

CDS

Combined Defence Services

EXAM

2025

General Knowledge

Time: 2 hours

Total Marks: 100

Instructions

1. This Test Booklet contains **120** items (questions). 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.
2. You have to mark all your responses **ONLY** on the separate Answer Sheet provided. See directions in the Answer Sheet.
3. All items carry equal marks.
4. **Penalty for wrong answers:**
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been 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.

1. The rule to determine the direction of a current induced in a coil due to its rotation in a magnetic field is:
 - (a) Right-Hand Thumb Rule.
 - (b) Fleming's Left-Hand Rule.
 - (c) Fleming's Right-Hand Rule.
 - (d) Hund's Rule.
2. A car travels a total distance L . It travels half the distance with speed v_1 and the other half with speed v_2 . The average speed of the car is:
 - (a) $\frac{v_1 + v_2}{2}$
 - (b) $\frac{2v_1 v_2}{v_1 + v_2}$
 - (c) $\frac{(v_1 + v_2)L}{2v_1 v_2}$
 - (d) 0
3. The linear momentum of a particle is conserved if:
 - (a) the net force on it is maximum.
 - (b) the net force on it is zero.
 - (c) the net torque on it is zero.
 - (d) the net work done on it is maximum.
4. When a stone tied to a string is whirled in a circle, the work done on it by the string:
 - (a) is positive.
 - (b) is negative.
 - (c) is zero.
 - (d) depends on the mass of the stone.
5. Assume 'A' does 500 J of work in 'x' minutes and 'B' does 1000 J of work in 20 minutes. If the power delivered by 'A' is P_1 and 'B' is P_2 and $P_1 = 2P_2$, then 'x', in minutes is:
 - (a) 10
 - (b) 5
 - (c) 20
 - (d) 25
6. A sound wave travelling at a speed of 330 m/s produces 20 crests and 20 troughs in 0.1 second. The wavelength of the sound wave is:
 - (a) 1.1 m
 - (b) 3.3 m
 - (c) 1.65 m.
 - (d) 2.2 m
7. An X-ray can be deflected:
 - (a) by a magnetic field.
 - (b) by an electric field.
 - (c) by both electric and magnetic field.
 - (d) neither by electric field nor by magnetic field.
8. In a simple astronomical telescope, the objective and the eyepiece used respectively, are:
 - (a) a convergent lens and a divergent lens.
 - (b) a divergent lens and a divergent lens.
 - (c) a divergent lens and a convergent lens.
 - (d) a convergent lens and a convergent lens.
9. Twinkling of a star is due to:
 - (a) Interference of light
 - (b) Refraction of light
 - (c) Polarization of light
 - (d) Diffraction of light

10. Van de Graaff generator generates:

- (a) electrostatic charge
- (b) magnetic field
- (c) high voltage low alternating current
- (d) high voltage low direct current

11. Consider the following international events:

1. Signing of the Simla Agreement
2. Agra Summit between India and Pakistan
3. Signing of the SAARC Charter at the First SAARC Summit
4. India's first nuclear test

Which one of the following is the correct chronological order of the above events?

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

12. Which one of the following features is correct about the 'First Past the Post System' of election?

- (a) A candidate who wins may not get the majority of votes
- (b) More than one representative may be elected from one constituency
- (c) Voters vote for the party, not the candidate
- (d) Every party gets seats in the legislature in proportion to percentage of votes that it gets

13. Match List-I with List-II and select the answer using the code given below the Lists:

List-I (Special provision in the Constitution of India)		List-II (State)	
A.	Article 371	1.	Nagaland
B.	Article 371-A	2.	Gujarat
C.	Article 371-B	3.	Assam
D.	Article 371-I	4.	Goa

Code:

- | | | | | |
|-----|---|---|---|---|
| | A | B | C | D |
| (a) | 4 | 1 | 3 | 2 |
| (b) | 4 | 3 | 1 | 2 |
| (c) | 2 | 1 | 3 | 4 |
| (d) | 2 | 3 | 1 | 4 |

14. Which of the following statements as per the Constitution of India is/are correct?

1. Provision for the reservation of seats for women in the Lok Sabha and the Rajya Sabha has been made by 106th Amendment of the Constitution.
2. There are provisions for the reservation of seats for women in the Legislative Assemblies and Legislative Councils of the States.

3. There are provisions for the reservation of seats for women in Panchayats.

Select the answer using the code given below:

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

15. Which one among the following pairs of Subjects and Lists under the Seventh Schedule of the Constitution of India is **not** correctly matched?

- (a) Forest : Concurrent List
- (b) Taxes on land and building : State List
- (c) Insurance : Union List
- (d) Census : Concurrent List

16. Which of the following statements with reference to the Preamble to the Constitution of India are correct?

1. The word 'secular' comes before the word 'socialist'.
2. The word 'justice' comes before the word 'equality'.
3. The word 'fraternity' comes after the word 'liberty'.

Select the answer using the code given below:

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

17. Which one of the following statements about 'Motions' in the Parliament of India is correct?

- (a) A Motion of No-Confidence can be admissible against an individual minister in the Council of Ministers.
- (b) A No-Confidence Motion must set out grounds on which it is based.
- (c) Rajya Sabha is not empowered to entertain a motion of No-Confidence.
- (d) A Censure Motion need not be based on specific grounds or charges.

18. Part IV-A of the Constitution of India deals with which one of the following areas?

- (a) Appointment of Members to Public Service Commissions
- (b) Fundamental Duties
- (c) Functions of Public Service Commissions
- (d) Provisions for the functioning of the State Governments

19. The 'Durand Line' is a border demarcation that separates which of the following countries?

- (a) Afghanistan and Iran
- (b) Afghanistan and Pakistan
- (c) India and Pakistan
- (d) Afghanistan and China

20. Consider the following social movements:

1. Chipko Movement
2. Bardoli Satyagraha
3. Satyashodhak Samaj

Which one of the following is the correct chronological order (starting with the earliest) of the launch of the above social movements?

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

21. Which one of the following statements about the Tashkent Agreement is correct?

- (a) It was an agreement between India and the Soviet Union.
(b) It was an agreement between India and Pakistan.
(c) It was an agreement that led to the formation of Bangladesh.
(d) It was an agreement between India and Mongolia.

22. Which among the following is **not** a language listed in the Eighth Schedule of the Constitution of India?

- (a) Manipuri (b) Gondi
(c) Nepali (d) Dogri

23. Which of the following can be considered a part of the ancient Indian *Smriti* Literature?

1. Puranas 2. Ramayana
3. Kalpa-Sutra 4. Vedas

Select the answer using the code given below:

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

24. Who among the following was India's first Woman Chief Minister?

- (a) Sarojini Naidu
(b) Sucheta Kripalani
(c) Vijaya Lakshmi Pandit
(d) Hansa Mehta

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

1. C. Rajagopalachari was the first recipient of the Bharat Ratna.
2. Pandit Deen Dayal Upadhyaya initiated the concept of 'Integral Humanism'.

Select the answer using the code given below:

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

26. Which of the following pairs of Institute and their location is/are correctly matched?

1.	Indian Institute of Advanced Study	Shimla
2.	Indian Institute of Public Administration	New Delhi
3.	Sushma Swaraj Institute of Foreign Service	Nainital

Select the answer using the code given below:

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

27. Consider the following statements:

1. Erok Sim is a festival mainly celebrated by the Santhal community.
2. Sangken is a Buddhist festival celebrated in Arunachal Pradesh.

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

28. 'Maitree' is a Joint Military Exercise between India and:

- (a) Bangladesh (b) Thailand
(c) Malaysia (d) Sri Lanka

29. Which of the following criteria are specified for granting Special Category Status to States in India?

1. Hilly and difficult terrain
2. Economic and infrastructural backwardness
3. Strategic coastal zone
4. Sizeable share of tribal population

Select the answer using the code given below:

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

30. Who among the following is the founder of the Congress Socialist Party?

- (a) Acharya Narendra Dev
(b) Jawaharlal Nehru
(c) Motilal Nehru
(b) Asoka Mehta

31. Which one of the following statements about 'Nilgiri', 'Surat' and 'Vaghsheer' is correct?

- (a) These are Tiger Reserves in the state of Gujarat.
(b) These are combatants commissioned by the Indian Navy.
(c) These are Biodiversity parks maintained by the Indian Army.
(d) These are Tiger Reserves maintained by the Indian Navy.

32. Which of the following surveys are being conducted by the Ministry of Statistics and Programme Implementation, Government of India?

1. Survey on Social Consumption — Health
2. Comprehensive Modular Survey — Telecom and ICT skills
3. Periodic Labour Force Survey
4. Annual Survey on Unincorporated Enterprises

Select the answer using the code given below:

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

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

1. The Government of India has discontinued the Pradhan Mantri Fasal Bima Yojana.
2. The Government of India has approved the continuation of Restructured Weather Based Crop Insurance Scheme.

Select the answer using the code given below:

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

34. Match List-I with List-II and select the answer using the code given below the Lists:

List-I (Organization)		List-II (Year of Formation)	
A.	European Union	1.	1994
B.	Asia-Pacific Economic Cooperation (APEC)	2.	1967
C.	Association of Southeast Asian Nations (ASEAN)	3.	1989
D.	Free Trade Area of the Americas (FTAA)	4.	1993

Code:

- | | | | |
|-------|---|---|---|
| A | B | C | D |
| (a) 3 | 2 | 1 | 4 |
| (b) 2 | 3 | 4 | 1 |
| (c) 4 | 3 | 2 | 1 |
| (d) 4 | 3 | 1 | 2 |

35. The book, "*The Art of War*" was written by:

- (a) Niccolo Machiavelli
(b) Thucydides
(c) Thomas Hobbes
(d) J.S. Mill

36. Which one of the following military operations was **not** undertaken by India?

- (a) Operation Ablaze

(b) Operation Spider's Web

(c) Operation Trident

(d) Operation Bandar

37. Which of the following statements are correct about 'Arnala', an Anti-Submarine Warfare Shallow Water Craft?

1. It is indigenously designed in India.
2. It is named after the historic Arnala fort located in Maharashtra.
3. It has been built under a Public-Private Partnership (PPP) of GRSE with M/s L&T Shipyard.

