased availability, and a more uniform user experience to more users. Higher performance and improved efficiency empower new user experiences and connect new industries.

5G technology has a theoretical peak speed of 20 Gbps, while the peak speed of 4G is only 1 Gbps.

5G is based on **OFDM (Orthogonal frequency-division multiplexing)**, a method of modulating a digital signal across several different channels to reduce interference.

5G uses 5G NR air interface alongside OFDM principles. 5G also uses wider bandwidth technologies such as sub-6 GHz and mmWave.

Latency is gap time, or transmission time for a packet of data. We look at this in two ways: one-way latency is the time between when a packet is sent and when it's received by the recipient, and roundtrip latency is the time between the transmission of a packet and the reception of acknowledgement.

Like 4G LTE, 5G OFDM operates based on the same mobile networking principles. However, the **new 5G NR air interface can further enhance OFDM to deliver a much higher degree of flexibility and scalability.** This could provide more 5G access to more people and things for a variety of different use cases.

Where is 5G being used?

Broadly speaking, 5G is used across three main types of connected services, including enhanced mobile broadband, mission-critical communications, and the massive IoT. A defining capability of 5G is that it is designed for forward compatibility—the ability to flexibly support future services that are unknown today.

Enhanced mobile broadband

In addition to making our smartphones better, 5G mobile technology can usher in new immersive experiences such as VR and AR with faster, more uniform data rates, lower latency, and lower cost-per-bit.

Mission-critical communications

5G can enable new services that can transform industries with ultra-reliable, available, low-latency links like remote control of critical infrastructure, vehicles, and medical procedures.

Massive IoT

5G is meant to seamlessly connect a massive number of embedded sensors in virtually everything through the ability to scale down in data rates, power, and mobility—providing extremely lean and low-cost connectivity solutions.

Hence, option d is correct.

48. Ans: a

Explanation-

Web3 aims to be fully decentralised, putting content creation in the hands of creators and not platform owners.

Web3 democratises the internet and puts control back in the hands of users.

Web3 consists of five components:

1. **Semantic web.** The semantic web uses AI to understand what a user or customer may mean or intend. It's designed to provide a more accurate understanding of searches based on the actual meaning of the search words rather than keywords or numbers.
2. **AI.** The AI of Web3 is designed to better understand what someone is searching for to provide more relevant results.
3. **3D graphics and spatial web.** The use of virtual reality (VR) headsets and realistic graphics enables websites to become more realistic in nature.
4. **Blockchain and cryptocurrency.** Key to the decentralisation of Web3 is the use of blockchain and cryptocurrency, which eliminate middlemen and enable direct transactions between parties.
5. **Ubiquitous connectivity.** Web3 applications are characterised by constant connection due to broadband, 5G, Wi-Fi and IoT.

Hence, statement 3 is correct.

Differences between Web3 and Metaverse:

- **Web3 is about decentralised ownership and control and putting the web in the hands of its users and the community. On the other hand, the metaverse is a shared digital reality** that enables users to connect with each other, build economies, and interact in real-time—and it doesn't care who owns it.

Hence, statement 1 is incorrect.

- **Web3 is also built on blockchain and cryptocurrencies**, while the metaverse uses technologies such as AR/VR and digital currency. This is due to Web3 being decentralised and having no major corporate influence or control.
- The two also differ in how they are used. Web3 is a new set of standards for how the internet should be used and governed. The metaverse is about gaming, social media, retail and other experiences.

Hence, statement 2 is correct.

Common ground between Web3 and the Metaverse:

- Web3 and the metaverse are inseparably linked. The metaverse will continue to exist on the surface and deep web, even though Web3 is still frequently referred to as decentralised; however, it will remain centralised in terms of social media-controlled platforms.
- Both are built on advanced technologies that will evolve. The semantic web is common ground for both the metaverse and Web3. AI - another key component of both technologies - will be integral to building a sophisticated user interface.
- In a technological sense, many of the advancements made with blockchain create common ground in both technologies. Every new blockchain concept is assessed as a potential module to integrate the Web3 engine that will power metaverse goods and services.
- Web3 and the metaverse are in the early stages. The final products will come years from now and may be quite different, as technology doesn't always match the vision of its use.

