SSC CGL Tier-II
Previous Year Paper Paper-I
26 Oct, 2023 General Awareness

Q.1 Who was the second vice-President of India?

1. VV Giri

2. Krishna Kant

3. Dr Zakir Hussain

4. Dr S Radhakrishnan

Ans:- 3 Dr Zakir Hussain

- Dr Zakir Hussain served as Vice-President from **1962 to 1967**
- He was the **first Muslim Vice-President** of India
- Before becoming Vice-President he was a noted educationist and **co-founder of Jamia Millia Islamia**
- After his term as Vice-President he became the third President of India
- He was posthumously awarded the **Bharat Ratna in 1963.**
- ***Additional Information:***
- V. V. Giri was the fourth Vice-President of India (1967–1969)
- Later became the fourth President of India (1969–1974)
- Krishna Kant was the ninth Vice-President of India (1997–2002)
- Dr S Radhakrishnan was the first Vice-President of India (1952–1962)
- Later became the second President of India (1962–1967)

Q.2 Match the following

Characteristics /Other Name	Name of River
A. Area of Badland topography	1. Godavari
B. Vridh Ganga	2. Brahmaputra
C. Tsangpo	3. Kosi
D. Sorrow of Bihar	4. Chambal

1. A-4, B-1, C-3, D-2

2. A-1, B-4, C-2, D-3

3. A-4, B-2, C-1, D-3

4. A-4, B-1, C-2, D-3

Ans:- 4 A-4, B-1, C-2, D-3

- Chambal River is known for severe soil erosion and **badland topography.**
- Godavari is often called the **"Vridh Ganga" or "Old Ganga"** due to its sacred status.
- The Brahmaputra is called **Tsangpo** in Tibet.
- The Kosi River causes frequent floods and is known as the **Sorrow of Bihar.**
- ***Additional Information:***
- **Ganga River** is the longest river in India about 2,525 km long
- Originates from the **Gangotri Glacier** in the Himalayas as the Bhagirathi
- **Sindhu (Indus) River is** one of the longest rivers in the world about 3,180 km long
- Originates from **Lake Mansarovar** in Tibet flows through India and Pakistan.
- Main tributaries include **Jhelum, Chenab, Ravi, Beas and Sutlej** (also called the Panjnad).

Q.3 Which of the following options represents the total income earned by individuals from all the sources before deduction of personal income taxes?

1. Disposable income

2. Personal income

3. Gross income

4. National income

Ans:- 2 Personal income

- Personal Income is the total income received by individuals from all sources before deducting personal income taxes.
- Includes wages, salaries, interest, rent, dividends, and transfer payments like pensions and unemployment benefits.
- It does not include retained earnings of businesses or corporate taxes.
- Used as a basis to calculate disposable income by subtracting personal taxes.
- ***Additional Information:***
- **Disposable Income** is the income left after personal income taxes are deducted from personal income.
- Represents the actual money available to individuals for spending or saving.
- **Gross Income** refers to the total earnings of an individual before taxes and deductions.
- Commonly used in paychecks or income tax forms.
- **National Income** is the total income earned by a nation's residents and businesses during a specific time.

Q.4 Match List-I with List-II.

List-I (Chemical compound)	**List-II (Spices)**
A. Curcuminoids	**1. ardamom**
B. 1,8-cineole	**2. Black pepper**
C. Eugenol	**3. Turmeric**
D. Piperine	**4. Cloves**

1. A-2, B-4, C-1, D-3
2. A-3, B-1, C-4, D-2
3. A-1, B-2, C-3, D-4
4. A-4, B-3, C-2, D-1

Ans:- 2 A-3, B-1, C-4, D-2

- Curcuminoids are the active compounds in turmeric giving it its yellow color and many health benefits.
- 1,8-cineole (also known as eucalyptol) is one of the main compounds found in cardamom contributing to its distinct aroma.
- Eugenol is a key compound in cloves giving them their characteristic spicy flavor and aroma.
- Piperine is the active compound in black pepper and responsible for its pungent taste.
- ***Additional Information:***
- **Crocins** are the chemical compounds responsible for the yellow color of saffron.
- **Gingerol** is the compound responsible for the spicy and zesty flavor of ginger.
- **Cinnamaldehyde** is the compound responsible for the sweet and spicy flavor of cinnamon.
- **Allyl isothiocyanate** is the compound that gives mustard its sharp and pungent flavor.
- **Fenugreekine** is a compound found in fenugreek seeds that contributes to their bitter and slightly nutty flavor.

Q.5 According to which of the following foreign travellers did Dhruvasena II attend Harsha's assembly at Prayag (Allahabad)?

1. Marco Polo

2. Hiuen Tsang

3. Fa-Hien

4. Itsing

Ans:- 2 Hiuen Tsang

- Hiuen Tsang (Xuanzang) was a Chinese Buddhist monk and scholar who traveled to India in the 7th century to study Buddhism.
- He visited Harsha's court and recorded

detailed accounts of the religious and political landscape in India during Harsha's reign.

- He is famous for his detailed travelogue "Si-Yu-Ki" which provides insights into the conditions in India at the time.
- Hiuen Tsang attended Harsha's assembly in Prayag (Allahabad) and mentioned the participation of Dhruvasena II, the ruler of Vallabhi in the assembly.
- ***Additional Information:***
- Marco Polo was a Venetian explorer who traveled extensively throughout Asia in the 13th century.
- Fa-Hien was a Chinese Buddhist monk who traveled to India in the early 5th century, before the time of Harsha's reign.
- tsing was a Chinese Buddhist monk who traveled to India in the 7th century slightly later than Hiuen Tsang.
- He traveled to India for Buddhist studies and to collect Buddhist scriptures to bring back to China.

Q.6 The Constitution (Scheduled Tribes) Order (Fourth Amendment) Bill, 2022 was passed in Rajya Sabha in December 2022. It seeks to amend the Constitution (Scheduled Tribes) Order, 1950, with respect to its application to the State of _____.

1. Karnataka

2. Rajasthan

3. Goa

4. Manipur

Ans:- 1 Karnataka

- The Constitution (Scheduled Tribes) Order (Fourth Amendment) Bill, 2022 was passed in the Rajya Sabha on December 22, 2022.
- This bill amends the Constitution (Scheduled Tribes) Order, 1950 specifically concerning the state of Karnataka.
- The amendment includes the community 'Betta-Kuruba' as a synonym for 'Kadu Kuruba' in the list of Scheduled Tribes in Karnataka.
- The bill was introduced in the Lok Sabha on December 9, 2022 and was passed by both the Lok Sabha and the Rajya Sabha by December 22, 2022.
- ***Additional Information:***
- Amendments to the Constitution of India are made as per **Article 368,** which outlines the process for changing the Constitution to meet evolving needs.
- Amendments can be done through a **simple majority, special majority or two-thirds majority** in Parliament depending on the type of change required.
- Important historical amendments include the **42nd Amendment (1976),** which introduced significant changes and the **44th Amendment (1978)** which reversed some of the previous changes.

Q.7 Match the following subject matters with their concerned Articles. A,B

1. Superintendence, direction and control of elections to be vested in an Election commission - A) Article 329

2. Power of parliament to make provision with respect to election to legislature - B) Article 324

3. Bar of interference by courts in electoral matters - C) Article 327

1. 1-C, 2-B, 3-A

2. 1-A, 2-C, 3-B

3. 1-A, 2-B, 3-C

4. 1-B, 2-C, 3-A

Ans:- 3. 1-A, 2-B, 3-C.

- Article 324 deals with the superintendence, direction and control of elections which is vested in an

Election Commission.

- Article 327 gives parliament the power to make provisions with respect to elections to the legislature.
- Article 329 includes the bar of interference by courts in electoral matters.
- ***Additional Information:***
- Article 352 grants the President the power to declare a National Emergency in case of war, external aggression or armed rebellion.
- Article 356 empowers the President to impose President's Rule in any state if the government in the state is unable to function according to the Constitution.
- Article 360 allows the President to declare a Financial Emergency if the financial stability or credit of India or any part is threatened.
- National Emergency under Article 352 can be imposed for a maximum of 6 months extendable with parliamentary approval.

Q.8 Match the positions in List I with the states in List II, related to the 36th National Games 2022, and select the correct answer from the codes below.

List I (Positions) List II (States)

A. I position in medal tally

(i) Maharashtra

B. II position in medal tally

(ii) Haryana

C. III position in medal tally

(iii) Karnataka

D. IV position in medal tally

(iv) Services sports control board

1. A-i, B-iii, C-ii, D-iv

2. A-iv, B-i, C-ii, D-iii

3. A-i, B-ii, C-iii, D-iv

4. A-ii, B-i, C-iii, D-iv

Ans:- 2 A-iv, B-i, C-ii, D-iii

- The I position in the medal tally of the 36th National Games 2022 was secured by the Services Sports Control Board.
- The II position was taken by Maharashtra.
- The III position went to Haryana.
- The IV position was secured by Karnataka.
- ***Additional Information:***
- The **Indian Olympic Association** was established in **1927** as the apex body responsible for the Olympic Movement in India.
- IOA is the official body for selecting Indian athletes for the Olympic Games, Asian Games, Commonwealth Games and other international events.
- IOA is affiliated with the **International Olympic Committee (IOC) and the Olympic Council of Asia,** ensuring India's participation in international sporting events.
- As of December 2022, **PT Usha,** a legendary Indian athlete was elected as the first woman president of the Indian Olympic Association.

Q.9 Which of the following are some regions in the world, known for their thriving citrus fruit production?

1. Africa

2. Equatorial regions

3. Caribbean

4. Mediterranean regions

Ans:- 4 Mediterranean regions

- Mediterranean regions have a mild, wet winter and hot and dry summer which is ideal for citrus cultivation.
- Countries like Spain, Italy, Greece and Turkey are major producers of oranges, lemons and mandarins.

- Citrus fruits grown here are known for their high quality and export value.
- The region's well-drained soils and sunny climate enhance the sweetness and flavor of the fruits.
- Mediterranean citrus is a significant part of the global citrus market, especially for fresh consumption and juice production.
- ***Additional Information:***
- **Africa** especially countries like South Africa is a significant exporter of citrus fruits particularly oranges and lemons.
- **South Africa** is the **largest exporter** of citrus fruits in Africa particularly to Europe and the Middle East.
- **Equatorial regions** which include parts of Southeast Asia and Central America are known for tropical fruits like bananas, pineapples and coconuts rather than citrus.
- **The Caribbean region** has a favorable climate for citrus fruit production with countries like Cuba, Dominican Republic and Haiti producing oranges and grapefruits.

Q.10 Based on current scientific knowledge, it is currently postulated that the Earth has an estimated age of:

1. about 4,50,00,00,000 years

2. about 95,00,00, 00 years

3. about 45,00,000 years

4. about 65,00,000 years

Ans:- 1 about 4,50,00,00,000 years

- Based on scientific research including radiometric dating of rocks and meteorites. Earth is estimated to be around 4.5 billion years old.
- This estimation is derived from the ages of the oldest known terrestrial rocks and meteorites found on Earth.
- The solar system itself, including the Earth is thought to have formed from a cloud of gas and dust that collapsed under its own gravity.
- The formation of Earth is believed to have occurred through processes like accretion and collision of dust and gas particles that eventually formed the planets.
- ***Additional Information:***
- In the **Hadean Eon** from 4.5 to 4 billion years ago the crust solidified and early atmosphere and oceans formed
- The **Archean Eon** from 4 to 2.5billion years ago saw the appearance of the first life forms
- During the **Proterozoic Eon** from 2.5 billion to 541 million years ago oxygen built up and complex life emerged
- The **Phanerozoic Eon** from 541 million years ago to present marks the evolution of diverse life forms including humans

Q.11 What kind of energy is associated with falling coconuts, speeding cars, rolling stones and flying aircraft?

1. Potential energy
2. Kinetic Energy
3. Radiant energy
4. Elastic energy

Ans:- 2 Kinetic Energy

- Kinetic energy is the energy an object has due to its motion.
- Falling coconuts, speeding cars, rolling stones and flying aircraft all have kinetic energy because they are in motion.
- The amount of kinetic energy depends on the mass of the object and its velocity (KE = 1/2 mv^2).
- As objects move faster, their kinetic energy increases significantly due to the square of the velocity.

- ***Additional Information:***
- **Potential energy** is the energy stored in an object due to its position or condition.
- It depends on factors like height, gravity and elasticity.
- **Radiant energy** refers to the energy of electromagnetic waves such as light or radio waves.
- **Elastic energy** is the energy stored in an object when it is stretched or compressed like a stretched spring or a compressed rubber band.

Q.12 Match the following details regarding Phase-I of Bharatmala Project.

Scheme	**Targeted Length (in km)**
A. Economic corridors	**1. 9000**
B. Border and international connectivity roads	**2. 2000**
C. Expressways	**3. 800**
D. Inter-corridors and feeder roads	**4. 6000**

1. A-1, B-3, C-2, D-4
2. A-4, B-2, C-3, D-1
3. A-1, B-2, C-3, D-4
4. A-1, B-2, C-4, D-3

Ans:- 3 A-1, B-2, C-3, D-4

- Economic corridors target a length of 9000 km.
- Border and international connectivity roads target a length of 2000 km.
- Expressways target a length of 800 km.
- Inter-corridors and feeder roads target a length of 6000 km.
- ***Additional Information:***
- **National Highways Development Project (NHDP)** launched in 2001, NHDP aimed to upgrade and expand India's national highways network.
- Key components include Golden Quadrilateral, North-South and East-West Corridors and Port Connectivity.
- **Pradhan Mantri Gram Sadak Yojana (PMGSY)** launched in 2000 and it focuses on providing all-weather road connectivity to rural areas.
- PMGSY aims to connect unconnected habitations with paved roads and improve rural infrastructure for better mobility.

Q.13 In September 2022, the Government of _____ decided to launch a campaign aimed at women's safety titled 'Hamar Beti Hamar Maan' (our daughter, our honour).

Its focus will be creating awareness on safety measures among school- and college going girls and prioritising registration and investigation of women-related crimes.

1. Bihar 2. Madhya Pradesh
3. Jharkhand 4. Chhattisgarh

Ans:- 4 Chhattisgarh

- The Chhattisgarh Government launched the 'Hamar Beti Hamar Maan' campaign in September 2022.
- The campaign focuses on creating awareness about safety measures among school- and college-going girls.
- It aims to prioritize the registration and investigation of women-related crimes.
- Women police personnel will visit schools and colleges to educate girls on safety and legal rights.
- The campaign includes setting up a helpline for complaints and special patrolling teams around educational institutions.
- ***Additional Information:***
- **Beti Bachao Beti Padhao (BBBP)** campaign launched in 2015 by the Government of India.

- BBBP aims to address the declining Child Sex Ratio (CSR) and promote the education and empowerment of girls.
- **Digital Shakti Campaign** launched in 2018 and initiated by the National Commission for Women (NCW) in collaboration with the CyberPeace Foundation and Meta.
- The campaign aims to raise awareness among women about digital safety, build resilience and combat cybercrime.

Q.14 According to Census of India 2011, in which of the following states was the gap in the literacy rates of males and females, highest?

1. Meghalaya
2. Mizoram
3. Rajasthan
4. Kerala

Ans:- 3 Rajasthan

- According to the Census of India 2011, Rajasthan had the highest gap in literacy rates between males and females.
- Male literacy rate in Rajasthan: 79.19%
- Female literacy rate in Rajasthan: 52.12%
- The literacy gap in Rajasthan was approximately 27.07 percentage points
- ***Additional Information:***
- In **Meghalaya** male literacy was **75.95%** and female literacy was 72.89% resulting in a gap of about 3.06 percentage points.
- In **Mizoram** male literacy was **93.35%** and female literacy was 89.27% resulting in a gap of about 4.08 percentage points.
- In **Kerala** male literacy was **96.11%** and female literacy was 91.07% resulting in a gap of about 5.04 percentage points.

Q.15 Match the following Prime Ministers of India with the Five-Year Plans they initiated.

List-1 (Prime Ministers)

List-2 (Five-Year Plans)

i: Jawaharlal Nehru

a) Second Five-Year Plan

ii: Manmohan Singh

b) Tenth Five-Year Plan

iii: Atal Bihari Vajpayee

c) Eleventh Five-Year Plan

1. i-b, ii-c, iii-a
2. i-c, ii-b, iii-a
3. i-b, ii-a, iii-c
4. i-a, ii-c, iii-b

Ans:- 4 i-a, ii-c, iii-b

- Jawaharlal Nehru's Second Five-Year Plan focused on industrialization with a major emphasis on the public sector and infrastructure development.
- Manmohan Singh's Eleventh Five-Year Plan aimed for inclusive growth, focusing on poverty reduction and improving education and health.
- Atal Bihari Vajpayee's Tenth Five-Year Plan focused on 8% growth, poverty reduction and addressing regional disparities.
- The Second Five-Year Plan was known for its focus on the development of heavy industries and the establishment of large-scale industrial projects.
- ***Additional Information:***
- **NITI Aayog** was established through a Union Cabinet Resolution on January 1, 2015, with the aim to provide a forward-thinking approach for India's growth.
- The Prime Minister of India serves as the Chairperson of NITI Aayog with the Vice-Chairperson and Chief Executive Officer (CEO) leading its operations.

- NITI Aayog is tasked with the preparation of a National Development Agenda and a framework for coordinated action at the national, state and local levels.
- The Atal Innovation Mission (AIM), part of NITI Aayog, encourages entrepreneurship and innovation through initiatives such as the Startup India campaign and the Atal Tinkering Labs.

Q.16 Which Committee had suggested a penalty or punishment for the non-performance of Fundamental Duties?

1. Indira Gandhi Committee
2. Morarji Desai Committee
3. Verma Committee
4. Swaran Singh Committee

Ans:- 4 Swaran Singh Committee

- The Swaran Singh Committee was set up in 1976 to recommend changes to the Constitution of India.
- It suggested the inclusion of Fundamental Duties in the Constitution which were later added by the 42nd Amendment in 1976.
- The Committee also proposed a penalty or punishment for the non-performance of these duties.
- The Fundamental Duties were added to Article 51A of the Constitution but without any legal penalties for their non-performance.
- ***Additional Information:***
- The Indira Gandhi Committee was formed in 1969 to look into the issues related to the nationalization of banks.
- It recommended restructuring the banking system leading to the nationalization of 14 major commercial banks in 1969.
- The Morarji Desai Committee was established in 1977 after the Emergency period, under the leadership of Morarji Desai.
- The Verma Committee was set up in 2012 under the chairmanship of Justice J.S. Verma in response to the Delhi gang rape incident.

Q.17 Among the choices listed, which one is NOT a form of cancer?

1. Glaucoma 2. Carcinoma
3. Lymphoma 4. Sarcoma

Ans:- 1 Glaucoma

- Glaucoma is a group of eye diseases that cause damage to the optic nerve which is crucial for vision.
- It is often associated with increased intraocular pressure (IOP) which can damage the optic nerve over time.
- The two main types are open-angle glaucoma (most common) and angle-closure glaucoma.
- It is a leading cause of blindness especially if untreated as it often progresses without noticeable symptoms in the early stages.
- ***Additional Information:***
- **Carcinoma** is a type of cancer that begins in the skin or tissues that line or cover internal organs.
- **Lymphoma** is a type of cancer that starts in the lymphatic system which is part of the body's immune system.
- **Sarcoma** is a cancer that arises from connective tissues like bones, muscles or cartilage.

Q.18 In September 2022, the _____ Assembly sets aside one day for women MLAs to speak about women issues such as safety, health, hygiene and education .

1. Rajasthan
2. Punjab
3. Uttar Pradesh

4. Madhya Pradesh

Ans:- 3 Uttar Pradesh

- In September 2022, the Uttar Pradesh Legislative Assembly dedicated one day for women MLAs to discuss issues like safety, health, hygiene and education.
- The move was aimed at giving women legislators a platform to highlight important issues affecting women.
- This initiative marked the first time in India that a legislative assembly set aside an entire day for women legislators to speak.
- The day was significant in addressing growing concerns about women's safety and issues such as inflation and unemployment.
- ***Additional Information:***
- **Mission Shakti** launched in October 2020 by Uttar Pradesh Chief Minister Yogi Adityanath aimed at empowering women and ensuring their safety.
- Key components include Sambal (safety and legal support) and Samarthya (skill development and self-reliance).
- Mission Shakti 5.0 (2024) introduced programs like the 'Mahila Swasthya Line' and new Sakhi Niwas hostels for working women.
- The mission has reached over 76,000 women across 75 districts promoting women's empowerment and economic independence.

Q.19 Who among the following has written the 'Badshah Nama'?

1. Babur
2. Abdul Hamid Lahori
3. Inayat Khan
4. Abul Fazl

Ans:- 2 Abdul Hamid Lahori

- Abdul Hamid Lahori was a court historian during the reign of Mughal emperor Shah Jahan.
- He wrote the Badshah Nama a chronicle of Shah Jahan's rule focusing on events from 1627 to 1658.
- The text is written in Persian and the official language of the Mughal court.
- His work includes detailed descriptions of Shah Jahan's military campaigns, governance and major architectural projects like the Taj Mahal.
- ***Additional Information:***
- Babur wrote the Baburnama, his autobiography, in Chagatai Turkish, not Persian. It covers his life before founding the Mughal Empire in India.
- Inayat Khan was a Mughal historian under Shah Jahan but he authored the Shah Jahan Nama.
- Abul Fazl was the court historian of Akbar.
- He wrote the Akbarnama and Ain-i-Akbari and documenting Akbar's reign.

Q.20 What will be the average kinetic energy per molecule in SI units for an ideal gas at a temperature of 25°C?

1. 9.17×10^{-22} J
2. 6.17×10^{-21} J
3. 7.17×10^{-20} J
4. 8.17×10^{-22} J

Ans:- 2 6.17×10^{-21} J

To find the average kinetic energy per molecule of an ideal gas, use the formula:

Average kinetic energy = $(3/2) \times k \times T$

Where

$k = 1.38 \times 10^{-23}$ joules per kelvin (Boltzmann constant)

$T = 25°C = 298$ K

Now calculate:

Mlultiply k and T

$1.38 \times 10^{-23} \times 298 = 4.1124$

$\times 10^{-21}$

Multiply by 3/2

$(3/2) \times 4.1124 \times 10^{-21} = \mathbf{6.1686 \times 10^{-21}}$ **joules**

- ***Additional Information:***
- Kinetic energy is the energy possessed by an object due to its motion
- Calculated using the formula ½ mv^2 where m is mass and v is velocity
- The faster an object moves, the greater its kinetic energy
- Measured in joules (J) in the SI system
- A key form of energy in objects like moving cars, flowing water and wind

Q.21 Which of the following is a possible criticism of privatisation?

1. Expansion of bureaucracy and efficiency in public enterprises
2. Excessive government interference into private businesses
3. Limited access to essential services for marginalised populations
4. Reduced competition and innovation in the market

Ans:- 3 Limited access to essential services for marginalised populations

- Privatization can lead to higher costs for essential services making them unaffordable for marginalized groups.
- Private companies may prioritize profit over social welfare reducing accessibility for low-income populations.
- Essential services like healthcare or education may become limited to those who can afford them leading to inequality.
- Privatization may cause the closure of public services in less profitable areas and leaving marginalized communities without access.
- ***Additional Information:***
- The LPG reforms in India were introduced during the government of P.V. Narasimha Rao who was the Prime Minister from 1991 to 1996.
- The finance minister at that time was Dr. Manmohan Singh who played a key role in implementing these reforms.
- The reforms helped modernize industries by allowing them access to global technology and international markets.
- Financial sector reforms included the liberalization of interest rates and the reduction of government control over the banking sector.

Q.22 What are the elements in group zero commonly known as?

1. Reactive
2. Inert gases
3. Radioactive
4. Volatile

Ans:- 2 Inert gases

- Elements in Group 0 of the periodic table are commonly known as inert gases or noble gases.
- They include Helium, Neon, Argon, Krypton, Xenon and Radon.
- These gases are chemically inert because they have a full outer electron shell making them stable.
- They do not readily form compounds with other elements.
- They are used in lighting, welding and in applications requiring non-reactive environments.
- ***Additional Information:***
- Reactive gases tend to easily form compounds with other elements.
- Oxygen and Chlorine are examples of reactive gases.
- Radioactive elements are unstable and decay over time and emitting radiation such as alpha, beta or gamma particles.

- Examples of radioactive elements include Uranium, Radon and Thorium.
- Volatile substances are those that easily vaporize at room temperature due to their low boiling points.
- Examples of volatile substances include alcohol, acetone and gasoline.

Q.23 Match List-I with List-II.

List-I (Acid)	**List-II (Food Source)**
A. Carbonic acid	**1. Mustard oil**
B. Lauric acid	**2. Butter**
C. Butyric acid	**3. Soda Water**
D. Erucic acid	**4. Coconut milk**

	A	**B**	**C**	**D**
1.	1	4	2	3
2.	3	4	2	1
3.	2	3	1	4
4.	4	2	3	1

Ans:- 2 3 4 2 1

- Carbonic acid is found in soda water. It forms when carbon dioxide is dissolved in water giving carbonated drinks their fizz.
- Lauric acid is present in coconut milk. It is a medium-chain fatty acid commonly found in coconut oil and milk.
- Butyric acid is found in butter. It is a short-chain fatty acid that gives butter its characteristic smell and taste.
- Erucic acid is present in mustard oil. It is a long-chain fatty acid that is prominent in mustard seeds and mustard oil.
- ***Additional Information:***
- The chemical formula for oxalic acid is $C_2H_2O_4$.
- It is commonly found in plants such as spinach, rhubarb and kale.
- The chemical formula for lactic acid is $C_3H_6O_3$.
- It is also found in fermented foods like yogurt and sauerkraut.
- The chemical formula for acetic acid is $C_2H_4O_2$.
- Acetic acid is most commonly found in vinegar

Q.24 Identify the INCORRECTLY matched pair(s) of the British Governor-Generals of India and the events with which they are associated.

i) Lord Dalhousie - Revolt of 1857

ii) Lord Auckland - First Afghan War

iii) Lord Canning - Wood's Despatch 1854

1. Only (ii) and (iii)
2. Only (ii)
3. Only (i) and (iii)
4. Only (i)

Ans:- 3 Only (i) and (iii)

- Lord Dalhousie introduced the doctrine of lapse to annex states which contributed to the tensions leading to the Revolt of 1857.
- Lord Auckland's decision to invade Afghanistan in the First Afghan War led to a disastrous defeat for the British.
- Lord Canning was the first Viceroy of India overseeing the Revolt of 1857.
- Wood's Despatch of 1854focused on the development of education in India under Lord Dalhousie's administration.
- ***Additional Information:***
- The Regulating Act of 1773 aimed to address corruption in the British East India Company's administration.
- It established the position of Governor-General of India and Warren Hastings was the first to hold this role.
- It created the Board of Control to oversee the Company's activities.
- A Supreme Court was set up in Calcutta.
- The Act had limited success and was

followed by Pitt's India Act of 1784 for further reforms.

Q.25 Among the following diseases, which one is NOT inherited?

1. Down syndrome
2. Cystic fibrosis
3. Malaria
4. Muscular dystrophy

Ans:- 3 Malaria

- Malaria is caused by the Plasmodium parasite transmitted through bites of infected Anopheles mosquitoes.
- Symptoms include fever, chills, headache and fatigue. Severe cases can lead to organ failure.
- It is prevalent in sub-Saharan Africa, South Asia and Southeast Asia.
- Malaria is treated with antimalarial drugs mainly artemisinin-based combination therapies (ACTs).
- ***Additional Information:***
- Down syndrome is a genetic condition caused by an extra copy of chromosome 21, making it inherited.
- Cystic fibrosis is a genetic disorder caused by mutations in the CFTR gene making it inherited.
- Muscular dystrophy is a group of genetic diseases that cause muscle weakness and degeneration making it inherited.

Computer Knowledge Module

Q.1 A/An_____ is an organisation that connects its subscriber's computer using modem to the Internet.

1. Uniform Resource Locator
2. Web Browser
3. Web Server
4. Internet Service Provider

Ans:- 4 Internet Service Provider

- An Internet Service Provider (ISP) is a company that provides internet access to individuals, businesses and organizations.
- ISPs use various technologies such as dial-up, fiber optics, DSL and satellite to connect users to the internet.
- ISPs may offer additional services like email accounts, web hosting and domain registration.
- Popular ISPs include companies like AT&T, Comcast, Verizon and BT.
- ***Additional Information:***
- A Uniform Resource Locator (URL) is the address used to access resources on the internet.
- A Web Browser is software used to access and view websites on the internet.
- A Web Server is a system that hosts websites and delivers web content to users.
- Popular web servers include Apache, Nginx and Microsoft IIS.

Q.2 Which of the following is an example of GUI-based user agent in email?

1. Elm
2. Mail
3. Pine
4. Netscape

Ans:- 4 Netscape

- Netscape was one of the first graphical web browsers that also included an integrated email client.
- It provided a Graphical User Interface (GUI) for managing emails including reading, composing and organizing messages.
- Netscape allowed users to access POP3 and IMAP email accounts visually without using command-line tools.

- It featured tools like address books, folders and message filters common in modern email clients.
- ***Additional Information:***
- Elm, Mail and Pine are text-based email clients that run in a command-line or terminal interface.
- Elm was one of the earliest email user agents with a menu-driven interface but without graphical elements.
- Mail is a basic Unix command for sending and reading emails directly from the terminal.
- Pine (Program for Internet News and Email) offered a simple text interface for email and newsgroups later replaced by Alpine.

Q.3 In MS Office 365, the Page Setup dialog box can be found under which of the following tabs?

1. Home
2. Draw
3. Layout
4. Insert

Ans:- 3 Layout

- In MS Office 365, the Page Setup dialog box is located under the Layout tab.
- The Layout tab includes options for margins, orientation, size and columns.
- Clicking the small arrow at the bottom-right corner of the Page Setup group opens the full Page Setup dialog box.
- This dialog box allows detailed customization of page settings like paper size, margins and layout options.
- ***Additional Information:***
- The Home tab contains basic editing tools like font settings, paragraph alignment, bullets and styles but does not include page setup features.
- The Draw tab allows users to draw or annotate documents using pens, highlighters and touch or mouse input not related to page layout.
- The Insert tab is used to add elements like tables, pictures, charts and headers/footers, but it does not handle page setup.

Q.4 When the sender and receiver of an email are on the same system, we need only _____ user agents.