Select the answer using the code given below:

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

38. Robert Prevost became the Catholic Pope after the death of Pope Francis. Which of the following statements is/are correct about him?

1. He will now be known as Leo XV.
2. He became the 271st Catholic Pope.
3. He is a dual citizen of the United States of America and Peru.

Select the answer using the code given below:

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

39. Which of the statements about the dams on the Chenab river is/are correct?

1. Salal dam, and Baglihar dams are on the Chenab river.
2. Baglihar dam has a greater height than Salal dam.
3. Salal dam is operated by Jammu and Kashmir Power Development Corporation and Baglihar dam operated by NHPC Limited.

Select the answer using the code given below:

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

40. Which of the following statements about 'Alcatraz', which was recently in news, is/are correct?

1. It was once a defence fort on Alcatraz island of America.
2. It was once a prison on Alcatraz island of America.
3. It was once occupied by a group of native American students, known as 'Indians of all tribes'.

Select the answer using the code given below:

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

41. Which of the following statements about India's military arsenal is/are correct?

1. HAMMER is a weapon system built for the Rafale fighter aircraft.
2. SCALP cruise missile is also known as Storm Shadow.
3. BrahMos missiles are built under a joint venture between India and Russia.

Select the answer using the code given below:

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

42. Recently, ICAR (Indian Council of Agricultural Research) has developed the world's first genome-edited rice varieties. Which of the following statements is/are correct with respect to the developed products?

1. The genome-edited varieties – DRR Rice 100 (Kamla) and Pusa DST Rice 1 have been developed by ICAR-IARI, New Delhi.
2. DRR Rice 100 (Kamla), based on Samba Mahsuri, has a shorter duration of maturity.

Select the answer using the code given below:

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

43. Which one of the following is a good statistic to evaluate where an economy stands in the financial cycle?

- (a) Tax/GDP Ratio
(b) Fiscal Deficit/GDP Ratio
(c) Household Consumption/GDP Ratio
(d) Credit/GDP Ratio

44. Which of the following pairs of initiatives of the Government of India and their objectives is/are correctly matched?

1.	Global Capability Centre (GCC)	Reshaping corporate landscape
2.	U-WIN Portal	Ease of doing business across states

Select the answer using the code given below:

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

45. Social Mobilisation and Institution Development (SM&ID) is one of the major components of:

- (a) Deen Dayal Antyodaya Yojana
(b) National Urban Digital Mission
(c) Atal Mission for Rejuvenation and Urban Transformation
(d) Rashtriya Gram Swaraj Abhiyan

46. Which language uses the symbolic representation of machine codes needed to program a particular processor or processor family?

- (a) Machine Language
(b) Assembly Language
(c) High-Level Language
(d) All of the above

47. What are the uses of software ports?

1. Connect client computer to server
2. Connect external devices to computer
3. Identify different services like email, file transfer
4. Connecting peripherals like cameras, scanners

Select the answer using the code given below:

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

48. Assuming the computer is a 4-bit computer, what result is produced after subtraction of 3 from 5 using the 2's complement representation?

- (a) 0101 (b) 10010
(c) 1101 (d) 11001

49. Which one of the following is **not** a logical operator?

- (a) NOT (b) OR
(c) AND (d) Division

50. Which among the following are the purposes of deploying a Firewall?

1. Examine each packet arriving from Internet
2. Prevent unauthorised access
3. Block suspicious activity
4. Interconnect telephones

Select the answer using the code given below:

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

51. Amsterdam-St. Paul Plateau is located in which one of the following oceanic regions?

- (a) Arctic Ocean
(b) North Atlantic Ocean
(c) Southern Indian Ocean
(d) South Pacific Ocean

52. Which one of the following pairs of City and Lake is **not** correctly matched?

- (a) Buffalo : Erie
(b) Detroit : Superior
(c) Milwaukee : Michigan
(d) Toronto : Ontario

53. Which of the following statements with reference to lines of latitudes is/are correct?

1. The distance between two successive latitudes changes slightly from the equator to the poles.
2. If parallels of latitude are drawn at an interval of one degree, the total number of parallels thus drawn, including the equator, will be 179.

Select the answer using the code given below:

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

54. Arrange the following major elements present in the Earth's crust, in ascending order, in weight percentage:

1. Aluminium 2. Calcium
3. Silicon 4. Oxygen

Select the answer using the code given below:

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

55. Match List-I with List-II and select the answer using the code given below the Lists:

List-I (Island/Nation)		List-II (Tectonic Plate)	
A.	Comoros	1.	North American Plate
B.	Baffin Island	2.	African Plate
C.	Sri Lanka	3.	Eurasian Plate
D.	Andaman Islands	4.	Indo-Australian Plate

Code:

- | | | | |
|----------|----------|----------|----------|
| A | B | C | D |
| (a) 3 | 4 | 1 | 2 |
| (b) 3 | 1 | 4 | 2 |
| (c) 2 | 4 | 1 | 3 |
| (d) 2 | 1 | 4 | 3 |

56. Which of the following statements with preference to Richter scale is/are correct?

1. It is the intensity scale of an earthquake.
2. Richter indicates the amount of energy released during the earthquake.

Select the answer using the code given below:

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

57. Which of the following statements with reference to Glacial trough is/are correct?

1. Alpine glaciers strip valleys of their soil, regolith and sediment to form glacial troughs.

2. When the sea level is below the floor of a glacial trough, the seawater enters as the ice front recedes, creating a fiord.

Select the answer using the code given below:

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

58. Consider the following statements reference to Mid-latitude deciduous forests:

1. Mid-latitude deciduous forests consist largely of trees that drop their leaves during the summer season.
2. Mid-latitude deciduous forests are native to eastern North America and Western Europe.
3. In Asia, the Mid-latitude deciduous forests occur as a belt between the boreal forest to the north and steppe lands to the south.
4. Beech, Hickory and Walnut are common examples of trees found in Mid-latitude deciduous forests.

Which of the statements given above are correct?

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

59. Arrange the following permanent gases present in the atmosphere in ascending order:

1. Helium 2. Hydrogen
3. Neon 4. Xenon

Select the answer using the code given below:

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

60. The pattern of planetary winds largely depends upon which of the following factors?

1. Latitudinal variation of atmospheric heating
2. The distribution of continents and oceans
3. The rotation of earth

Which of the above is/are correct?

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

61. Which of the following statements with reference to Water Vapour in the atmosphere is/are correct?

1. It has a role to play in the stability and instability in the air.
2. It acts like a blanket allowing the earth to neither become too cold nor too hot.

Select the answer using the code given below:

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

62. Consider the following pairs with reference to world climate types and their characteristics:

	(Climate)	(Characteristic)
I.	Tropical wet and dry	Winter dry season
II.	Mid-latitude steppe	Mid-latitude semi-arid or dry
III.	Humid sub-tropical	No dry season, warm summer
IV.	Marine west coast	No dry season, severely cold summer

How many of the pairs given above is/are correctly matched?

- (a) 1 (b) 2
(c) 3 (d) 4
63. Identify the climate type based on the given below characteristics:

- The annual precipitation is low and is around 15 cm.
- The development of pronounced winter anticyclones and their weakening in summer sets in monsoon-like reversal of wind in this region.
- Polewards, summer temperatures are by low.

Select the answer from the options given below:

- (a) Subtropical steppe
(b) Humid sub-tropical climate
(c) Cold climate with dry winters
(d) Tundra climate
64. Consider the following statements with reference to the Cotton textile industry in India:

- Cotton textile industry has, over time, spread to other parts of the country, beyond Gujarat and Maharashtra.
- Raw cotton is not a weight-losing raw material.

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
65. Indore city in Madhya Pradesh is situated in which one of the following regions?
- (a) Bundelkhand (b) Mahakoshal
(c) Malwa Plateau (d) Nimar Region

66. Which among the following Classes of Towns in India holds the highest percentage of Urban Population as per the Census 2011?
- (a) Class II (b) Class III
(c) Class IV (d) Class VI

67. The Golden Quadrilateral Highway does **not** pass through which of the following cities?

- Bhubaneswar
- Jaipur
- Lucknow
- Indore

Select the answer using the code given below:

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

68. Consider the following statements with reference to location of Major Ports in India:

- Deendayal Port is situated at the head of Gulf of Khambhat.
- Cochin Port is situated at the head of Vembanad Kayal.
- Mormugao Port is situated at the entrance of the Zuari estuary.
- Paradip Port is situated in the Godavari delta.

Which of the statements given above are correct?

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

69. Which one among the following is **not** an atmospheric natural disaster?

- (a) Drought (b) Hailstorm
(c) Frost (d) Avalanche

70. Which of the following statements with reference to National Institute of Disaster Management (NIDM) is/are correct?

- It was constituted in the year 2006.
- Under the Disaster Management Act, 2005, the Institute has been entrusted to assist in national level policy formulation with reference to Disaster Management.