49. Ans: d

Explanation-

The Manipur brow-antlered deer, popularly called 'Sangai,' is a unique animal (**mammal**) **found only in Manipur in the world.** The Sangai, or the Manipur race of the Elds deer, is the only deer that has adapted to the swampy habitat. The Sangai population dwindled rapidly at the beginning of the 20th century under heavy hunting pressure and continuous habitat destruction. In fact, the deer was considered almost extinct during the 1950s.

Hence, option d is correct.

50. Ans: b

Explanation-

Jerdon's courser *Rhinoptilus bitorquatus* is a Critically Endangered nocturnal cursorial bird found only in **Andhra Pradesh and Telangana**, India. It was considered to be extinct from the beginning of the 20th century until its rediscovery in 1986.

Hence, option b is correct.

51. Ans: c

Explanation-

Binturong, Indian Gazelle and Malabar Civet are **mammal species**.

Hence, option c is correct.

52. Ans: c

Explanation-

Gasification is a thermo-chemical process that uses heat, pressure, and steam to convert materials directly into a gas composed primarily of carbon monoxide and hydrogen. Raw materials used in gasification are coal, petroleum-based materials, and organic materials.

Syngas (also known as producer gas, product gas, synthetic gas, or synthesis gas) **is produced through Gasification.**

Syngas is primarily carbon monoxide and hydrogen (more than 85% by volume) and smaller quantities of CO₂, N₂, hydrocarbons like CH₄, C₂H₄, C₂H₆, etc. Very small amounts of H₂S, NH₃, and tars may also be produced.

Hence, option c is correct.

53. Ans: d

Explanation-

Augmented reality and virtual reality are reality technologies that either enhance or replace a real-life environment with a simulated one.

- Augmented reality (AR) augments your surroundings by adding digital elements to a live view, often by using the camera on a smartphone.
- Virtual reality (VR) is a completely immersive experience that replaces a real-life environment with a simulated one.

In AR, a virtual environment is designed to coexist with the real environment, with the goal of being informative and providing additional data about the real world, which a user can access without having to do a search. For example, industrial AR apps could offer instant troubleshooting information when a handset is aimed at a piece of failing equipment.

Virtual reality encompasses a complete environmental simulation that replaces the user's world with an entirely virtual world. Because these virtual environments are entirely fabricated, they are often designed to be larger than life. For example, VR could let a user box with a cartoon version of Mike Tyson in a virtual boxing ring.

Application of Augmented Reality:

- AR is used in **Logistics** to identify the shipment details. This helps to avoid human errors and increases productivity.
- **Taking place in Public Safety.** AR technology to direct the needs to the nearest safe location or the point of medical assistance.
- **Electrical/Mechanical Service sector:** It helps the technician to quickly diagnose the fault and fix it instantly. Saves a lot of time in going through the user manual and identifying the issue.
- **Tourism Sector:** It gives wings to travellers to inspect the virtual location of the place they wanna travel. Travellers can walk around their favourite spot of the destination without even moving a step or spending a penny.
- **Assembly sector:** You can virtually design the best car/ bike or modify the accessories of your choice using a simple Gadget.

Application of Virtual Reality:

- **Automotive Industry:** VR allows engineers and designers to experiment easily with the look and build of a vehicle before commissioning expensive prototypes.
- **Healthcare:** Healthcare professionals can use VR to better prepare themselves for being in the operating theatre, whether as junior doctors explaining diagnoses and treatment plans or orthopaedic surgeons performing surgery.
- **Retail:** With VR retail experiences and body-scanning technology, we will be able to try on clothes in the virtual world to see what they would look like in person.
- **Tourism:** The global pandemic and lockdowns accelerated a lot of developments in virtual travel, with many missing the freedom to travel to different countries, visit world-famous landmarks, and experience a glimpse into another culture.
- **Real estate:** If you'd prefer to stay closer to home, you can look around properties from the comfort of your [existing] home – no estate agent appointments or sacrificing your weekend needed.
- **Architecture:** VR is gradually changing the way that architects design and experiment with their work. VR makes it possible to see not just what a building or space will look like but how it will feel.