1. two
2. three
3. four
4. Six

Ans:- 1 two

- Only two user agents are required when the sender and receiver use the same system.
- A user agent is the software used to compose, send, receive and read email.
- No mail transfer agents (MTAs) are needed since the email doesn't travel over a network.
- The email is delivered locally within the system, making the process faster and simpler.
- ***Additional Information:***
- The Internet is a global network of interconnected computers that use the TCP/IP protocol to communicate.
- It enables services like email, web browsing, file sharing, online banking and social media.
- The Internet originated from the ARPANET project in the late 1960s in the United States.
- Common tools to access the Internet include web browsers, email clients and mobile apps.

Q.5 In File Explorer of Windows 11, which of the following tabs includes the 'hidden items' option?

1. Home

2. File

3. View

4. Share

Ans:- 3 View

- The View tab is where you can customize the appearance and layout of File Explorer.
- Under this tab, you can enable the 'Hidden items' checkbox to view hidden files and folders.
- The View tab also offers options to change the icon size, sort order and grouping of files.
- It allows users to adjust the layout of File Explorer to suit different tasks such as thumbnails, list or details view.
- ***Additional Information:***
- The Home tab contains options for copying, cutting, pasting and renaming files, but does not have the 'Hidden items' option.
- The File tab in Windows 11 File Explorer primarily focuses on file management tasks like opening, saving and properties not viewing hidden files.
- The Share tab allows users to share files with others using various methods like email or nearby sharing but it does not offer visibility settings for hidden files.

Q.6 What is the primary purpose of RAM (Random Access Memory) in a computer?

1. Storing permanent data and files

2. Providing long-term storage for programs

3. Providing temporary storage for data that the CPU is currently processing

4. Managing peripheral devices

Ans:- 3 Providing temporary storage for data that the CPU is currently processing

- RAM (Random Access Memory) is a volatile memory used to store data temporarily while the CPU is working on it.
- It allows fast access to data for active programs and processes, improving overall system performance.
- Unlike hard drives or SSDs, RAM does not store data permanently all data is lost when the computer is turned off.
- RAM helps speed up computing by allowing quick access to active data, reducing the need to retrieve data from slower storage devices.
- ***Additional Information:***
- ROM is a type of non-volatile memory meaning it retains data even when the computer is powered off.
- It is typically used to store the firmware or permanent instructions that are necessary for booting up the system such as the BIOS or UEFI.
- Unlike RAM, ROM cannot be easily written to or modified hence the term "read-only."
- ROM is read by the computer during startup to initialize the hardware and load the operating system.

Q.7 What is a cell in Microsoft Excel?

1. A separate file used to store data.

2. A single worksheet within a workbook.

3. The intersection of a row and a column in a worksheet.

4. A small diagram or chart.

Ans:- 3 The intersection of a row and a column in a worksheet.

- A cell in Microsoft Excel is the basic unit where data is entered and it is formed by the intersection of a row and a column.
- Each cell is identified by a unique address such as A1, B2, etc. where

the letter refers to the column and the number refers to the row.

- Cells can contain data, formulas, text, numbers or functions.
- Cells are organized into worksheets which are further grouped into workbooks.
- ***Additional Information:***
- Microsoft PowerPoint is a presentation software used to create slideshows consisting of text, images, charts and multimedia elements.
- It is commonly used for business presentations, educational lectures and public speaking events.
- PowerPoint allows users to add animations, transitions and multimedia (audio/video) to enhance presentations.
- Presentations in PowerPoint are created in a series of slides each containing content such as text, images and graphs.

Q.8 Which networking device operates at Layer 2 of the OSI model and forwards data based on MAC addresses?

1. Switch
2. Hub
3. Firewall
4. Router

Ans:- 1 Switch

- A Switch operates at Layer 2 (Data Link Layer) of the OSI model, handling communication within local networks.
- It forwards data based on MAC addresses and uses a MAC address table to determine the correct destination port.
- Switches create dedicated communication paths between devices, improving network efficiency compared to hubs.
- They can support VLANs (Virtual Local Area Networks) to segment networks for better organization and security.
- Switches are widely used in Ethernet networks and are essential for building local area networks (LANs).
- ***Additional Information:***
- **Hub operates** at Layer 1 (Physical Layer) and simply broadcasts data to all connected devices, leading to inefficient data transmission.
- **Firewall** is a security device that monitors and controls incoming and outgoing network traffic based on predefined security rules.
- It operates primarily at Layer 3 (Network Layer) and Layer 4 (Transport Layer).
- **Router** operates at Layer 3 (Network Layer) and forwards data between different networks using IP addresses.

Q.9 Which backup device provides a convenient way to create system images and complete backups, but may require a lengthy restoration process?

1. Tape drive
2. Network-attached storage (NAS)
3. Solid-state drive (SSD)
4. DVD-RW disc

Ans:- 1 Tape drive

- A Tape drive is commonly used for creating system images and complete backups due to its large storage capacity and reliability.
- Tape drives are typically used for archival purposes and often in enterprise environments where data needs to be backed up over long periods.
- The restoration process from tape can be lengthy because the data retrieval speed is slower compared to other backup devices.
- Tape drives are sequential-access devices, meaning data is read in order

which can make random access slower.

- ***Additional Information:***
- **Network-attached storage (NAS)** is a storage solution that provides centralized access to data over a network but it's not specifically designed for system imaging or large backups.
- **Solid-state drives (SSD)** offer fast data access and are ideal for quick backups and restoration but they are generally more expensive than other storage options and not used for large-scale system image backups.
- **DVD-RW discs** are optical storage devices used for small-scale backups but they offer limited capacity and slow write speeds making them impractical for system imaging or complete backups.

Q.10 In MS-Excel 2019, what does the SUM function do?

1. It multiplies the values in a range.
2. It adds up the values in a range.
3. It counts the number of cells in a range.
4. It finds the average of values in a range.

Ans:- 2 It adds up the values in a range.

- The SUM function in MS-Excel 2019 is used to add up numerical values in a specified range of cells.
- It can add values from a single range or from multiple ranges and individual numbers.
- For example =SUM(A1:A5) adds all the values in cells A1 through A5.
- It is one of the most commonly used mathematical functions in Excel for performing quick calculations.
- The SUM function does not perform multiplication, counting, or averaging, which are handled by other functions like PRODUCT, COUNT and AVERAGE, respectively.

- ***Additional Information:***
- The AVERAGE function calculates the arithmetic mean of a set of numbers by adding them together and dividing by the count of values.
- The syntax for the function is =AVERAGE(number1, number2, ...) or =AVERAGE(range).
- It automatically ignores empty cells and non-numeric values like text and logical values when calculating the average.
- The AVERAGE function can handle multiple ranges or a combination of individual numbers and ranges.

Q.11 Which of the following is NOT an example of web browser?

1. Facebook
2. Apple Safari
3. Google Chrome
4. Opera

Ans:- 1 Facebook

- Facebook is a social media platform that allows users to connect, share and interact with others online.
- It was created by Mark Zuckerberg and launched in 2004.
- Facebook is primarily used for social networking allowing users to post updates, share media and engage in discussions.
- Facebook is owned by Meta Platforms which also owns other products like Instagram and WhatsApp.

- ***Additional Information:***
- Apple Safari is a web browser developed by Apple and is the default browser for macOS and iOS devices.
- Google Chrome is a widely used web browser developed by Google known for its speed, simplicity, and extensive extension support.

- Opera is a web browser that offers features like a built-in VPN, ad-blocking and battery-saving modes.
- All three browsers are designed to render web pages, manage tabs and provide security features to users.

Q.12 What is the function of the cache memory in a computer's memory hierarchy?

1. To provide permanent storage for data and files.
2. To store frequently used data for faster access by the CPU.
3. To control the flow of data between the CPU and memory.
4. To manage the allocation of memory resources to different programs.

Ans:- 2 To store frequently used data for faster access by the CPU.

- Cache memory is a small, high-speed memory located close to the CPU to store frequently accessed data and instructions.
- It reduces the time the CPU takes to access data from main memory (RAM) improving overall performance.
- Cache memory operates much faster than RAM and stores data that is likely to be reused, speeding up processes and reducing delays.
- It works in different levels (L1, L2, and sometimes L3) with L1 being the smallest and fastest, located directly on the CPU chip.
- ***Additional Information:***
- Hard Disk Drives (HDDs) are mechanical storage devices that use rotating magnetic disks (platters) to read and write data.
- They consist of a read/write head that moves over the platters to access data, and they are known for their high storage capacity at a relatively low cost.
- HDDs are generally slower than solid-state drives (SSDs) because of their mechanical parts, which result in longer data access times.
- HDDs are used for long-term storage of operating systems, applications and large files, and they are commonly found in desktops, laptops and servers.

Q.13 What is the keyboard shortcut for 'Copy' in most Windows applications?

1. Ctrl + Z
2. Ctrl + C
3. Ctrl + X
4. Ctrl + V

Ans:- 2 Ctrl + C

- Ctrl + C is the standard keyboard shortcut for Copy in most Windows applications.
- This shortcut copies the selected content (text, images, files etc.) to the clipboard for later use.
- Ctrl + Z is used to undo an action.
- Ctrl + X is used to cut selected content.
- Ctrl + V is used to paste copied or cut content.
- ***Additional Information:***
- Ctrl + A selects all content in the active window or application.
- Ctrl + P opens the print dialog to print the current document or page.
- Alt + Tab switches between open applications or windows.
- Ctrl + F opens the "Find" dialog to search for text in a document or webpage.
- Alt + F4 closes the current application or window.

Q.14 What is a 'Firewall' in the context of network security?

1. A software application for managing files and folders.
2. A type of malware that spreads

through email attachments.

3. A security mechanism that filters and controls network traffic.

4. A hardware device used to boost network performance.

Ans:- 3 A security mechanism that filters and controls network traffic.

- A firewall is a network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules.
- It can be software-based (running on a computer or server) or hardware-based (a physical device placed between the internal network and external sources).
- The main purpose of a firewall is to prevent unauthorized access to or from private networks while allowing legitimate communication.
- Firewalls can block malicious traffic, such as cyberattacks, viruses and unwanted traffic while allowing safe communication and data transfer.
- ***Additional Information:***
- VPN creates a secure, encrypted connection between a user's device and a remote server, ensuring private internet browsing and data transfer.
- It hides the user's IP address providing anonymity and preventing websites or online services from tracking personal information or location.
- VPNs are commonly used to access restricted content, bypassing geo-blocks and government censorship by masking the user's real location.
- They encrypt data to protect sensitive information such as passwords and banking details from hackers or eavesdropping on unsecured networks like public Wi-Fi.

Q.15 A high speed memory is placed between the Central Processing Unit (CPU) and the primary memory known as _____ memory.

1. read only
2. virtual
3. cache
4. secondary

Ans:- 3 cache

- Cache memory is a high-speed memory located between the CPU and primary memory (RAM).
- It stores frequently used data and instructions for quick access reducing the time the CPU spends accessing slower primary memory.
- Cache memory is much faster than RAM and helps improve the overall performance of the computer.
- It operates in different levels (L1, L2, and sometimes L3) with L1 being the fastest and closest to the CPU.
- ***Additional Information:***
- ROM is non-volatile memory that stores firmware or permanent instructions for the computer.
- Virtual memory is a system that uses part of the hard drive as additional memory when physical RAM is full.
- Secondary memory refers to storage devices like hard drives and solid-state drives (SSDs).
- It is used for long-term storage of data and programs.

Q.16 In computer registers, MAR stands for_____.

1. Main Access Register
2. Memory Access Register
3. Memory Address Register
4. Main Address Register

Ans:- 3 Memory Address Register

- MAR (Memory Address Register) holds the memory address of the data

or instruction that the CPU needs to access.

- It is part of the CPU's register set and is used during the fetch and write-back cycles of the CPU.
- The MAR works closely with the Memory Buffer Register (MBR) which holds the actual data being read from or written to memory.
- The MAR helps the CPU identify where to read data from or where to write data in the memory hierarchy.
- ***Additional Information:***
- MBR is a register that holds the data temporarily that is either being read from or written to memory.
- It is sometimes referred to as the Memory Data Register (MDR) in some computer systems.
- The MBR works closely with the Memory Address Register (MAR) which provides the memory address where data is read from or written to.
- It is involved in the fetch and write-back stages of CPU operations, storing data between the CPU and the system's memory.

Q.17 What is a 'Trojan' in the context of network security?

1. A protocol used for secure communication between devices on a network.

2. A program that monitors network traffic for security breaches.

3. A type of firewall that protects against viruses and malware.

4. Malicious software disguised as legitimate software to gain unauthorised access.

Ans:- 4 Malicious software disguised as legitimate software to gain unauthorised access.

- A Trojan (or Trojan horse) is a type of malware that appears to be a legitimate program or file but contains harmful code.
- It is often spread through email attachments, fake software downloads or infected websites.
- Once activated, Trojans can give attackers unauthorized access to the infected system, allowing them to steal data, install more malware or control the system remotely.
- Trojans can perform various malicious activities such as data theft system compromise and creating backdoors for future attacks.
- ***Additional Information:***
- Malware is short for malicious software designed to disrupt, damage or gain unauthorized access to computer systems.
- It includes a wide range of harmful software types such as viruses, worms, Trojans, spyware and ransomware.
- Malware is often spread through email attachments, infected websites, software vulnerabilities, or malicious links.
- It can cause damage by stealing sensitive information, corrupting files, monitoring user activity or disrupting system operations.

Q.18 In Microsoft Word, what is the purpose of the 'Print Preview' feature?

1. To insert images and graphics into the document.

2. To format the font and style of the document.

3. To check the spelling and grammar of the document.

4. To view how the document will appear when printed.

Ans:- 4 To view how the document will

appear when printed.

- Print Preview in Microsoft Word allows users to see a preview of the document's layout before printing.
- It shows how the content will appear on paper, including margins, page breaks and overall formatting.
- This feature helps users ensure that the document will print correctly without the need to waste paper on trial prints.
- The Print Preview also allows users to make adjustments such as scaling or orientation (portrait/landscape) before printing.
- ***Additional Information:***
- Microsoft Word is a part of the Microsoft Office suite and was first released in 1983.
- It uses the .doc and .docx file extensions for saving documents, with .docx being the default format since Word 2007.
- Word provides rich text formatting options like bold, italic, underline, font size adjustments and the ability to apply styles and themes to documents.
- It includes powerful editing and reviewing tools, such as track changes, comments and version history for collaborative work.

Q.19 In File Explorer of Windows 10, the keyboard shorteut 'Num Lock + Asterisk sign (*)' is used to_____.

1. display all subfolders under the selected folder
2. open the properties dialog box for the selected item
3. display the contents of the selected folder
4. collapse the selected folder

Ans:- 1 display all subfolders under the selected folder

- The keyboard shortcut Num Lock + Asterisk (*) in File Explorer expands the selected folder and displays all its subfolders.
- It is a quick way to view the structure of folders and subfolders without manually expanding each folder.
- This shortcut is part of the Tree View feature in File Explorer which shows a hierarchical structure of folders.
- It helps improve navigation efficiency when working with nested folders.
- ***Additional Information:***
- Windows 10 was released by Microsoft on July 29, 2015 as the successor to Windows 8.1.
- It introduced the Start Menu back after its removal in Windows 8 providing a hybrid design that combines a traditional desktop with live tiles.
- Windows 10 is part of the Windows NT family and it includes features like Cortana, Microsoft Edge, and Windows Ink.
- It uses Windows Update to deliver security patches, new features and updates to users automatically, ensuring a continuous support lifecycle.

Q.20 Which of the following is an example of the input device in a computer?

1. Monitor
2. Touchscreen
3. Printer
4. Speaker

Ans:- 2 Touchscreen

- A touchscreen serves as an input device because it allows the user to interact with the computer by touching the display screen.
- It detects and responds to touch gestures such as tapping, swiping and scrolling, to control the computer or mobile device.

- Touchscreens are commonly used in smartphones, tablets, laptops and point-of-sale systems.
- ***Additional Information:***
- A monitor is an output device that displays visual information from the computer.
- It uses technologies like LCD, LED or OLED to show text, images, videos and graphical interfaces.
- A printer is an output device used to produce physical copies of digital documents or images usually on paper.
- Common types of printers include inkjet, laser and dot matrix printers
- A speaker is an output device that produces sound by converting electrical signals into audible sound waves.

SSC CGL Tier-II
Previous Year Paper Paper-I 20 Jan, 2025
Module II General Awareness

Q.1 Which theme encapsulates Wings India 2024, the Aviation Expo, that was inaugurated by Union Minister for Civil Aviation in January 2024?

1. Aviation Expo-Wings India in Amrit Kaal: Shaping the Future of Indian Civil Aviation.

2. Aviation and Sustainable Development in the Indian Aerospace: Future possibilities in Amrit Kaal.

3. Advancements in Aerospace: A Glimpse into India's Aviation Future in Amrit Kaal.

4. Connecting India to the World in Amrit Kaal: Setting the Stage for India Civil Aviation @2047.

Ans:- 4 Connecting India to the World in Amrit Kaal: Setting the Stage for India Civil Aviation @2047.

- The official theme was "Connecting India to the World in Amrit Kaal: Setting the Stage for India Civil Aviation @2047".
- It highlights India's vision to become a global aviation hub by the year 2047, marking 100 years of independence.
- The focus is on international connectivity, infrastructure development and modernization of aviation services.
- It reflects the government's commitment to expanding civil aviation during the Amrit Kaal period (2022–2047).
- ***Additional Information:***
- The Airports Authority of India was established on 1 April 1995 through the merger of two separate airport bodies.
- AAI is responsible for developing, maintaining and managing civil aviation infrastructure across India.
- It operates more than 130 airports, including international, customs, domestic and civil enclave airports.
- It collaborates with ISRO on the GAGAN project to enhance satellite-based navigation for aviation.

Q.2 The equation F = k (q1 x 42) is representation of:

(Where F is the attractive or repulsive electric force of two point charges q1 and q2 and r is the distance between two charges)

1. Coulomb's law

2. Biot-Savart law

3. Charle's law

4. Ohm's law

Ans. 1. Coulomb's law

- Coulomb's law describes the force between two stationary electric charges.
- The formula is $F = k \times (q_1 \times q_2) / r^2$, where F is the electric force, q_1 and q_2 are the magnitudes of the charges, r is the distance between them and k is Coulomb's constant.
- The force is attractive if the charges are opposite and repulsive if the charges are alike.
- It applies only to point charges or spherically symmetric charge distributions.
- ***Additional Information:***
- The Biot-Savart Law calculates the magnetic field produced by a current-carrying conductor.
- Its formula is $B = (\mu_0 / 4\pi) * (I * dl \times r)$

/ r^2, where B is the magnetic field, I is the current, dl is the infinitesimal length element and r is the distance vector.

- Charles's Law states that the volume of a gas is directly proportional to its temperature when pressure is held constant.
- Its formula is $V_1 / T_1 = V_2 / T_2$, where V is the volume and T is the temperature in Kelvin.
- Ohm's Law defines the relationship between voltage, current and resistance in an electrical circuit.
- Its formula is $V = I \times R$ where V is the voltage, I is the current and R is the resistance.

Q.3 Which of the following is NOT the qualification for the appointment of judges of supreme court?

1. An advocate of high court for at least ten years

2. A distinguished judge in the opinion of the President

3. A judge of high court for at least five years

4. An advocate of supreme court for at least ten years

Ans. 4. An advocate of supreme court for at least ten years

- The candidate must be an advocate of the High Court for at least 10 years.
- The candidate must have been a judge of a High Court for at least 5 years.
- The candidate must be a distinguished jurist in the opinion of the President.
- The candidate should possess high moral character and integrity as judged by the President.
- These qualifications are set under Article 124 of the Indian Constitution.
- ***Additional Information:***
- Qualifications for the appointment of judges of the High Court
- The candidate must have been an advocate of a High Court for at least 10 years.
- Alternatively, the candidate must have been a judge of a lower court for at least 10 years.
- The candidate must be of high moral character and integrity, as assessed by the President in consultation with the Governor of the state and the Chief Justice of India.
- These qualifications are outlined under Article 217 of the Indian Constitution.

Q.4 Which letter code indicates mid-latitude desert climate in Köppen climate classification?

1. Dw

2. Cfa

3. BWk

4. EF

Ans. 3. BWk

- BWk represents a cold desert climate characterized by low precipitation and cold winters.
- It occurs in regions located at higher latitudes typically found in the interior of continents.
- The temperature in winter often falls below freezing but summer temperatures can be very hot.
- Precipitation is very low, usually less than 250 mm annually with dry conditions throughout the year.
- Examples of regions with BWk climate include parts of North America, Asia and Argentina.
- ***Additional Information:***
- Dw refers to a cold climate found in subarctic regions.
- It experiences dry winters and wet summers with seasonal temperature

variations.

- Cfa represents a humid subtropical climate with hot summers and mild winters.
- It is found in regions with high humidity and regular rainfall throughout the year.
- EF refers to regions with a permanent ice cap where the temperature never rises above freezing.
- These areas are found near the poles such as Antarctica and Greenland.

Q.5 The Kushan emperor Kanishka, who ruled from the late first to the early/ mid-second century AD was the _____ Kushan ruler.

1. second

2. third

3. fourth

4. Fifth

Ans. 2. third

- Kanishka was the third emperor of the Kushan dynasty ruling from the late first century to the early/mid-second century AD.
- He is famous for his military conquests which expanded the Kushan Empire to its peak, covering large parts of present-day India, Pakistan, Afghanistan and Central Asia.
- Kanishka is known for his patronage of Buddhism, especially promoting its spread across Central Asia and China and supporting the Fourth Buddhist Council in Kashmir.
- He introduced coinage that featured Greek, Persian and Indian influences, symbolizing the multicultural nature of his empire.
- ***Additional Information:***
- Rudradaman I was a Shaka king who ruled the Western Satraps (an Indo-Scythian dynasty) around the 2nd century CE.
- He is most famous for his victory over the Saka and for being one of the greatest Shaka rulers in India's history.
- Rudradaman I is renowned for his inscription at Junagadh which is the earliest known Rock Inscription in Sanskrit using the Brahmi script.
- He is credited with restoring and strengthening the Shaka rule in the western regions of India especially in Gujarat and parts of Madhya Pradesh and he expanded his territory

Q.6 Which endemic species of owl of Central India is listed as Endangered in the IUCN Red List since 2018?

1. Long-eared Owlet

2. Barn Owlet

3. Forest Owlet

4. Snowy Owlet

Ans. 3. Forest Owlet

- The Forest Owlet (Heteroglaux blewitti) is endemic to central India, specifically in the Satpura Range and surrounding regions.
- It was rediscovered in 1997 after being considered extinct for over 100 years.
- The species is listed as Endangered on the IUCN Red List since 2018, with an estimated population of fewer than 1,000 mature individuals.
- Its primary threat is habitat destruction including deforestation and illegal logging.
- The Forest Owlet is protected under the Indian Wildlife Protection Act of 1972 and listed in CITES Appendix I for international protection.
- ***Additional Information:***
- Long-eared Owlet is found in parts of Europe and Asia and it is not endemic

to Central India.

- It is also not listed as Endangered by the IUCN Red List.
- Barn Owlet is a widespread species found globally and is not endemic to Central India. It is not endangered and its population is stable.
- Snowy Owlet is native to the Arctic regions and is not found in Central India.
- It is not endangered and its global population remains stable.

Q.7 In which year was the fluid mosaic model proposed by Singer and Nicolson? The model commonly represented cell membrane structure and dynamics.

1. 1960

2. 1981

3. 1993

4. 1972

Ans. 4 1972

- The fluid mosaic model was proposed by S.J. Singer and G.L. Nicolson in 1972.
- The model explains the structure and dynamics of the cell membrane as a mosaic of proteins floating in or on the fluid lipid bilayer.
- It describes the membrane proteins as being embedded in the lipid layer allowing them to move sideways within the layer similar to how icebergs float in the ocean.
- This model replaced the earlier protein-lipid sandwich model, which was proposed by Hugh Davson and James Danielli.
- ***Additional Information:***
- The cell membrane is primarily composed of a phospholipid bilayer with embedded proteins that control the movement of substances into and out of the cell.
- The fluid mosaic model suggests that the membrane's proteins and lipids are dynamic and move laterally, giving the membrane its fluid-like property.
- The phospholipids in the membrane have hydrophilic heads (water-attracting) and hydrophobic tails (water-repelling) which arrange themselves in two layers with heads facing outward and tails inward.
- Membrane proteins can be integral (spanning the membrane) or peripheral (attached to the membrane surface).

Q.8 What is the primary goal of the International Comparison Programme (ICP), led by the United Nations Statistics Division (UNSD)?

1. To implement statistical offices globally

2. To calculate Purchasing Power Parities (PPPs) and price level indices

3. To produce unemployment estimates globally

4. To collect data on international trade

Ans. 2 To calculate Purchasing Power Parities (PPPs) and price level indices

- The International Comparison Programme (ICP) is led by the United Nations Statistics Division (UNSD) and aims to compare the purchasing power of currencies across countries.
- Its primary goal is to calculate Purchasing Power Parities (PPPs), which are used to compare the relative price levels of goods and services between different countries.
- PPPs help adjust the Gross Domestic Product (GDP) for differences in price levels across countries, providing more accurate comparisons of living

standards.

- The program is crucial for international organizations like the World Bank and International Monetary Fund (IMF) in making global economic comparisons and policy decisions.
- ***Additional Information:***
- The IMF was established in 1944 during the Bretton Woods Conference to promote international monetary cooperation and exchange rate stability.
- It is an international financial institution with 190 member countries (as of 2025) that aims to foster global monetary cooperation and provide financial assistance to member countries in need.
- The IMF provides financial resources to countries facing balance of payments problems offering loans with specific conditions for economic reforms and stability.
- It plays a significant role in monitoring global economic stability, offering economic analysis, policy advice and technical assistance to countries.

Q.9 Which amino acid is a precursor to serotonin, a neurotransmitter that regulates your appetite, sleep and mood?

1. Tryptophan

2. Isoleucine

3. Valine

4. Methionine

Ans- 1. Tryptophan

- Tryptophan is an essential amino acid that acts as a precursor to serotonin a neurotransmitter important for regulating mood, appetite and sleep.
- Serotonin, often called the "feel-good" neurotransmitter plays a key role in stabilizing mood and emotional well-being.
- The body cannot produce tryptophan so it must be obtained through diet, commonly found in foods like turkey, eggs, cheese and nuts.
- Once consumed, tryptophan is converted into 5-hydroxytryptophan (5-HTP) and then into serotonin.
- ***Additional Information:***
- Isoleucine is an essential amino acid but it does not directly contribute to the synthesis of serotonin.
- It is important for muscle repair and immune function.
- Valine is another essential amino acid but it is not a precursor to serotonin.
- It is involved in muscle metabolism and tissue repair.
- Methionine is an essential amino acid but does not directly produce serotonin.
- It is important for the synthesis of proteins and the production of antioxidants.

Q.10 Which of the following is the headquarters of the South Central Zone of Indian Railways?

1. Jabalpur

2. Secunderabad

3. Hajipur

4. Bilaspur

Ans. 2. Secunderabad

1. The headquarters of the South Central Railway (SCR) is located in Secunderabad, Telangana.
2. Formation: SCR was established on October 2, 1966, by merging divisions from the Southern and Central Railway zones.
3. SCR operates across five states are Telangana, Maharashtra, Karnataka, Andhra Pradesh and Chhattisgarh.
4. The zone includes six divisions are Secunderabad, Hyderabad, Vijayawada, Guntakal, Guntur and Nanded.

- ***Additional Information:***
- Jabalpur is the headquarters of the West Central Railway (WCR) zone.
- Hajipur is the headquarters of the East Central Railway (ECR) zone.
- The zone was formed in 1996 from parts of the Eastern Railway and North Eastern Railway zones.
- Bilaspur is the headquarters of the South East Central Railway (SECR) zone.

Q.11 According to Census of India 2011, what was the recorded population growth rate of Hindu religion?

1. 16.8%

2. 14,3%

3. 18.5%

4. 11.7%

Chosen Option :-1. 16.8%

- The population growth rate of the Hindu religion in India, according to the Census of 2011 was 16.8%.
- The Hindu population in India increased from 966million in 2001 to 966million in 2011, marking a significant growth during the period.
- This growth rate is higher compared to other major religions in India reflecting demographic trends in the country.
- The Hindu population accounted for 79.8% of India's total population in 2011.
- ***Additional Information:***
- The growth rate for the Muslim population was 24.6% which was higher than the national average.
- The Christian population grew at a rate of 15.5%.
- The Sikh population grew at a rate of 8.4%.
- The Buddhist population had a growth rate of 6.1%.
- The Jain population grew at a rate of 5.4%.

Q.12 What is the name of the software launched by the National Minorities Development and Finance Corporation (NMDFC) for digitising loan accounting processes and integrating the MIS portal, including the release of mobile apps for Android and IOS?

1. LOAN-X (Loan Accounting Network for NMDFC)

2. MILAN (Minority Loan Accounting for NMDFC)

3. DIGIT (Digital Integration for Government Transactions)

4. MILAP (Minority Loan Accounting Software for Projects)

Ans. 2. MILAN (Minority Loan Accounting for NMDFC)

- MILAN stands for Minority Loan Accounting for NMDFC.
- It digitizes the loan accounting process and streamlines workflows.
- The software is integrated with NMDFC's MIS portal for better data handling.
- Mobile apps are available for both Android and iOS users.
- It improves efficiency, reduces paperwork, and supports SCAs and beneficiaries.
- ***Additional Information:***
- LOAN-X refers to Loan Accounting Network for NMDFC, but this is not the actual software name.
- DIGIT stands for Digital Integration for Government Transactions, which is unrelated to NMDFC.
- MILAP means Minority Loan Accounting Software for Projects, but it is not the software launched by NMDFC.

- These names are not associated with any official NMDFC digital initiative.

Q.13 Which of the following is NOT an antecedent river in India?

1. Ganga

2. Yamuna

3. Kosi

4. Indus

Ans. 2 Yamuna

- The Yamuna originates from the Yamunotri Glacier in the lower Himalayas in Uttarakhand.
- It is a tributary of the Ganga River and joining it at Triveni Sangam in Prayagraj.
- The Yamuna is considered a subsequent river meaning it developed its course after the topography it flows through.
- Major cities along the Yamuna include Delhi, Agra and Mathura.
- ***Additional Information:***
- Ganga originates from the Gangotri Glacier in Uttarakhand and flows through northern India.
- Kosi originates from the Tibetan Plateau near Mount Everest in Tibet.
- It is known as the "Sorrow of Bihar"
- Indus originates from the Tibetan Plateau in Tibet. The river flows through Pakistan, where it contributes to the region's agricultural development.

Q.14 Which substance is commonly used as an acid-base indicator, which turns red in acidic solutions and blue in basic solutions?