Select the answer using the code given below:

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

71. Which one among the following pairs of type of firm and feature is **not** correctly matched?

(a)	Oligopoly firm	Interdependence in decision-making
(b)	Monopolistic firm	Firm is a price setter
(c)	Monopoly firm	Produces an efficient level of output
(d)	Perfectly competitive firm	Produces socially optimum output

72. Union Budget 2025 increased the Sectoral cap of FDI to 100 per cent from 74 per cent for:
 (a) Telecom Sector (b) Power Sector
 (c) Defence Sector (d) Insurance Sector
73. The practice of reducing the size of a product while maintaining its sticker price is called:
 (a) Shrinkflation (b) Reflation
 (c) Disinflation (d) Deflation
74. Consider the following statements about innovation and research and development in India:
 1. India's rank in Global Innovation Index reported by World Intellectual Property Organization (WIPO) has improved significantly between 2015 and 2024.
 2. Funding of research and development is sourced primarily from private sector entities and is sectorally concentrated in pharmaceuticals and information technology.
 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
75. Consider the following statements about the Indian Institute of Entrepreneurship (IIE):
 1. The IIE was established in 1999 in Guwahati.
 2. The main aim of the institute is to provide training, research and consulting activities for small and micro enterprises.
 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
76. Consider the following statements about Union Government's Expenditure on revenue account and effective capital expenditure:
 1. Effective capital expenditure as percentage of GDP has increased from 2020–21 to 2023–24.
 2. Expenditure on revenue account as percentage of GDP has increased from 2020–21 to 2023–24.
 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
77. Which one among the following statements about the Districts as Export Hubs (DEH) in India is **not** correct?
 (a) DEH was launched in August 2019.
 (b) The aim of DEH to boost exports of only selected districts of the country.
 (c) India's Foreign Trade Policy 2023 reiterated the role of DEH.
 (d) DEH aims to promote exports by providing financial inclusion and facilitating logistical and infrastructural support.
78. Which of the following statements about Tim Tim Tare (TTT) is/are correct?
 1. TTT is a pioneering initiative that aims at imparting essential life skills to adolescent students across India.
 2. TTT is a pioneering initiative that aims at imparting vocational and technical skills to students across India.
 Select the answer using the code given below:
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2
79. Consider the following statements regarding Annual Periodic Labour Force Survey (PLFS) report 2023–24 by the National Statistical Organization (NSO):
 1. The agriculture sector remains dominant in employment, with its share rising from about 44 per cent 2017–18 to about 46 per cent in 2023–24.
 2. The share of female workers in agriculture has increased during the period 2017–18 to 2023–24.
 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
80. Which one of the following platforms marks a transformative step in India's immunization efforts by digitizing vaccination records for pregnant women and children up to 16 years?
 (a) U-WIN (b) PM-ABHIM
 (c) eSanjeevani (d) FDSI
81. Consider the following statements about the Bengal countryside at the time of the Permanent Settlement:
 1. The zamindars' troops were disbanded.
 2. Within the villages, the power of *jotedars* was more effective than that of zamindars.
 3. The East India Company made a rule that the property of women would not be taken over.
 4. *Adhiyars* were sharecroppers on the land owned by *bargadars*.

Which of the statements given above are correct?

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

82. Match List-I with List-II and select the answer using the code given below the Lists:

List-I (Journal/Newspaper/ Pamphlet)		List-II (Founder/Editor/ Author)	
A.	Kudi Arasu	1.	Aurobindo Ghosh
B.	Kisan Bulletin	2.	Pherozeshah Mehta
C.	Bombay Chronicle	3.	Indulal Yagnik
D.	Bhawani Mandir	4.	E.V. Ramaswami Naicker

Code:

- | | | | | |
|-----|----------|----------|----------|----------|
| | A | B | C | D |
| (a) | 4 | 3 | 2 | 1 |
| (b) | 4 | 2 | 3 | 1 |
| (c) | 1 | 3 | 2 | 4 |
| (d) | 1 | 2 | 3 | 4 |

83. Which of the following statements about the Ghadar Movement is/are correct?

1. The Ghadar Movement began in 1913 in San Francisco.
2. The movement was founded by Sohan Singh Bhakna.
3. The Ghadar Movement took its name from the weekly Ghadar brought out in several Indian languages.

Select the answer using the code given below:

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

84. Chronologically arrange the formation of the following political associations, beginning from the earliest:

1. Poona Sarvajanik Sabha
2. Indian Association
3. Madras Mahajan Sabha
4. Bombay Presidency Association

Select the answer using the code given below:

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

85. Which one of the following periods has provided the evidence of a ploughed field at Kalibangan in Rajasthan?

- (a) Early Harappan (b) Mature Harappan
(c) Late Harappan (d) Chalcolithic

86. Consider the following events:

1. Muslim League Resolution for Pakistan
2. Gandhi-Irwin Pact
3. Dandi March
4. Second Round Table Conference

Which one of the following is the correct chronological order of the given events (earliest to latest)?

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

87. Consider the following pairs:

	(Historical Place)	(Well-known for)
I.	Girnar	Sudarshana Lake
II.	Cholistan	Terracotta model of Plough
III.	Mant (near Mathura)	Headless standing figure of Kanishka
IV.	Sannati	Asokan Pillar Edict in Odisha

How many pairs given above is/are correctly matched?

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

88. With reference to the "Amara-Nayaka system", which one of the following statements is **not** correct?

- (a) It was a major political innovation of the Vijayanagara Empire.
- (b) They were military commanders, who were given territories to govern and collect taxes and other dues from peasants, craftspersons and traders in the area.
- (c) They retained part of the revenue for personal use and to maintain a stipulated contingent of horses and elephants.
- (d) They were not allowed to use their share of revenue for the maintenance of temples.

89. The popular poem "*Khoob ladi mardani woh to Jhansi wali rani thi*" (Like a man she fought, she was the Rani of Jhansi) was written by:

- (a) Mahadevi Varma
(b) Subhadra Kumari Chauhan
(c) Amrita Pritam
(d) Balamani Amma

90. Consider the following statements about Ellora:

1. This art-historical site is associated exclusively with Buddhism.
2. The Kailasa temple at Ellora has been built of dressed stone and kiln fired bricks.

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

91. In which one of the following states are the Guntupalle Buddhist Caves located?

- (a) Andhra Pradesh (b) Karnataka
(c) Tamil Nadu (d) Kerala

92. Consider the following statements about Ajanta Cave paintings:

1. The paintings depict *yakshas*, *gandharvas* and *apsaras*.
2. The artists have used the technique of providing "multiple perspectives".

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

93. "*Neel Darpan*", a play that depicted the atrocities on the indigo planters, was translated into English by:

- (a) Dinabandhu Mitra
(b) Michael Madhusudan Dutta
(c) James Long
(d) James C. Scott

94. With reference to the Revolt of 1857, consider the following statements:

1. Shah Mal mobilised the people of Baraut region of Uttar Pradesh and captured the bungalow of an Englishman and converted it into a "*hall of justice*".
2. Gonoo was a Kol leader of the Singhbhum region of Chotanagpur.

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

95. Which of the following books portrays three images of the Mother Goddess: "Mother as she was", "Mother as she is" and "Mother as she will be"?

- (a) Durgeshmandini (b) Kapalkundala
(c) Anandamath (d) Devi Chaudhurani

96. With reference to the women achievers in modern India, consider the following statements:

1. Pandita Ramabai published a book "*A Comparison Between Women and Men*" where she protested against the colonial view that men enjoyed all the rights, opportunities and benefits of change.

2. Tarabai Shinde worked in the field of medicine to reduce child mortality in rural India.

3. Sarojini Naidu led a delegation to London to demand for female franchise.

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

- (a) 1 (b) 2
(c) 3 (d) None

97. The Sanikatta Salt Works, known for Salt Satyagraha, is located in:

- (a) Gujarat (b) Tamil Nadu
(c) Kerala (d) Karnataka

98. The Kalaram temple, known for temple entry movements in the early twentieth century, is located in which state of India?

- (a) Maharashtra (b) Kerala
(c) Tamil Nadu (d) Gujarat

99. Matangini Hazra and Lakshman Naik sacrificed their lives in:

- (a) Bardoli Satyagraha
(b) Non-Cooperation Movement
(c) Civil Disobedience Movement
(d) Quit India Movement

100. With reference to the history of India, the word "*kopeki*" is associated with:

- (a) Clothes
(b) Coins
(c) Land measurement
(d) A type of sport in South India

101. Which one of the following metals is widely extracted by the electrolysis of its molten compound?

- (a) Cu (b) Au
(c) Sn (d) Na

102. Which one of the following is **not** a property of 'graphene'?

- (a) It is the thinnest material known so far.
(b) It is almost completely transparent.
(c) It is highly conducting.
(d) It is a wide band-gap semiconductor.