Hence, option d is correct.

54. Ans: d

Explanation-

Golden Langur - In India, these species are only found in **the western Assam & Indio-Bhutan border.**

Lion-tailed Macaque – endemic to the **Western Ghats**

Chiru goat or Tibetan Antelope - endemic to **Tibet, also found in the Ladakh** region in India.

Hence, option d is correct.

55. Ans: b

Explanation-

Persistent organic pollutants are mainly hydrophobic and lipophilic compounds and therefore present **great affinity to organic matter and lipid membranes of cells** hence they can be stored in fatty tissue.

Hence, statement 1 is incorrect.

Persistent organic pollutants enter the food chain by accumulating in the body fat of living organisms and becoming more concentrated as they move from one organism to the next in a process known as “biomagnification”

Persistent organic pollutants also have high mobility: they can easily penetrate water in its gaseous phase during warm weather and **volatilize from soils into the atmosphere**. This can then lead to their deposition many miles away from the release point as temperatures cool.

Hence, statement 2 is correct.

56. Ans: a

Explanation-

A green bond is like any other bond where a debt instrument is issued by an issuer for raising funds from investors. However, what differentiates a Green Bond from other bonds is that the proceeds of a Green Bond offering are 'ear-marked' for use towards financing 'green' projects.

India is the second largest Emerging Green Bond Market after China.

Issuance of Green Bonds in India, shall be governed under Issue and Listing of Debt Securities (ILDS) Regulations of SEBI.

Hence, option a is correct.

57. Ans: b

Explanation-

Biochar is a fine-grained, carbon-rich, porous product remaining after plant biomass has been subjected to a thermo-chemical conversion process (pyrolysis) at low temperatures (~350–600°C) in an environment with little or no oxygen.

Need for recycling of bio-residues in agriculture.

- **Improve soil health** through efficient use of bio-residues as a source of soil amendment/nutrients.
- **Sequestration of carbon in the soils**
- Improve soil physical properties viz. bulk density, porosity, water holding capacity, drainage etc. .
- Soil and water conservation by using the bio-residues as a surface mulch
- Minimize dependence on external inputs and to ensure sustainable crop production
- **Mitigation of greenhouse gas emissions** by avoiding bio-residue burning.

Hence, option b is correct.

58. Ans: c

Explanation-

Indian Ocean has the largest mangrove tracts in the world and the Indo-Malayan region is the global centre for mangrove diversity.

Shrimp culture is the greatest threat to mangroves, contributing to 38% of mangrove habitat loss, with other aquaculture accounting for another 14%. Shrimp farmers add artificial feeds with chemical additives as well as antibiotics to prevent disease.

Hence, option c is correct.

59. Ans: b

Explanation-

The functions of GEAC as prescribed in the Rules 1989, are as follows:

- To appraise activities involving large-scale of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
- To appraise proposals relating to the release of **genetically engineered organisms and products** into the environment including experimental field trials.

The committee or any persons authorised by it has the power to take punitive action under the Environment Protection Act.

Bt cotton is the only commercially approved crop in India.

GEAC-approved Recombinant therapeutics for marketing in India like Insulin,

Trastuzumab.

Hence, option b is correct.

60. Ans: c

Explanation-

Cell-free DNA testing is a laboratory method that involves analyzing free (i.e., non-cellular) DNA to look for genomic variants associated with a hereditary or genetic disorder. For example, prenatal cell-free DNA testing is a non-invasive method used during pregnancy that examines the fetal DNA that is naturally present in the maternal bloodstream.

Hence, statement 1 is correct.

Cell-free DNA testing is also used for the detection and characterization of some cancers and to monitor cancer therapy.

Hence, statement 2 is correct.

61. Ans: b

Explanation-

Provision of cheap power or free power to farmers leads to excess usage of ground water which is **not sustainable** .