1. Litmus paper

2. Methyl orange

3. Phenol

4. Bromothymol blue

Ans. 1. Litmus paper

- Litmus paper is a natural indicator obtained from lichens.
- It changes color to red in acidic solutions and blue in basic solutions.
- It is effective in the pH range of approximately 4.5 to 8.3.
- It is available as red and blue paper strips for easy testing.
- It is widely used in laboratories and classrooms for quick pH identification.
- ***Additional Information:***
- Methyl orange turns red in strongly acidic solutions and yellow in basic solutions
- Its color change occurs in the pH range of 3.1 to 4.4
- **Phenol** It is colorless in acidic solutions and pink in basic solutions
- Its transition occurs in the pH range of 8.2 to 10
- Bromothymol blue changes from yellow in acid to blue in basic solutions
- Its pH range for color change is around 6.0 to 7.6

Q.15 In which of the following years did Mahatma Gandhi lead the Satyagraha and hunger strike for the first time in India?

1. 1917

2. 1919

3. 1918

4. 1920

Ans. 1. 1917

- Mahatma Gandhi led the first Satyagraha and hunger strike in India in 1917 during the Champaran Satyagraha in Bihar.
- Gandhi used non-violent resistance (Satyagraha) as the method of protest.
- It was the first successful civil disobedience movement led by Gandhi in India.

- The movement helped establish Gandhi as a national leader in Indian politics.
- His methods inspired future movements for Indian independence.
- ***Additional Information:***
- Civil Disobedience Movement was launched by Mahatma Gandhi in 1930 as a mass protest against British rule, particularly targeting unjust laws and taxes.
- **Salt March** (Dandi March) on **12 March 1930** marked the beginning of the movement.
- It encouraged Indians to boycott British goods, refuse to pay taxes, and break colonial laws non-violently.
- Led to widespread participation including leaders like **Jawaharlal Nehru** and **Subhas Chandra Bose**.

Q.16 In which of the following cases did the Supreme court of India give a ruling that, 'in case of any conflict between the fundamental rights and the directive principles, the former would prevail'?

1. Champakam Doraijan Case, 1951

2. Keshvananda Bharti Case, 1973

3. Golaknath Case. 1967

4. Minerva Mills Case, 1980

Ans. 1. Champakam Doraijan Case, 1951

- The case was the first major ruling where the Supreme Court of India addressed the conflict between Fundamental Rights and Directive Principles.
- The Court held that Fundamental Rights take precedence over Directive Principles of State Policy in case of a conflict.
- The case arose from a challenge to the Madras Government's policy of reserving seats for backward classes in educational institutions, which was claimed to violate the right to equality.
- The ruling led to the First Constitutional Amendment Act (1951), which added Article 15(4), allowing the state to make special provisions for backward classes.
- ***Additional Information:***
- Kesavananda Bharti Case (1973) ruled on the "Basic Structure Doctrine" stating that the Constitution's basic structure cannot be altered by amendments.
- Golaknath Case (1967) held that Parliament cannot amend Fundamental Rights a view later overturned by the 24th Amendment.
- Minerva Mills Case (1980) upheld the primacy of Fundamental Rights but did not directly address the conflict between Fundamental Rights and Directive Principles in the same manner as the Champakam case.
- The Court struck down parts of the **42nd Amendment** that sought to diminish the importance of Fundamental Rights.

Q.17 Who was the first sultan (in the recorded history of the Dargah Sharif) to visit the shrine of khwaja Muinuddin Chisti?

1. Jalaluddin Khilji

2. Balban

3. Alauddin Khilji

4. Muhammad bin Tughluq

Ans. 4. Muhammad bin Tughluq

- Muhammad bin Tughluq was the first recorded Sultan of Delhi to visit the Dargah Sharif in Ajmer
- His visit took place in the year 1332 during his reign from 1325 to 1351
- The visit demonstrated his reverence

for Sufi saints and the Chishti order's influence in the region

- This royal pilgrimage began a tradition of Sultan and emperor visits to the shrine in later centuries
- ***Additional Information:***
- Balban (ruled 1266–1287) was a strict administrator focused on strengthening the Delhi Sultanate and suppressing rebellions. Historical records do not document any visit by him to the Dargah Sharif in Ajmer.
- Jalaluddin Khilji (ruled 1290–1296) had a short and politically unstable reign.
- He was more occupied with internal threats and family rivalries and there is no known evidence of a pilgrimage to Ajmer.
- Alauddin Khilji (ruled 1296–1316) was a powerful and expansionist ruler who led major campaigns into South India.

Q.18 Which international treaty was adopted in 1992 to combat global warming and prepare for its effects?

1. Vienna Convention for the Protection of the Ozone Layer

2. Minamata Convention on Mercury

3. Stockholm Convention on Persistent Organic Pollutants

4. United Nations Framework Convention on Climate Change

Ans. 4. United Nations Framework Convention on Climate Change

- The UNFCCC was adopted in 1992 during the Earth Summit in Rio de Janeiro.
- It is an international treaty aimed at addressing global warming and mitigating climate change.
- The treaty establishes a framework for countries to work together to reduce greenhouse gas emissions.
- It provides a foundation for future agreements, including the Kyoto Protocol (1997) and the Paris Agreement (2015).
- ***Additional Information:***
- The Paris Agreement was adopted on December 12, 2015, during the 21st Conference of the Parties (COP21) to the UNFCCC in Paris.
- Its main goal is to limit global warming to well below 2°C above pre-industrial levels, with efforts to limit the increase to 1.5°C.
- The agreement emphasizes nationally determined contributions (NDCs) where each country sets its own climate targets with regular updates to enhance ambition.
- It includes a long-term financing mechanism, aiming to provide $100 billion annually in climate finance to developing countries.

Q.19 Who set a new Guinness World Record for the fastest badminton shot, measuring a speed of 565 km/hr in July 2023?

1. Kidambi Srikanth

2. Saina Nehwal

3. PV Sindhu

4. Satwiksairaj Rankireddy

Ans. 4. Satwiksairaj Rankireddy

- Satwiksairaj Rankireddy set a new Guinness World Record for the fastest badminton smash in April 2023.
- His smash reached a speed of 565 km/h (351.1 mph) surpassing the previous record of 493 km/h set by Tan Boon Heong.
- The record-breaking shot was made under controlled conditions at the Yonex Tokyo Factory in Saitama, Japan.
- This achievement was verified by Guinness World Records officials.

- ***Additional Information:***
- Kidambi Srikanth is a top Indian men's singles badminton player.
- He was ranked world number 1 in 2018 by the BWF.
- Saina Nehwal is a former world number 1 and a pioneer in Indian women's badminton.
- She won a bronze medal at the 2012 London Olympics.
- PV Sindhu is one of India's most successful badminton players and an Olympic silver and bronze medalist.
- She won the BWF World Championships in 2019.

Q.20 When did James Chadwick prove the existence of the neutron – an elementary particle devoid of any electric charge?

1. 1920

2. 1932

3. 1941

4. 1955

Ans. 2. 1932

- In 1932, James Chadwick experimentally proved the existence of the neutron, a neutral subatomic particle.
- The discovery was crucial for the development of nuclear physics and the understanding of atomic structure.
- The neutron has no electric charge and is found in the nucleus of atoms along with protons.
- Chadwick's discovery earned him the Nobel Prize in Physics in 1935.
- ***Additional Information:***
- Nobel Prize established in 1895 b y the will of Alfred Nobel, a Swedish inventor, engineer and industrialist who invented dynamite.
- The Nobel Prizes are awarded in six categories – Peace, Literature, Physics, Chemistry, Medicine and Economic Sciences (added in 1968).
- The awards recognize outstanding contributions to humanity in each field and are presented annually.
- The Nobel Prizes are awarded by different institutions – for example the Royal Swedish Academy of Sciences awards Physics and Chemistry while the Norwegian Nobel Committee awards the Peace Prize.

Q.21 Who among the following was the President of India when India launched its first Nuclear test in Pokhran?

1. Dr APJ Abdul Kalam

2. Giani Zail Singh

3. VV Giri

4. Fakhruddin ali Ahmed

Ans. 4. Fakhruddin ali Ahmed

- India conducted its first nuclear test at Pokhran on 18 May 1974 known as Smiling Buddha.
- At that time, Fakhruddin Ali Ahmed was the President of India (he served from 1974 to 1977).
- The test was carried out under the leadership of Prime Minister Indira Gandhi.
- This event marked India's entry into the list of nuclear-capable nations.
- The test was conducted by the Bhabha Atomic Research Centre (BARC) and was a significant moment in India's strategic and scientific progress.
- ***Additional Information:***
- Dr APJ Abdul Kalam was not the President during the 1974 nuclear test but served as President of India from 2002 to 2007.
- Giani Zail Singh served as the President of India from 1982 to 1987.

- He was the first Sikh to hold the office of the President.
- VV Giri was the President of India from 1969 to 1974.

Q.22 Who discovered the laws of levers and pulleys, which allow us to move heavy objects using small forces?

1. Archimedes

2. Pythagoras

3. Eudoxus

4. Democritus

Ans - 1. Archimedes

- Archimedes, a Greek mathematician and engineer, discovered the laws of levers and pulleys.
- He explained how a small force can move a large object using the principle of leverage.
- He famously said, "Give me a place to stand, and I will move the Earth."
- His work laid the foundation for modern mechanics and engineering.
- Archimedes also contributed to fluid mechanics, geometry, and the understanding of buoyancy (Archimedes' Principle).
- ***Additional Information:***
- Pythagoras was an ancient Greek mathematician and philosopher known for the Pythagorean Theorem in geometry.
- He lived around 570–495 BCE and founded a religious movement called Pythagoreanism.
- Eudoxus of Cnidus was a Greek astronomer and mathematician who lived in the 4th century BCE.
- He is best known for his work on the geocentric model of the universe and mathematical astronomy.
- Democritus was a Greek philosopher known for developing the atomic theory of the universe.
- He lived around 460–370 BCE and proposed that everything is made up of tiny, indivisible particles called atoms.

Q.23 The productivity of which of the following crops had initially increased due to the Green Revolution?

1. Rice and cotton

2. Wheat and sugarcane

3. Rice and pulses

4. Wheat and rice

Ans- 4. Wheat and rice

- The Green Revolution began in India in the 1960s to boost agricultural production.
- It introduced high-yielding varieties (HYVs) of seeds especially for wheat and rice.
- The revolution led to a sharp rise in the productivity of wheat first followed by rice.
- It also involved the use of chemical fertilizers, irrigation and pesticides to support crop growth.
- The Green Revolution helped India move from food scarcity to self-sufficiency in food grain production.
- ***Additional Information:***
- Cotton is a cash crop widely cultivated for its fiber, which is a primary raw material for the textile industry.
- The introduction of Bt cotton in India occurred in the 2000s.
- Sugarcane is a tropical crop grown primarily for sugar production, as well as for biofuels and other by-products like ethanol and jaggery.
- Pulses (lentils, chickpeas, peas) are important sources of plant-based protein and are crucial for food security especially in countries like India.

Q.24 Which of the following best defines

liberalisation?

1. The process of maintaining existing government regulations and restrictions on economic activities.

2. The process of reducing or removing government regulations and restrictions on economic activities.

3. The process of increasing government regulations and restrictions on economic activities.

4. The process of enforcing strict government control over economic activities.

Ans. 2. The process of reducing or removing government regulations and restrictions on economic activities.

- Liberalisation refers to reducing government control and opening up markets to competition.
- It typically involves deregulation of industries, allowing private sector involvement, and foreign investment.
- This approach aims to stimulate economic growth, improve efficiency, and increase consumer choices.
- Liberalisation is often part of broader economic reforms, alongside privatisation and globalisation.
- It was a key feature of India's economic reforms in 1991 which helped transition the country toward a market-oriented economy.
- ***Additional Information:***
- The World Bank was established in 1944 to provide financial support for development projects and poverty reduction in developing countries.
- It consists of five institutions, with the IBRD and IDA being the main ones for lending and grants.
- The bank's funding supports sectors like infrastructure, education, healthcare and sustainable development.
- It is headquartered in Washington D.C and governed by its member countries, with the United States being the largest shareholder.

Q.25 In which sport did India defeat Pakistan 2-1 to lift the Men's Junior Asia Cup in 2023, overtaking them in winning the maximum titles at the prestigious event?

1. Basketball

2. Hockey

3. Football

4. Badminton

Ans. 2. Hockey

- India defeated Pakistan 2-1 in the 2023 Men's Junior Asia Cup final to win the title.
- This victory marked India's fourth title at the prestigious event, surpassing Pakistan's record.
- The goals for India were scored by Angad Bir Singh (13th minute) and Araijeet Singh Hundal (20th minute).
- Pakistan's only goal came from Abdul Basharat in the 37th minute.
- India's win secured their qualification for the 2023 FIH Junior World Cup in Malaysia.
- ***Additional Information:***
- In basketball, each team has five players on the court at a time. A typical team consists of a point guard, shooting guard, small forward, power forward and center.
- In football (soccer), each team has eleven players on the field at a time. The team is made up of a goalkeeper, defenders, midfielders and forwards.
- In badminton, each side has one player in singles and each side has two players in doubles.

- The game is played in either individual or team formats with players using rackets to hit the shuttlecock over the net.

Computer Knowledge Module

Q.1 Which file extension is most commonly used for executable installation files on a Windows system?

1. .exe

2. .mp3

3. .txt

4. .jpg

Ans:- 1 .exe

- .exe stands for "executable" and is the most common file type used to run programs on Windows systems.
- Executable files launch software applications or installers when opened by the user.
- The Windows operating system recognizes .exe files as trusted formats for starting applications and installation processes.
- Most software setup wizards and game launchers come in the form of .exe files.
- ***Additional Information:***
- .mp3 is a file extension used for audio files; it stores music or sound recordings and cannot execute programs or installations.
- .txt represents plain text files, used to store unformatted text; these files are typically opened with text editors like Notepad and contain no executable code.
- .jpg (or .jpeg) is a file extension for image files commonly used to store photographs and graphics; it does not run or install software.

Q.2 ROM is primarily used for which of the following purposes?

1. Random data access

2. Temporary data storage

3. Storing files for permanent access

4. Storing the BIOS or firmware

Ans:- 4 Storing the BIOS or firmware

- ROM is used to store firmware or BIOS, which are essential programs that help start a computer and manage hardware.
- It is non-volatile memory, meaning the data remains intact even when the computer is turned off.
- The contents of ROM are usually pre-installed by the manufacturer and are not meant to be modified frequently.
- ROM provides instructions for booting the system and conducting hardware checks before the operating system loads.
- ***Additional Information:***
- Random data access is a feature of RAM (Random Access Memory).
- RAM allows fast read/write access to data needed by active programs.
- Temporary data storage is also a role of RAM which stores data only while the computer is powered on; it's volatile and erased when power is lost.
- Storing files for permanent access is the role of storage devices like hard drives (HDDs) or solid-state drives (SSDs).

Q.3 What is the purpose of enabling passwords on a PC?

1. For improving the data signal strength

2. For providing an additional layer of security

3. For reducing the installed applications

4. For printing of the data in the PC

Ans:- 2 For providing an additional layer of security

- Enabling passwords on a PC helps protect sensitive data and system settings by ensuring that only authorized users can access the device.
- Passwords are a basic yet critical component of cybersecurity, preventing unauthorized access to personal or confidential information.
- They are especially important in environments with multiple users or internet connectivity, where security risks are higher.
- Passwords can be used for logging into the operating system, accessing specific applications or changing administrative settings.
- ***Additional Information:***
- 1st Generation used vacuum tubes for processing which made them large and inefficient.
- 2nd Generation introduced transistors which were smaller, more reliable, and energy-efficient.
- 3rd Generation used integrated circuits (ICs) which significantly reduced size and cost while increasing speed.
- 4th Generation developed microprocessors which enabled the rise of personal computers and widespread consumer use.
- 5th Generation focuses on artificial intelligence (AI) and quantum computing aiming to create machines that can simulate human intelligence.

Q.4 Which of the following actions can typically be performed in the Outbox?

1. Viewing archived emails

2. Deleting received emails

3. Editing emails that are yet to be sent

4. Managing contact lists

Ans:- 3 Editing emails that are yet to be sent

- The Outbox stores emails that are waiting to be sent or are in the process of being sent.
- You can edit emails in the Outbox before they are actually sent allowing changes to be made.
- Once an email is successfully sent, it moves from the Outbox to the Sent folder.
- The Outbox is not used for archiving emails, managing contacts or deleting received messages.
- ***Additional Information:***
- The Inbox is where incoming emails are stored and is typically the first place you check when you open your email client.
- Emails in the Inbox are usually unread until you open and view them after which they may be marked as read.
- The Inbox often includes emails from both individuals and automated systems (like newsletters, notifications etc.).
- Most email clients allow you to organize your Inbox using filters, folders and tags for easier management.

Q.5 Which of the following scenarios correctly illustrates the interdependence of system software and application software?

1. An antivirus program relying on system utilities to perform disk scans and remove malware.

2. A word processor functioning independently without the need for an operating system.

3. An operating system requiring a media player to manage hardware resources.

4. A device driver operating as application software to provide printing functionality.

Ans:- 1 An antivirus program relying on

system utilities to perform disk scans and remove malware.

- System software provides essential services like managing hardware and system resources for application software to function properly.
- An antivirus program relies on system utilities (such as disk management) to perform tasks like scanning and malware removal.
- Application software like word processors and media players need an operating system to manage input/output operations, memory and file systems.
- Device drivers are system software, not application software as they facilitate communication between the operating system and hardware components like printers.
- ***Additional Information:***
- An operating system (OS) manages hardware resources such as the CPU, memory, storage and input/output devices enabling applications to function efficiently.
- It provides a user interface (UI) such as command-line or graphical user interface (GUI) to allow users to interact with the system and execute commands.
- The OS is responsible for managing file systems, enabling users to store, retrieve and organize data as well as handling access permissions.
- Examples of operating systems include Windows, macOS, Linux and Android, each designed for different types of devices and user needs.

Q.6 Which keyboard shortcut is used to increase the indent in a paragraph in MS Word 2010?

1. Ctrl + U

2. Ctrl + D

3. Ctrl + M

4. Ctrl + K

Ans:- 3 Ctrl + M

- In MS Word 2010, the keyboard shortcut Ctrl + M is used to increase the indent of a paragraph.
- Ctrl + U is used for underlining text.
- Ctrl + D opens the Font dialog box.
- Ctrl + K is used to insert a hyperlink.
- ***Additional Information:***
- Ctrl + C is used to copy the selected text or object to the clipboard.
- Ctrl + V is used to paste the copied or cut text or object from the clipboard into the document.
- Ctrl + X is used to cut the selected text or object, removing it from the document and placing it on the clipboard.
- Ctrl + Z is used to undo the last action performed such as text changes or formatting adjustments.

Q.7 How can you exit a slide show and return to editing mode in MS PowerPoint?

1. Press Ctrl + S

2. Press Esc

3. Press Spacebar

4. Press Alt + Tab

Ans:- 2 Press Esc

- Pressing Esc during a slide show in MS PowerPoint will exit the presentation and return you to the editing mode.
- Ctrl + S is used to save the presentation.
- Spacebar advances the slide during the presentation, but does not exit it.
- Alt + Tab allows you to switch between open applications, not specifically exit a PowerPoint slide show.
- ***Additional Information:***
- Alt + F4 closes the PowerPoint application or the current presentation.

- Alt + N opens the Insert tab where you can insert items like text boxes, shapes, images and more.
- Alt + H opens the Home tab where you can access options like font, paragraph settings and slide layout.
- Alt + P starts the Slide Show from the current slide, allowing you to preview the presentation.

Q.8 The _____ method is commonly used to verify the integrity of data.

1. Hashing

2. Caching

3. Duplication

4. Compression

Ans:- 1 Hashing

- Hashing is a process that converts data into a fixed-size string of characters, typically called a hash value or checksum.
- It is widely used in data integrity verification, ensuring that the data has not been altered or corrupted during storage or transmission.
- Hashing algorithms like MD5, SHA-1 and SHA-256 are commonly used for generating hash values.
- Hashing is used in various applications, such as in password storage, digital signatures and file verification.
- ***Additional Information:***
- Caching stores data temporarily for quick access, improving performance and reducing the need to fetch data repeatedly from a slower source.
- Duplication involves creating exact copies of data often used for backup or redundancy.
- Data duplication helps ensure availability but does not detect errors or changes in the data.
- Compression reduces the size of data to make it easier and faster to transmit or store.

Q.9 What are the correct steps for creating a blank presentation in MS PowerPoint?

1. File -> New -> Blank Presentation

2. File -> Blank Presentation -> New

3. New -> Blank Presentation -> File

4. Blank Presentation -> New -> File

Ans:- 1 File -> New -> Blank Presentation

- Click on the File tab in the top-left corner of the screen.
- Select the New option from the dropdown menu.
- In the New Presentation section, choose the Blank Presentation option.
- This will open a new blank presentation where you can start adding slides and content.
- ***Additional Information:***
- MS PowerPoint was first introduced in 1987 as part of the Microsoft Office suite and has since evolved into one of the most popular presentation tools worldwide.
- PowerPoint supports multimedia integration, allowing users to insert audio, video, and interactive elements into slides to enhance presentations.
- Slide Master in PowerPoint allows users to create uniform layouts and formatting for all slides in a presentation, ensuring consistency across the slides.
- PowerPoint provides several collaboration tools, including the ability to share presentations via OneDrive and real-time collaboration through Microsoft 365.
- PowerPoint has a feature called Presenter View, which allows the presenter to see speaker notes, upcoming slides, and a timer while the audience views only the

slides.

Q.10 Which option in MS Word allows a user to align text within a document to the left, center, right, or justify it across the page?

1. Font Style: Changes the appearance of text but does not affect its alignment

2. Paragraph Alignment: Adjusts the alignment of text to the left, center, right, or justifies it

3. Line Spacing: Adjusts the space between lines of text but does not affect text alignment

4. Text Direction: Changes the orientation of the text, such as vertical or horizontal, but not its alignment

Ans:- 2 Paragraph Alignment: Adjusts the alignment of text to the left, center, right, or justifies it

- Paragraph Alignment in MS Word is the feature used to align text to the left, center, right or justify it across the page.
- Font Style affects the appearance of text (bold, italics, underline) but does not alter its alignment.
- Line Spacing controls the space between lines of text, not its alignment.
- Text Direction changes the orientation of the text (vertical or horizontal) but it doesn't affect how the text is aligned within the paragraph.
- ***Additional Information:***
- Font size can be adjusted to make text larger or smaller helping to emphasize titles, headings or subheadings.
- Text effects such as bold, italic, underline and strikethrough are common formatting tools to highlight specific parts of the text.
- Text color and highlighting allow users to change the color of the text or background to improve visibility and make important text stand out in a document.

Q.11 What type of media is commonly used for WAN communication?

1. HDMI Cable

2. Twisted Pair Cable

3. Fiber Optic Cable

4. Coaxial Cable

Ans:- 3 Fiber Optic Cable

- Fiber optic cables transmit data as light signals, allowing for very high-speed communication over long distances with minimal signal degradation.
- Fiber optics can handle significantly higher bandwidth compared to other media types, making them ideal for Wide Area Network (WAN) communication.
- They are resistant to electromagnetic interference which helps maintain signal integrity over long distances and in environments with high electrical noise.
- Fiber optic cables are capable of covering vast distances without the need for signal repeaters or amplifiers making them efficient for long-range communication.
- ***Additional Information:***
- HDMI (High-Definition Multimedia Interface) cables are used for transmitting high-definition video and audio signals typically between devices like televisions, projectors, and computers.
- Twisted pair cables such as Cat 5e and Cat 6, are commonly used in local area networks (LANs) for transmitting data over short distances.
- Coaxial cables were widely used in early cable television and some internet connections but are less common for WAN communication today.

Q.12 What happens when a user inserts a new row into an MS Excel worksheet?

1. The existing rows are shifted to the right.

2. The existing data in the row is overwritten.

3. The existing rows are shifted down.

4. The new row is added at the bottom of the worksheet.

Ans:- 3 The existing rows are shifted down.

- When a user inserts a new row into an MS Excel worksheet the existing rows are shifted down to make space for the new row.
- The new row will be added above the selected row, and all data in the existing rows below the new row will move down one position.
- The new row is inserted without overwriting any existing data, and the row is inserted where the user has placed the cursor or selected the row.
- This behavior allows for seamless addition of rows without disrupting or losing any existing content.
- ***Additional Information:***
- MS Excel is a spreadsheet application developed by Microsoft primarily used for data organization, analysis and calculations using rows and columns.
- Excel provides a wide range of formulas and functions that can perform complex mathematical, statistical, and financial calculations, such as SUM, AVERAGE, VLOOKUP and IF.
- It allows users to create charts and graphs to visually represent data, including bar charts, line graphs, pie charts and histograms aiding in data analysis and presentation.
- Excel supports the use of pivot tables that allow users to summarize, analyze and explore large datasets making it a powerful tool for data management.

Q.13 Why do desktop and laptop operating systems require more advanced memory management techniques than embedded systems?

1. They utilise more hardware resources and need dynamic memory allocation.

2. Memory management is not necessary for desktop and laptop operating systems.

3. They run only one application at a time, simplifying memory management.

4. They rely on static memory allocation due to limited hardware resources.

Ans:- 1 They utilise more hardware resources and need dynamic memory allocation.

- Desktop and laptop operating systems manage multiple applications running simultaneously, requiring dynamic memory allocation.
- Dynamic memory allocation helps efficiently assign memory to programs as needed, preventing memory wastage and ensuring optimal performance.
- These systems typically have more hardware resources like larger RAM and storage which necessitate advanced memory management to handle various tasks.
- Multitasking and running complex software applications demand the ability to allocate and deallocate memory dynamically in desktop and laptop systems.
- ***Additional Information:***
- RAM is a type of volatile memory, meaning it loses all stored data when the power is turned off.
- It temporarily stores data and instructions that the CPU needs to access quickly during operation.

- RAM comes in two main types: Dynamic RAM (DRAM), which needs to be constantly refreshed, and Static RAM (SRAM) which is faster and does not need refreshing but is more expensive.
- RAM is crucial for the performance of a computer as it allows for faster access to data than hard drives or SSDs enabling smooth multitasking and faster application processing.

Q.14 What does the function COUNT() do in MS Excel 2010?

1. Prints the number of cells

2. Counts the number of cells

3. Duplicates the number of cells

4. Stores the number of cells

Ans:- 2 Counts the number of cells

- The COUNT() function in MS Excel counts the number of cells that contain numeric values in a given range.
- It does not count empty cells or cells containing text, logical values or errors.
- For example, if you use COUNT(A1:A5) and three of those cells contain numbers, the result will be 3.
- It is useful when you want to quickly determine how many numeric entries exist in a data range.
- ***Additional Information:***
- The SUM() function is used to add up all the numeric values in a range of cells.
- It can handle multiple ranges or individual numbers, such as SUM(A1:A5) or SUM(A1, A2, B1).
- It ignores any non-numeric values (such as text or blank cells) in the specified range.
- It's one of the most commonly used functions in Excel, making it easy to quickly calculate totals, such as summing up sales, expenses, or other data.
- The formula for adding a range of cells in Excel would be: =SUM(A1:A10) where it adds all the numbers from A1 to A10.

Q.15 In a Local Area Network (LAN), which of the following is most commonly used to ensure that data packets are efficiently forwarded to the correct device, based on its MAC address?

1. Router

2. Bridge

3. Hub

4. Layer 3 Switch

Ans:- 4 Layer 3 Switch

- A bridge is most commonly used in a Local Area Network (LAN) to forward data packets based on the MAC address of devices.
- It operates at the Data Link Layer (Layer 2) of the OSI model and helps segment networks, reducing congestion and ensuring efficient data flow.
- A router works at Layer 3 (Network Layer) and is primarily used for forwarding data between different networks not just within a LAN.
- A hub is a basic networking device that forwards data packets to all devices in a network, regardless of their MAC addresses making it inefficient for larger networks.
- A Layer 3 Switch operates at the Network Layer and performs routing functions in addition to switching but is not primarily used for forwarding based on MAC addresses.
- ***Additional Information:***
- LAN is a network that connects devices within a limited geographic area such as a home, office or building.

- It typically uses Ethernet cables or Wi-Fi to enable communication between devices like computers, printers and servers.
- LANs allow for high-speed data transfer, file sharing and resource sharing (such as printers and storage devices) among connected devices.
- The network can be managed by a router, switch or hub and often uses private IP addresses for communication within the network.

Q.16 Which of the following statements about the Central Processing Unit (CPU) is/are correct?

The CPU is often referred to as the 'brain' of the computer.

The CPU consists of three main units: the control unit (CU), arithmetic logic unit (ALU), and cache memory.

1. Neither 1 nor 2

2. Only 2

3. Only 1

4. Both 1 and 2

Ans:- 3 Only 1

- The CPU is indeed referred to as the "brain" of the computer because it carries out instructions and processes data, controlling the operations of the computer.
- The CPU does not consist of cache memory as one of its main units. It consists of the Control Unit (CU), the Arithmetic Logic Unit (ALU) and the Registers.
- While cache memory is often integrated with the CPU for faster data access, it is not typically considered a core "unit" of the CPU.
- ***Additional Information:***
- Cache memory is a high-speed storage area located within the CPU or very close to it, designed to store frequently accessed data and instructions for quick retrieval.
- It operates much faster than main memory (RAM), reducing the time it takes for the CPU to access data which significantly speeds up processing tasks.
- Cache memory is smaller in size compared to main memory but is much faster, and it stores a limited subset of data that is likely to be reused by the CPU.
- There are typically multiple levels of cache in modern CPUs, including L1, L2, and L3 caches with L1 being the smallest and fastest and L3 being the largest but slower.

Q.17 What is the size of each ASCII character in bits?

1. 4 bits

2. 16 bits

3. 8 bits

4. 5 bits

Ans:- 3 8 bits

- ASCII (American Standard Code for Information Interchange) represents characters using 7 bits, but it is commonly stored as 8 bits (1 byte) per character to align with modern computer systems.
- Each ASCII character, whether it's a letter, number, or punctuation, is typically encoded as 8 bits (1 byte) in most systems even though the standard itself only requires 7 bits for the character set.
- This 8-bit size allows for the representation of 256 possible characters, with the additional bit used for control characters or extended ASCII sets.
- ***Additional Information:***
- A byte is a unit of digital information

that consists of 8 bits.