103. Why do plastics **not** degrade easily?

- (a) They have strong ionic bonds.
(b) They have strong covalent bonds.
(c) They have strong metallic bonds.
(d) They have very high melting points (> 500°C)

104. Which one of the following is the correct chemical formula of carboxylic acid?
 (a) C_3H_7OH (b) C_3H_8
 (c) C_2H_5COOH (d) CH_3COCH_3
105. Which one of the following statements is **not** correct for benzene?
 (a) Each carbon atom forms sigma bonds with two other carbon atoms with a bond angle of 120° .
 (b) Delocalized electrons create a symmetrical 'cloud' of electrons above and below the plane.
 (c) The length of C-C bonds is intermediate between single and double bonds.
 (d) It has six isomers.
106. Which one of the following is **not** a nitrogen fertilizer?
 (a) $(NH_4)_2SO_4$ (b) NH_4NO_3
 (c) N_2 (d) $(NH_2)_2CO$
107. Which one of the following general electronic configurations correctly represent transition metal element?
 (a) $(n-2)d^{1-10}ns^2$
 (b) $(n-2)f^{1-14}(n-1)d^{0-1}ns^2$
 (c) $ns^2np^6nd^{1-10}$
 (d) $(n-1)d^{1-10}ns^{0-2}$
108. Variable oxidation numbers are possible for:
 (a) Sodium (b) Calcium
 (c) Iron (d) Lithium
109. Which one of the following gas smells like a rotten egg?
 (a) Ammonia
 (b) Hydrogen sulphide
 (c) Acetylene
 (d) Sulphur dioxide
110. The chemical reaction

$$K_2SO_4 + BaCl_2 \rightarrow 2KCl + BaSO_4 \downarrow$$
 (aq.) (aq.) (aq.) (solid)
 is an example of:
 (a) Addition reaction
 (b) Displacement reaction
 (c) Decomposition reaction
 (d) Double displacement reaction
111. Which one among the following is the correct scheme followed for classification of animals?
 (a) Class $\rightarrow$ Phylum $\rightarrow$ Order $\rightarrow$ Genus $\rightarrow$ Family $\rightarrow$ Species
 (b) Phylum $\rightarrow$ Class $\rightarrow$ Family $\rightarrow$ Genus $\rightarrow$ Order $\rightarrow$ Species
 (c) Order $\rightarrow$ Class $\rightarrow$ Phylum $\rightarrow$ Family $\rightarrow$ Species $\rightarrow$ Genus
 (d) Phylum $\rightarrow$ Class $\rightarrow$ Order $\rightarrow$ Family $\rightarrow$ Genus $\rightarrow$ Species
112. Which one of the following is an example of airborne disease?
 (a) Tuberculosis (b) Malaria
 (c) Dengue (d) Cholera
113. What are the four human blood types in ABO blood group typing?
 (a) AO, BO, A and B (b) A, B, AB and O
 (c) A, AB, BO and O (d) AB, AO, B and O
114. Which one of the following is **not** a part of the male reproductive system in human beings?
 (a) Prostate gland (b) Testis
 (c) Cervix (d) Scrotum
115. Which of the following are the different parts of a human brain?
 (a) Forefront brain, Standard brain and Hind brain
 (b) Fore brain, Median brain and Rear brain
 (c) Fore brain, Mid brain and Hind brain
 (d) Precursor brain, Mean brain and Hind brain
116. Tooth enamel of humans is made up of:
 (a) Calcium phosphate
 (b) Sodium hydrogen carbonate
 (c) Sodium hydroxide
 (d) Lactic acid
117. The inner lining of the human small intestine has numerous finger-like projections called:
 (a) Sphincter (b) Villi
 (c) Enzymes (d) Plaques
118. Which of the following represent disaccharides?
 (a) Starch and glycogen
 (b) Glucose and galactose
 (c) Maltose and lactose
 (d) Ribose and xylose
119. Which one of the following organelles can be seen in a prokaryotic cell?
 (a) Mitochondria (b) Definitive nucleus
 (c) Ribosomes (d) Golgi bodies
120. A solution with a pH value less than 7 is a/an:
 (a) Neutral solution (b) Basic solution
 (c) Acidic solution (d) Hypotonic solution

Answer Key

Q. No	Answer Key	Topic's Name	Chapter's Name
1	(c)	Magnetic Effect of Current and Magnetism	Physics
2	(b)	Force and Laws of Motion	Physics
3	(b)	Force and Laws of Motion	Physics
4	(c)	Work, Energy and Power	Physics
5	(b)	Work, Energy and Power	Physics
6	(c)	Oscillation and Waves	Physics
7	(d)	Modern Physics	Physics
8	(d)	Optics	Physics
9	(b)	Optics	Physics
10	(d)	Electrostatics	Physics
11	(c)	Miscellaneous	Social Studies
12	(a)	Polity	Social Studies
13	(c)	Polity	Social Studies
14	(d)	Polity	Social Studies
15	(d)	Polity	Social Studies
16	(b)	Polity	Social Studies
17	(c)	Polity	Social Studies
18	(b)	Polity	Social Studies
19	(b)	World Geography	Social Studies
20	(c)	Modern History	Social Studies
21	(b)	Modern History	Social Studies
22	(b)	Polity	Social Studies
23	(a)	Ancient History	Social Studies
24	(b)	Polity	Social Studies
25	(c)	Polity	Social Studies
26	(a)	Miscellaneous	Social Studies
27	(a)	Art and Culture	Social Studies
28	(b)	Current Affairs	Social Studies
29	(d)	Polity	Social Studies
30	(a)	Modern History	Social Studies
31	(b)	Current Affairs	Social Studies
32	(a)	Current Affairs	Social Studies
33	(b)	Current Affairs	Social Studies
34	(a)	Miscellaneous	Social Studies
35	(*)	Art and Culture	Social Studies
36	(b)	Miscellaneous	Social Studies
37	(d)	Current Affairs	Social Studies
38	(d)	Current Affairs	Social Studies
39	(a)	Indian Geography	Social Studies
40	(c)	Current Affairs	Social Studies
41	(c)	Miscellaneous	Social Studies
42	(b)	Current Affairs	Social Studies
43	(d)	Economics	Social Studies
44	(a)	Economics	Social Studies
45	(a)	Economics	Social Studies
46	(b)	Miscellaneous	Social Studies
47	(b)	Miscellaneous	Social Studies
48	(b)	Miscellaneous	Social Studies
49	(d)	Miscellaneous	Social Studies
50	(d)	Miscellaneous	Social Studies

Q. No	Answer Key	Topic's Name	Chapter's Name
51	(c)	World Geography	Social Studies
52	(b)	World Geography	Social Studies
53	(c)	World Geography	Social Studies
54	(c)	World Geography	Social Studies
55	(d)	World Geography	Social Studies
56	(b)	World Geography	Social Studies
57	(c)	World Geography	Social Studies
58	(d)	World Geography	Social Studies
59	(b)	World Geography	Social Studies
60	(d)	World Geography	Social Studies
61	(c)	World Geography	Social Studies
62	(c)	World Geography	Social Studies
63	(c)	World Geography	Social Studies
64	(a)	World Geography	Social Studies
65	(c)	Indian Geography	Social Studies
66	(a)	Indian Geography	Social Studies
67	(b)	Indian Geography	Social Studies
68	(c)	Indian Geography	Social Studies
69	(d)	Indian Geography	Social Studies
70	(c)	Miscellaneous	Social Studies
71	(c)	Economics	Social Studies
72	(d)	Economics	Social Studies
73	(a)	Economics	Social Studies
74	(a)	Economics	Social Studies
75	(b)	Economics	Social Studies
76	(a)	Economics	Social Studies
77	(b)	Economics	Social Studies
78	(a)	Miscellaneous	Social Studies
79	(c)	Economics	Social Studies
80	(a)	Miscellaneous	Social Studies
81	None	Modern History	Social Studies
82	(a)	Modern History	Social Studies
83	(d)	Modern History	Social Studies
84	(a)	Modern History	Social Studies
85	(a)	Ancient History	Social Studies
86	(b)	Modern History	Social Studies
87	(c)	Ancient History	Social Studies
88	(d)	Medieval History	Social Studies
89	(b)	Modern History	Social Studies
90	(d)	Art and Culture	Social Studies
91	(a)	Art and Culture	Social Studies
92	(c)	Art and Culture	Social Studies
93	(c)	Art and Culture	Social Studies
94	(c)	Modern History	Social Studies
95	(c)	Modern History	Social Studies
96	(a)	Modern History	Social Studies
97	(d)	Modern History	Social Studies
98	(a)	Medieval History	Social Studies
99	(d)	Modern History	Social Studies
100	(b)	Modern History	Social Studies

Q. No	Answer Key	Topic's Name	Chapter's Name
101	(d)	s and p-Block	Chemistry
102	(d)	Metals and Non-metals	Chemistry
103	(b)	Polymer	Chemistry
104	(c)	Organic Chemistry	Chemistry
105	(b)	Organic Chemistry	Chemistry
106	(c)	s and p-Block	Chemistry
107	(d)	s and p-Block	Chemistry
108	(c)	Metals and Non-metals	Chemistry
109	(b)	s and p-Block	Chemistry
110	(d)	Chemical Reaction and Electrochemical Cell	Chemistry
111	(d)	Biological Classification / Cell & Its Division	Biology
112	(a)	Human Health and Disease	Biology
113	(b)	Human Health and Disease	Biology
114	(c)	Reproduction	Biology
115	(c)	Plant & Animal Physiology	Biology
116	(a)	Nutrition	Biology
117	(b)	Plant & Animal Physiology	Biology
118	(c)	Nutrition	Biology
119	(c)	Biological Classification / Cell & Its Division	Biology
120	(c)	Acids, Bases & Salts	Biology

CDS

Combined Defence Services

EXAM

2025

Solutions General Knowledge

ANSWERS WITH EXPLANATIONS

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

Explanation: To determine the direction of the induced emf from rotation of coil linked with changing magnetic field, Fleming's right hand rule is used. To determine direction of rotation just like in case of motor, Fleming's left hand rule is used.