Hence, option b is correct.

62. Ans: b

Explanation-

Money supply is a stock concept, **it is the amount of money held by the public in the economy at a point in time.**

The public includes households, firms and Institutions other than banks and the government.

Hence, option b is correct.

63. Ans: c

Explanation:

The interest rate is the amount a lender charges expressed as a percentage of the principal. A bond is a fixed-income instrument that represents a loan made by an investor to a borrower (typically corporate or governmental). Most bonds pay a fixed interest rate that becomes more attractive if interest rates fall, driving up demand and the price of the bond. Conversely, if interest rates rise, investors will no longer prefer the lower fixed interest rate paid by a bond, resulting in a decline in its price.

Hence, option c is correct.

64. Ans: b

Explanation-

Nowadays paper money is of **inconvertible type**, i.e. money is not convertible into gold or other precious metals.

Currency notes issued by RBI are fiat paper money, i.e. they are issued by fiat (order) of government.

Hence, option b is correct.

65. Ans: a

Explanation :

The objectives of monetary policy are **ensuring price stability, encouraging economic growth and ensuring stability of the exchange rate of the rupee.**

Hence, option a is correct.

66. Ans: a

Explanation-

Under inflation conditions money supply should be decreased, which can be done through **increasing the repo rate and** increasing the CRR and SLR.

Hence, option a is correct.

67. Ans: b

Explanation-

Inflation erodes the **real income** of the people.

Debtors return loan money when its real value declines greatly due to inflation, thus creditors lose.

Hence, option b is correct.

68. Ans: a

Explanation-

The growth of public expenditure in India is due to an increase in **Economic growth and development, Subsidies, Debt service charges, and Defence expenditure.** population

growth and urbanization, maintaining economic stability, expenditure on subsidies and anti poverty schemes.

Hence, option a is correct.

69. Ans: c

Explanation-

Fiscal Deficit can be corrected by increasing the revenue and decreasing expenditure,

Simplification of the tax structure and foreign aid increases the revenue, stoppage of subsidies decreases the expenditure.

Hence, option c is correct.

70. Ans: a

Explanation-

World development report is an annual report published by the **World Bank** since 1978.

Hence, option a is correct.

71. Ans: a

Explanation-

Net merchandise exports are reflected in the current account.

Hence, option a is correct.

72. Ans: d

Explanation-

Treasury bill market is a money market instrument.

Hence, option d is correct.

73. Ans: d

Explanation :

Primary Agricultural Credit Societies are not regulated by the RBI

Credit rating agencies regulated by SEBI

Credit information companies are regulated by RBI.

Hence, option d is correct.

74. Ans: a

Explanation :

The Multi Dimensional Poverty Index uses three dimensions health, education and standard of living, which are divided into ten parameters nutrition, **child mortality, Years of schooling, school attendance**, cooking fuel, **sanitation**, drinking water, electricity, housing, and assets.

Hence, option a is correct.

75. Ans: a

Explanation :

Compared to the pre-reform period rate of poverty reduction is low in the post-reform period (Pre reform 1.24 % reduction, post reforms 0.79 % reduction)

organized sector employment Pre reform 1.05 % increase, post reforms 0.05 % increase.

Hence, option a is correct.

76. Ans: c

Explanation-

From 12 century onwards it became usual to fortify the temple often with 3 square concentric walls, with gates on the four sides. These Gates were surmounted by watchtower or gate houses and these develop into soaring Towers called Gopuram .These were **introduced by Pandyans.**

Generally, Gopuram is much taller than the shikhara of the central shrine.

The finest examples of Pandyan style are temples at Madurai and Srirangam.

Hence, option c is correct.

77. Ans: a

Explanation-

Kailash Nath Temple- Rashtrakutas

Mamallapuram rock cut temples- Pallavas

Ajanta Caves- early caves by Satavahanas and later by Vakatakas and Guptas.

Hence, option a is correct.

78. Ans: c

Explanation-

Rig Vedic period: Religion was characterized by elaborate sacrifices, a complicated procedure requiring the services of as many as 17 priests.