- It is the standard basic unit of storage in computer systems.
- A byte is capable of representing 256 different values, ranging from 0 to 255 when using 8 bits (2^8 = 256).
- Larger units of digital information are often measured in multiples of bytes: kilobytes (KB), megabytes (MB), gigabytes (GB) and so on. For example, 1 kilobyte (KB) = 1024 bytes.

Q.18 What is a common sign that a computer might be infected with a virus?

1. Improved system security

2. Unusual system slowdowns and unexpected errors

3. Faster system boot times

4. Increased hard drive space

Ans:- 2 Unusual system slowdowns and unexpected errors

- A common sign of a virus infection is unusual system slowdowns, as malware often consumes system resources.
- Unexpected errors or crashes in applications can indicate a virus is affecting system stability.
- Viruses may also lead to increased hard drive activity as malicious programs can create or modify files in the background.
- Faster system boot times are not typically a result of a virus infection malware often slows down startup processes.
- ***Additional Information:***
- Malware refers to any software designed to harm, exploit, or gain unauthorized access to computer systems, networks or devices.
- Types of malware include viruses, worms, trojans, spyware, adware, ransomware and rootkits each with different behaviors and goals.
- Malware can cause damage by corrupting files, stealing sensitive data, slowing down system performance or taking control of a device for malicious purposes.

Q.19 In a multipart email message, what does the boundary parameter in the Content-Type header signify?

1. It defines the length of the email message.

2. It separates the email's body from the attachments.

3. It marks the start and end of each part in a multipart message.

4. It limits the file size of each attachment.

Ans:- 3 It marks the start and end of each part in a multipart message.

- The boundary parameter in the Content-Type header of a multipart email message is used to separate different parts of the message such as the text content, images or attachments.
- Each part of the multipart message is separated by a boundary string, and the boundary marks the start and end of each section within the email body.
- It does not define the length of the message, separate the body from attachments or limit file sizes.
- Its sole purpose is to identify the sections of the message.
- ***Additional Information:***
- Email is a digital communication method that allows sending and receiving messages over the internet using email servers.
- The basic components of an email include the sender's address, recipient's address, subject line, message body and optional attachments (files, images, etc.).

- Email protocols such as SMTP (Simple Mail Transfer Protocol) are used to send emails, while IMAP (Internet Message Access Protocol) and POP3 (Post Office Protocol) are used to retrieve and store emails on a server.

Q.20 What is the role of User Account Control (UAC) in Windows when modifying system settings?

1. To monitor memory usage and performance

2. To adjust display settings

3. To automate software updates

4. To prompt for permission before making system-wide changes

Ans:- 4 To prompt for permission before making system-wide changes

- User Account Control (UAC) is a security feature in Windows designed to prevent unauthorized changes to the operating system.
- It prompts the user for permission or an administrator password before allowing tasks that could affect the system's operation or that change settings for other users.
- This helps protect the computer from malware and accidental system modifications.
- UAC does not monitor memory, adjust display settings or automate updates—its primary function is to manage privilege elevation securely
- ***Additional Information:***
- The Windows operating system was developed by Microsoft and was first introduced in 1985 as an extension to the MS-DOS command-line environment.
- It provides a graphical user interface (GUI) that allows users to interact with the system through visual elements like windows, icons and menus.
- Windows supports a broad range of hardware and software making it one of the most versatile and widely adopted operating systems in the world.
- Built-in features such as File Explorer, Task Manager and Windows Defender enhance user experience by managing files, monitoring performance and ensuring system security.

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Module II General Awareness

Q.1 Which of the following sentences is/ are true?

i. All isoclines are expansion paths but all expansion paths are not isoclines.

ii. Short-run production functions involve adjusting all inputs, including fixed inputs like land or capital, to affect output.

iii. Stock resources are the resources which are not used in one period of production but can be stored for a later period.

1. Only ii

2. Only i

3. Only iii

4. Only ii and iii

Ans. :- 3

1) 3.Only iii

- Stock resources are not used up all at once during production.
- Stock resources can be stored and used later when needed.Things like raw materials, fuel or spare parts are good examples.
- Stock resources help keep work going even if there's a shortage later.

Additional Information

- Isoclines are curves showing combinations of inputs that give the same slope (MRTS) on isoquants.
- An expansion path shows the least-cost input combination for different output levels as input prices remain constant.
- The short-run production function shows the relationship between output and variable input holding fixed input constant.

Q.2 Which of the following is a monoatomic gas?

1. Chlorin

2. Hydrogen

3. Xenon

4. Oxygen

Ans. :- 3

2) 3. Xenon

- Xenon is present in the Earth's atmosphere in trace amounts (about 0.0000087%).
- Xenon Discovered by William Ramsay and Morris Travers in 1898.
- Xenon plays a role in spacecraft ion propulsion systems due to its high atomic mass.

Additional Information

- Chlorine is toxic at high concentrations causing respiratory issues and irritation.
- In combustion hydrogen burns with a pale blue almost invisible flame.
- Liquid oxygen (LOX) is used in rockets and as a propellant.

Q.3 Select the most appropriate answer from the options given below regarding Census 2011.

Statement 1. The population of India has increased by more than 181 million during the decade 2001-2011.

Statement 2. The percentage decadal growth during 2001-2011 has registered the sharpest decline since Independence.

1. Only statement 1 is correct.

2. Only statement 2 is correct.

3. Both statements 1 and 2 are not

correct.

4. Both statements 1 and 2 are correct

Ans. :- 4

3) 4. Both statements 1 and 2 are correct

Statement 1. According to Census 2011, India's population grew by **181 million** from 1.02 billion in 2001 to 1.21 billion in 2011. This increase represents more than 181 million people, So the statement 1 is true.

Statement 2. The decadal population growth rate decreased from **21.65%** in 1991-2001 to **17.64%** in 2001-2011. This marks the **sharpest decline** in decadal growth since India's independence,So the statement 2 is true.

Additional Information

- The total population of India reached 1.21 billion in 2011, a growth of 17.64% over the previous decade.
- The decadal growth rate of 17.64% during 2001-2011 is the lowest since Independence.
- The child sex ratio also increased slightly from 927 in 2001 to 919 in 2011.

Q.4 What is the name of the ion with a charge of −1 ?

1. Cation

2. Monovalent ion

3. Polyvalent ion

4. Anion

Ans. :- 4

4) 4. Anion

- Anions are opposite of cations, which have a positive charge.
- Anions are usually formed by non-metals or halogens like chlorine, sulfur and oxygen.
- Anions are often involved in ionic bonding with cations to form salts (e.g., NaCl).

Additional Information

- Cations tend to have smaller ionic radii compared to their neutral atoms.
- Monovalent ions are essential in maintaining osmotic pressure and fluid balance.
- Polyvalent ion are involved in buffering systems and maintaining pH balance in biological systems.

Q.5 In December 1991, which act was amended to bring public enterprises under the purview of the Board for Industrial and Financial Reconstruction (BIFR) as part of the country's economic reforms program?

1. Industries Act

2. Companies Act

3. Financial Rehabilitation Act

4. Sick Industrial Companies Act

Ans. :- 4

5) 4. Sick Industrial Companies Act

- Sick Industrial Companies (Special Provisions) Act (SICA) was amended to bring public enterprises under the purview of the Board for Industrial and Financial Reconstruction (BIFR).
- The Board for Industrial and Financial Reconstruction (BIFR) was established under SICA to revive and rehabilitate sick units.
- SICA was intended to prevent companies from liquidating by helping them restructure and improve their performance.

Additional Information

- The Industries (Development and Regulation) Act (IDRA)

1951 was enacted to promote industrial development in India.

- The Companies Act 1956 was the primary legislation governing the formation and operation of companies in India.
- The Financial Rehabilitation Act was designed to deal with the revival of sick industries and financially distressed companies.

Q.6 Which theory, independently introduced in 1923, led to the concept of acid base conjugate pairs?

1. Brønsted-Lowry theory

2. Arrhenius theory

3. Davy's theory

4. Lewi's theory

Ans. :- 1

6) 1. Brønsted-Lowry theory

- The **Brønsted-Lowry theory** focuses on **proton transfer**.
- According to Brønsted-Lowry theory acids are substances that **donate protons (H^+)**.**Bases** are substances that **accept protons (H^+)**.
- Brønsted-Lowry theory an acid-base reaction involves the transfer of a proton from the acid to the base.

Additional Information

- The Arrhenius theory was proposed by Svante Arrhenius in 1887.
- Davy's theory was proposed by Humphry Davy in the early 19th century.
- The Lewis theory was proposed by Gilbert N. Lewis in 1923.

Q.7 Who mentioned ecosystem as 'the basic unit in ecology' in 1956?

1. Aldo Leopold

2. Rachel Carson

3. John Harper

4. Francis Evans

Ans. :- 4. Francis Evans

- Francis Evans was an ecologist who contributed to the study of ecology.
- Francis Evans focused mainly on plant communities and vegetation.
- Francis Evans work was more about plant ecology, rather than the broader concept of ecosystems.

Additional Information

- Aldo Leopold was an American ecologist, forester, and environmentalist.
- Rachel Carson was an American marine biologist and conservationist.
- John Harper was a British ecologist known for his work on the ecology of plant communities.Harper played a significant role in the development of **vegetation science**.

Q.8 Identify the naturally occurring aluminum oxide mineral that usually forms hexagonal barrel-shaped prisms.

1. Corundum

2. Dolomite

3. Olivine

4. Chalcopyrite

Ans. :- 1

8) 1. Corundum

- Corundum a naturally found mineral made of aluminum oxide (Al_2O_3).
- Corundum usually forms hexagonal, barrel-shaped crystals.
- Corundum very hard ranking 9 on the Mohs scale—just below diamond.

Additional Information

- Dolomite is a sedimentary carbonate rock composed mainly of calcium magnesium carbonate ($CaMg(CO_3)_2$).
- Olivine is a magnesium iron silicate mineral found mostly in igneous rocks

like basalt and peridotite.

- Chalcopyrite is a copper iron sulfide mineral ($CuFeS_2$) and the most important copper ore.

Q.9 The Bharatmala project of the Government of India comes under which of the following Ministries of India?

1. Ministry of Ports Shipping and Waterways

2. Ministry of Environment and Forest and Climate Change

3. Ministry of Home Affairs

4. Ministry of Road Transport and Highways

Ans. :- 4

9) 4. Ministry of Road Transport and Highways

- The Ministry of Road Transport and Highways looks after India's national highways.
- This ministry plays a big role in boosting transport and economic growth across the country.
- The Ministry of Road Transport and Highways also works on road safety rules and vehicle regulations.

Additional Information

- Ministry of Ports Shipping and Waterways is responsible for the development and regulation of ports, shipping and inland waterways in India.
- This ministry handles environmental protection forest conservation and climate policy in India.
- This Ministry of Home AffairsThis ministry handles internal security law and order and center-state relations.

Q.10 Mathura was the second capital of _____ dynasty.

1. Gupta

2. Maurya

3. Kushana

4. Maukhri

Ans. :- 3

10) 3. Kushana

- Mathura was the second capital of the Kushana dynasty.Their main capital was Purushapura (now Peshawar in Pakistan).
- Mathura became important during their rule because of its location and growing trade.
- Mathura also turned into a big center for art and Buddhism.

Additional Information

- The founder of the Gupta dynasty was Chandragupta I, around 320 CE.
- The Maurya Empire was founded by Chandragupta Maurya in 321 BCE.
- The Maukhri dynasty is believed to have been in power during the 5th century CE.

Q.11 Which of the following statements is/ are correct?

Statements: -

1) Ampere's Law describes the relationship between electric current and the magnetic field it produces.

2) Maxwell's equations are a set of four fundamental equations governing electric and magnetic fields in the absence of charges and currents.

1. Only Statement 2

2. Neither Statement 1 nor 2

3. Both Statements 1 and 2

4. Only Statement 1

Ans. :- 4

11) 4. Only Statement 1

- Ampere's Law states that a magnetic field is generated around a conductor

when an electric current flows through it. This law forms the foundation for understanding how electric currents create magnetic fields, So the Statement 1 is correct.

- Maxwell's equations govern electric and magnetic fields in both the presence and absence of charges and currents, not just in the absence. So the Statement 2 is inorrect.

Additional Information

- Ampere's Law applies to symmetrical systems (solenoids, toroids).
- Ampere's Law calculates force between parallel currents.
- In capacitors, Maxwell's displacement current exists during charging. Maxwell's equations replaced aether theory.

Q.12 Charcot-Marie-Tooth disease is caused by duplication of the peripheral myelin protein-22 (PMP22) gene on which chromosome?

1. chromosome 21

2. chromosome 15

3. chromosome 8

4. chromosome 17

Ans. :- 4

12) 4. chromosome 17

- Charcot-Marie-Tooth disease happens because of a duplication of the PMP22 gene.
- Charcot-Marie-Tooth duplication leads to too much of the PMP22 protein being made which messes with nerve function.
- CMT is one of the most common inherited nerve disorders.PMP22 gene is found on chromosome 17.

Additional Information

- Chromosome 21 associated with early-onset Alzheimer's in Down syndrome.Smallest human chromosome.
- Marfan syndrome is sometimes linked to chromosome 15.
- Chromosome 8 Changes can lead to Langer-Giedion syndrome.

Q.13 Which portal allowed stakeholders seamless access to information related to funding, documentation, project monitoring, and approval through four efficient ways of logging in for monitoring the implementation of Centrally Sponsored Schemes in 2023?

1. Digital India Portal

2. Viksit Bharat Portal

3. Nyaya Vikas Portal

4. Pradhan Mantri Jan bhagidari Yojana Portal

Ans. :- 3

13) 3. Nyaya Vikas Portal

- Nyaya Vikas Portal is a website made by the Department of Justice.
- Nyaya Vikas Portal includes things like court buildings and judge housing.
- Nyaya Vikas Portal also monitors residential quarters for judges and staff.

Additional Information

- Digital India Portal supports the Digital India campaign launched in 2015.
- Viksit Bharat Portal part of the "Viksit Bharat@2047" vision by the Government of India.Available in multiple Indian languages.
- Pradhan Mantri Jan Bhagidari Yojana Portal linked to the "Meri Sarkar" platform and MyGov India.

Q.14 Who among the following was the first Home Minister of Independent India?

1. Sardar Vallabh Bhai Patel

2. Humayun Kabir

3. Maulana Abdul Kalam Azad

4. Baldev Singh

Ans. :- 1

14) 1. Sardar Vallabh Bhai Patel

- Sardar Vallabhbhai Patel was a key leader in India's freedom movement.
- Sardar Vallabhbhai Patel became the first Deputy Prime Minister and Home Minister of independent India.
- Sardar Vallabhbhai Patel is best known for uniting over 560 princely states into one nation after independence.

Additional Information

- Humayun Kabir played a key role in shaping the Indian Council for Cultural Relations (ICCR)
- Maulana Abdul Kalam Azad youngest President of the Indian National Congress (1923).
- Baldev Singh became the first Defence Minister of independent India (1947–1952).

Q.15 What was the status of the agricultural sector in India before the Green Revolution?

1. Use of old technology and the absence of required infrastructure

2. Use of advanced technology and high productivity

3. Use of advanced technology and dependency on rainfall

4. Use of traditional technology and the abundance of required infrastructure

Ans. :- 1

15) 1. Use of old technology and the absence of required infrastructure

- The Green Revolution in India began in the 1960s mainly in the states of Punjab, Haryana and Uttar Pradesh.
- The Green Revolution led to the expansion of irrigation systems especially canal and tube-well irrigation.
- The Green Revolution benefited states with better infrastructure like Punjab and Haryana while poorer regions lagged behind.

Additional Information

- The Green Revolution introduced High-Yielding Varieties (HYVs) of crops like wheat and rice increasing productivity.
- Despite technological advancements many regions still depended on natural rainfall for agriculture.
- Traditional agriculture saw slow adoption of modern technologies keeping productivity levels low.

Q.16 In which year did Walter Fleming stain the chromosomes to see them clearly and describe the entire process of mitosis?

1. 1780

2. 1901

3. 1882

4. 1956

Ans. :- 3

16) 3. 1882

- Walter Fleming stained chromosomes in 1882 to make them visible under a microscope.
- Walter Fleming stained chromosomes used a special dye to clearly observe the stages of mitosis.
- Walter Fleming stained chromosomes work helped scientists understand how chromosomes behave during cell division.

Additional Information

- Fleming discovered that chromosomes are made up of chromatin, which condenses during cell division to form distinct structures.
- The dye Fleming used was called "aceto-orcein", which helped reveal the

structure of chromosomes.

- Fleming used a staining technique to make chromosomes visible under a microscope, which was essential for studying cell division

Q.17 Which of the following Constitutional Amendment Acts made the president bound by the advice of the council of ministers headed by the prime minister?

1. 40th

2. 46th

3. 48th

4. 42nd

Ans. :- 4

17) 4. 42nd

- The 42nd Constitutional Amendment Act was passed in 1976.
- Constitutional Amendment Act made the President of India bound to follow the advice of the Council of Ministers headed by the Prime Minister.
- Constitutional Amendment Act change reinforced the parliamentary system where the real power lies with the Cabinet.

Additional Information

- 40th Amendment Act (1976): It made the right to property a legal right instead of a fundamental right.
- 46th Amendment Act (1982): Reduced the President's power to dissolve state assemblies.
- 48th Amendment Act (1984): Extended SC/ST reservation in legislatures until 2000.

Q.18 Match the books in List 1 with their authors in List 2.

List 1 List 2

A. The Philosophy of the Bomb

1. Sachindranath Sanyal

B. Bandi Jiwan

2. Bankim Chandra Chattopadhyay

C. Pather Dabi

3. Bhagwati Charan Vohra

D. Anandmath

4. Sarat Chandra Chattopadhyay

1. A-3, B-1, C-4, D-2

2. A-4, B-3, C-2, D-1

3. A-3, B-1, C-2, D-4

4. A-1, B-3, C-4, D-2

Ans. :- 1

18) 1. A-3, B-1, C-4, D-2

- The Philosophy of the Bomb was written by Bhagwati Charan Vohra.
- Bandi Jiwan was written by Sachindranath Sanyal.
- Pather Dabi was written by Sarat Chandra Chattopadhyay.
- Anandmath was written by Bankim Chandra Chattopadhyay.

Additional Information

- The Philosophy of the Bomb published in 1924 this book was a revolutionary work.
- Bandi Jiwan written in 1909 it is an autobiography of a revolutionary.
- Pather Dabi published in 1926 it is a social novel about the freedom movement.

Q.19 The rotating columns of air that occur over water bodies and are generally less severe than land tornadoes are known as:

1. hurricanes

2. waterspouts

3. squalls

4. typhoons

Ans. :- 2

19) 2. waterspouts

- Waterspouts are rotating columns of air over water bodies.

- Waterspouts are similar to tornadoes but usually weaker.Waterspouts occur mainly in coastal or lake regions.
- Waterspouts although less severe, they can still cause damage especially to ships and coastal areas.

Additional Information

- Famous hurricanes include Hurricane Katrina (2005) and Hurricane Maria (2017) wind Speed of minimum 119 km/h (74 mph).
- Squall lines are long, narrow bands of thunderstorms that can cause severe weather wind Speed Varies but can reach 60–100 km/h (37–62 mph).
- The strongest typhoons can have wind speeds of over 200 mph (322 km/h). Essentially the same as hurricanes but occur in the Northwest Pacific.

Q.20 In which of the following cases did the Supreme Court direct that, 'the Parliament cannot take away or abridge any of the fundamental rights for the Implementation of Directive Principles'?

1. Minerva Mills Case, 1980

2. Keshvanand Bharti Case, 1973

3. Indira Sawhney Case, 1992

4. Golak Nath Case, 1967

Ans. :- 4

20) 4. Golak Nath Case, 1967

- The case involved the Golak Nath family's challenge to constitutional amendments affecting property rights.
- The Supreme Court ruled by a majority of 6-5 in favor of Golak Nath.
- The Golak Nath family challenged the First and Fourth Constitutional Amendments, which affected their property rights under Article 19.

.

Additional Information

- Minerva Mills Case challenged the 42nd Amendment of the Constitution, particularly the provision that curtailed the scope of judicial review.
- Keshavananda Bharati Case primarily dealt with whether Parliament could amend any part of the Constitution, including the fundamental rights.
- Indira Sawhney Case primarily dealt with the validity of reservations (affirmative action) in government jobs and admissions in educational institutions for backward classes.

Q.21 Who urged political parties to engage in discussions that inspire unity rather than division and promote ideas instead of personal attacks in the address on the eve of National Voters Day in January 2024?

1. Prime Minister Narendra Modi

2. Union Home Minister Amit Shah

3. Chief Election Commissioner Rajiv Kumar

4. President Droupadi Murmu

Ans. :- 3

21) 3. Chief Election Commissioner Rajiv Kumar

- Chief Election Commissioner Rajiv Kumar gave a speech on the eve of National Voters' Day in January 2024.
- Rajiv Kumar asked political parties to focus on ideas and meaningful discussions, not personal attacks.
- Rajiv Kumar message was mainly about encouraging positive and respectful political debates, especially to influence young voters in a good way.

Additional Information

- Prime Minister Narendra Modi launched major schemes like Make in India, Swachh Bharat Abhiyan, Jan Dhan Yojana, and Digital India.

- Union Home Minister Amit Shah headed NIA (National Investigation Agency) and CRPF, CISF, BSF under MHA.
- President Droupadi Murmu holds the supreme command of the Indian Armed Forces as per Article 53.

Q.22 Who won the title at the World Chess Armageddon Asia & Oceania event in April 2023?

1. D Gukesh

2. P Harikrishna

3. Koneru Humpy

4. Viswanathan Anand

Ans. :- 1

22) 1. D Gukesh

- Indian Grandmaster D Gukesh won the World Chess Armageddon Asia & Oceania event in April 2023.
- D Gukesh beat Nodirbek Abdusattorov, a former world rapid champion, in the final match.
- With this win, Gukesh secured his place in the Armageddon Grand Finale.At just 16, this was a big moment in his rising chess career.

Additional Information

- P. Harikrishna the Grandmaster title on August 17, 2001 becoming the youngest Indian to do so at that time.
- Koneru Humpy became the youngest woman to achieve the Grandmaster title at age 15 years, 1 month and 27 days in 2002surpassing Judit Polgár's record.
- Viswanathan Anand achieved the Grandmaster title in 1988becoming India's first.

Q.23 Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R).

A. The first battle of Panipat was one of the decisive battles of India.

R. It brought into power a new band of invaders called Mughals.

1. Statements A and R are true, but R is not the correct explanation of A.

2. Statements A and R are true, and R is the correct explanation of A.

3. R is true, but A is false.

4. A is true, but R is false.

Ans. :- 2

23) 2. Statements A and R are true, and R is the correct explanation of A.

- The First Battle of Panipat, fought in 1526, was a significant event in Indian history. It marked the beginning of Mughal rule in India, where Babur defeated Ibrahim Lodi, the Sultan of Delhi. So the statement is A is true.
- The victory of Babur in the First Battle of Panipat established the Mughal Empire in India. The Mughals were a new group of invaders who came from Central Asia, and their rule lasted for several centuries in India.So the statement is R true.

Additional Information

- The First Battle of Panipat was fought on April 21, 1526 between the forces of Babur and Ibrahim Lodi.
- The First Battle of Panipat is considered a decisive turning point in Indian history, leading to the establishment of the Mughal Empire in India.
- TheFirst Battle of Panipat marked the end of the Delhi Sultanate specifically the Lodi dynasty and shifted power to the Mughal Empire.

Q.24 In the year 2020, National Digital Health Mission was launched on which of the following occasions?

1. Independence Day

2. Republic Day

3. Gandhi Jayanti

4. Diwali

Ans. :- 1

24) 1. Independence Day

- The National Digital Health Mission (NDHM) was launched on **Independence Day**, August 15, 2020.
- The National Digital Health Mission was introduced by the Prime Minister of India.
- The National Digital Health Mission aims to improve healthcare access through digital platforms.

Additional Information

- First Republic Day: 1950, when the Indian Constitution came into effect.
- Gandhi's teachings influenced global leaders like Martin Luther King Jr. and Nelson Mandela.
- Diwali is celebrated on the 13th day of the dark fortnight of Ashvin (usually in October or November).

Q.25 Which Indian city experiences the LEAST difference in average temperature between its hottest and coldest months?

1. Mumbai

2. Srinagar

3. Bhopal

4. Delhi

Ans. :- 1

25) 1. Mumbai

- Mumbai is right next to the Arabian Sea which keeps the climate mild.
- Mumbai has a coastal location and a tropical climate, which keeps temperatures relatively stable throughout the year.
- Mumbai does not face extreme seasonal variations, making its temperature range narrow and consistent across months.

Additional Information

- Srinagar is rich biodiversity, including the Dachigam National Park.Located on the banks of the Jhelum River.
- Bhopal is known as the "City of Lakes" due to its numerous natural and artificial lakes.
- Delhi Major commercial center with industries in IT, telecommunications, and banking.Seat of all three branches of the Government of India.
-

Computer Knowledge Module

Q.1 Which of the following technologies allows real-time communication over the Internet, such as voice and video calls, without requiring additional software or hardware beyond a web browser?

1. FTP

2. VoIP

3. WebRTC

4. Email

Ans:- 3

- WebRTC lets you make voice and video calls straight from your browser.
- WebRTC don't need to install any extra apps or buy special equipment.Simple, fast and built right into modern web browsers.
- WebRTC works in real time so it's great for things like video chats or online meetings.

Additional Information

- FTP works on TCP/IP protocol and uses port 21 by default.
- **VoIP** Converts voice into digital packets for transmission.Apps like Skype, Zoom and WhatsApp use VoIP.
- **Email** works using SMTP (sending) and IMAP/POP3 (receiving) protocols.

Q.2 What is the primary advantage of being able to insert and delete slides in an MS PowerPoint presentation?

1. To enable the addition of multimedia content

2. To allow for dynamic content adjustment and organisation

3. To enhance slide transitions

4. To apply different templates to individual slides

Ans:- 2

- You can quickly add or remove slides to fit your content better.
- Makes it easy to organize your presentation the way you want.
- Helps keep your flow smooth and logical. Great for last-minute changes or updates.
- Saves time when adjusting the presentation layout.

Additional Information

- To enable the addition of multimedia content powerpoint supports adding multimedia from **local storage** or **online sources**.
- To enhance slide transitions helps in **segmenting sections** within a long presentation.
- To apply different templates to individual slides powerpoint allows you to apply **different layouts or themes** to specific slides.

Q.3 Which method is used to protect sensitive information during data transmission?

1. Decryption

2. Secure Socket Layer (SSL)

3. Compression

4. Hashing

Ans:- 2

- SSL stands for Secure Socket Layer, a protocol developed to secure communication over the internet.
- SSL uses encryption to protect data during transmission, making it unreadable to unauthorized users.
- **SSL certificates are issued by Certificate Authorities (CAs)** to verify the identity of websites.

Additional Information

- Decryption can be automatic (like browser decrypting HTTPS content).
- In computing compression is used in backups, email attachments and streaming.
- **Hashing** are widely used for password storage, digital signatures and data integrity checks common hash algorithms: MD5, SHA-1, SHA-256.

Q.4 Which is the correct keyboard shortcut for adjusting the column width in MS Excel?

1. Shift + H + O + W

2. Alt + H + O + W

3. Ctrl + O + W + H

4. Ctrl + H + O + W

Ans:- 2

- To adjust the column width in MS Excel, use the shortcut Alt + H + O + W.
- First it opens the “Home” tab.Then, it goes to the “Format” option.
- Finallyit resizes the column width to fit the content.
- This shortcut helps in quickly adjusting the column for better readability.

Additional Information

- Shift + H + O + W:this combination could be relevant in specific software or applications, particularly those involving text or document formatting.
- Ctrl + O + W + H Adding “W” and “H” may be application-specific. For example, in some browsers, “Ctrl + H”

opens the history tab while "Ctrl + W" closes the tab.

- Ctrl + H + O + W:In word processors like MS Word "Ctrl + H" is commonly used to open the "Find and Replace" dialog box.

Q.5 Which action should be taken in Microsoft Outlook to send a received email to another person, while keeping the original message for your records?

1. Use the 'Archive' option and create a new email.

2. Open the email, click on 'Forward', and enter the recipient's email address.

3. Click on 'Reply' and add the new recipient's email address.

4. Click on 'Reply All' and select 'Forward' from the options.

Ans:- 2

- Here's how you can forward an email in Outlook while keeping the original message:
- Open the email you want to forward.
- Hit the 'Forward' button.
- Add the recipient's email address.
- Click 'Send.'
- This way you'll send the email to someone else but still keep it in your inbox for reference.

Additional Information

- Archiving does not delete the email; it just hides it from your inbox view helping reduce clutter.
- Reply most email services automatically show the original email below your reply for reference.
- The 'Reply All' function sends your response to everyone included in the original email chain including the sender and other recipients.

Q.6 What security mechanism ensures that system updates are installed without user intervention?

1. Patch management software

2. Firewall

3. Secure Boot

4. Intrusion Detection System

Ans:- 1

- Patch management software takes care of system updates automatically, so you don't have to do anything.
- Patch management software checks for updates, downloads them and installs them to keep your system secure.
- Patch management software process helps protect your system by making sure it's always up-to-date with the latest patches.

Additional Information

- Firewalls operate at various layers of the OSI model, with most firewalls functioning at the network layer (Layer 3).
- Secure Boot is part of the UEFI (Unified Extensible Firmware Interface) specification and replaces the legacy BIOS in modern systems.
- IDS uses two main methods for detection: signature-based and anomaly-based detection.

Q.7 Which keyboard shortcut is used for adding bullets in MS Word 2010?

1. Ctrl + Alt + L

2. Ctrl + L

3. Shift + L

4. Ctrl + Shift + L

Ans:- 4

- To add bullets in MS Word 2010, use the shortcut Ctrl + Shift + L.
- Ctrl + Shift + L shortcut instantly applies the default bullet style to your selected text or where your cursor is.

- Ctrl + Shift + L is a quick and easy way to create bulleted lists without having to click through the toolbar.

Additional Information

- Ctrl + Alt + L often used in coding environments like IntelliJ IDEA, Android Studio, or Eclipse.
- Ctrl + L shortcut is typically used to navigate to the address bar in web browsers like Chrome, Firefox and Edge.
- Shift + L shortcut is typically used to navigate to the address bar in web browsers like Chrome, Firefox and Edge.

Q.8 Which device is commonly used to connect computers within a LAN?

1. Modem

2. Router

3. Switch

4. Repeater

Ans:- 3

- A switch is used to connect computers within a LAN.
- switch receives data from one device and sends it to the correct device in the network.
- The switch works at the data link layer and plays a key role in LAN communication.