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

Explanation:

In case of d is same, $v_{avg} = \frac{2v_1v_2}{v_1 + v_2}$

In case of t is same, $v_{avg} = \frac{v_1 + v_2}{2}$

Note: General formula,

$$v_{avg} = \frac{\text{total distance covered}}{\text{total time take}}$$

can be used in any case

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

Explanation: As per LOM, linear momentum remains conserved until $F_{net} (external) = 0$

In case of conservation of angular momentum, $\square_{net} (external) = 0$

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

Explanation: As $F \perp s$, so work done is zero.

$$\Rightarrow W = Fs \cos \square = Fs \cos 0 = Fs \square 0 = 0 \text{ N}$$

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

Explanation:

$$\text{For A : } P_1 = \frac{500}{60x} \quad \dots(1)$$

$$\text{For B : } P_2 = \frac{1000}{1200} = \frac{5}{6} W \quad \dots(2)$$

$$\text{Given, } P_1 = 2P_2$$

$$\Rightarrow \frac{500}{60x} = 2 * \frac{5}{6}$$

$$\Rightarrow x = 5 \text{ min}$$

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

Explanation: In 0.1 s there are 20 crests and 20 troughs, i.e. 20 cycles

$$\text{Hence } f = \frac{20}{0.1} = 200 \text{ Hz}$$

We know that, $v = f \square$

$$\Rightarrow \square = \frac{v}{f} = \frac{330}{200} = 1.65 \text{ m}$$

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

Explanation: X-rays are a form of electromagnetic radiation, just like visible light, radio waves and gamma rays. They consist of photons, which are particles with no electric charge. Since they are not charged particles, their path is not influenced by electric or magnetic fields. This is a fundamental difference between X-rays and charged particles like electrons or protons, which are easily deflected by such fields.

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

Explanation: In a simple astronomical telescope, both the objective and the eyepiece are converging lenses. The objective lens, which has a long focal length, collects light from a distant object and forms a real, inverted image. The eyepiece, a convergent lens with a shorter focal length, then acts as a simple magnifier to produce a magnified virtual image.

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

Explanation: The twinkling of a star is due to the refraction of light.

The light from a star travels through different layers of the Earth's atmosphere before reaching our eyes. Each layer has a different temperature and density, causing the light to be continuously refracted or bent in random directions.

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

Explanation: The purpose of a Van de Graaff generator is to create a very high electrostatic potential, which leads to a high voltage. It does this by continuously accumulating electric charge on a hollow metal sphere. While the voltage is extremely high, the electric current produced is very small, and it is a direct current (DC), as the charge is being transferred in one direction. It is not an alternating current (AC).

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

Explanation: Signing of the Simla Agreement – 1972 (India–Pakistan post-1971 war)

India's first nuclear test – 1974 (Smiling Buddha, Pokhran-I)

Agra Summit between India and Pakistan – 2001 (Atal Bihari Vajpayee & Pervez Musharraf).
Signing of the SAARC Charter at the First SAARC Summit – 1985 (Dhaka)

12. Option (a) is correct.

Explanation: The correct feature of the First Past the Post (FPTP) system is:

(a) A candidate who wins may not get the majority of votes

In FPTP, the candidate with the highest number of votes in a constituency wins, even if they do not have an absolute majority. Other options describe proportional or multi-member systems, not FPTP.

13. Option (c) is correct.

Explanation:

Article 371: Maharashtra & Gujarat (special provisions, but commonly associated with Maharashtra; sometimes Gujarat is included)

Article 371-A: Nagaland

Article 371-B: Assam

Article 371-I: Goa

14. Option (d) is correct.

Explanation:

Statement 1 and 2 are incorrect whereas statement 3 is correct - The **106th Constitutional Amendment Act of 2023**, also called the **Nari Shakti Vandan Adhiniyam**, provides for the reservation of **one-third of seats for women in the Lok Sabha and State Legislative Assemblies**. However, it **does not include the Rajya Sabha**. While the amendment allows for women's reservation in **State Legislative Assemblies**, it **does not extend to Legislative Councils** (the upper houses of state legislatures).

15. Option (d) is correct.

Explanation: The pair that is not correct is Census → Concurrent List. In reality, the Census comes under the Union List, meaning only the central government has the power to conduct it. All the other subjects—forests, taxes on land and building, and insurance—are correctly matched with their respective lists.

16. Option (b) is correct.

Explanation:

Incorrect: The word 'socialist' comes before 'secular' (added by the 42nd Amendment in 1976).

Correct: The word 'justice' (social, economic, and political) comes before 'equality'.

Correct: The word 'fraternity' comes after 'liberty'.

17. Option (c) is correct.

Explanation: A No-Confidence Motion can only be moved in the Lok Sabha against the Council of Ministers as a whole, not against an individual minister.

It must not necessarily set out specific grounds. A Censure Motion is usually moved against individual ministers with specific charges.

18. Option (b) is correct.

Explanation: Part IV-A of the Constitution of India deals with Fundamental Duties of citizens. It was added by the 42nd Constitutional Amendment Act, 1976 and is located after the Directive Principles of State Policy (Part IV).

19. Option (b) is correct.

Explanation: The Durand Line is the border that separates Afghanistan and Pakistan. It was established in 1893 between Sir Mortimer Durand of British India and the Amir of Afghanistan.

20. Option (c) is correct.

Explanation:

Satyashodhak Samaj – founded by Jyotirao Phule in 1873 to fight caste discrimination.

Bardoli Satyagraha – led by Sardar Vallabhbhai Patel in 1928 against increased land revenue.

Chipko Movement – began in the 1970s in Uttarakhand to protect forests.

21. Option (b) is correct.

Explanation: The Tashkent Agreement was signed between India and Pakistan on January 10, 1966, following the Indo-Pak war of 1965. It aimed to restore peace, status quo ante, and normalisation of diplomatic relations between the two countries.

22. Option (b) is correct.

Explanation: The language not listed in the Eighth Schedule of the Indian Constitution is Gondi.

Manipuri, Nepali and Dogri are all included in the Eighth Schedule.

Gondi is a tribal language spoken in central India but is not officially recognised in the Eighth Schedule.

23. Option (a) is correct.

Explanation: The texts that belong to ancient Indian Smriti literature are:

Puranas – stories of gods, creation, and history.

Ramayana – the epic of Lord Rama.

Kalpa-Sutras – texts on rituals and duties.

The Vedas, however, are Shruti literature, not Smriti.

24. Option (b) is correct.

Explanation: Vijaya Lakshmi Pandit is often confused in politics, but India's first woman Chief Minister was Sucheta Kriplani. She became the Chief Minister of Uttar Pradesh in 1963 and served until 1967.

25. Option (c) is correct.

Explanation:

Correct: C. Rajagopalachari was indeed the first recipient of the Bharat Ratna in 1954.

Correct: Pandit Deen Dayal Upadhyaya introduced the philosophy of 'Integral Humanism' as a socio-political concept.

26. Option (a) is correct.

Explanation: The Indian Institute of Advanced Study is in Shimla – correct.

The Indian Institute of Public Administration is in New Delhi – correct.

The Sushma Swaraj Institute of Foreign Service is not in Nainital, it is in New Delhi.

27. Option (a) is correct.

Explanation:

Correct: Erok Sim is indeed a festival celebrated by the Santhal tribal community, mainly in Jharkhand and nearby regions.

Incorrect: Sangken is a Buddhist New Year festival, but it is primarily celebrated in Arunachal Pradesh and parts of Assam, not exclusively Arunachal Pradesh.

28. Option (b) is correct.

Explanation: 'Maitree' is a joint military exercise between India and Thailand. It focuses on enhancing interoperability, mutual cooperation, and counter-terrorism operations between the armies of both countries.

29. Option (d) is correct.

Explanation: The criteria for granting Special Category Status to Indian states include:

Hilly and difficult terrain – making development challenging.

Economic and infrastructural backwardness – states lagging in growth and facilities

Strategic location – such as border or coastal areas important for security.

Significant tribal population – to support tribal welfare and development.

30. Option (a) is correct.

Explanation: The founder of the Congress Socialist Party (CSP) was Acharya Narendra Deva in 1934, along with leaders like Jayaprakash Narayan and Ram Manohar Lohia. The party aimed to promote socialist ideas within the Indian National Congress.

31. Option (b) is correct.

Explanation: Nilgiri, Surat, and Vagsheer are all ships or submarines of the Indian Navy. They are naval vessels used for defence and operations at sea, and not related to tiger reserves or biodiversity parks.

32. Option (a) is correct.

Explanation: The Ministry of Statistics and Programme Implementation (MoSPI), Government of India, conducts several key surveys to collect data for policymaking. These include:

Survey on Social Consumption – Health – collects data on health-related expenditures and services.

Comprehensive Modular Survey on Telecom and ICT skills – gathers information on digital and telecom skills.

Periodic Labour Force Survey (PLFS) – monitors employment, unemployment and workforce trends.

Annual Survey on Unincorporated Enterprises – collects economic data on small businesses not formally registered.

33. Option (b) is correct.

Explanation:

Incorrect: The Pradhan Mantri Fasal Bima Yojana (PMFBY) has not been discontinued; it continues to provide crop insurance to farmers.

Correct: The Restructured Weather Based Crop Insurance Scheme (RWBCIS) has been approved for continuation by the Government of India.

34. Option (c) is correct.

Explanation:

A. European Union: 1993

B. Asia-Pacific Economic Cooperation (APEC): 1989

C. Association of Southeast Asian Nations (ASEAN): 1967

D. Free Trade Area of the Americas (FTAA): 1994

35. All the options given are wrong.

Explanation: The book "The Art of War" was written by Sun Tzu, an ancient Chinese military strategist. It is a classic text on military strategy, tactics, and leadership, widely studied even today in both military and business contexts.

36. Option (b) is correct.

Explanation:

Operation Ablaze – Though not clearly mentioned it is associated with India's military strategy.