There was no trace of Untouchability.

Hence, option c is correct.

79. Ans: c

Explanation-

Some of the key features of the Government of India Act 1935:

The creation of a **'Federation of India'** consisted of two levels: a central executive and parliament, and below it, provinces and princely states.

It discarded the 'dyarchy' system at the provincial level and allowed for the emergence of popularly elected provincial legislatures.

Dyarchy was introduced at the central level. Key subjects like defence and foreign affairs were under the direct control of the Governor General. **A federal court was established.**

The franchise was expanded to 14% of the population from 3%. **Separate electorates were provided for Muslims, Sikhs, and others**, but not to the Depressed Classes. The governor enjoyed critical emergency powers.

Hence, option c is correct.

80. Ans: c

Explanation-

During the **Swadeshi movement**, the people of Barisal District, led by Ashwini Kumar Dutta, braved the repressive measures of the government. In 1906 members of the Bengal provincial conference at Barisal were dispersed, and their leaders were severely beaten up.

The Barisal incident was a signal for the rise of terrorism in Bengal.

Hence, option c is correct.

81. Ans: d

Explanation-

A parliamentary democracy, also known as representative democracy, envisages **-representation of the people, responsible government, and accountability of the council of ministers to legislatures.**

It aims to draw a direct line of authority from people through the legislature.

Hence, option d is correct.

82. Ans: d

Explanation-

India has a parliamentary system. **The President is the head of the Union of India; the Prime Minister is the head of government.**

Indian citizens who are **35 years** of age or more are eligible to be elected President.

Hence, option d is correct.

83. Ans: a

Explanation-

Article 243-O. Bar to interference by courts in electoral matters.—Notwithstanding anything in this Constitution,—

(a) the validity of any law relating to the delimitation of constituencies or the allotment of seats to such constituencies, made or purporting to be made under article 243K, shall not be called in question in any court;

Article 243 c. **The Chairperson of— a Panchayat at the village level shall be elected in such manner as the Legislature of a State may, by law, provide.**

Hence, option a is correct.

84. Ans: d

Explanation-

Article 266 - **all revenues received by the Government of India, all loans raised by that Government by the issue of treasury bills, loans or ways and means advances and all money received by that Government in repayment of loans** shall form one consolidated fund to be entitled **“the Consolidated Fund of India”**,

and all revenues received by the Government of a State, all loans raised by that Government by the issue of treasury bills, loans or ways and means advances and all

money received by that Government in repayment of loans shall form one consolidated fund to be entitled "***the Consolidated Fund of the State***".

Hence, option d is correct.

85. Ans: a

Explanation-

Two partial accounts of Vijayanagara were presented to the world, the first by **Mark Wilks** in 1810 and the second by **Colonel Colin Mackenzie** in 1815.

Sewell, in 1900, published a Popular work -Forgotten Empire (Vijayanagar)

The ruins of Hampi were brought to light by Colin Mackenzie.

Hence, option a is correct.

86. Ans: b

Explanation-

Emissions Gap Report 2020 is released by the **United Nations Environment Programme**.

Hence, option b is correct.

87. Ans: b

Explanation:

August offer on 8th August 1940- viceroy Lord Linlithgow

- Minorities would be assured that the British government would not leave the administration of India in the hands of any such organisation which would be opposed by determined group or groups of people.
- **The right of the Indians to frame the constitution for their country was accepted.**
- Constituent assembly would be formed after the end of the war
- **War Advisory Committee, including the Indians, would be constituted**
- Congress rejected the August offer

Hence, option b is correct.

88. Ans: b

Explanation:

According to the doctrine of ministerial responsibility for every act of the state, it is the ministers who are responsible to the people through their elected representatives in Parliament.

Hence, option b is correct.

89. Ans: c

Explanation-

SEAGRASS

- Abundantly found in coastal areas of India, the Gulf of Mannar and Palk Strait.
- Eutrophication, overfishing, and coastal construction are threats to seagrass.

Hence, option c is correct.