Additional Information

- **Modem** are mainly two types of modems: Dial-up modems (slow speed) and broadband modems (high speed
- Routers often use NAT to allow multiple devices on a LAN to share a single public IP address.
- Repeaters work by boosting the strength of the signal to maintain its integrity over longer distances.

Q.9 What is the primary reason DRAM needs to be refreshed periodically?

1. To prevent data corruption caused by magnetic fields

2. To recharge the capacitors storing data bits

3. To clear unused data

4. To allow the CPU to access new data

Ans:- 2

- DRAM stores data in capacitors as electrical charges.
- These charges leak over time, causing data to fade.
- Refreshing DRAM recharges the capacitors to keep the data intact.

Additional Information

- To Prevent Data Corruption Caused by Magnetic Fields can cause unwanted changes in the data stored in magnetic storage devices like hard drives or floppy disks.
- To clear unused data clearing unused data from RAM ensures that memory is available for new tasks, improving system efficiency.
- To allow the CPU to access new data the CPU fetches data from various types of memory (RAM, cache, hard drive etc.) to perform operations.

Q.10 Which type of virus infects the boot sector of floppy disks or the Master Boot Record (MBR) of hard disks?

1. Direct Action Virus

2. Resident Virus

3. Macro Virus

4. Boot Sector Virus

Ans:- 4

- A Boot Sector Virus targets the boot sector of floppy disks or the Master Boot Record (MBR) of hard drives.
- Boot Sector Virus usually activates when the system starts up.
- Boot Sector virus can damage the

operating system and prevent the computer from booting properly.

Additional Information

- **Direct Action Virus** executes its payload immediately when the infected program or file is run.
- **Resident Virus** embeds itself into the computer's memory, allowing it to operate even when the program it infected is not running.
- A macro virus targets software that uses macros, such as Microsoft Word or Excel to spread.

Q.11 Which feature in MS Word allows the user to apply a consistent look across text elements such as headings, titles and subtitles?

1. Template

2. Styles

3. Table

4. Macros

Ans:- 2

- Styles in MS Word help you apply a consistent look across headings, titles, and subtitles.
- Styles let you set the font, size, color and alignment for different text elements in your document.
- Using styles makes formatting quicker and easier by applying preset options instead of manually adjusting each part of the text.

Additional Information

- Templates often come with predefined page layout settings (margins, headers, footers).
- Headers in tables can be frozen in Excel for easy viewing while scrolling.
- Macros can copy/paste data, format sheets and generate charts.

Q.12 What is the main purpose of using a template when creating a presentation in MS PowerPoint?

1. To ensure consistency and professionalism

2. To automatically insert multimedia content

3. To add complex animations easily

4. To create interactive quizzes within slides

Ans:- 1

- Templates help keep your slides looking clean and consistent.
- Templates come with ready-made layouts, fonts and color schemes, so you don't have to design each slide from scratch.
- Using a template saves time and gives your presentation a more professional feel.

Additional Information

- To automatically insert multimedia content in MS PowerPoint, you can insert audio, video and images directly via the "Insert" tab.
- To add complex animations easily in MS PowerPoint, you can insert audio, video and images directly via the "Insert" tab.
- To create interactive quizzes within slides powerpoint allows hyperlinking text, shapes or buttons to other slides for quiz navigation.

Q.13 Which of the following best describes Electronic Mail (E-mail)?

1. A method of sending messages electronically over a computer network.

2. A system for storing digital files on the cloud.

3. A type of secure online transaction system.

4. A service used to make phone calls over the internet.

Ans:- 1

- E-mail stands for Electronic Mail. Electronic Mail It's a way to send and receive messages using the internet.
- Electronic Mail can share text, images, files and more with others in seconds.
- Electronic Mail People use it every day for work, school or personal communication.

Additional Information

- A system for storing digital files on the popular cloud storage services include Google Drive, Dropbox, OneDrive and iCloud.
- A type of secure online transaction system users can make payments via credit/debit cards, net banking or mobile wallets.
- A service used to make phone calls over the internet VoIP is often cheaper than traditional telephony, especially for international calls.

Q.14 Match the Task Manager tabs in column A with their respective functionalities in column B.

Column A Column B

1. Processes a) Monitors overall CPU, memory, disk, and network usage

2. Performance b) Displays active applications and background processes

3. Startup c) Manages programs that run during system startup

4. App History d) Shows resource usage for Windows Store apps

1. 1-d, 2-b, 3-a, 4-c

2. 1-c, 2-b, 3-d, 4-a

3. 1-a, 2-c, 3-b, 4-d

4. 1-b, 2-a, 3-c, 4-d

Ans:- 4

- **Processes** tab shows what apps and background stuff are running right now.
- Performance tab gives you a live view of how your CPU, memory, disk and internet are doing.
- Startup tab lets you control which programs launch when you start your computer.
- App History tab tracks how much CPU and network Windows Store apps have used.

Additional Information

Q.15 Which operation can one directly perform using File Explorer in Windows?

1. Run diagnostic tests

2. Modify system settings

3. Move, copy, or delete files

4. Manage user accounts

3 Move, copy, or delete files

- File Explorer helps you manage your files and folders.
- **File Explorer** can use it to view, organize, move, copy, rename, and delete files.
- **File Explorer** doesn't let you run diagnostic tests, modify system settings, or manage user accounts..

Additional Information

- Run diagnostic tests diagnostic tools include built-in utilities like Windows Memory Diagnostic or third-party tools like CCleaner.
- Modify system settings system Configuration" (msconfig) allows you to adjust boot settings and manage startup programs.
- Manage user accounts user accounts in an operating system allow individuals to access and use the system with specific privileges.

Q.16 Which of the following statements about computer memory is/are correct?

RAM is volatile memory, meaning it loses data when power is turned off.

ROM is used to store essential instructions required for the computer to boot.

1. Neither 1 nor 2

2. Only 1

3. Both 1 and 2

4. Only 2

Ans:- 3 Both 1 and 2

- RAM is volatile memory, so it loses all data when the power is turned off.
- ROM stores essential instructions needed for the computer to boot up.
- ROM retains these instructions even when the computer is powered off ensuring it starts properly each time.

Additional Information

- RAM is volatile meaning it only works while the computer is powered on. When the power goes off all the data in RAM disappears.so 1 is corect statement.
- ROM is non-volatile and holds the essential instructions required for the computer to start (like the BIOS). These instructions stay in ROM even when the power is turned off allowing the computer to boot up correctly each time.so 2 is correct statement.

Q.17 Select which of the given statement(s) is/are True or False for the Central Processing Unit (CPU) of the Computer Systems.

(i) The CPU's clock speed controls the timing and execution speed of instructions.

(ii) The CPU's cache memory provides high-speed access to frequently used instructions and data.

1. (i) True, (ii) True

2. (i) False, (ii) True

3. (i) False, (ii) False

4. (i) True, (ii) False

Ans:- 1 (i) True, (ii) True

- The CPU's clock speed controls how fast instructions are executed and affects the overall speed of processing.
- The CPU's cache memory stores frequently used data and instructions, making it faster to access them compared to regular memory.

Additional Information

- The clock speed of the CPU determines how quickly it can process instructions. It sets the pace for the CPU's operations, meaning a higher clock speed results in faster execution of tasks.so 1 is true.
- Cache Memory: The CPU cache is a small, fast memory located near the CPU. It stores frequently used data and instructions, so the CPU doesn't have to fetch them from slower main memory every time speeding up processing.so 2 is true.

Q.18 Which of the following is an example of a type of ROM that can be electronically erased and reprogrammed multiple times?

1. EEPROM

2. PROM

3. EPROM

4. Mask ROM

Ans:- 1 EEPROM

- EEPROM can be erased and reprogrammed using electrical signals.
- Unlike other ROM types, EEPROM lets you rewrite data multiple times.
- EEPROM often used for storing small data that needs to be updated regularly.

Additional Information

- PROM is a type of ROM that can be

programmed by the user after it is manufactured.

- EPROM is a type of ROM that can be erased and reprogrammed multiple times.
- Mask ROM is a type of ROM that is pre-programmed during the manufacturing process.

Q.19 Match the file locating features in column A with their corresponding functionalities in column B.

Column A Column B

1. Search Bar a) Displays files and folders recently accessed

2. Quick Access b) Allows grouping and sorting of files by attributes

3. Wildcards c) Refines searches for files with partial names

4. File Sorting d) Locates files and folders by typing keywords

1. 1-b, 2-d, 3-a, 4-c

2. 1-a, 2-c, 3-b, 4-d

3. 1-c, 2-b, 3-a, 4-d

4. 1-d, 2-a, 3-c, 4-b

Ans:- 4 1-d, 2-a, 3-c, 4-b

- Search Bar (1): Helps you find files by typing keywords.
- Quick Access (2): Shows recently opened files and folders.
- Wildcards (3): Helps you search for files using partial names.
- File Sorting (4): Lets you organize and sort files by different attributes.

Additional Information

- Search Bar: This tool helps you quickly find files or folders by typing keywords.
- Quick Access: Located in the left sidebar this feature shows a list of your frequently accessed files and folders.
- Wildcards: These are symbols like the asterisk (*) and question mark (?) that help refine your search.
- File Sorting: This option allows you to organize your files based on different criteria like date, type, or size making it easier to find what you're looking for.

Q.20 What is the maximum length of characters that can be accommodated in a column in MS Excel 2003?

1. 512 characters

2. 65536 characters

3. 1064 characters

4. 255 characters

Ans:- 4 255 characters

- In MS Excel 2003, a single cell can hold up to 255 characters.
- MS Excel 2003 includes letters, numbers, spaces and special characters.
- MS Excel 2003 enter more than 255 characters Excel will cut off the extra text.

Additional Information

- **65536 characters** used in **Windows API** for maximum string length in some fields..
- **512 characters** commonly used as a **block size** in traditional **file systems** (e.g.,
- In **MySQL**, error code **1064** indicates a **syntax error**—this number is memorable to devs.

SSC CGL Tier-II
Previous Year Paper 03 Mar, 2023
General Awareness

Q.1 Which of the following statements is/are correct regarding the changes made to small savings schemes by the Government of India in December 2022?

A. The interest rate of five year National Saving Certificate has been increased to 7 per cent from 6.8 per cent.

B. The interest rate on senior citizen saving schemes increased to 8 per cent from 7.6 per cent.

C. The interest rate on Public Provident Fund, Sukanya Samriddhi Account and Saving Deposit have been changed 9% from 7.5%.

1. B and C only
2. A, B and C
3. A and C only
4. A and B only

ANS.: - 4

Q.2 Which of the following states has the highest fertility rate in India according to the 2011 census?

1. Kerala
2. Punjab
3. Maharashtra
4. Bihar

Ans:- 4 Bihar

- The state with the highest fertility rate in India according to the 2011 census was **Bihar**.
- It was 3.4 which means an average woman of Bihar gives birth to 3.4 children in her reproductive years.
- **Fertility rate** means the average number of children born to a woman during her lifetime.

Additional Information

- **Tamil nadu** had one of the lowest fertility rates in India in 2024. Tamil Nadu has reflected better health, education, and awareness among women.
- **The national total fertility rate of india is 2.0 in 2024** which is lower than compared to the previous year.
- Bihar has the lowest literacy rate in India and Kerala has the highest literacy rate in india.

Q.3 With the 2022 amendments to the Indian Constitution, which of the following communities have been granted the Scheduled Tribes status by the Government of India?

A. Narikoravan community

B. Hattee community

C. Kadu Kuruba community

D. Kapu community

1. A, B and C only
2. B, C and D only
3. A and D only
4. A, B, C and D

:- 1

Q.4 In 1962, who published 'The History of Ocean Basins', which outlined the theory of how tectonic plates could move, later called 'sea floor spreading'?

1. George Edward Backus

2. Alfred Wegener

3. Louis Bauer

4. Harry Hammond Hess

Answer:- 4

- The History of Ocean Basins was published by Harry Hammond Hess in 1962 which was later called **'sea floor spreading'.**

- According to the theory of plate tectonics the Earth's lithosphere is broken into distinct plates floating on a ductile layer called the asthenosphere.

Additional Information

- **Alfred Wegener** is well-known for his theory of continental drift in 1912. It established the foundation for understanding plate tectonics.
- George Edward Backus was a geophysicist known for his work in seismology. He is also known for his work advancing the dynamo theory on the origin of the Earth's magnetic field.
- John Alexander Newland stated the law of octaves in 1865. The law of octaves states that every eighth element has similar properties when the elements are arranged in the increasing order of their atomic masses.

Q.5 Identify a class of compounds that has a functional group –OH.

1. Alcohol

2. Ethane

3. Ketone

4. Aldehyde

Ans:- 1

- The class of compounds that has a functional group –OH is called **Alcohol**. The –OH group chemical name is **hydroxyl group**.
- **The ethanol()** whose common name is ethyl alcohol. It is a common carbon compound used in drinkable alcohol.
- **The formula, suffix and prefix of alcohol are -OH, -ol, and hydroxy.**

Additional Information

- Ethane is an **alkane group** hydrocarbon and it is linked with only single covalent bonds between carbon and hydrogen atoms. It is also known saturated hydrocarbon.
- **The general formula of the Alakne group is .**
- Ketones contain a carbonyl group (C=O) attached between two carbon atoms. The ketone has only a suffix which is **-one.**
- Aldehydes also contain a carbonyl group (C=O) but it is attached to the end of the carbon branch. **The suffix of Aldehydes is -al.**

0.6 Match the columns.

Mineral - Reserves region

(A) Bauxite (I) Lohardaga

(B) Mica (II) Bhilwara

(C) Coal (III) Jhunjhunu

(D) Copper (IV) Jharia

1. A-IV, B-III, C-I, D-II

2. A-I, B-II, C-IV, D-III

3. A-II, B-III, C-IV, D-I

4. A-II, B-I, C-III, D-IV

Ans:- 2

- Lohardaga in Jharkhand is a well-known centre for bauxite reserves in India. It is one of the largest producers of bauxite. Bauxite is the ore of aluminium metal.
- Mica is found in Jhunjhunu the district of Rajasthan. The mica belt in Rajasthan especially in Jhunjhunu has significant deposits.
- Rajasthan and Jharkhand are the main producers of India's mica production.

Additional Information

- **Jharia** is located in Jharkhand. It is one of the richest coal fields in India. It is known for high-grade **coking coal** which is essential for steel production.
- **Bhilwara** is situated in Rajasthan and is part of the **Khetri Copper Belt**. It is one of India's key copper mining zones. In this field copper is extracted from sulphide ores.
- The largest producer of copper in India is the Malanjkhand mine in Balaghat, Madhya Pradesh.
- The biggest producer of tin in the world is China and biggest producing state in India is Chhattisgarh.

Q.7 What was the distance (around in km) covered by the first-ever train between Bombay and Thane in 1853?

1. 38
2. 25
3. 34
4. 51

Ans:- 3

- The first railway line was laid in **April 1853 from Bombay to Thane. The distance covered was approximately 34 kilometres.**
- **Lord Dalhousie** was also known as the **father of Indian railways.**
- He established India's first railway **line** and It was controlled by the Great Indian Peninsula Railway Company.

Additional Information

- Indian Railways is the fourth-largest national railway network in the world. The total route length of the Indian Railways as of March 2024 is 69,181 km.
- Kolkata has India's first underwater train project . It is part of the Kolkata Metro's East-West Corridor. The underwater section of the tunnel passes under the Hooghly River.
- Gandhinagar Railway Station, Jaipur is India's first all-women-managed railway station.

Q.8 Match List-I and List-II regarding the BCCI awards for the year 2022.

List-I List-II

a) Rishabh Panth i) Best Batsman in test matches for the year 2022

b) Jasprit Bhumra ii) Best Bowler in the test matches for the year 2022

c) Surya Kumar Yadav iii) Best batsman in the One Day International matches for the year 2022

d) Shreyas Iyer iv) Best Batsman in T20 matches for the year 2022

1. a-ii, b-i, c-iv, d-iii
2. a-ii, b-i, c-iii, d-iv
3. a-i, b-ii, c-iv, d-iii
4. a-i, b-ii, c-iii, d-iv

Ans:- 3

Q.9 Which of the following books was written by the Roman writer Pliny the elder?

1. Indica
2. Natural History
3. Geographica
4. Periplus of the Erythraean Sea

Ans:- 2

- **Natural History was written by** the Roman author **Pliny the Elder**.
- It is an encyclopedic work covering a wide range of subjects including astronomy, geography, zoology, botany, mineralogy, and art. The **Natural History** consists of 37 books.

Addition information

- **Indica** was written by **Megasthenes**. He was a Greek ambassador to the court of Chandragupta Maurya. He

was sent by **Seleucus I Nicator** a general of Alexander the Great.

- **Geographica** was written by a Greek geographer and historian **Strabo**.
- **Periplus of the Erythraean Sea** is an ancient Greek travelogue written by WilliamH Schoff.

Q.10 Which law was studied in the year 1787, in which it was said that the volume of a gas increases with its absolute temperature and if its absolute temperature decreases, then its volume will decrease?

1. Boyle's law
2. Dalton's law
3. Avogadro's law
4. Charles's law

Ans:- 4

- Charles's Law states that At constant pressure, the volume of a given mass of gas is directly proportional to its absolute temperature.
- $V \propto T$ (at constant pressure)
- It was given by the French scientist **Jacques Charles** in **1787**

Additional Information

- **Avogadro's Law** states that equal volumes of gases at the same temperature and pressure contain an equal number of molecules. He defined the number of molecules in a mole as 6.022×10^{23} known as Avogadro's number.
- **Boyle's law** states that a fixed amount of an ideal gas kept at a fixed temperature, pressure and volume is inversely proportional. It was discovered by **Robert Boyle**.

  $P \propto (1/V)$
- **Dalton's Law:-** The pressure of a mixture of gases is equal to the sum of the partial pressures of the component gases.

Q.11 In India, which of the following bills CANNOT be introduced in the Rajya Sabha?

1. Both constitutional amendment and ordinary bills
2. The constitutional amendment bill
3. The money bill
4. The ordinary bill

Ans:- 3

- A Money Bill comes under **Article 110 Part V** of the Indian Constitution. A Money Bill can only be introduced in the Lok Sabha not in the Rajya Sabha.
- A Money Bill deals with taxation, borrowing of money by the government, and expenditure from the Consolidated Fund of India.
- A Money Bill can **only be introduced in the Lok Sabha** and only with the **President's recommendation**.

Additional Information

- After a Money Bill is passed by the Lok Sabha. It is sent to the Rajya Sabha for suggestions, although the Lok Sabha does not have to accept them. A Money Bill must be returned to the Rajya Sabha within 14 days after being introduced or it is considered passed.
- Amendment of the Constitution Governed by Article 368 under Part XX of the Constitution. It Provides the procedure for amendment of the Constitution.
- The **42nd Constitutional Amendment Act of 1976** added **4 (four) new** Directive principles of State Policy(DPSP).
- They are focusing on the safety **of** the environment, child development and health, promoting equal justice and free legal aid and workers rights**.** This amendment is a very remarkable and crucial amendment to the constitution

of India.

Q.12 Which Article of the Constitution of India empowers a high court to issue a writ?

1. Article 132
2. Article 226
3. Article 143
4. Article 32

Ans:- 2

- Article 226 of the Indian Constitution gives the authority to the High Court to grant writs for the protection of fundamental rights as well as for other reasons.
- Under Article 226 there are five types of writs which are enforced by the high court.- (i) Habeas Corpus (ii)Certiorari (iii) Prohibition (iv) Mandamus (v) Quo Warranto

Additional Information

- **Article 32** gives power to the **Supreme Court** to issue writs **only for the enforcement of Fundamental Rights**.
- Article 132 deals Appellate jurisdiction of the Supreme Court in appeals from High Courts in certain cases.
- **Article 143** deals with **advisory jurisdiction** of the President in which the Supreme Court gives advice on legal matters referred by the President.

Q.13 In which year was the Doppler effect discovered by Austrian scientist Christian Doppler, that describes the change in frequency of any kind of sound or light wave produced by a moving source with respect to an observer?

1. 1846
2. 1844
3. 1842
4. 1840

Ans:- 3

- The Doppler effect discovered by Austrian scientist Christian Doppler in 1842 that describes the change in frequency of any kind of sound or light wave produced by a moving source with respect to an observer.
- The Doppler effect can be seen in the rising pitch of an ambulance's siren as it approaches, and the falling pitch as it moves away.
- Used in **astronomy**, **radar**, **medical imaging (Doppler ultrasound)**, and **weather forecasting**.

Additional Information

- Brewster's law is a statement that says that when unpolarized light falls on an interface, the reflected light is completely polarised if the angle of incidence is a specific angle called Brewster's angle. It was discovered by Sir David Brewster.
- Bernoulli's Principle states that total energy per unit mass of flowing fluid, at any point in the subsurface, is the sum of the kinetic, potential, and fluid-pressure energy and is equal to a constant value.
- Poiseuille's law describes the pressure drop in an incompressible, Newtonian fluid moving through a long cylindrical conduit with a constant cross-section.

Q.14 Which Article of the Constitution of India lays down that an Indian citizen has the right to use any restaurant, road or public place?

1. Article 17 (1)
2. Article 15 (2)
3. Article 14 (2)
4. Article 16 (1)

Ans.:- 2

- **Article 15(2)** of the Indian Constitution forbids any discrimination against citizens based on their religion, race, caste, gender, or birthplace.
- Article 15(2) belongs to the Right to Equality group, which also comprises Articles 14 through 18.
- it is found in Part III of the Constitution (Fundamental Rights).

Additional Information

- Article 17 (1) comes under Article 17 which is known as the Abolition of Untouchability. Article 17 (1) says untouchability is abolished and that its practice in any form is forbidden. The enforcement of any disability arising out of Untouchability shall be an offence punishable under law.
- Article 14: Right to Equality "The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India."

Q.15 Which of the following is an indirect tax?

1. Capital gains tax
2. Goods and services tax
3. Wealth tax
4. Gift tax

Ans.: - 2

- **The Goods and Services Tax (GST)** is an indirect tax imposed on the supply of goods and services. It is collected from consumers by businesses and then paid to the government. The tax burden is transferred from the seller to the buyer making it indirect in nature.
- Other indirect taxes:- customs duty, stamp duty, toll tax and Excise duty.
- The **Goods and Services Tax (GST)** was implemented in India on **1st July 2017 and the** GST council is chaired by Union of Finance

Additional Information

- Capital gains tax is the tax on profits realised on the sale of a non-inventory asset. It is a direct tax.
- Wealth tax is applied on the **net wealth** (assets minus liabilities) of individuals, Hindu Undivided Families, and companies. It was abolished in the Union Budget 2015–16 due to Low revenue collection and high cost of administration.
- Gift tax is a direct and paper tax. **A paper tax** is simply a form where taxpayers declare their taxable income, deductions, and tax payments.

Q.16 Below are few statements given about afforestation.

A. Afforestation could prevent flooding.

B. Afforestation can balance our ecosystem.

Which of above statements is/are correct?

1. Both A & B are incorrect
2. Only B
3. Both A & B
4. Only A

Ans.:- 3

- Afforestation is the practice of planting trees in areas that previously had no forest cover.
- Afforestation helps to avoid flooding by increasing water absorption through roots and decreasing surface runoff.
- It also contributes to environmental balance by increasing biodiversity, improving air quality, and preserving the carbon cycle.

Additional Information

- Deforestation is the practice of clearing forests and trees for industrialisation or

construction.

- The Indian Forest Act, 1927 came into force to consolidate laws related to forests, regulate the movement and transit of forest produce, and impose duties on timber and other forest products. It classifies forests into three categories: Reserved Forests, Protected Forests, and Village Forests.
- Sewage treatment is the process of eliminating impurities from wastewater of domestic and industrial waste to generate safe water for discharge or reuse. The 4 steps of sewage treatment are Sludge Thickening, Sludge Digestion, Dewatering, and Disposal.

Q.17 In India, which of the following is NOT an objective of the National Manufacturing Policy?

1. To increase the sectoral share of manufacturing in GOP to at least 25% by 2022.
2. To double the exports of manufacturing goods by 2022.
3. To increase the rate of job creation so as to create 100 million additional jobs by 2022.
4. To enhance global competitiveness, domestic value addition, technological depth and environmental sustainability of growth.

Ans.: - 2

Q.18 What is the name of the scheme launched in 2021 for students to attain foundational literacy and numeracy up to class 3?

1. NIPUN Bharat
2. NISHTHA 2.0
3. SUGAM
4. SAFAL

Ans. :- 1

Q.19 Identify which of the following statements are correct.

1.The headquarter of ICAR-Directorate of Groundnut Research is located in Junagarh.

2.The headquarter of ICAR-Directorate of Rapeseed & Mustard Research is located in Bharatpur.

3.The headquarter of ICAR-Directorate of Soybean Research is located in Indore.

1. 2 and 3 only
2. 1, 2 and 3
3. 1 and 2 only
4. 1 and 3 only

Ans.: - 2

- The Indian Council of Agricultural Research (ICAR) is a research and education institute in agriculture including horticulture, fisheries, and animal science.
- This Institute was established on 16 July 1929, and has its headquarters in New Delhi.
- The Indian Council of Agricultural Research (ICAR) works under the Department of Agricultural Research and Education (DARE) and the Ministry of Agriculture and Farmers Welfare

Additional Information

- **NABARD (National Bank for Agriculture and Rural Development)** has been accredited as the National Implementing Entity for the Adaptation Fund under the United Nations Framework Convention on Climate Change (UNFCCC) in India.
- The Indian Council of Agricultural Research (ICAR) is also known as the Imperial Council of Agricultural Research.
- The National Institute for Rural Development (NIRD) was established in 1977 and its headquarters are in Hyderabad.

Q.20 Zafar khan was a famous General of which of the following rulers of the Delhi Sultanate?

1. Alauddin Khilji
2. Iltutmish
3. Muhammad bin Tughluq
4. Balban

Ans.:- 1

- Zafar Khan was a famous General of Alauddin Khilji ruler of the Delhi Sultanate.
- He plays a very crucial role in defending the Sultanate against **Mongol invasions**.
- In the **Battle of Kili (1299)** Zafar Khan played a key role in defeating the Mongols securing the stability of Khilji rule.

Additional Information

- Alauddin Khilji was the second sultan of the Khilji dynasty after the death of Jalaluddin Khilji who was the founder of the Khilji dynasty.
- Iltutmish is the ruler of the Delhi Sultanate after the death of Qutbuddin Aibak. He introduced the coin system silver coin (Tanka) and the copper coin (Jital).
- Muhammad Bin Tughlaq was the ruler of the Delhi sultanate when Ibn Batuta came to India. Muhammad bin Tughluq was the Sultan of Delhi from 1325 to 1351 from the Tughlaq Dynasty

Q.21 Which of the following statements is/ are correct about the neighbouring countries of India?

(A) India supported Maldives in 2022 with a grant of nearly $4 billion to support the dwindling economy.

(B) India has the highest GDP in dollar terms as compared to Sri Lanka, Bhutan and Bangladesh.

1. Only B
2. Neither A nor B
3. Only A
4. Both A and B

Ans.:- 1

Q.22 Which of the following is essential to form haemoglobin in blood?

1. Fats
2. Iron
3. Calcium
4. Protein

Ans.: - 2

- Iron is essential for forming haemoglobin in blood. It is a constituent of our red blood cells whose function is to carry oxygen from our lungs to organs, muscles, and cells.
- Rich source of Iron - Spinach, dry nuts and seeds, Legumes (chickpeas and lentils)
- The deficiency of iron results in anaemia which leads to weakness in the body.

Additional Information

- **Fats** are one of the **three major macronutrients** along with carbohydrates and proteins. Fats help in the **absorption of fat-soluble vitamins**: **A, D, E, and K**.
- **Calcium** is the main source of strength of bones and teeth. It is also required for blood clotting muscles and the intake of milk is necessary for children and pregnant women.
- Proteins are Long chains of amino acids. Proteins are digested in alimentary canal by the action of pepsin and trypsin enzymes.

Q.23 Which of the following can degrade detritus into simpler inorganic substances?

1. Algae

2. Phytoplankton

3. Fungal enzymes

4. Lichens

Ans.:- 3

- Fungal enzymes play an important role in the decomposition process by breaking down detritus like dead plant and animal matter into simpler inorganic substances like CO_2, water, and minerals.
- The Process of breaking down complex organic matter in the detritus to simple organic or inorganic compounds is called Catabolism.

Additional Information

- Algae are photosynthetic eukaryotic organisms. Their cell walls are made of cellulose. They are an autotrophic mode of nutrition and they store food in the form of starch.
- Phytoplankton are microalgae and primary consumers. They are microscopic, photosynthetic organisms that float in aquatic ecosystems, serving as the foundation of marine food chains.
- Lichens belong to the kingdom of Fungi and Sub-kingdom: Eumycota. Lichens are found in the Tundra Forest which has relatively little rain and extremely cold temperatures.

Q.24 What is the correct order of radiations in descending order of frequencies?

1. Infrared > Microwaves > Radio waves > X-rays

2. Radio waves > X-rays > Microwaves > Infrared

3. X-rays > Infrared > Microwaves > Radio waves

4. Infrared > Microwaves > X-rays > Radio waves

Ans.:- 3

- **The correct order is X-rays > Infrared > Microwaves > Radio waves.**
- The decreasing order of wavelength waves in the frequencies is **Gamma rays > X-rays > Ultraviolet > Visible light > Infrared > Microwaves > Radio waves.**
- Radio wave has the lowest frequency in the electromagnetic spectrum which is ~3 Hz to 300 GHz. It is used in the broadcast of radio shows and TV broadcasting.

Additional Information

- **The wavelength range** of **0.7 t o 0.9 µm is infrared (IR) rays.** In the electromagnetic spectrum infrared (IR) rays have a longer wavelength than visible light. Infrared (IR) rays are also known as heat waves. It is used in thermal imaging and night vision cameras.
- **The wavelength range of** 0.2 to 0.3 µm is **ultraviolet (UV)** and we cannot see through our human eye. **Ultraviolet (UV)** lies between visible and X-ray in the electromagnetic spectrum. Naturally UV rays come from the Sun. Too much UV rays can cause Sunburn and other skin problems.
- **The wavelength range of visible light is 0.4 to 0.7 µm.** This range of light rays we can see from our naked eyes. All the colours of the prism spectrum lie in this range.

Q.25 Which group of animals are named because of their spiny skin and have a peculiar water-driven tube system that they use for moving around?

1. Hemichordata

2. Aschelminthes

3. Echinodermata

4. Mollusca

Ans.:- 3

- Echinodermata is a phylum of the

animalia kingdom.