Operation Trident – Indian Navy's attack on Karachi during the 1971 war.

Operation Bandar – This was the codename for the Indian Air Force's airstrikes on a Jaish-e-Mohammed (JeM) terrorist training camp in Balakot, Pakistan, on February 26, 2019 in retaliation of Pulwama terror attack. This operation is not recognised as a standard military operation in Indian history.

Operation Spider's Web – not an Indian military operation; it is unrelated to India. This was a covert drone attack carried out by the Security Service of Ukraine (SBU) deep inside Russia on June 1, 2025, during the Russo-Ukrainian War.

Hence, according to demand of the question, (b) would be the correct answer.

37. Option (d) is correct.

Explanation: The 'Arnala' is an anti-submarine warfare vessel made for shallow waters. It is designed in India, named after the Arnala Fort in Maharashtra, and was built through a Public-Private Partnership between GRSE and L&T Shipyard.

38. Option (d) is correct.

Explanation: Cardinal Robert Prevost became the 267th Pope of the Roman Catholic Church and took the name Pope Leo XIV. He is a dual citizen of the United States and Peru. The other statements about him being Leo XV or the 271st pope are incorrect.

39. Option (a) is correct.

Explanation: India has several dams built on the Chenab River, including the Baglihar Dam, Salal Dam, Dul Hasti Dam, Ratle Hydroelectric Plant (under construction), Pakal Dul Dam (under construction), and the Kiru Hydroelectric Power Project (under construction). Among these, Baglihar Dam is taller than Salal Dam. However, the Salal Dam is run by NHPC, and Baglihar Dam is run by Jammu & Kashmir Power Development Corporation.

40. Option (c) is correct.

Explanation: Alcatraz Island in the USA has had multiple roles. It was first a defence fort, then became a famous federal prison from 1934 to 1963. Later, it was occupied by Native American activists called the "Indians of All Tribes" to demand their rights in 1969.

41. Option (c) is correct.

Explanation: HAMMER (Highly Agile Modular Munition Extended Range) is a French-developed precision-guided munition designed for the Rafale fighter aircraft.

SCALP (Système de Croisière Autonome à Longue Portée – Emploi Général) is the French designation for this long-range air-launched cruise missile, while the British version is known as Storm Shadow.

BrahMos missile is made through a partnership between India (Defence Research and Development Organisation (DRDO) and Russia.

42. Option (c) is correct.

Explanation: The Indian Council of Agricultural Research (ICAR) and IIRR (Indian Institute of Rice Research) in Hyderabad have developed DRR Rice 100 (Kamla) and Pusa DST Rice 1 at ICAR-IARI, New Delhi. The DRR Rice 100, based on Samba Mahsuri, grows faster and matures in a shorter time.

43. Option (d) is correct.

Explanation: The Credit/GDP ratio shows the level of borrowing and lending relative to the size of the economy.

High ratios may indicate financial expansion or potential overheating, while low ratios may indicate contraction or under-leverage.

Other options like Tax/GDP, Fiscal Deficit/GDP, and Household Consumption/GDP measure fiscal health or consumption, not directly the financial cycle.

44. Option (a) is correct.

Explanation: Global Capability Reshaping (GCC) aims to boost the skills and global competitiveness of corporate centres in India. Its goal is to position India as a global hub for Global Capability Centres, generating economic value and jobs.

The U-WIN (Universal Immunisation) Portal is a digital platform developed by the Ministry of Health and Family Welfare to streamline the vaccination process for pregnant women and children under the Universal Immunisation Programme.

45. Option (a) is correct.

Explanation: Social Mobilisation and Institution Development (SM&ID) is part of the Deen Dayal Antyodaya Yojana (DAY-NRLM). Its main goal is to strengthen self-help groups and community institutions in villages to improve rural livelihoods.

46. Option (b) is correct.

Explanation: Assembly Language is a programming language that uses symbols and short codes (mnemonics) instead of raw binary,

making it easier to write programs for a specific processor. Machine language uses only 0s and 1s, while high-level languages are more general and not tied to a processor.

47. Option (b) is correct.

Explanation: Software ports are used to connect a client computer to a server and to identify different services like email or file transfer, since each service has its own port number. They are not used for connecting physical devices or peripherals.

48. Option (b) is correct.

Explanation: Understanding 4-Bit 2's Complement Subtraction

The question asks us to calculate the result of subtracting the number 3 from the number 5, specifically using the 2's complement representation on a hypothetical 4-bit computer. In computer systems, subtraction is often performed by adding the 2's complement of the subtrahend.

Representing Numbers in 4-Bit Binary

First, let's represent the numbers 5 and 3 in their 4-bit binary forms:

The decimal number 5 is represented as 0101 0101 in 4-bit binary.

The decimal number 3 is represented as 0011 0011 in 4-bit binary.

Calculating the 2's Complement

To subtract 3 from 5, we need to find the 2's complement of 3 (the subtrahend) and add it to 5 (the minuend).

Find the 1's Complement: Invert all the bits of the 4-bit representation of 3 (0011 0011).

1's complement of

0011

0011 is

1100

1100.

Add 1 to the 1's Complement: Add 1 to the result obtained above.

1100

1100 +

1

1 =

1101

1101.

Therefore, the 2's complement of 3 in a 4-bit system is

1101

1101.

Performing the Binary Addition

Now, we add the binary representation of 5 (

0101

0101) to the 2's complement of 3 (

1101

1101):

\$ 0101 (Decimal 5)

+ 1101 (2's Complement of Decimal 3)

10010 \$

Interpreting the Result in a 4-Bit System

The addition results in

10010

10010. Since we are working with a 4-bit computer, the result is typically considered within those 4 bits. The leftmost bit (the 5th bit, which is

1

1 in this case) is considered an overflow bit.

The actual result within the 4 bits is

0010

0010.

The binary value

0010

0010 represents the decimal number 2.

This matches the expected result of $5 - 3 = 2$.

The sum generated by the addition process itself, including the overflow bit, is

10010

10010.

49. Option (d) is correct.

Explanation: NOT, AND, and OR are logical operators used to work with true/false values. Division, however, is an arithmetic operator used for numbers, so it is not a logical operator.

50. Option (d) is correct.

Explanation: The main purposes of a firewall are:

Examine each packet arriving from the Internet to check for threats.

Prevent unauthorized access to a computer or network.

Block suspicious activity, like hacking attempts or malware.

Not a purpose: Firewalls do not connect telephones.

51. Option (c) is correct.

Explanation: The Amsterdam–St. Paul Plateau is located in the southern Indian Ocean, between

Australia and Antarctica, northeast of the Kerguelen Plateau.

52. Option (b) is correct.

Explanation:

Buffalo	Erie
Milwaukee	Michigan
Toronto	Ontario

But Detroit is on Lake Erie, not Lake Superior, so that pair is wrong.

53. Option (c) is correct.

Explanation:

A degree of latitude corresponds to an arc of a meridian.

Because the Earth is not a perfect sphere but an oblate spheroid (bulging at equator, flattened at poles), the length of one degree of latitude is not constant.

At the equator, 1° latitude ≈ 110.6 km; near the poles, 1° latitude ≈ 111.7 km.

If parallels of latitude are drawn at an interval of one degree, there will be 89 parallels in the northern and southern hemispheres each. The total number of parallels thus drawn, including the equator, will be 179.

54. Option (c) is correct.

Explanation: The major elements in the Earth's crust arranged in ascending order of weight percentage are:

Calcium (Ca)	$\sim 3.6\%$
Aluminium (Al)	$\sim 8.1\%$
Silicon (Si)	$\sim 27.7\%$
Oxygen (O)	$\sim 46.6\%$

55. Option (d) is correct.

Explanation: Comoros is on the African Plate.

Baffin Island is on the North American Plate.

Sri Lanka lies on the Indian Plate (part of the Indo-Australian Plate) moving north to collide with the Eurasian Plate.

Andaman Islands lie on the Burma Plate (a sub-plate of the Indo-Australian Plate) subducting beneath the Eurasian Plate.

56. Option (b) is correct.

Explanation: Intensity is measured by the Modified Mercalli Intensity (MMI) scale so statement I is incorrect.

The Richter scale indicates the amount of energy released during an earthquake is correct.

57. Option (c) is correct.

Explanation: Alpine glaciers erode valleys by removing soil, regolith, and sediments, forming U-shaped valleys called glacial troughs is correct.

If the sea level rises above the floor of a glacial trough or the ice front recedes, seawater floods the trough, creating a fjord is correct.

58. Option (d) is correct.

Explanation: Mid-latitude deciduous forests have trees that lose their leaves in winter, not summer.

They are found in eastern North America and Western Europe.

In Asia, these forests lie between boreal forests in the north and steppe lands in the south.

Common trees include Beech, Hickory, and Walnut.

59. Option (b) is correct.

Explanation: The ascending order by atmospheric concentration is:

Neon $\rightarrow$ Helium $\rightarrow$ Hydrogen $\rightarrow$ Xenon

60. Option (d) is correct.

Explanation: The pattern of planetary winds is influenced by:

Latitudinal variation of atmospheric heating – Different heating at the equator and poles drives wind circulation.

Distribution of continents and oceans – Land and water heat differently, affecting wind patterns.

Rotation of the Earth – Causes the Coriolis effect, deflecting winds.

61. Option (c) is correct.

Explanation: Both statements about water vapour in the atmosphere are correct:

Water vapour influences air stability and instability, affecting cloud formation and storms is correct.

It acts like a blanket, trapping heat and regulating Earth's temperature is correct.