90. Ans: a

Explanation-

The global hunger index is calculated based on **Undernourishment, child wasting, child stunting, and child mortality.**

Hence, option a is correct.

91. Ans: a

Explanation-

Regarding the import of principal commodities by India, commodities with the highest value are **Petroleum and crude.**

Hence, option a is correct.

92. Ans: a

Explanation-

The export commodity highest in terms of value from India is **Engineering goods.**

Hence, option a is correct.

93. Ans: a

Explanation:

Diego Garcia, a coral atoll, the largest and southernmost member of the Chagos Archipelago, in the central Indian Ocean, is a part of the British Indian Ocean Territory.

It was discovered by the Portuguese in the early 16th century, it was for most of its history a dependency of Mauritius. In 1965 it was separated from Mauritius as part of the newly created British Indian Ocean Territory.

The production of copra from coconut palms was the only economic activity until the early 1970s, when the last of the plantation workers and their families were removed—mostly to Mauritius, but smaller numbers went to Seychelles and Great Britain. This was done **to enable the development of U.S. military facilities established in accordance with an agreement between the United States and the United Kingdom.**

The development of this base for air and naval support in the late 1970s and '80s evoked strong opposition from littoral states of the Indian Ocean area, who wished to preserve a non-militarised status in the region. Numerous air operations were launched from Diego Garcia during the Persian Gulf War (1990–91), U.S.-led strikes on Afghanistan (2001), and the initial phase (2003) of the Iraq War.

Hence, option a is correct.

94. Ans: a

Explanation:

As a result of depreciation or devaluation, there will be an increase in exports and a decrease in imports. Consequently, there will be an **increase in net exports**, as the net exports increase the net aggregate demand for domestically produced goods increases, In the case of depreciation, the **prices of imported goods increase**, thus **it is inflationary.**

Hence, option a is correct.

95. Ans: a

Explanation :

Insufficient capital formation in underdeveloped countries is due:

- Excessive dependence on agriculture
- **Low technological developments**
- **Inadequate savings ratio**
- **Unemployment**
- **Less investment in productive instruments**

Hence, option a is correct.

96. Ans: d

Explanation:

Dugong (*Dugong dugon*) also called as 'Sea Cow'

Dugongs are the only existing species of herbivorous mammal. They feed on about 40 kg of seagrass a day.

Dugongs are threatened by seagrass habitat loss or degradation because of coastal development or industrial activities that cause water pollution.

If there is not enough: sea grass to eat, then the dugong does not breed normally.

Dugong Habitat – Coastal waters of the Indian Ocean and West Pacific Ocean

Dugongs are protected in India and occur in the Gulf of Mannar, Palk Bay, the Gulf of Kutch and the Andaman and Nicobar Islands.

Hence, option d is correct.

97. Ans: b

Explanation:

In the atmosphere, nitrogen exists as a gas (N_2), but in the soils it exists as nitrogen oxide, NO, and nitrogen dioxide, NO_2

Excess nitrogen can also leach—or drain—from the soil into underground water sources, or it can enter aquatic systems as above-ground runoff. **This excess nitrogen can build up, leading to Eutrophication. Nitrogen is a key element in the nucleic acids DNA and RNA.**

Hence, option b is correct.

98. Ans: b

Explanation:

Most of the major pillar edicts of Ashoka are located in **North India**

Minor rock edicts have the widest distribution in the cluster of **the Andhra-Karnataka area.**

The inscriptions were located along ancient trade and pilgrimage routes

Hence, option b is correct.

99. Ans: d

Explanation:

Slaves –Dasa

Servants – Porisas

Labourers –Kammakaras

Hence, option d is correct.

100. Ans: c

Explanation:

The plot of "**Mudrarakshasa**", a 5th-century historical drama written by Vishaka Dutta, revolves around the Clever machinations of Chanakya, a minister of Chandragupta, against Rakshasa minister of the former Nanda king.

Parishistaparvan - Jain's work written by Hemachandra speaks of Chandragupta's connections with Jainism.

Hence, option c is correct.



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