- They are marine animals, carnivorous and benthonic, characterised by spiny skin and a water vascular system used for locomotion, feeding, and respiration.
- Members show radial symmetry and include animals like starfish, sea urchins, and sea cucumbers. They are exclusively marine and lack a segmented body and head.

Additional Information

- Mollusca is the Second-largest invertebrate animal phylum. They are soft-bodied and commonly shelled animals.
- The phylum **Aschelminthes** is commonly known as the roundworm. Their body are cylindrical with segmentation. Roundworms are triploblastic with bilateral symmetry.
- Hemichordata is an invertebrate marine phylum of animals that possess both chordate and non-chordate features. They have also been called "half-cord" animals since they are half as closely related to the phylum Chordata.

Computer Knowledge Module

Q.1 Some cockies are automatically recreated after a user has deleted them. These are called as_____ cookles..

1. third party
2. zombie
3. persistent
4. Session

Ans. :- 2

Answer:

- Zombie cookies are those that are automatically regenerated after being erased by the user.
- They are kept in several locations and are frequently utilised for tracking or advertising purposes**.**

Additional Information

- Third-party cookies: These are cookies set by a website other than the one you're presently on. They are frequently used to track user behaviour across several websites for advertising purposes. They assist advertisers in serving tailored advertising based on user browsing history.
- Persistent cookies: These cookies stay on the user's device for a set amount of time, even when the browser is closed. They can save user preferences, login information, and other settings between sessions. Persistent cookies improve user experience by remembering settings and preferences over time.
- Session cookies: These are temporary cookies that disappear when the browser is closed. They are used to temporarily store session-related information such as user logins or shopping cart contents while browsing. Session cookies are not saved on the user's device once the session has ended.

2. Which among the following devices is also known as Visual Display Unit (VDU)?

1. Printer
2. Scanner
3. Track Ball
4. Monitor

Ans.:- 4

- A monitor is often called a visual display unit (VDU). It is the most often utilised device for displaying computer-generated visual output.
- Monitors show text, photos, movies, and other visual content.

Additional Information:

- A printer is an output device that creates tangible copies of documents or images from a computer.
- Scanner: An input device for scanning documents and converting them to a digital representation.
- Track Ball: A pointing input device similar to a mouse, but having a stationary ball that the user rotates to move the cursor across the screen.

Q.3 In web browser, which of the following is responsible for displaying the web pages?

1. Server
2. Rendering engine
3. Page engine
4. Search Engine

Ans.:- 2

- The rendering engine interprets HTML, CSS, and JavaScript code and renders the webpage's content.
- It transforms this code into the visual representation that the user sees.

Additional Information:

- A server stores and delivers online content to browsers when they request it. It does not render or show the website itself, but rather supplies the files required for the browser to generate the page.
- A search engine, such as Google, is a tool for finding content on the internet. It allows users to find webpages based on keywords but does not display the pages themselves.

Q.4 Which among the following ports is also known as Line Printer Port?

1. Parallel
2. Video Graphic Array
3. High Definition Media Interface
4. Display

Ans.:- 1

- The Line Printer Port is another name for the Parallel port. Connecting printers and other peripheral devices to a computer was a typical usage for it.
- Multiple cables are used to carry data concurrently, hence the term "parallel." Although USB ports have essentially superseded it. it was formerly frequently utilised.

Additional Information:

- Video Graphic Array (VGA): A display port that isn't linked to printing but is used to connect projectors and monitors.
- High Definition Media Interface (HDMI): A digital interface that connects displays and media devices by sending audio and video data.
- Display port: A digital interface that isn't used for printers but is used to connect computers to monitors and other display devices.

5. _____viruses are embedded in a system's memory so it can be reactivated if the original virus is deleted.

1. File
2. Resident
3. Polymorphic
4. Roolkit

Ans.:- 2

- RAM is home to resident viruses, which start up automatically when the operating system or other apps are launched.
- System functions like opening, closing, and file copying can be intercepted by these infections.
- Since they don't rely on infected files once loaded, they are more difficult to find and eliminate.

Additional Information

- When the host file is launched, file viruses spread by attaching themselves to executable files (such as .exe files). Common in early-generation malware.
- Polymorphic viruses alter their programming to avoid being discovered by antivirus software. renowned for its intricate encryption techniques.
- Rootkits are software tools that alter the operating system to conceal the presence of malware; they are not the same as conventional viruses.

Q.6 Which among the following statements is incorrect about secondary memory?

1. It is known as the backup memory.
2. Data is permanently stored even if power is switched OFF.
3. Computer may run without the secondary memory.
4. It is a volatile memory.

Ans.:- 4

- Secondary memory retains data permanently until manually deleted.
- It is non-volatile, unlike primary memory (RAM).
- Examples include hard drives, USBs, CDs, DVDs – all used for backup and storage.

Additional Information

- Backup memory refers to storage used to save data for future use or recovery (e.g., external drives, cloud).
- Primary memory like RAM is volatile and erases data when power is lost.
- A computer can run without secondary memory, but with limited functionality – programs and files can't be stored long-term.)

7. _____memory is sometimes used to incrense the speed of processing by making current programs and data available to the CPU at a rapid rate.

1. Backup
2. Auxiliary
3. Main
4. Cache

Ans.:- 4

- Cache memory is a high-speed storage device situated close to the CPU that is used to temporarily store frequently accessed data and instructions in order to boost processing performance.
- Cache memory decreases the time required to access data from main memory.It is faster than RAM, but smaller in size.
- It improves CPU performance by caching frequently used instructions.

Additional Information

- Main memory (RAM) is the primary working memory but is slower than cache.
- Auxiliary memory refers to long-term storage devices such as hard disk drives and solid state drives (SSDs).
- Backup memory saves data for recovery in the event of data loss, not to speed up processing.

Q.8 Which of the following statement(s) about Quick Access Toolbar in MS-Word 2010 is/are incorrect?

P: The Quick Access Toolbar has Save, Undo, and Redo buttons by default.

Q: The Quick Access Toolbar has Cur, Undo, and Redo buttons by default.

R: You can place more buttons on the Quick Access toolbar.

S: There is no option on Quick Access toolbar for "show below the Ribbon".

1. Only Q and R
2. Only Q and S

3. only P, Q, R

4. All P, Q, R, S

Ans.:- 2

- The Quick Access Toolbar (QAT) in MS Word 2010 is a small, customisable toolbar located at the top of the window.
- It comes with three buttons by default: Save (Ctrl+S), Undo (Ctrl+Z), and Redo (Ctrl+Y).
- QAT can be altered to incorporate additional commands and put above or below the Ribbon based on user desire.

Additional Information:

- Save: Keeps changes to a document. Shortcut: Ctrl+S.
- Undo: Reverses the last action. Shortcut: Ctrl+Z.
- Redo: Reapply the last undone action. Shortcut: Ctrl+Y.
- Cut: Removes and copies the selected text to the clipboard. Shortcut: Ctrl+X.

9. _____is the oldest type of Central Processing Unit (CPU).

1. Triple Core
2. Single Core
3. Dual Core
4. Quad Core

Ans.:- 2

- The earliest and simplest sort of processor is the single-core CPU, which handles only one operation at a time.
- It was commonly employed in early computers prior to the development of multi-core processors.
- Performance is limited when compared to multi-core CPUs since it cannot multitask efficiently.

Additional Information:

- Dual Core: Has two processing units and offers basic multitasking.
- Triple Core: Has three cores; provides more performance, but is less prevalent in newer systems.
- Quad Core: Contains four cores and offers extensive multitasking and parallel processing, which are prevalent in current smartphones.

Q.10 Which of the following is Math and trigonometrie functions available in MS-Excel 365?

1. Text function
2. ABS function
3. Logical function
4. Financial function

Ans.:- 2

- ABS (Absolute) Function is an Excel Math & Trigonometry function that returns a number's absolute value (removing any negative sign).
- It is used to verify that all numerical values are positive, which is useful for distance, magnitude, and other calculations.
- Syntax: =ABS(number).

Additional Information:

- Text function: Used to manipulate text (for example, LEFT, RIGHT, and TEXT).
- Logical function: Handles decision-making formulas (e.g., IF, AND, OR).
- Financial function: Performs financial computations (e.g., PMT, FV, NPER).

Q.11 Which among the following generations of computer used the technology of transistors for the first time?

1. Third
2. Second
3. First
4. Fourth

Ans.:- 2

- The second generation (1956-1963)

saw the substitution of vacuum tubes by transistors, which dramatically improved computing speed, reliability, and efficiency.

- Transistors significantly decreased the size of computers, boosted processing power, and used less electricity.
- Assembly language was used for programming, as were early versions of high-level languages such as FORTRAN and COBOL.

Additional Information

- A transistor is a semiconductor device that regulates the flow of electric signals.
- It performs amplification and switching functions, making it necessary for logic operations in CPUs.
- Transistors made computers speedier, less likely to overheat, and more cost-effective to produce and operate. Their invention transformed electronics and is regarded as a watershed moment in computer history.

Q.12 Which of the following option can be pressed to create a new email message in Gmail?

1. Settings
2. Outbound
3. Compose
4. Drafts

Ans.:- 3

- The 'Compose' button is clearly visible in the top-left corner of Gmail's UI.
- Clicking it launches a new email composing window with fields for recipients, the topic, and the message body.
- This feature is consistent across all platforms (web, Android, iOS), and supports keyboard shortcuts ('c' in the desktop version).

Additional Information:

- Settings: An section for configuring account preferences and display options.
- Outbound: A technical term for outgoing mail transmission; not a user-facing feature.
- Drafts: A storage space for unfinished emails that have not been dispatched.

Q.13 Each cell in the worksheet of MS-Excel 365 is identified by a cell_____.

1. color
2. size
3. rounding
4. reference

Ans.:- 4

- Excel uses a cell reference system combining column letters (A, B, C...) and row numbers (1, 2, 3...)
- This addressing approach is essential for calculations, functions, and data manipulation.
- The current cell reference is always shown in the Name Box above the worksheet.

Additional Information:

- Color: A formatting attribute that can be used on cells but does not identify them.
- Size: Adjustable via row height and column width options.
- Rounding is a mathematical procedure on cell value**s, not an identifying method.**

Q.14 _____is a type of dedicated file storage device that provides local-area network (LAN) users with centralized, consolidated disk storage through a standard Ethernet connection.

1. Solid-State Drive (SSD)

2. USB Hard Drives

3. USB Sticks

4. Network Attached Storage (NAS)

Ans.:- 4 Network Attached Storage (NAS)

- Network Attached Storage (NAS) is a specific storage system that:Centralised data storage. serves as a shared repository for various users/devices on a network.
- Ethernet is used for connectivity. Connects directly to your router or switch, giving access over LAN/WAN.
- Operates independently. Functions as a self-contained system with its own OS (similar to FreeNAS or Synology DSM). Supports multiple drives. Typically employs 2 or more hard disks in RAID configurations for data redundancy.

Additional Information:

- Enables remote access: Files can be accessed from anywhere with the correct permissions.
- SSD: High-speed storage for single devices, unless used within a NAS.
- USB Hard Drives: Requires a direct connection to one computer.
- USB Sticks. Portable storage of limited capacity.

Q.15 Which among the following statements is incorrect?

1. The right window of Windows Explorer is called Navigation Pane.

2. From the Navigation pane, you can view your computer's file and folder structure and access files and folders.

3. In the Navigation Pane, there is a Quick Access area.

4. Navigation Pane is to enable easier navigation through Windows Explorer.

Ans.:- 1 The right window of Windows Explorer is called Navigation Pane.

- The Navigation Pane is located on the left side of Windows/File Explorer, not the right.
- The right pane is known as the content or details pane, which displays files and folders from the selected location.
- The Navigation Pane helps users quickly switch between drives, folders, and libraries like Documents or Downloads.

Additional Information

- Quick Access displays recently accessed files and frequently used folders for quicker access.
- The View tab in File Explorer allows you to change which objects appear in the Navigation Pane.
- Drag folders into Quick Access to pin them, and right-click to remove/unpin objects.
- The content window (right side) includes options for sorting, filtering, and previewing files based on folders.

Q.16 Once _____ has infected a substantial number of computer systems, it generates revenue either by displaying advertisements or using "pay per click" mechanism to charge its clients against the number of clicks on their displayed ads.

1. worms

2. virus

3. spyware

4. adware

Ans.:- 4 adware

- Adware is software that displays advertising on a user's device. It is commonly included with free software or downloaded without the user's knowledge.
- It makes revenue through Pay-Per-Click (PPC) in which advertisers pay for user interactions.
- Though some adware is lawful, intrusive

or excessive adverts can slow down systems and decrease user experience, perhaps raising privacy concerns.

Additional Information:

- Worms are self-replicating malware that spreads across networks without the need to connect to a host file. They frequently create performance concerns or harm.
- Viruses are malicious programs that attach to files and proliferate when they are executed. They frequently harm data or interrupt system functionality.
- Spyware discreetly observes user activities and collects sensitive information such as login credentials or browsing histories, generally with malevolent intent.

Q.17 Which among the following keyboard shorteuts is used to bookmark the current webpage on the web browser?

1. Ctrl + N
2. Ctrl +I
3. Ctrl + B
4. Ctrl+D

Ans.:- 4 Ctrl+D

- Ctrl + D is the usual keyboard shortcut for bookmarking the current webpage in most web browsers, including Chrome, Firefox, and Edge.
- This shortcut displays a dialogue to store the bookmark or assign it to a specific folder for later use.
- Bookmarks allow users to instantly revisit frequently viewed websites without having to search for them again.

Additional Information:

- Ctrl + N creates a new browser window, allowing you to view numerous pages simultaneously.
- In most browsers, pressing Ctrl + I opens the bookmarks or history window, but does not create a bookmark.
- Some browsers employ Ctrl + B to access the bookmark manager, which allows users to organise their saved bookmarks.

Q.18 _____is also known as protocol convertor.

1. Hub
2. Bridge
3. Switch
4. Gateway

Ans.:- 4 Gateway

- A gateway is a device that converts protocols between networks, allowing communication between systems using different protocols.
- It acts at many layers of the OSI model, most notably at the network layer, to translate data from one protocol to another.
- Gateways integrate several types of networks, including local area networks (LANs) and wide area networks (WANs).

Additional Information:

- A hub is a basic networking device that links numerous computers without doing any protocol conversion.
- A bridge connects two distinct networks and filters data based on MAC addresses; nevertheless it does not convert network protocols.
- The switch acts at the data connection layer and forwards data based on MAC addresses, ensuring efficient data flow but not protocol conversion.

Q.19 _____are rules that exist at several levels in a telecommunication connection.

1. Bandwidth
2. Network Surface Unit
3. Protocol

4. Domain Name

Ans.:- 3 Protocol

- A protocol specifies the rules and practices for communicating between network devices.
- It exists at various levels of a communication system, ranging from the application layer to the physical layer in the OSI model.
- HTTP, TCP/IP, and FTP are examples of protocols that ensure data transmission is proper.

Additional Information:

- Bandwidth refers to a network connection's maximum data transfer rate, but does not specify communication rules.
- The term "Network Surface Unit" is not often used in telecommunications.
- The term "domain name" refers to the address used to identify a website on the internet; yet while vital it does not explain network communication regulations.

Q.20 Which of the following font effects is not available in the MS-Word 2010 font dialog box?

1. Superscript
2. Small Cap
3. Double Strikethrough
4. Equalize Character Height

Ans.:- 4 Equalize Character Height

- MS Word 2010's Font dialog box includes common font effects such as superscript, small caps, and double strikethrough.
- Equalize Character Height is not a font effect included in MS Word 2010's font formatting settings.
- In Word 2010, use Ctrl + D to open the Font dialog box which enables for more detailed text styling than what is available on the ribbon.

Additional Information:

- Small Caps: Converts lowercase letters to small capital letters (uppercase in a smaller size). Frequently used in legal or formal papers.
- Double Strikethrough: Draws two lines through the selected text, which is commonly used to indicate deletions or edits.
- Features of the Font Dialog Box include underline styles, font color, character spacing, and text effects (such as shadow or outline).

SSC CGL Tier-II
Previous Year Paper 07 Mar, 2023
General Awareness

Q.1 Match the columns.

Nutrients	Examples
a. Protein	i. Calcium, Phosphorous
b. Carbohydrates	ii. Cholesterol
c. Fat	iii. Glucose
d. Minerals	iv. Myosin

1. a-i, b-iii, c-ii, d-iv

2. a-iii, b-iv, c-ii, d-i

3. a-i, b-ii, c-iii, d-iv

4. a-iv, b-iii, c-ii, d-i

Ans. :- 4(a-iv, b-iii, c-ii, d-i)

- Proteins like myosin help build body tissues especially muscles.
- Carbohydrates such as glucose provide instant energy.
- Fats including cholesterol store energy and help form cell membranes.
- Minerals like calcium and phosphorus are vital for bone and teeth strength and various body functions.
- Each nutrient plays a specific role in maintaining health and supporting growth, energy production and body structure.

Additional Information

Calcium also supports blood clotting and hormone release.

- Cholesterol is made in the liver and also obtained from food.
- Glucose levels indicate metabolic health high levels may signal diabetes.
- Myosin uses ATP for muscle movement.
- Balanced levels of all are important for proper body function and overall health maintenance.

Q.2 In India, who appoints the Advocate General of a State?

1. Governor of the State

2. Prime Minister of India

3. President of India

4. Chief Minister of the State

Ans. :- 1(Governor of the State)

- In India the Advocate General of a State is appointed by the Governor of the respective state.
- This appointment is made under Article 165 of the Indian Constitution.
- The Advocate General is the highest law officer in the state and holds office during the pleasure of the Governor.
- The person appointed must be qualified to be a judge of a High Court ensuring a strong legal background for the role.

Additional Information

The Prime Minister represents the country internationally and chairs key councils like NITI Aayog.

- The President appoints the PM, governors and judges.
- The Chief Minister oversees state governance and development.

Q.3 When did the Constitution of WHO come into force - a date which we now celebrate as World Health Day every year?

1. 5 April 1948

2. 7 April 1948

3. 6 April 1948

4. 8 April 1948

Ans. :- 2(7 April 1948)

- The Constitution of the World Health Organization (WHO) came into force on 7 April 1948.
- This date was chosen to highlight the importance of global health and is observed every year as World Health Day.
- The day serves to draw worldwide attention to a specific health theme and promotes awareness, action and policy changes aimed at improving health outcomes for people across the globe.

Additional Information

Headquarters of WHO is located in Geneva, Switzerland.

- Official Languages are Arabic, Chinese, English, French, Russian, Spanish.
- Reports Published is World Health Report, International Classification of Diseases (ICD).

Q.4 India was named 'Bharat' after the name of the Bharat tribe. In which of the following Vedas is this tribe first mentioned?

1. Rigveda

2. Samaveda

3. Atharvaveda

4. Yajurveda

Ans. :- 1(Rigveda)

- The name 'Bharat' is derived from the Bharat tribe which is mentioned in the Rig Veda the oldest of the four Vedas.
- The Rigveda contains hymns composed by ancient sages and provides insights into early Vedic society including its tribes and their cultural practices.
- The Bharat tribe played a significant role in the Vedic civilization and their prominence in these hymns reflects their influence in early Indian history.

Additional Information

Samaveda

- It is known as the Veda of Chants.
- It is forming the basis of Indian classical music.

- **Atharvaveda**
- It contains hymns on daily life, healing, and rituals.

- **Yajurveda**
- It is known as the Veda of Sacrifice.
- It is Divided into Shukla and Krishna versions.

Q.5 What do you call the drugs that bind to the receptor site and inhibit its natural function?

1. Antidepressants

2. Agonist

3. Antagonists

4. Depressants

Ans. :- 3(Antagonists)

- Drugs that have an affinity to a receptor site and block the natural action are referred to as antagonists.
- Antagonist drugs block or suppress the biological response by keeping the receptor away from its natural ligand or agonist from being activated.
- Antagonists are utilized frequently in medicine as a counter-response to overexcitement in neurotransmitters or hormones that helps restore equilibrium within the body or to treat diseases due to hyperactivity of the receptor signal.

Additional Information

Antidepressants alleviate symptoms of depression by stabilizing brain chemicals such as serotonin.

- Agonists stimulate specific receptors to replicate natural chemicals, increasing their effects.
- Depressants reduce brain activity, facilitating relaxation and sleep but can impair cognition.
- Awareness is important since misuse or

mixing them can cause serious health consequences.

Q.6 Which of the following statements is/are CORRECT with respect to Draft Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, proposed in 2022?

A. Online games will have to register with a self-regulatory body, and only games cleared by the body will be allowed to legally operate in India.

B. Online gaming companies will not be allowed to engage in betting on the outcome of games, the proposed rules say.

C. According to the rules, there could be more than one self-regulatory body.

1. A and B only

2. A, B and C

3. B and C only

4. A and C only

Ans. :- 2(A, B and C)

- The draft IT Rules 2021 suggested in 2022 require online games to get registered with self-regulatory bodies and only licensed games are permitted to run legally.
- They also ban betting on game results to prevent gambling.
- Moreover the rules enable the creation of more than one SRBs for regulating various gaming platforms.
- These steps will ensure transparency, user safety and ethical gaming habits in India's booming online gaming market.

Additional Information

- Information technology and digital media ethics are designed to advance responsible internet usage, data protection and cyber security.
- They favor openness, fight disinformation and safeguard users from online damage.
- These guidelines support ethical content publishing, safe data management and sensible use of AI and social media platforms for public education.

Q.7 When was the None of the Above (NOTA) ballot option first implemented in India?

1. 2015

2. 2004

3. 2013

4. 2010

Ans. :- 3(2013)

- The None of the Above (NOTA) ballot option was first implemented in India in 2013.
- This followed a landmark judgment by the Supreme Court in the case of People's Union for Civil Liberties v.
- Union of India which directed the Election Commission to provide the NOTA option on Electronic Voting Machines and ballot papers.
- The NOTA option was first used in the 2013 elections in India.

Additional Information

NOTA votes are not legally binding and do not alter the election results unless specific thresholds are crossed, as seen in some local elections.

- The first election where NOTA was used in India was the 2014 Lok Sabha elections.
- The intention behind NOTA is to promote voter engagement by allowing individuals to express dissatisfaction without forfeiting their vote entirely.

Q.8 Which of the following is/are one of the ?

(A) Zero Hunger

(B) Climate Action

(C) Life Below Water

(D) Quality Education

1. A, B, C and D

2. A and B

3. B and C

4. A, C and D

Ans. :- 1(A, B, C and D)

- The United Nations Sustainable Development Goals include various objectives to tackle global challenges.
- Goals like Zero Hunger (Goal 2), Climate Action (Goal 13), Life Below Water (Goal 14) and Quality Education (Goal 4) are essential for a better future.
- These goals aim to eliminate hunger, fight climate change, preserve marine life and promote quality education for everyone ensuring sustainable development worldwide.
- Thus all the four options are part of these global goals.

Additional Information

The SDGs focus on inclusivity, ensuring no one is left behind, especially marginalized groups.

- Businesses and corporations are increasingly aligning their operations with the SDGs making them central to global economic development.
- The SDGs are voluntary but countries are encouraged to report progress annually through the High-Level Political Forum.

Q.9 Match the columns.

Column-A	**Column-B**
i. Electric current	**a. Henry**
ii. Potential difference	**b. Farad**
iii. Capacitance	**c. Volt**
iv. Inductance	**d. Ampere**

1. i-a, ii-b, iii-c, iv-d

2. i-b, ii-a, iii-c, iv-d

3. i-d, ii-c, iii-b, iv-a

4. i-a, ii-c, iii-b, iv-d

Ans. :- 3(i-d, ii-c, iii-b, iv-a)

- Electric current measured in Ampere represents the flow of charge.
- Potential difference is measured in Volt indicating the energy difference per unit charge.
- Capacitance is measured in Farad which describes the ability of a capacitor to store charge.
- Inductance is measured in Henry which quantifies a coil's ability to oppose changes in current.
- Thus the correct match is option 3.

Additional Information

- **Henry (H):**
  - It is the largest SI unit of inductance.
- **Farad (F):**
  - It is named after Michael Faraday this unit is used in capacitors.
- **Volt (V):**
  - The volt is defined as the difference in electric potential that will drive one ampere of current through a resistance of one ohm.
- **Ampere (A):**
  - The ampere is the SI base unit for electric current .

Q.10 The Supreme Court of India rejected the plea of _____ to quash the summons issued by the Delhi Legislative Assembly's Committee on Peace and Harmony for inquiry related to the Delhi riots in February 2020.

1. Instagram

2. Snapchat

3. Facebook

4. Twitter

Ans. :- 3(Facebook)

- The Supreme Court of India rejected Facebook's plea to quash the summons issued by the Delhi Legislative Assembly's Committee on Peace and Harmony.
- The summons were issued in relation to an inquiry into the role of social media platforms in the Delhi riots of February 2020.
- The court upheld the legislative committee's authority and directed Facebook to cooperate with the inquiry stressing the importance of accountability in handling such sensitive matters.

Additional Information

Instagram:

- Launched in 2010, acquired by Facebook in 2012.
- It introduced Stories in 2016 now a key feature for many brands and influencers.

- **Snapchat:**
- Launched in 2011 it's known for its disappearing messages.
- It introduced AR lenses in 2015 revolutionizing the use of filters.

- **Twitter**:
- Founded in 2006 Twitter's 280 character posts have shaped news and politics.

Q.11 Which crops are benefitted from the temperate cyclones arising from the Mediterranean Sea that cause rainfall in Punjab?

1. Rabi crops

2. Zaid crops

3. Cash crops

4. Kharif crops

Ans. :- 1(Rabi crops)

- The temperate cyclones originating from the Mediterranean Sea bring winter rainfall to Punjab which is highly beneficial for Rabi crops.
- These crops such as wheat, mustard and barley are sown in the winter and require moderate rainfall during their growth period.
- The rainfall from these cyclones helps in the proper development of Rabi crops ensuring good yield and supporting the agricultural economy of the region.

Additional Information

Zaid crops grow between Rabi and Kharif seasons (March–June).

- Examples
  - Watermelon
  - Cucumber
- Cash crops are grown for sale and profit not for personal use.
- Examples
  - Cotton
  - Sugarcane
  - Tobacco
- Kharif crops are sown with the onset of monsoon (June) and harvested in autumn**.**
- Examples
  - Rice
  - Maize

Q.12 The population of India is _____ according to Census 2011.

1. 1.4 billion

2. 1.21 billion

3. 1.5 billion

4. 1.11 billion

Ans. :- 2(1.21 billion)

- Based on Census 2011, the population of India was found to be about 1.21 billion.
- It is carried out every decade and gives comprehensive data regarding the

population composition of the country.

- It reflected an increase of nearly 181 million individuals from the earlier 2001 Census reflecting massive population growth.
- The census aids in planning and development at the national and state levels.

Additional Information

- India is the most populous nation in the world, overtaking China in 2023.
- It possesses more than 1.4 billion inhabitants with a widespread population of 28 states and 8 union territories.
- The most populous state is Uttar Pradesh.
- India's population is young with an approximate median age of 28 years.

Q.13 Which of the following statements are correct regarding the Supreme Court judgement on validity of 103rd Constitutional Amendment Act?

A. The Supreme Court of India's Constitutional Bench for this case consisted of 5 judges.

B. The Constitutional Bench upholds the 10% of EWS reservation with 3-2 majority.

C. As per the Supreme Court judgement, the 103rd Constitutional Amendment is valid although it is violating the Basic Structure of the Indian Constitution.

1. A, B and C

2. A and C only

3. B and C only

4. A and B only

Ans. :- 4(A and B only)

- Statements A and B are correct.
- The Supreme Court's Constitutional Bench consisted of 5 judges, and the 10% reservation for Economically Weaker Sections under the 103rd Constitutional Amendment was upheld by a 3-2 majority.
- The statement C is incorrect.
- The Court held that the amendment does not violate the Basic Structure of the Constitution, thereby declaring it valid within constitutional limits.

Additional Information

Supreme Court judgement on validity of 103rd Constitutional Amendment Act Applies to general category candidates who are not covered under SC, ST or OBC reservations.

- EWS eligibility is based on economic criteria such as an annual family income below ₹8 lakh and specific asset limits.
- The Supreme Court verdict upheld the amendment affirming that economic criteria can be a valid basis for reservation.

Q.14 Who found an empirical relationship between the half-life of alpha decay and the energy of the emitted alpha particles in 1911?

1. Fermi and Meitner

2. Geiger and Nuttall

3. Chadwick and Lawrence

4. Soddy and Aston

Ans. :- 2(Geiger and Nuttall)

- In 1911, Hans Geiger and John Mitchell Nuttall discovered an empirical relationship between the half-life of alpha-emitting radioactive substances and the energy of the emitted alpha particles.
- This relationship known as the Geiger-Nuttall law showed that isotopes with shorter half-lives emit more energetic alpha particles.
- Their work provided a foundation for understanding radioactive decay and

helped in the development of nuclear physics and the study of nuclear stability.

Additional Information

Fermi and Meitner contributed to nuclear physics

- Fermi worked on nuclear reactors, while Meitner explained nuclear fission.
- Chadwick discovered the neutron Lawrence invented the cyclotron.
- Soddy introduced the concept of isotopes and Aston developed the mass spectrograph, proving isotopes existence.

Q.15 Nutritional care during illness is an organised group of activities which consists of all of the following, EXCEPT:

1. assessing psychological stress

2. assessing nutritional status

3. planning and prioritising nutrition intervention(s) to meet nutritional needs

4. diagnosis of nutritional problems

Ans. :- 1(assessing psychological stress)

- Nutritional care during illness involves a structured approach to ensure patients receive the necessary nutrients to support recovery and overall health.
- This includes assessing the patient's nutritional status, identifying any nutritional problems and planning interventions to address their specific needs.
- Diagnosis of nutritional issues helps in determining appropriate actions.
- However assessing psychological stress is not directly related to the core components of nutritional care, as it pertains more to mental health rather than nutritional health.

Additional Information

Nutritional care focuses on providing the right foods for health.

- Eating a variety of foods helps maintain energy and supports growth.
- A balanced diet includes fruits, vegetables, grains, proteins and dairy.
- Drinking enough water is also important.
- Good nutrition helps prevent illnesses and keeps the body strong and active.

Q.16 Which of the following Articles mentions about a Uniform Civil Code throughout the territory of India?

1. Article 44

2. Article 39

3. Article 40

4. Article 50

Ans. :- 1(Article 44)

- Article 44 of the Indian Constitution refers to the Uniform Civil Code (UCC).
- It declares that the State shall strive to make provision for the citizens a Uniform Civil Code throughout the territory of India.
- This provision is intended to make a common code of law applicable to personal matters like marriage, divorce and inheritance regardless of religious or cultural practices.