62. Option (d) is correct.

Explanation:

- Tropical Wet and Dry (Aw): Distinct wet and dry seasons, with a dry winter.
- Mid-latitude Steppe (BSk): Semi-arid, hot summers, cold winters, moderate precipitation.
- Humid Subtropical (Cfa): Hot, humid summers, mild winters, no dry season.
- Marine West Coast (Cfb): Mild, wet winters, cool, wet summers, no severely cold summer.

63. Option (c) is correct.

Explanation: The "Cold Climate with Dry Winters" in the Köppen classification, specifically the Subarctic (Dw) type, occurs in areas such as northeastern Asia and parts of

North America. Winters in this climate are very cold and dry, while summers are brief and cool. Annual precipitation is low, typically around 12–15 cm, and seasonal wind reversals caused by anticyclones are a characteristic feature.

64. Option (a) is correct.

Explanation: The cotton textile industry, which started mainly in Gujarat and Maharashtra, has now spread to other states like Tamil Nadu and Karnataka. However, raw cotton loses weight during processing, so the second statement is incorrect.

65. Option (c) is correct.

Explanation: Indore city in Madhya Pradesh is located in the Malwa Plateau region.

66. Option (a) is correct.

Explanation: As per the Census 2011, Class I towns, which are urban centres with a population of 100,000 or more, accounted for approximately 70.2% of the total urban population in India.

Class II towns (population 50,000–99,999): Second highest percentage of urban population, hence correct amongst the given options

67. Option (d) is correct.

Explanation: The Golden Quadrilateral connects Delhi, Mumbai, Kolkata, and Chennai. It passes through cities like Jaipur and Bhubaneswar. However, it does not directly pass through Lucknow or Indore, which are located off the main quadrilateral route.

68. Option (c) is correct.

Explanation: Deendayal Port is located on the Gulf of Kutch, not the Gulf of Khambhat. It is a major port in Gujarat. Therefore, this statement is incorrect.

Cochin Port is situated at the head of the Vembanad Kayal (Vembanad Lake) in Kerala. It is a natural harbor. This statement is correct.

Mormugao Port, a major port in Goa, is indeed located at the entrance of the Zuari estuary. This statement is correct.

Paradip Port is in Odisha and is situated at the confluence of the Mahanadi River and the Bay of Bengal. It is part of the Mahanadi delta, not the Godavari delta. Therefore, this statement is incorrect.

69. Option (d) is correct.

Explanation: An avalanche is not an atmospheric disaster. It is a geological event involving the rapid flow of snow, ice, or rock down a mountain. Drought, hailstorms, and frost are all atmospheric disasters, as they are caused by weather and climatic conditions.

70. Option (c) is correct.

Explanation: While NIDM was notified as a statutory body in 2006 under the Disaster Management Act, 2005, it was originally established as the National Centre for Disaster Management (NCDM) in 1995. It was later upgraded to its present name, NIDM, in 2003. It was re-designated and given statutory status under the Disaster Management Act, 2005, which also entrusted it with assisting in national-level policy formulation.

71. Option (c) is correct.

Explanation: A monopoly firm restricts output to maximize profits, leading to a higher price and a lower quantity than what is socially optimal. This results in inefficiency. All other pairs correctly describe the features of their respective market structures.

72. Option (d) is correct.

Explanation: The Union Budget 2025 increased the sectoral cap of FDI to 100 per cent from 74 per cent for the Insurance Sector. This decision aims to liberalize the sector, attract more foreign capital, and boost its growth and penetration in India.

73. Option (a) is correct.

Explanation: **Shrinkflation:** This is a portmanteau of “shrink” and “inflation.” It’s a common business strategy where companies reduce the quantity or size of a product, such as a smaller candy bar or fewer chips in a bag, without changing its retail price. This is a subtle way for companies to pass on rising production costs to consumers without the immediate backlash of a price increase.

74. Option (a) is correct.

Explanation: India’s Global Innovation Index rank has improved significantly from 81st in 2015 to 39th in 2024, as per WIPO. However, public sector funding accounts for the majority of R&D expenditure in India, not the private sector.

75. Option (b) is correct.

Explanation: Statement 1 is incorrect, while statement 2 is correct.

The Indian Institute of Entrepreneurship (IIE) was established in 1993, not 1999, in Guwahati.

The primary aim of the institute is to provide training, research, and consultancy activities for small and micro enterprises, focusing on entrepreneurship development.

76. Option (a) is correct.

Explanation: Statement 1 is correct, and statement 2 is incorrect. The Union Government's effective capital expenditure as a percentage of GDP has increased from 2020-21 to 2023-24, reflecting a focus on infrastructure. However, revenue expenditure as a percentage of GDP has decreased in the same period.

77. Option (b) is correct.

Explanation: The Districts as Export Hubs (DEH) initiative aims to promote exports from all districts across India, not just a select few. It was launched in 2019, is a key part of the Foreign Trade Policy 2023, and provides financial and logistical support.

78. Option (a) is correct.

Explanation: The Tim Tim Tare (TTT) initiative is a program that teaches essential life skills to adolescent students in India. Statement 2 is incorrect because TTT focuses on personal and social skills, not vocational or technical training.

79. Option (c) is correct.

Explanation: According to the NSO's PLFS report, the agriculture sector's share in employment increased from around 44% in 2017-18 to 46% in 2023-24. Additionally, the share of female workers in agriculture also grew during this period.

80. Option (a) is correct.

Explanation: The correct platform is U-WIN. This digital platform is a transformative step in India's immunization efforts. It digitizes vaccination records for pregnant women and children up to 16 years, ensuring easy access to their immunization history and helping to monitor the vaccination program.

81. Option (□) is correct.

Explanation: None of the given option is correct. British disbanded private armies of zamindars to reduce their military and coercive power. Jotedars (wealthy peasants/intermediaries) exercised direct control over tenants and had more influence locally than absentee zamindars. No specific legal protection for women's property existed under the Permanent Settlement. Adhiyars were sharecroppers cultivating land of zamindars or jotedars, not bargadars they themselves were tenant cultivators. Hence, 1 and 2 is correct 3 and 4 is wrong.

82. Option (a) is correct.

Explanation:

A.	Kudi Arasu	4.	E.V. Ramaswami Naicker
B.	Kisan Bulletin	3.	Indulal Yagnik
C.	Bombay Chronicle	2.	Pherozech Shah Mehta
D.	Bhawani Mandir	1.	Aurobindo Ghosh

83. Option (d) is correct.

Explanation: All three statements about the Ghadar Movement are correct. It began in 1913 in San Francisco, was co-founded by Sohan Singh Bhakna, and its name came from its weekly newspaper, Ghadar, which aimed to spread a revolutionary message.

84. Option (a) is correct.

Explanation: The correct chronological order of the formation of these political associations is:
Poona Sarvajanik Sabha (1870)
Indian Association (1876)
Madras Mahajan Sabha (1884)
Bombay Presidency Association (1885)

85. Option (a) is correct.

Explanation: The evidence of a ploughed field at Kalibangan belongs to the Early Harappan period. This significant discovery indicates that agricultural practices were well-established in the region around 2800 BCE, preceding the mature phase of the Indus Valley Civilization.

86. Option (b) is correct.

Explanation: The Dandi March (1930) came first, followed by the Gandhi-Irwin Pact (1931). Next was the Second Round Table Conference (1931), and finally, the Muslim League's Pakistan Resolution (1940).

87. Option (c) is correct.

Explanation: Girnar is known for the Sudarshana Lake.

Cholistan is a site where a terracotta model of a plough was found.

The headless statue of Kanishka was found at Mant.

Sannati is in Karnataka, not Odisha, and is known for Ashokan rock edicts.

88. Option (d) is correct.

Explanation: The statement that they were not allowed to use their share of revenue for the maintenance of temples is incorrect. The Amara-Nayakas of the Vijayanagara Empire often used a portion of their collected revenue to maintain temples and irrigation works, which was a crucial part of their administrative responsibilities and social duties.

89. Option (b) is correct.

Explanation: The poem "Khoob ladi mardani woh to Jhansi wali rani thi" was written by (b) Subhadra Kumari Chauhan.

90. Option (d) is correct.

Explanation: Ellora is a unique site, having 34 caves representing Buddhism (12), Hinduism (17), and Jainism (5) caves. The Kailasa Temple is a monolithic structure carved from a single rock, not built with dressed stone and bricks.

91. Option (a) is correct.

Explanation: The Guntupalle Buddhist Caves are located in Andhra Pradesh.

They are situated near the town of Kamavarapukota in the West Godavari district of the state. The site is a significant archaeological and historical complex that features rock-cut caves, chaityas (prayer halls), and viharas (monasteries) dating back to the 2nd century BCE.

92. Option (c) is correct.

Explanation: Both statements are correct. The Ajanta cave paintings depict a wide range of beings including yakshas, gandharvas, and apsaras. Artists also used the technique of multiple perspectives to show different scenes simultaneously within a single frame, a key feature of ancient Indian art.

93. Option (c) is correct.

Explanation: "Neel Darpan" (The Indigo Mirror) was a Bengali play written by Dinabandhu Mitra in 1860, depicting the exploitation and atrocities committed by British indigo planters on Indian peasants. The play was later translated into English by James Long.

94. Option (c) is correct.

Explanation: Shah Mal, a local Jat leader from Baraut in present-day Uttar Pradesh, mobilised peasants during the 1857 revolt.

He captured the bungalow of an English indigo planter and converted it into a "hall of justice", symbolising self-rule.

Gonoo (sometimes spelled Gunu) was a Kol tribal leader from the Singhbhum region of present-day Jharkhand (Chotanagpur plateau). He actively led the tribal resistance against the British during the 1857 uprising.

95. Option (c) is correct.

Explanation: The novel, written by Bankim Chandra Chattopadhyay, presents the concept of the Motherland (Bharat Mata) through three powerful, allegorical images:

"Mother as she was": The Mother Goddess as she was in the past, full of glory and prosperity.

"Mother as she is": The Mother Goddess as she is in the present, shackled and in bondage.

"Mother as she will be": The Mother Goddess as she will be in the future, free from all shackles and in her full glory.

96. Option (a) is correct.

Explanation: Only one statement is correct. Sarojini Naidu led a delegation to London to demand female franchise in 1919. Statements 1 and 2 are incorrect; the book "A Comparison Between Women and Men" was written by Tarabai Shinde in 1882, not Pandita Ramabai, and her work was not in medicine.

97. Option (d) is correct.

Explanation: The Sanikatta Salt Works, a site of a Salt Satyagraha, is located in Karnataka. Situated in the Uttara Kannada district, it was one of the key locations in South India where protests were held against the British salt tax, inspired by Mahatma Gandhi's Dandi March.

98. Option (a) is correct.

Explanation: The Kalaram temple, known for temple entry movements in the early twentieth century, is located in Maharashtra. It is situated in Nashik and was the site of a major satyagraha led by Dr. B.R. Ambedkar in 1930 to demand entry for Dalits into the temple.

99. Option (d) is correct.

Explanation: Matangini Hazra and Lakshman Naik both sacrificed their lives during the Quit India Movement in 1942. Matangini Hazra was shot while leading a march in Tamluk, Bengal, and Lakshman Naik was a tribal leader from Odisha who was hanged for his role in the protests.

100. Option (b) is correct.

Explanation: The word "kopeki" is associated with Coins. While a kopeck is a Russian coin, a likely historical link is through trade or the name of a Mongol general, Kopek, who invaded the Delhi Sultanate. The term is not native to India but is found in some historical contexts.

101. Option (d) is correct.

Explanation: The metal extracted by the electrolysis of its molten compound is Na (Sodium). Sodium is highly reactive and can't be reduced by carbon. The Downs process uses electrolysis of molten sodium chloride (NaCl) to produce pure sodium metal.

102. Option (d) is correct.

Explanation: Graphene is a unique material with a zero-band gap, meaning it behaves more like a metal or a semimetal rather than a semiconductor. A semiconductor has a finite band gap, which allows its conductivity to be controlled. Graphene's zero band gap is what gives it its exceptional electrical properties.

103. Option (b) is correct.

Explanation: Plastics don't degrade easily because their long polymer chains are held together by strong covalent bonds. These bonds are incredibly stable and difficult to break, making them resistant to breakdown by microorganisms and natural processes, causing them to persist in the environment for a very long time.

104. Option (c) is correct.

Explanation:

- (a) $\text{C}_2\text{H}_5\text{OH} \rightarrow$ Ethanol (an alcohol, not a carboxylic acid).
- (b) $\text{C}_3\text{H}_8 \rightarrow$ Propane (an alkane, not a carboxylic acid).
- (c) $\text{C}_2\text{H}_5\text{COOH} \rightarrow$ Propanoic acid (a carboxylic acid).
- (d) $\text{CH}_3\text{COCH}_3 \rightarrow$ Acetone (a ketone, not a carboxylic acid)

105. Option (d) is correct.

Explanation: Benzene's six π -electrons are delocalised over the hexagonal ring, forming a stable electron cloud above and below the plane, which is the key feature of its aromaticity. Bond lengths and angles result from this delocalisation.

106. Option (c) is correct.

Explanation:

Nitrogen fertilizers are compounds that provide reactive nitrogen to plants.

- (a) $(\text{NH}_4)_2\text{SO}_4 \rightarrow$ Ammonium sulfate – nitrogen fertilizer.
- (b) $\text{NH}_4\text{NO}_3 \rightarrow$ Ammonium nitrate – nitrogen fertilizer.
- (d) $(\text{NH}_2)_2\text{CO} \rightarrow$ Urea – nitrogen fertilizer.
- (c) $\text{N}_2 \rightarrow$ Molecular nitrogen (from air) – inert and not directly usable by plants, so it is not a nitrogen fertilizer.

107. Option (d) is correct.

Explanation: Transition metals are elements whose $(n-1)d$ orbitals are being filled.

General electronic configuration: $(n-1)d^{1-10}ns^{0-2}$, where:

- n = principal quantum number of the outermost shell.
- The d -orbitals can have 1 to 10 electrons, and the s -orbital can have 0 to 2 electrons.

108. Option (c) is correct.

Explanation: Variable oxidation numbers occur in elements that have partially filled d -orbitals, allowing them to lose different numbers of electrons.

Iron (Fe) can have +2 and +3 oxidation states (common), and sometimes +6 in compounds.

Sodium (Na) $\rightarrow$ always +1

Calcium (Ca) $\rightarrow$ always +2

Lithium (Li) $\rightarrow$ always +1

109. Option (b) is correct.

Explanation: Hydrogen sulphide is a colourless, flammable and poisonous gas. Its distinctive, foul odour is often one of the first indicators of its presence, even at very low concentrations. It is naturally produced from the breakdown of organic matter in the absence of oxygen, such as in swamps, sewers and volcanoes.

110. Option (d) is correct.

Explanation:

- In a double displacement reaction, the cations and anions of two compounds exchange places.
- Here, K^+ from KCl and Ba^{2+} from BaSO_4 interact in solution to form BaSO_4 precipitate:
 $\text{Ba}_2 + (\text{aq}) + \text{SO}_4^{2-} (\text{aq}) \rightarrow \text{BaSO}_4(\text{s})\text{Ba}^{2+} (\text{aq}) + \text{SO}_4^{2-} (\text{aq}) \rightarrow \text{BaSO}_4 (\text{s})\text{Ba}_2 + (\text{aq}) + \text{SO}_4^{2-} (\text{aq}) \rightarrow \text{BaSO}_4 (\text{s})$
- The reaction involves exchange of ions and formation of a precipitate, which is typical of double displacement reactions.

111. Option (d) is correct.

Explanation: The correct scheme for classifying animals is a hierarchical system that includes the following ranks, from broadest to most specific: Domain, Kingdom, Phylum, Class, Order, Family, Genus and Species. In the options given, option (d) is the correct answer.

112. Option (a) is correct.

Explanation: Tuberculosis (TB) is an airborne infectious disease caused by the bacterium *Mycobacterium tuberculosis*. The bacteria spread through the air when a person with active TB disease in their lungs or throat coughs or sneezes, releasing airborne droplets containing

the bacteria. If a person breathes in these droplets, the germs can settle in lungs and begin to grow, potentially leading to infection.

Malaria is caused by *Plasmodium* protozoa, transmitted to humans through the bite of infected female *Anopheles* mosquitoes.

Dengue is caused by the dengue virus (DENV), transmitted to humans through the bite of an infected mosquito, primarily the *Aedes aegypti* mosquito.

Cholera is caused by the bacterium *Vibrio cholerae*, which enters the body through contaminated food or water.

113. Option (b) is correct.

Explanation: The ABO blood group system classifies human blood into types A, B, AB and O, based on inherited properties of red blood cells (erythrocytes) as determined by the presence or absence of the antigens A and B, which are carried on the surface of the red cells. Persons may thus have type A, type B, type O, or type AB blood. The A, B, and O blood groups were first identified by Karl Landsteiner in 1901.

114. Option (c) is correct.

Explanation: The cervix is a part of the female reproductive system and is a small canal that connects the uterus and vagina.

The remaining options are parts of the male reproductive system. The prostate gland is an internal organ, located below the bladder, that produces seminal fluid. The scrotum is a pouch of skin outside the body that contains the testicles (or testes) which produce sperm and the male hormone testosterone.

115. Option (c) is correct.

Explanation: The brain is divided into three main parts: the forebrain, midbrain and hindbrain. The forebrain is the largest part, responsible for higher cognitive functions; the midbrain is a small part that acts as a relay station for sensory information; and the hindbrain controls essential functions like balance, movement, and vital automatic processes such as heart rate and breathing.

116. Option (a) is correct.

Explanation: Tooth enamel is primarily made of a mineral called hydroxyapatite, which is a crystalline form of calcium phosphate. This crystal structure makes enamel the hardest substance in the human body.

117. Option (b) is correct.

Explanation: Villi are tiny, finger-like projections that line the inner surface of the small intestine, and increase its surface area for nutrient absorption into the bloodstream.

118. Option (c) is correct.

Explanation: A disaccharide is a molecule composed of two monosaccharides joined together by a glycosidic linkage. Maltose and lactose are both disaccharides, consisting of two glucose units in the case of maltose and glucose and galactose in the case of lactose.

Starch and glycogen are polysaccharides, meaning they are composed of many monosaccharides linked together.

Glucose and galactose are monosaccharides.

Ribose and xylose are also monosaccharides, not disaccharides.

119. Option (c) is correct.

Explanation: Prokaryotic cells lack membrane-bound organelles like mitochondria, a definitive nucleus and Golgi bodies. However, ribosomes, which are essential for protein synthesis, are found in both prokaryotic and eukaryotic cells. Thus, option (c) is the answer.

120. Option (c) is correct.

Explanation: A solution with a pH value less than 7 is an Acidic solution.

Basic solutions have a pH value greater than 7.

Neutral solutions have a pH value of 7.

Hypotonic solution refers to the concentration of solutes being less outside a cell membrane than inside, causing water to flow into the cell. This is not related to pH.

□□□