Additional Information

- Article 39 of the Indian Constitution instructs the State to ensure a living wage, reasonable standard of living and conditions for healthy development of workers.
- Article 40 highlights the organization of village panchayats for local self-government.
- Article 50 requires the separation of judiciary from the executive for independence.

Q.17 Identify the correct statement.

1. Newton is a unit of force.

2. Newton is a unit of power.

3. Joule is a unit of force.

4. Joule is a unit of power.

Ans. :- 4(Joule is a unit of power)

- Newton is a unit of force.
- It is defined as the amount of force required to accelerate a one-kilogram mass by one meter per second squared.
- It is a derived unit in the International System of Units (SI).
- The unit is named after Sir Isaac Newton in recognition of his work on classical mechanics.
- It is symbolized as N.

Additional Information

James Prescott Joule was an English physicist known for his work on the relationship between heat and mechanical work.

- His experiments led to the formulation of the law of conservation of energy.
- The unit of energy the joule (J) is named in his honor, measuring work, heat and energy.

Q.18Which of the following statements is/ are correct regarding Government of India's New Integrated Food Security Scheme?

A. This New Integrated Food Security Scheme has been started from 1 January 2023.

B. The Government of India targeted to supply food grains to more than 80 crores beneficiaries under the National Food Security Act.

C. First time this food grains supply programme was brought under the Ministry of Social Justice for effective implementation.

1. B and C only

2. A and C only

3. A, B and C

4. A and B only

Ans. :- 4(A and B only)

- The correct answer is Option 4 A and B only
- The New Integrated Food Security Scheme was launched by the Government of India on **1 January 2023 Statement A is correct.
- It aims to provide free food grains to over 80 crore beneficiaries under the National Food Security Act Statement B is also correct.
- However Statement C is incorrect as the scheme is implemented by the Ministry of Consumer Affairs not the Ministry of Social Justice.

Additional Information

India's New Integrated Food Security Scheme launched in 2023 merges the PMGKAY and NFSA schemes. It provides free food grains to around 81.35 crore beneficiaries, ensuring food security for the poor.

- The scheme enhances transparency, efficiency and accessibility through digital platforms and aims to strengthen the public distribution system nationwide.

Q.19 Match the columns.

Slash and burn agriculture	**Associated State**
(A)Dahiya	**(I) Jharkhand**
(B)Kuruwa	**(II) Odisha**
(C)Bringa	**(III) Andhra Pradesh**
(D)Penda	**(IV) Madhya Pradesh**

1. A-IV, B-II, C-I, D-III

2. A-IV, B-III, C-I, D-II

3. A-IV, B-I, C-II, D-III

4. A-III, B-I, C-II, D-IV

Ans. :- 3(A-IV, B-I, C-II, D-III)

- Slash and burn cultivation is a process in which forest land is cleared through

slashing and burning trees.

- Various parts of India have regional terms for this practice.
- Dahiya is employed in Madhya Pradesh, Kuruwa in Jharkhand, Bringa in Odisha, and Penda in Andhra Pradesh.
- Each refers to the local practice and tribal culture.
- Correctly pairing these makes it easier to get a sense of the agricultural diversity across Indian states and their culture.
- So option 3 is the right pair.

Additional Information

- Dahiya, Kuruwa, Bringa and Penda are local or traditional agricultural terminologies used in different Indian regions.
- Dahiya is a soil type or an agricultural region.
- Kuruwa is a protected or fenced piece of land.
- Bringa and Penda are local names for the division of land or types of fields.

Q.20 The intervention of the government whether to expand demand or reduce it constitutes the _____.

1. speculative function

2. redistribution function

3. stabilisation function

4. transaction function

Ans. :- 3(stabilisation function)

- The role of the government to either increase or decrease aggregate demand in the economy is the stabilisation function.
- It helps in keeping the economy stable by managing inflation, curbing unemployment and fostering consistent growth.
- By means of fiscal and monetary policies the government changes its expenditure and taxation or impacts interest rates and money supply in order to balance demand in turn stabilising economic fluctuations and maintaining an equable economic climate.

Additional Information

- The money function of speculation is to hold money in order to profit from changes in price in the future.
- The redistribution function is the movement of income and wealth usually through subsidies and taxation.
- The transaction function is the main function of money, enabling the exchange of goods and services in everyday economic transactions.

Q.21 Who had assumed the title of Balban?

1. Kabir Khan 2. Farid Khan

3. Ulugh Khan 4. Ayaz Khan

Ans. :- 3 (Ulugh Khan)

- Ulugh Khan assumed the title of Balban.
- He was one of the most powerful rulers of the Delhi Sultanate and belonged to the Slave Dynasty.
- After serving as a trusted noble and regent he ascended the throne in 1266 AD.
- As Sultan Balban emphasized law and order, centralized authority, and royal dignity.
- His rule marked a significant step in strengthening the Sultanate and establishing a disciplined administration.

Additional Information-

Kabir Khan

- He is am Indian film director and screenwriter known for hits like Bajrangi Bhaijaan and Ek Tha Tiger.

- **Farid Khan**

- He is better known as Sher Shah Suri, he founded the Sur Empire in India and introduced the Rupiya currency.

- **Ayaz Khan**
  - An Indian TV and film actor, known for Dill Mill Gayye and Jaane Tu... Ya Jaane Na.

Q.22 In 1845, which German chemist published a method for the synthesis of acetic acid, a natural product containing two carbon atoms?

1. Friedrich Wohler

2. Marcellin Berthelot

3. Joseph Gay-Lussac

4. Hermann Kolbe

Ans. :- 4(Hermann Kolbe)

- In 1845 the German chemist Hermann Kolbe described a route for the preparation of acetic acid.
- It was revolutionary since it showed organic compounds could be prepared from inorganic materials.
- It was an important advance for the field of organic chemistry as it contradicted the then popular belief that only living organisms were capable of creating organic compounds.

Additional Information

- **Friedrich Wohler**
  - German chemist who synthesized urea from ammonium cyanate, refuting the theory of vitalism and opening the way to organic chemistry.
- **Marcellin Berthelot**
  - French chemist who made important contributions to organic chemistry and thermodynamics.
- **Joseph Gay-Lussac**
  - A French physicist and chemist who is famous for the law of combining volumes of gases and his contributions to gas laws, such as the relationship between pressure and temperature.

Q.23 Assume that exchange rate between the US Dollar and Indian Rupee is $1= ₹55. Now if this exchange rate increases to $1 = ₹60, then in this case the Indian Rupee has ____ in comparison to the US dollar.

1. depreciated

2. appreciated

3. Demonetised

4. overvalued

Ans. :- 1(depreciated)

- When the exchange rate rises from ₹55 to ₹60 for one US Dollar it means more Rupees have to be paid to buy one Dollar.
- It implies that the value of the Indian Rupee has fallen in comparison to the US Dollar.
- Here the Indian Rupee has fallen indicating weakening of its strength against the US Dollar.
- Depreciation is a loss of purchasing power for the Rupee in foreign exchange markets.

Additional Information

- Demonetised is the act of canceling the legal tender status of money such as India's 2016 demonetisation of ₹500 and ₹1,000 notes.
- Overvalued is an asset that has been valued above its true value usually because of speculation in the market.
- Both words are important in economic discourse regarding money and market status.

Q.24 Consider the following statements about the main reasons for the excessive cold in north India during the cold weather season and identify which of the statements are correct.

1. States like Punjab, Haryana and Rajasthan, being far away from the moderating influence of sea, experience continental climate.

2. The snowfall in the nearby Himalayan ranges creates a cold wave situation.

3. Around February, the cold winds coming from the Caspian Sea and Turkmenistan bring a cold wave along with frost and fog over the northwestern parts of India.

1. 1 and 2 only

2. 2 and 3 only

3. 1, 2 and 3

4. 1 and 3 only

Ans. :- 3(1, 2 and 3)

- The correct answer is 3. 1, 2 and 3.
- Punjab, Haryana and Rajasthan experience a continental climate due to their distance from the sea causing extreme temperature variations.
- Snowfall in the Himalayan ranges leads to cold air moving into the plains creating cold waves.
- Cold winds from the Caspian Sea and Turkmenistan bring chilly air and cause frost and fog particularly around February affecting northwestern India.

Additional Information

- During the cold weather season northern India experiences excessive cold due to western disturbances low pressure systems originating from the Mediterranean region.
- Cold temperatures combined with high humidity cause dense fog, disrupting air and rail travel and reducing visibility in many parts of northern India.
- Crops such as wheat, mustard and vegetables are damaged during extreme cold spells leading to significant losses.

Q.25 In which year, the Koya rebellion took place in the eastern Godavari tract?

1. 1882-1883

2. 1874-1875

3. 1879-1880

4. 1887-1888

Ans. :- 3(1879-1880)

- The Koya revolt in the tract of Eastern Godavari occurred in the period from 1879-1880.
- They were led by the Koya tribals, under the leadership of Tammandora.
- They had risen in protest against British rule, represented by oppressive measures, such as more taxation and forest legislation disturbing their traditional modes of living.

Additional Information

- The Koyas fought with bows, arrows and spears against British guns with extraordinary courage despite the odds.
- Raju was hardly in his mid 20s at the time of rebellion but had a strong leadership quality and respect.
- Raju developed local support through coded messages and local temples as the venue for clandestine meetings.

Computer Knowledge Module

Q.1 A_____ is a networking device that filters network traffic while connecting multiple computers or communicating devices.

1. router

2. gateway

3. switch

4. repeater

Ans. :- 3(switch)

- A switch is a network device that filters network traffic as it links several computers or communication devices in a local area network.
- It employs MAC addresses to send

data only to the target receiving device thereby enhancing network efficiency and security.

- Through the control of data traffic and collision reduction a switch facilitates seamless communication between devices and is therefore an integral part of current network infrastructures.

Additional Information

- **Router**
  - A router is an internet device which transmits packets of data among computer networks.
- **Gateway**
  - A gateway connects two distinct networks that operate over different protocols.
- **Repeater**
  - A repeater is equipment that regenerates and enhances signals within a network.

Q.2 Which of the following is not a LibreOffice Software Suite program?

1. LibreOffice Writer

2. LibreOffice Excel

3. LibreOffice Calc

4. LibreOffice Impress

Ans. :- 2(LibreOffice Excel)

- LibreOffice Excel is not a part of the LibreOffice Software Suite.
- It does not exist as an official application under the LibreOffice branding.
- The suite includes tools for word processing, spreadsheets, presentations and other office tasks but LibreOffice Excel is not one of the recognized or developed programs within this open-source software package.
- The name may cause confusion due to its similarity with a program from another office suite.

Additional Information

- LibreOffice Writer, Calc and Impress are open-source software tools used for word processing, spreadsheets and presentations respectively.
- They are part of the LibreOffice suite compatible with Microsoft Office formats.
- These tools demonstrate key computer science concepts like GUI design, file handling and open-source software development in real-world applications.

Q.3 Which among the following is not a magnetic storage?

1. Winchester disk

2. Floppy Drive

3. Memory Card

4. Magnetic Tape

Ans. :- 3(Memory Card)

- A memory card is not a magnetic storage device.
- It uses flash memory technology to store data electronically rather than magnetically.
- Flash memory is a type of non-volatile storage that retains data even when the power is turned off.
- It is commonly used in devices like smartphones, cameras and tablets.
- Unlikely magnetic storage, memory cards do not rely on moving parts or magnetic fields to read or write data.

Additional Information

- **Winchester Disk**
  - It is developed by IBM in the 1970s.
  - Non-volatile storage used for long-term data storage.
- **Floppy Drive**
  - It is a Portable magnetic storage introduced in the 1970s.
  - Common sizes are
    - 8-inch
    - 5.25-inch

- 3.5-inch
- **Magnetic Tape**
  - One of the oldest storage mediums used since the 1950s.

Q.4 Which among the following type of computer is also known as notebook?

1. Micro Computer

2. Multi Core

3. Work Station

4. Laptop Computer

Ans. :- 4(Laptop Computer)

- A Laptop Computercomputer also called a notebook.
- It is a personal computer that is lightweight and compact for use on the move.
- It integrates the parts of a desktop computer like a screen, keyboard and processor into one light-weight and compact package.
- Laptops have the benefit of being powered by a battery so can be used on the move and are most commonly used for work, education, entertainment and general use computing.

Additional Information

- **Microcomputer**
  - It is Small and personal computer.
  - Used for daily tasks.
- **Multi-Core:**
  - It has a Processor with multiple cores.
  - It processes tasks quicker by working in parallel.
- **Workstation**:
  - It is aHigh-performance computer.
  - Used for complex tasks such as design and rendering.

Q.5 _____ is the bit-rate of available or consumed information capacity expressed typically in metric multiples of bits per second.

1. Frequency

2. Protocol

3. Speed

4. Bandwidth

Ans. :- 4(Bandwidth)

- The term Bandwidth is used to denote the bit-rate of accessible or utilized information capacity usually in terms of metric multiples of bits per second.
- It is the maximum quantity of data that can be conveyed over a network or communications channel within a given period of time.
- Bandwidth is one of the determining factors in measuring the performance and efficiency of data transfer in networks, influencing download/upload rates, streaming quality and system responsiveness.

Additional Information

- Frequency is the number of times the same event happens, e.g., clock cycles within a processor.
- Protocol is a set of rules governing the exchange of data between devices.
- Speed is a measure of how quickly a system can process information, affecting performance, latency and responsiveness.

Q.6 _____holds address of the active memory location.

1. Stack pointer

2. Program Counter

3. Memory Address Register

4. Instruction Register

Ans. :- 3 (Memory Address Register)

- The Memory Address Register contains the address of the current memory location.
- It is an important element in the memory management system in the CPUs.
- When data should be read or written

into memory the MAR stores the exact address location in memory.

- This helps the CPU access the necessary data or instructions at execution time.

Additional Information

- Stack Pointer stores the memory address of the stack top.
- It is employed for handling local variables and function calls.
- The Program Counter retains the memory address of the upcoming instruction to be run in a program progressing subsequent to each instruction.
- The Instruction Register retains the present instruction currently being processed allowing the CPU to effectively decode and run it.

Q.7 Which of the following shorteut key is used to select all cells of the current row in MS-Excel 2010 worksheet?

1. Shift + Page down

2. Ctrl + Spacebar

3. Shift + Page up

4. Shift + Spacebar

Ans. :- 4(Shift + Spacebar)

- The shortcut key used to select all cells of the current row in an MS Excel 2010 worksheet is Shift + Spacebar.
- When you press this combination, it highlights the entire row where the active cell is located allowing you to perform various actions like formatting, deleting or copying the row data without manually selecting each cell.
- This is a quick and efficient way to work with row-level data.

Additional Information

- **Shift + Page Down**
  - This keyboard shortcut scrolls down one screen length in most applications such as web browsers or word processors.
- **Ctrl + Spacebar**:
  - It resets the font to the default in text editors like Microsoft Word.
- **Shift + Page Up:**
  - Scrolls up one screen length in most applications similar to the Page Down function but in reverse.

Q.8 _____records everything you type on your PC in order to obtain your log-in name, passwords and other sensitive information.

1. Virus

2. Keyloggers

3. Worms

4. Ransomware

Ans. :- 2(Keyloggers)

- Keyloggers are vicious software that is used to capture all you input on your computer including sensitive information like log-in passwords, passwords and other confidential data.
- They run secretly in the background usually without even your own realization and transmit the harvested data to the hackers.
- This renders them a severe threat to individual security and privacy particularly when used for identity theft or unauthorized use of accounts.

Additional Information

- Viruses, worms and ransomware are computer viruses.
- Viruses propagate by attaching themselves to files.
- Worms replicate themselves across networks.
- Ransomware encrypts data and asks for payment to decrypt it.
- These threats take advantage of vulnerabilities, leading to data loss, system destruction and financial loss making the need for cybersecurity

measures imperative.

Q.9 Crypto Locker is a form of which of the following?

1. Ransomware

2. Adware

3. Spyware

4. Worms

Ans. :- 1(Ransomware)

- CryptoLocker is a ransomware a piece of malicious code that encrypts a user's files making them inaccessible.
- Once the files have been encrypted, the attacker demands a ransom usually in cryptocurrency to provide the decryption key.
- Such malware tends to spread through email attachments or links, targeting both individuals and entities to extort funds.

Additional Information

- Adware is software that shows unnecessary advertisements usually included in free software.
- Spyware silently collects user data without authorization, infringing on privacy.
- Both may slow down system performance and cause security threats.
- They are re normally propagated by malicious downloads that take advantage of operating system or browser vulnerabilities.

Q.10 Which of the following is a web browser created and developed by Microsoft?

1. Opera

2. Chrome

3. Edge

4. Brave

Ans. :- 3(Edge)

- The web browser developed and built by Microsoft is Edge.
- It was originally released in 2015 as the replacement for Internet Explorer and now is a Chromium-based browser.
- Edge is meant to provide a fast, secure, and efficient browsing experience with features such as built-in Microsoft tools, improved privacy features and extension support.
- It comes on Windows and macOS platforms.

Additional Information

- **Opera**:
  - It Was based on the Blink engine.
  - Opera has its customization options and new features such as an in-built VPN and ad blocker.
- **Chrome**:
  - Made by Google Chrome is the most popular web browser that is known for speed and simplicity.
- **Brave**:
  - Brave is based on Chromium and emphasizes privacy blocking ads and trackers by default.

Q.11 In MS-Word 365, Ctrl + E is the keyboard shortcut to_____.

1. justify the selected text

2. centre align the selected text

3. right align the selected text

4. display the file menu options

Ans. :- 2(centre align the selected text)

- In MS Word 365, Ctrl + E is the hotkey to center align the selected text.
- This will align the text in the middle of the page or the margins set for the document.
- This is normally used for titles, headings or special parts of text which need to be visually centered on the page giving a balanced and professional look to the document's layout.

Additional Information

- Microsoft Word 365 is part of the Office 365 subscription, delivering cloud-based word processing.
- It provides simultaneous collaboration, advanced formatting features and integration with OneDrive for sharing.
- It Includes
  - templates
  - grammar and spell checks
  - auto-save
  - accessibility options
  - seamless cross-platform compatibility for optimal productivity.

Q.12 Consider the following statements regarding line spacing of a paragraph in MS-Word 2010:

P: Line spacing determines the amount of vertical space becween lines of text in a paragraph.

Q: Line spacing determines the amount of diagonal space between lines of text in a paragraph

Which of the following statement(s) is/are cocrect?

1. Only P

2. Both P and Q

3. Neither P nor Q

4. Only Q

Ans. :- 1(Only P)

- Statement P is correct since line spacing in MS Word means the vertical distance between lines of text within a paragraph.
- This is a setting that determines how much space to add above or below each line of text to influence the readability and appearance of the paragraph.
- It can be modified with options such as single, 1.5, double or custom spacing.

Additional Information

- Microsoft Word 2010 added some new features, including the
  - Ribbon interface
  - Better file compatibility
  - More advanced graphics tools.
- It facilitated seamless document sharing through the cloud and was integrated with Office Web Apps.
- New additions such as
  - SmartArt
  - advanced text effects
  - advanced formatting options made creating documents more dynamic.
- Moreover Word 2010 accommodated improved collaboration and review features.

Q.13 Which one of the following folders is used to store deleted emails?

1. Trash

2. Spam

3. Inbox

4. Drafts

Ans. :- 1(Trash)

- The Trash folder is used to store deleted emails temporarily.
- When an email is deleted it is moved to this folder where it remains for a certain period before being permanently deleted.
- This provides users with an opportunity to recover mistakenly deleted emails.
- The duration for which emails stay in Trash varies depending on the email providers settings but they are eventually removed permanently after the retention period ends.

Additional Information

- The term spam in email originated from a Monty Python sketch.
- Spam bots are automated programs that generate and send spam emails.
- Email services often classify emails as

spam based on content analysis, sender reputation or patterns.

- Graymail refers to emails that are not outright spam but are unwanted or promotional.

Q.14 Which among the following ports is also called as mouse port?

1. Video Graphic Array

2. High Definition Media Interface

3. Firewire

4. PS/2

Ans. :- 4(PS/2)

- The PS/2 port is also known as the mouse port.
- It is a 6-pin mini-DIN connector that was commonly used for connecting keyboards and mice to a computer.
- The PS/2 port was widely used in older computers, but has been largely replaced by USB ports in modern systems.
- Even though this PS/2 ports are still found on some motherboards particularly for legacy support.

Additional Information

- **Video Graphics Array:**
  - A standard display interface for computers, introduced in 1987 b y IBM.
- **High Definition Media Interface:**
  - A digital interface for transmitting high-quality video and audio signals.
- **Firewire:**
  - A high-speed data transfer standard commonly used for connecting peripherals like cameras and external hard drives.

Q.15 _____ displays a list of utility configure the computer system and install software and hardware.

1. Run

2. Control Panel

3. Taskbar

4. Help and Support

Ans. :- 2 (Control Panel)

- Control Panel shows a collection of utility settings that enable users to control and customize different components of their computer system.
- It offers access to software installation and removal settings, hardware device management and system preferences.
- By means of the Control Panel, users can change network settings, security settings, user accounts and other things making it a vital utility for configuring and maintaining the computer.

Additional Information

- The Run command or function is utilized to run a program or script.
- The Taskbar in computer science is a graphical user interface component that offers rapid access to programs and system capabilities.
- It generally consists of the
  - Start menu
  - open applications
  - system notifications.
- Help and Support is an option that helps users troubleshoot and learn about the operating system.

Q.16 _____was the first browser to display images inline with text instead of displaying images in a separate window.

1. Mozilla

2. Mosaic

3. Lynx

4. Opera

Ans. :- 2(Mosaic)

- The first browser to display images inline with text instead of in a separate

window was Mosaic.

- It was released in 1993.
- It was a groundbreaking development for the World Wide Web.
- Mosaic allowed web users to view images and text together in the same browser window which significantly improved the web browsing experience and set the stage for modern web browsers.

Additional Information

- Mozilla Firefox is an open-source fast browser known for privacy features.
- Lynx is a text-based browser primarily used for accessibility or command-line environments.
- Opera originally built for mobile devices, offers unique features like a built-in VPN and ad-blocking.

Q.17 _____are a set of wires, which carries a group of bits in parallel and has an associated control scheme. It provides a communication path between two or more devices of a computer system.

1. Buses

2. Control Unit

3. Register

4. Cache

Ans. :- 1 (Buses)

- Buses are a collection of wires that transport a group of bits in parallel and involve an accompanying control scheme to control data flow.
- Buses offer a communication link between various devices in a computer system, e.g. the CPU, memory and input/output devices.
- Buses facilitate effective data transfer by synchronizing signals, addresses and control information, and they play an integral part in the system operation.

Additional Information

- **Control Unit:**
  - The Control Unit controls the execution of the processor. It instructs the computer's memory, ALU and input anoutput devices what to do in response to program instructions.
- **Register:**
  - Registers are tiny, high-speed memory locations in the CPU where data is temporarily held during processing.
- **Cache:**
  - Cache is fast memory that holds data that is often used for easy access.

Q.18 What will the function given below return in MS-Excel 2010 ?

= MATCH (12, {10,13,30,40,60},1)

1. 0

2. 1

3. #N/A

4. 2

Ans. :- 2 (1)

- The function=MATCH(12, {10,13,30,40,60}, 1) in MS-Excel 2010 searches for the value 12 in the array {10,13,30,40,60} using approximate match as indicated by the 1.
- Since 12 is not found but 10 is the largest value less than 12, Excel returns the position of 10, which is 1.
- Therefore the function returns 1.
- Thus option 2 is a correct answer.

Additional Information

- We can use Word to perform simple calculations by enabling the Calculate command in the Quick Access Toolbar.
- Word has a built-in Dictate feature for voice-to-text conversion.
- It allows recovery of unsaved documents via Recover Unsaved Documents under

File > Info.

Q.19 Which among the following statements is incorrect for input devices?

1. Input devices are also called as peripheral device.

2. Input devices accepts user data.

3. Input devices helps computer in receiving data.

4. Optical Mark Reader is an input device.

Ans. :- 1 (Input devices are also called as peripheral device.)

- Input devices are hardware components used to provide data and control signals to a computer.
- They enable users to interact with the system by inputting text, images or commands.
- It include
  - keyboard
  - mouse
  - scanner
  - Optical Mark Reader.
- These devices help the computer in receiving data from the user.
- However not all peripheral devices are input devices, making the term peripheral device not exclusive to input functions.
- Thus the incorrect statement is Input devices are also called as peripheral device.

Additional Information

- Infrared keyboards use light beams to detect keystrokes without physical keys.
- Eye-tracking devices can serve as input tools for users with limited mobility.
- Graphics tablets offer pressure sensitivity mimicking pencil strokes.

Q.20 Which among the following statements is incorrect?

1. A magnetic tape consists of vertical columns called frames.

2. Magnetic tape consists of horizontal rows called channels or tracks.

3. Magnetic tape drivers are not suitable for storage of data that need to be accessed randomly.

4. There is no addressing in the magnetic tapes.

Ans. :- 1(A magnetic tape consists of vertical columns called frames)

- The incorrect statement is A magnetic tape consists of vertical columns called frames.
- Magnetic tapes are storage devices that use tracks to store data, not vertical columns called frames.
- These tracks are aligned along the length of the tape and can be read sequentially.
- Magnetic tape drives are slower than other storage devices making them unsuitable for random access.

Additional Information

- Modern magnetic tapes have extremely high storage capacities with some tapes reaching several terabytes of data in a single cartridge.
- Magnetic tapes are still widely used for backup storage due to their cost-effectiveness per gigabyte compared to disk based storage.
- The LTO tape format is an open standard allowing multiple manufacturers to create compatible tapes and drives.

SSC CGL Tier-II
Previous Year Paper 06 Mar, 2023
General Awareness

Q.1 The national census does NOT recognise _____ groups within India.

1. tribal

2. ethnic

3. religious

4. scheduled caste

Ans.;- 2(ethnic)

- The Indian national census does not categorize ethnic groups as a specific category.
- It does gather data on scheduled castes, scheduled tribes and religious communities but it does not categorize or count the population officially in terms of ethnicity.
- The attention is still centered on constitutionally and administratively defined groups for policy making purposes and affirmative action instead of focusing on cultural or ethnic categories which may be heterogeneous and conflicting.

Additional Information

- Tribal communities are native people with unique cultures and traditions.
- Religious groups in India have freedom of worship as guaranteed by the Constitution.
- Scheduled Castes are historically underprivileged communities granted affirmative action for upliftment.

Q.2 Article 148 of the Constitution of India provides for an independent office of the _____.

1. Attorney General of India

2. President of India

3. Comptroller and Auditor General of India

4. Advocate General of the State

Ans:- 3(Comptroller and Auditor General of India)

- Article 148 of the Constitution of India provides for an independent office of the Comptroller and Auditor General of India (CAG).
- The CAG is responsible for auditing the accounts of the Union and the States and ensuring transparency and accountability in the financial administration of the country.
- The office is autonomous and functions independently to uphold the integrity of public finance and ensure proper utilization of government funds.

Additional Information

- The Attorney General of India is the chief legal advisor to the government.
- The President of India is the ceremonial head and also the supreme commander of the armed forces.
- The Advocate General advises the state government legally.

Q.3 Following statements are made regarding global warming.

A. Global warming is the long-term heating of Earth's surface observed since the pre industrial period due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere.

B. Global warming causes climate change, which poses a serious threat to life on Earth in the forms of widespread

flooding and extreme weather.

Which of these statements are correct?

1. Only B

2. Only A

3. Both A & B

4. Both A & B are incorrect

Ans. :- 3(Both A & B)

- Statement A is correct because Global warming refers to the long-term increase in Earth's average surface temperature, mainly due to human activities such as burning fossil fuels, which release greenhouse gases like carbon dioxide and methane.
- Statement B is also correct because Global warming contributes to climate change leading to serious consequences such as rising sea levels, extreme weather events, droughts, floods and more all of which pose threats to ecosystems and human life.
- Hence both statements are correct.

Additional Information

- Global warming is the long-term rise in Earth's temperature due to increased greenhouse gases like CO_2.
- It causes
  - melting glaciers
  - rising sea levels
  - extreme weather
  - loss of biodiversity.
- Human activities like burning fossil fuels and deforestation accelerate it.
- Global action is essential to reduce emissions and protect our planet.

Q.4 In August 2021, the Ministry of Labour and Employment launched the _____ portal for creating a National Database of Unorganized Workers (UWs).

1. eUmang

2. eRozgaar

3. eGyan

4. eShram

Ans.:- 4(eShram)

- In August 2021, the Ministry of Labour and Employment initiated the eShram portal for the creation of a National Database of Unorganized Workers.
- The scheme was launched with the objective of enrolling unorganized workers, including migrant workers, street vendors, domestic workers and construction workers.
- The eShram portal assists in disbursing the benefits of different social security schemes and forms an in-depth database to ensure efficient welfare planning and implementation of policies for this vast workforce.

Additional Information

- eUmang is a single app that offers central and state government services.
- eRozgaar provides skill development and job placement assistance to youth.
- eGyan is an e-learning platform providing educational material and training.

Q.5 Plants that do not have well-differentiated body design fall in this group. The plants in this group are commonly called algae. These plants are predominantly aquatic.

1. Bryophyta

2. Angiosperms

3. Thallophyta

4. Pteridophyta

Ans. :- 3(Thallophyta)

- Thallophyta is a group of simple plants that do not have a well-differentiated body design.
- These plants lack true roots, stems and leaves.

- They are mostly found in aquatic environments and are commonly known as algae.
- Thallophyta includes both unicellular and multicellular organisms.
- They perform photosynthesis and play an important role in aquatic ecosystems by producing oxygen and serving as a food source for various aquatic animals.

Additional Information

- Bryophytes are nonvascular small plants like mosses that thrive in moist areas.
- Pteridophyta are seedless vascular plants such as ferns.
- Angiosperms are flowering plants, the most diverse plant group, producing seeds enclosed in fruits.

Q.6 Which artificial element has been provisionally named seaborgium by American researchers in honour of Nobel Laureate Glenn T Seaborg?

1. Element 97

2. Element 106

3. Element 90

4. Element 103

Ans. ;- 2(Element 106)

- The artificial element provisionally named seaborgium by American researchers in honor of Nobel Laureate Glenn T. Seaborg is element 106.
- Seaborg was instrumental in the discovery of several transuranium elements and naming element 106 after him recognized his contributions to nuclear chemistry.
- Seaborgium is a synthetic element and is not found naturally.
- It was first synthesized in 1974 by a team of American scientists at the Lawrence Berkeley Laboratory.

Additional Information

- Element 97 (Berkelium), Element 90 (Thorium), and Element 103 (Lawrencium) are actinides.
- Berkelium and Lawrencium are synthetic and radioactive used mainly in research.
- Thorium is naturally occurring and considered for nuclear fuel.

Q.7 Match List-I and List-II regarding the medal tally in National Games 2022.

List-I (Team) List-II (Medals)

a) Services team i) Highest Number of Medals (Including Gold, Silver, bronze)

b) Maharashtra ii) Highest Number of Gold Medals in the entire games

c) Haryana iii) 3rd position in medal tally (according to the number gold medals)

d) Karnataka iv) 4th position in medal tally (according to the number gold medals)

1. a-ii, b-i, c-iii, d-iv

2. a-ii, b-i, c-iv, d-iii

3. a-i, b-ii, c-iii, d-iv

4. a-i, b-ii, c-iv, d-iii

Ans. ;- 1

- **Services team** secured the highest number of gold medals, totaling 61, and clinched the Raja Bhalendra Singh Cup for overall champions.
- **Maharashtra** achieved the highest total medal count with 140 medals, comprising 39 gold, 38 silver, and 63 bronze.
- **Haryana** finished third in the medal tally with 38 gold medals.
- **Karnataka** secured the fourth position with 27 gold medals.
- Therefore the correct option is **Option 1 (a-ii, b-i, c-iii, d-iv)**.

Additional Information

- Services Team represents the Indian Armed Forces in national sports events like the Santosh Trophy and National Games.
- Maharashtra is known for Bollywood, Ajanta-Ellora caves, and sugarcane production. **Haryana** hosts key institutions like the Indian National Defence University.
- In **Karnataka** Bengaluru is the Silicon Valley of India and known for IT industry, education and biotechnology.

Q.8 Who explained the structure and reproductive system of algae in 1935?

1. MOP Iyengar

2. FE Fritsch

3. William Henry

4. Carolus Linnaeus

Ans.:- 2(FE Fritsch)

- In 1935 the structure and reproductive system of algae were extensively explained by F.E. Fritsch.
- He made significant contributions to phycology through his detailed work on the morphology, reproduction and classification of algae.
- His research laid the foundation for modern algal studies, particularly through his publication The Structure and Reproduction of the Algae which became a major reference for botanists and researchers interested in understanding algal biology.

Additional Information

- M.O.P. Iyengar was a pioneer Indian phycologist known for his research on algae.
- William Henry formulated Henry's Law about gas solubility in liquids.
- Carolus Linnaeus developed the binomial nomenclature the system of naming organisms scientifically.

Q.9 Which of the following is correct about uniform acceleration?

1. An object moving on friction-less surface can gain uniform acceleration.

2. An object under free fall is an example of uniform acceleration.

3. An object moving with constant speed is an example of uniform acceleration.

4. Motion of a spring is an example of uniform acceleration.

Ans. ;- 2

- A body undergoing free fall has uniform acceleration due to gravity is the correct statement.
- It is the statement that its velocity changes by equal amounts in equal intervals of time, provided air resistance is negligible.
- The acceleration is always constant at around 9.8m/s² near the surface of the Earth.
- Free fall illustrates uniform acceleration because the speed of the object is increased in a uniform manner by gravitational force making it a standard illustration of uniform acceleration motion.

Additional Information

- Global acceleration refers to a uniform change in velocity with respect to time.
- It is witnessed in objects which are falling freely under gravity.
- Equations of motion are applicable here.

Q.10 The induced current is the highest when the direction of motion of the coil is:

1. not at right angles to the magnetic field

2. at right angles to the electricity

3. at right angles to the electric source

4. at right angles to the magnetic field

Ans.:- 4(at right angles to the magnetic field)

- The induced current is the highest when the direction of motion of the coil is at right angles to the magnetic field.
- This is because the rate of change of magnetic flux through the coil is maximized resulting in the maximum induced emf according to Faraday's Law of Induction.
- The perpendicular motion ensures that the coil cuts through the magnetic field lines most effectively inducing the greatest current.

Additional Information

- Induced current is generated when a conductor experiences a change in magnetic field based on Faraday's law.
- It powers devices like generators and transformers.
- It is Found in everyday items also it is essential for electricity production.
- The direction of current follows Lenz's law, opposing the change causing it.

Q.11 Hydrogen resembles the properties of which two groups of the periodic table?

1. Group 2 and group 17

2. Group 1 and group 3

3. Group 1 and group 17

4. Group 2 and group 4

Ans. :- 3(Group 1 and group 17)

- Hydrogen resembles the properties of both group 1 and group 17 of the periodic table.
- Like alkali metals, hydrogen has one electron in its outer shell and forms unipositive ions.
- Like halogens, it requires one electron to complete its outermost shell and can form diatomic molecules.
- Due to this dual behavior hydrogen shows similarities with both groups in terms of electronic configuration and chemical reactivity.

Additional Information

- Under extreme pressure, hydrogen can become metallic and may act as a superconductor.
- Hydrogen was the first element created after the Big Bang.
- Over two-thirds of Earth's surface water contains hydrogen atoms.
- Hydrogen exists as protium, deuterium and tritium.

Q.12 Which is a specialised excretory cell found in Platyhelminthes that acts like a kidney, removing waste material through filtration?

1. Fat cell

2. Flame cell

3. Stem cell

4. Sponge cell

Ans. :- 2(Flame cell)

- In Platyhelminthes the specialized excretory cell to eliminate waste products is the flame cell.
- It acts similar to a primitive kidney by performing filtration and osmoregulation.
- These cells belong to the protonephridial system and have cilia that beat in order to produce a current that pulls in waste fluid-containing substance through a system of tubules.
- The filtered waste is then ejected from the body aiding to keep the body fluid balance intact.

Additional Information

- Fat cells save energy in the form of fat and assists in controlling metabolism.
- Stem cells are general cells that have the

ability to become other types of cells that assist during growth and repair.

- Sponge cells are present in sponges and consist of forms such as collar cells which assist during feeding and controlling water flow.

Q.13 Who among the following was the President of the Indian National Congress during the 1915 session?

1. Satyendra Prasanna Sinha

2. Ambica Charan Mazumdar

3. Bhupendra Nath Bose

4. Madan Mohan Malaviya

Ans.:- 1(Satyendra Prasanna Sinha)

- During the 1915 session of the Indian National Congress, its President was Satyendra Prasanna Sinha.
- A leading Indian politician and lawyer, he is historically noted for becoming the first Indian to join the British House of Lords.
- He was a reflection of the deepening engagement of Indians in leadership and the politics during the time of British colonisation.

Additional Information

- Ambica Charan Mazumdar was a Congress leader and moderate nationalist.
- Bhupendra Nath Bose is also a Congress leader advocated Indian interests and legal reforms.
- Madan Mohan Malaviya is the founder of Banaras Hindu University and promoted education and Hindu nationalism.

Q.14 Which officer under Alauddin Khilji was required to maintain a register of merchants to ensure an adequate supply of goods?

1. Nazir

2. Rais Parwana

3. Muhtasib

4. Shahna-i-Mandi

Ans.:- 4(Shahna-i-Mandi)

- Under Alauddin Khilji the Shahna-i-Mandi was the officer tasked with keeping a register of merchants so as to provide enough supply of goods.
- This officer oversaw the markets, controlled prices and made sure that traders operated according to the Sultans set rules.
- The Shahna-i-Mandi was instrumental in the enforcement of Alauddin Khilji's market reforms which were intended to regulate prices and stop hoarding thereby maintaining a stable economy and supply of necessary goods.

Additional Information

- Nazir, RaisParwana and Muhtasib are old administrative or judicial positions in the Mughal Empire.
- The Nazir handled finances and collection of revenue.
- The Rais was a local chief or leader.
- The Parwana was a royal decree or command.
- The Muhtasib was responsible for market control and moral enforcement.

Q.15 Which of the following statements is/ are true?

(A) COP28 is proposed to be held in New Delhi, India.

(B) The first UN Climate Change Conference was held in 1995.

(C) The first UN Climate Change Conference was held in Paris, France.

1. Only A

2. A and B

3. B and C

4. Only B

Ans.:- 4 (Only B)

- The COP28 is set to take place in Dubai United Arab Emirates not New Delhi India. This makes statement A incorrect.
- The first UN Climate Change Conference officially known as COP1 took place in 1995 in Berlin Germany not Paris, France statement B is correct.
- Statement C is incorrect because the first COP meeting was held in Berlin not Paris.
- Thus the correct answer is option 4 Only B.

Additional Information

- The main aim was to evaluate progress on the 1992 UN Framework Convention on Climate Change.
- COP1 laid the foundation for future negotiations, including the Kyoto Protocol in 1997.
- The polluter pays principle, which holds that those who cause environmental damage should bear the costs of mitigating it was discussed at COP1 as a basis for future climate agreements.

Q.16 How many types of writs can be issued under Article 32 and 226 of the Constitution of India?

1. Four

2. Six

3. Five

4. Seven

Ans.:- 3(five)

- Under Articles 32 and 226 of the Constitution of India, five types of writs can be issued to enforce the fundamental rights of citizens or for other purposes.
- These writs are Habeas Corpus, Mandamus, Prohibition,Certiorari and Quo-Warranto.
- The Supreme Court can issue them under Article 32 for fundamental rights violations while High Courts can issue them under Article 226 for both fundamental and other legal rights.

Additional Information

- The Constitution of India was adopted on January 26 1950 is the world's longest written constitution.
- It establishes India as a sovereign, socialist, secular, democratic republic.
- It guarantees fundamental rights, outlines the structure of government, and ensures justice, liberty, equality and fraternity.
- It was drafted by the Constituent Assembly.

Q.17 In India, who among the following is responsible for auditing all receipts and expenditure of the Union and State governments?

1. Attorney General for India
2. Advocate General
3. Union Public Service Commission
4. Comptroller and Auditor- General

Ans.:- 4(Comptroller and Auditor- General)

- In India the Comptroller and Auditor-General is responsible for auditing all receipts and expenditure of the Union and State governments.
- The CAG ensures transparency and accountability in financial administration by conducting audits of government accounts, departments and public sector undertakings.
- The reports prepared by the CAG are submitted to the President or the Governor and are later examined by the Parliament or the State Legislature for necessary action.

Additional Information

- The Attorney General for India is the chief legal advisor to the government.

- The Advocate General is the highest law officer in a state.
- The Union Public Service Commission conducts exams for top civil services.

Q.18 Which of the following launched NEAT 3.0 to provide best developed ed-tech solutions, in January 2022?

1. Ministry of Law and Justice
2. Ministry of Electronics and Information Technology
3. Ministry of Social Justice and Empowerment
4. Ministry of Education

Ans.:- 4 (Ministry of Education)

- In January 2022 the Ministry of Education launched NEAT 3.0.
- This initiative aims to enhance learning outcomes by integrating the best-developed ed-tech solutions into the education system.
- NEAT 3.0 collaborates with various education technology companies to provide personalized learning experiences particularly for underserved students.
- The program seeks to bridge learning gaps through technology and promote inclusive, accessible and affordable education across the country.

Additional Information

- The Ministry of Law and Justice oversees legal affairs and reforms.
- The Ministry of Electronics and Information Technology promotes digital initiatives and cybersecurity.
- The Ministry of Social Justice and Empowerment works for the welfare of marginalized communities,
- It Includes
  - Scheduled Castes
  - OBCs
  - differently-abled persons promoting inclusion and equal opportunities.

Q.19 Name the hot, dry oppressing winds that blow in between Delhi and Patna.

1. Nor westers
2. Mango shower
3. Blossom shower
4. Loo

Ans.:- 4 (Loo)

- The hot, dry and oppressing winds that blow between Delhi and Patna during the summer season are known as Loo.
- These winds typically occur during the months of May and June raising temperatures significantly in the northern plains of India.
- The Loo is known for its intense heat and dryness often causing heatstrokes and discomfort.
- People are advised to stay indoors and stay hydrated during the time it blows.

Additional Information

- Nor westers are violent thunderstorms common in eastern India, especially West Bengal and Assam during pre-monsoon.
- Mango showers are pre-monsoon rains in South India crucial for mango ripening.
- Blossom showers occur in Karnataka and Kerala, helping coffee blossoms bloom.

Q.20 In India, according to the Insolvency and Bankruptcy Code, 2016, the process of insolvency resolution for companies should be completed in how many days?

1. 180
2. 150
3. 170
4. 120

Ans.:- 1 (180)

- As per the Insolvency and Bankruptcy Code 2016 the corporate insolvency resolution process of the SMCs in India must be conducted within a period of 180 days from the date of admission of the application.
- Such period may be extended by a period of at most 90 days subject to approval by the adjudicating authority.
- The IBC seeks to facilitate time-bound resolution of insolvency for enhancing ease of doing business and maintaining economic stability.

Additional Information

- The National Company Law Tribunal and the Debt Recovery Tribunal are the key adjudicating authorities under IBC.
- The code lays down a priority ranking of claims, with operational creditors, financial creditors and secured creditors in particular order.
- It seeks to secure the interests of creditors and enhance ease of doing business.

Q.21 Match the columns.

Season

Month according to Indian calendar

(A) Vasanta (I) Chaitra-Vaisakha

(B) Grishma (II) Asvina-Kartika

(C) Varsha (III) Sravana-Bhadra

(D) Sharada (IV) Jyaistha-Asadha

1. A-l, B-IV, C-III, D-II
2. A-II, B-III, C-IV, D-I
3. A-IV, B-I, C-III, D-II
4. A-IV, B-III, C-I, D-II

Ans.:- 1(A-l, B-IV, C-III, D-II)

- Vasanta corresponds to Chaitra-Vaisakha marking spring.
- Grishma corresponds to Jyaistha-Asadha representing summer.
- Varsha corresponds to Sravana Bhadra the monsoon season.
- Sharada corresponds to Asvina-Kartika indicating autumn.
- Thus, the correct answer is option 1(A-I, B-IV, C-III, D-II)

Additional Information

- Vasanta is associated with renewal, new growth and festivals like Holi.
- Grishma is known for heat and dryness it marks the time for agriculture to focus on irrigation.
- Varsha is important for agriculture especially in rice-growing regions.
- Sharada is characterized by pleasant weather it signifies a time for harvesting crops like rice and cotton. Sharada is also seen as a season of wisdom and learning, often linked with Saraswati Puja, honoring the goddess of knowledge.

Q.22 Pushyamitra, who was the commander of Brihadratha, the last Mauryan emperor, killed the king and established a new dynasty. Which of the following was his dynasty?

1. Shunga

2. Kanva

3. Satavahana

4. Chedi

Ans.:- 1(Shunga)

- Pushyamitra founded the Shunga dynasty after assassinating Brihadratha the last Mauryan emperor in 185 BCE.
- He was a general in the Mauryan army and after his coup established the Shunga dynasty which ruled for nearly a century.
- Under the Shungas India saw a resurgence of Hindu culture and the dynasty played a crucial role in the decline of Buddhism as the state

religion.

Additional Information

- The Kanva, Satavahana and Chedi dynasties were important ancient Indian ruling families.
- The Kanvas ruled after the Mauryas with their capital at Pataliputra.
- The Satavahanas based in present-day Maharashtra fostered trade and culture.
- The Chedis ruling in central India were known for their resistance to foreign invasions.

Q.23 Match the columns.

Institutions Headquarters

(A) ICAR-Central Institute for Arid Horticulture (I) Bikaner

(B) ICAR-Central Institute of Cotton Research (II) Nagpur

(C) ICAR-National Rice Research Institute (III) Cuttack

(D) ICAR-Indian Institute of Horticultural Research (IV) Bengaluru

1. A-l, B-II, C-III, D-IV

2. A-I, B-II, C-IV, D-III

3. A-IV, B-III, C-I, D-II

4. A-IV, B-III, C-II, D-I

Ans.:- 1(A-l, B-II, C-III, D-IV)

- The correct answer is 1(A-I, B-II, C-III, D-IV)
- ICAR-Central Institute for Arid Horticulture is located in Bikaner.It focuses on research in arid horticulture.
- ICAR-Central Institute of Cotton Research is located in Nagpur. This institute conducts research on cotton.
- ICAR-National Rice Research Institute is based in Cuttack focusing on rice production and research.
- ICAR-Indian Institute of Horticultural Research is located in Bengaluru specializing in horticultural research.

Additional Information

- The Indian Council of Agricultural Research is an autonomous body under the Ministry of Agriculture established in 1929.
- It promotes agricultural research and education in India.
- ICAR oversees 100+ research institutes and universities focusing on improving crop production, livestock and agricultural sustainability through innovation and technology.

Q.24 The Reserve Bank of India introduced a comprehensive regulatory framework for NBFC-MFI on _____.

1. 10 December 2015

2. 2 December 2011

3. 8 December 2013

4. 5 December 2012

Ans.:- 2(2 December 2011)

- The Reserve Bank of India introduced a comprehensive regulatory framework for Non Banking Financial Company Micro Finance Institutions on 2 December 2011.
- This framework aimed to enhance the operational efficiency, transparency and governance of NBFC-MFIs.
- It laid down guidelines to ensure their sustainability while protecting the interests of the borrowers ensuring that microfinance institutions operate in a regulated environment for their growth and development.

Additional Information

- A Non-Banking Financial Company Microfinance Institution provides microloans to low-income individualstypically for income generating activities.

- It operates under the regulatory framework of the Reserve Bank of India.
- These institutions focus on promoting financial inclusion and supporting the economic development of underserved populations in rural and semi-urban areas.

Q25 Which of the following statements is/ are correct regarding the Multi-State Co-operative Societies (Amendment) Bill, 2022?

A. The Lok Sabha referred this Bill to the joint committee of parliament comprising 21 members from the Lower House and 10 from the Upper House.

B. This Bill also proposed to establish a 'Cooperative Election Authority' to bring electoral reforms.

C. The Bill also has a Section — 63A that relates to 'establishment of the Cooperative

Rehabilitation, Reconstruction and Development Fund' for revival of 'sick multi-state cooperative societies'.

1. A and B only

2. B and C only

3. A, B and C

4. A and C only

Ans.:- 3(A, B and C)

- The Lok Sabha referred the Multi State Co operative Societies Bill 2022 to a joint committee comprising 21 members from the Lower House and 10 from the Upper House.
- The Bill proposes establishing a Co-operative Election Authority to conduct and supervise elections to the boards of multi-state co-operative societies.
- The Bill introduces Section 63A establishing the Co-operative Rehabilitation, Reconstruction and Development Fund for the revival of sick multi state co-operative societies.
- Therefore all three statements are correct.

Additional Information

- A Multi-State Co-operative Society is a co-operative organization that operates in more than one state in India.
- It functions under the Multi-State Co-operative Societies Act, 2002.
- Such societies aim to promote economic interests of its members and can involve activities like credit, marketing and production.

Computer Knowledge Module

Q.1 A _____can either be malware or hardware. The main purpose of this malware is to record the keys pressed by a user on the keyboard.

1. Keyloggers

2. Roolkit

3. Worm

4. Trojan

Ans.:- 1(Keyloggers)

- A keylogger is a type of malicious software or hardware designed to record the keys pressed by a user on a keyboard.
- This information is typically gathered secretly and can be used for various malicious purposes such as stealing sensitive information like passwords or credit card details.
- Keyloggers operate in the background without the user's knowledge making them a significant security threat to personal and organizational data.

Additional Information

- A rootkit is a malicious software designed to gain unauthorized access

and control over a computer system without detection.

- A worm is a self-replicating malware that spreads across networks, exploiting vulnerabilities.
- A Trojan is a type of malware disguised as legitimate software, tricking users into installing it.

Q.2 A _____ port transmits one bit of a byte at a time as a single stream of bits. It is meant for transmitting slow data over long distances.

1. Parallel

2. Universal Serial Bus

3. Serial

4. Display

Ans.:- 3(Serial)

- A serial port transmits data one bit at a time as a single stream of bits.
- It is designed for transmitting slow data over long distances using standards like RS-232.
- This sequential bit transmission makes it suitable for simple, low-speed communication with peripherals such as modems and industrial devices.
- Serial ports are often referred to as COM ports and are known for high noise immunity due to their voltage levels.

Additional Information

- Parallel computing involves simultaneous processing of multiple tasks using multiple CPU cores or computers enhancing speed and efficiency in solving large problems.
- A parallel port is an older computer interface sending multiple bits simultaneously mainly used for printers now largely replaced by USB.
- Universal Serial Bus is a modern, versatile serial interface for connecting peripherals supporting hot-swapping.

Q.3 _____Which of the following is also known as a flash drive?

1. Disk Array

2. HDD

3. SSD

4. Pen drive

Ans.:- 4(pen drive)

- A pen drive is another name for a flash drive.
- Flash drives are small portable storage devices that use flash memory and a USB interface to store and transfer data.
- They are also known as
  - thumb drives
  - USB drives
  - memory sticks
  - USB keys.
- Pen drives are popular for their convenience, portability, and durability.

Additional Information

- A disk array is a storage system combining multiple HDDs or SSDs to improve capacity, performance, and redundancy, often using RAID configurations for fault tolerance and data protection.
- HDDs store data magnetically on spinning platters with mechanical read/write heads.
- SSDs use flash memory with no moving parts, providing faster data access, higher durability and energy efficiency.

Q.4 Which of the following keyboard shortcut is used to close a MS-Word 365 document?

1. Ctrl +F3

2. Alt + F3

3. Alt + F4

4. Shift + F5

Ans.:- 3(Alt + F4)

- The keyboard shortcut used to close a Microsoft Word 365 document is Alt + F4.
- This shortcut closes the currently active document or application window.
- If there are unsaved changes, Word will prompt you to save before closing.
- Alt + F4 is a universal Windows shortcut that works across most applications including MS Word 365.

Additional Information

- **Ctrl + F3:**
  - It Opens the Name Manager in Excel, allowing you to manage named ranges.
- **Alt + F3:**
  - Not specifically listed in the provided results, but commonly in Microsoft Office Alt + F3 creates a new building block or autotext entry. This is typical behavior but not confirmed in the search results.
- **Shift + F5:**
  - Brings up a search box to find text, for example in Excel or Word.

Q.5 Which among the following is incorrect about cache memory?

1. It is slower than the main memory.

2. It keeps the programs that can be run in a short amount of time.

3. It acts as a high speed buffer between CPU and main memory.

4. It stores data in temporary use.

Ans.:- 1(It is slower than the main memory)

- The incorrect statement about cache memory is It is slower than the main memory.
- Cache memory is actually faster than the main memory providing quicker access to frequently used data and instructions.
- It acts as a high-speed buffer between the CPU and main memory storing data temporarily for faster retrieval.
- Cache memory helps improve overall system performance by reducing the time the CPU spends waiting for data.

Additional Information

- Cache memory is a small, high-speed memory located close to the CPU that stores frequently accessed data and instructions for quick retrieval.
- It reduces the average time to access data from main memory improving overall system speed.
- Cache operates faster than RAM and is usually integrated into the CPU chip.

Q.6 Which among the following keyboard shorteut can be used to open Windows Explorer?

1. Windows Key + E

2. Windows Key + R

3. Windows Key + X

4. Windows Key + W

Ans.:- 1(Windows Key + E)

- The keyboard shortcut to open Windows Explorer is Windows Key + E.
- This shortcut quickly launches the
  - File Explorer window,
  - allowing easy access to files, folders, drives on your computer.
- It is a universal shortcut that works across all modern versions of Windows streamlining file management and navigation tasks efficiently.

Additional Information

- Windows Key + R opens the Run dialog box, allowing quick execution of programs or commands by typing their names.
- Windows Key + X opens the Quick Link menu, providing fast access to system tools like Device Manager, Command Prompt and Control Panel.
- Windows Key + W opens the Windows Ink Workspace or Windows

Widgetsndepending on the Windows versionnfor quick access to pen-enabled apps or widgets.

Q.7 A_____is a networking device that filters network traffie while connecting multiple computers or communicating devices.

1. Repeater

2. Distributor

3. Switch

4. Router

Ans.:- 3(switch)

- A switch is a networking device that filters network traffic while connecting multiple computers or communicating devices.
- It operates mainly at the data link layer of the OSI model, forwarding data packets only to the specific device they are intended for by using MAC addresses.
- This selective forwarding improves network efficiency and reduces unnecessary traffic, making communication within a local area network faster and more secure.

Additional Information

- **Repeater**:
  - It boosts weak signals in a network.
  - It works at the physical layer.
- **Distributor**:
  - It sends data to multiple devices.
  - It is similar to a hub or switch.
- **Router:**
  - It connects different networks.
  - It directs data to the right place.

Q.8 _____ server acts as a set of components accessible to the software developer through an API defined by the platform itself.

1. Application

2. Mail

3. File Transfer Protocol (FTP)

4. Database

Ans.:- 1(Application)

- An application server acts as a set of components accessible to the software developer through an API defined by the platform itself.
- It provides a framework for creating and running web applications, supporting dynamic page construction and business logic implementation.
- Application servers often include services like clustering, fail-over and load-balancing allowing developers to focus on application functionality rather than infrastructure management.

Additional Information

- IMAP allows two-way synchronization of emails between the server and multiple clients keeping emails stored on the server.
- FTP is a standard network protocol used to transfer files between a client and a server over TCP/IP networks.
- Databases are managed by Database Management Systems such as
  - MySQL
  - PostgreSQL
  - Oracle
  - SQL Server.

Q.9 A _____ is a contagious program or code that attaches itself to another piece of software, and then reproduces itself when that software is run.

1. Trojan

2. virus

3. adware

4. spyware

Ans.:- 2(virus)

- A virus is a contagious program or code

that attaches itself to another piece of software and reproduces itself when that software is run.

- It modifies other programs by inserting its code, causing the affected software to become infected.
- This self-replication allows the virus to spread to other programs and devices often causing damage, data loss or system disruption.

Additional Information

- Trojans are malware disguised as legitimate software that once installed execute harmful actions on a system.
- Spyware secretly collects user data and monitors activities without consent.
- Adware displays unwanted ads, often bundled with other software.

Q.10 Which among the following keyboard shorteuts open the properties foe the selected item on a Windows 10 home screen?

1. Alt + Shift + Spacebar

2. Ctrl + Shift + Spacebar

3. Alt + Enter

4. Ctrl + Enter

Ans.:- 3(Alt + Enter)

- The keyboard shortcut Alt + Enter opens the Properties window for the selected item on a Windows 10 home screen.
- This shortcut provides quick access to detailed information and settings related to files, folders or shortcuts.
- Using Alt + Enter allows users to view attributes such as size, location, security permissions and customize options without navigating through multiple menus.
- It is a convenient and efficient way to manage and inspect items directly from the desktop or File Explorer.

Additional Information

- Alt + Shift + Spacebar is the combination not a widely recognized default shortcut in most systems or applications.
- In some applications like Microsoft Word Ctrl + Shift + Spacebar inserts a non-breaking space
- Ctrl + Enter is commonly used to insert a page break in word processors or to execute commands in various software.

Q.11 Which of the following shorteut key is used to quickly create a new, blank workbook in MS-Excel 2010?

1. Ctrl+N

2. Alt + Shift + W

3. Alt + Shift +N

4. Ctrl + W

Ans.:- 1(Ctrl+N)

- In MS Excel 2010 the shortcut key used to quickly create a new blank workbook is Ctrl + N.
- This command allows users to open a fresh workbook instantly without using the mouse or navigating through the File menu.
- It is a convenient way to start a new spreadsheet and is especially useful for users who prefer keyboard shortcuts to improve efficiency while working on multiple Excel files.

Additional Information

- Alt + Shift + W is used in some IDEs to wrap code with a template.
- Alt + Shift + N opens the New menu for creating files or classes.
- Ctrl + W is commonly used to close the current tab or document in browsers and editors.

Q.12 _____is a reading device that reads printed text by scanning it character by character.

1. Track Ball

2. Digitizer

3. Magnetic Ink Card Reader (MICR)

4. Optical Character Reader (OCR)

Ans.:- 4(Optical Character Reader (OCR))

- An Optical Character Reader is a reading device that reads printed text by scanning it character by character.
- It converts different types of printed or handwritten documents into machine-encoded text.
- OCR technology uses light sensors to detect the characters on paper and then translates them into digital form.
- This makes data entry faster and more accurate especially in applications like banking passport recognition and digitizing printed documents.

Additional Information

- Trackball is an input device with a rotating ball for cursor control often used in specialized systems.
- Digitizer converts analog signals into digital data, useful in CAD applications.
- MICR reads characters printed with magnetic ink commonly used in banks for secure cheque processing and fast data input.

Q.13 Consider the following statement about MATCH() function of MS-Excel 2010:

P: It searches for a specified item in a range of cells, and then remms the relative position of that item in the range.

Q: The MATCH function syntax is MATCH(lookup_value, lookup_ array, [match_type])

R: All the arguments in a MATCHQ fanction are sequired.

Which of the following statement(s) is/are true

1. Only Q

2. All P, Q, R

3. Only P and R

4. Only P and Q

Ans.:- 4 (Only P and Q)

- The MATCH() function in MS-Excel looks for a given item in an array of cells and returns its relative position.
- The syntax is MATCH(lookup_value, lookup_array, [match_type]) where lookup_value is the item you are looking for lookup_array is the range and [match_type] is optional (defaults to 1).
- The parameter [match_type] is not necessary, so statement R is incorrect.
- Therefore, only P and Q are true.

Additional Information

- Excel can store up to 1,048,576 r o w s and 16,384 columns per worksheet.
- Excel's file format was originally .xls, but changed to .xlsx starting in Excel 2007.
- Excel includes a built-in Goal Seek feature to solve equations by adjusting inputs.

Q.14 Which among the following statements is incorrect about Central Processing Unit?

1. Control Unit controls the order in which instructions enter and leave the processor and how the instructions are executed.

2. Arithmetic Logic Unit is responsible for taking the input, converting it into a signal, and storing it for further processing.

3. Arithmetic Logic Unit is also known as the mathematical brain of a computer.

4. Control Unit directs and manages operation sequences.

Ans.:- 2 (Arithmetie Logie Unit is responsible for taking the input,

converting it into a signal, and storing it for further processing).

- The incorrect statement is that the Arithmetic Logic Unit (ALU) is responsible for taking input, converting it into a signal, and storing it for further processing.
- The ALU is primarily responsible for performing arithmetic and logical operations.
- Tasks like input handling signal conversion and storage are managed by other components such as input devices,memory units and the processors internal registers not the ALU itself.

Additional Information

- ALU handles tasks like
  - Addition
  - Subtraction
  - Multiplication and
  - Division as well as
  - logical operations such as
    - AND
    - OR
    - XOR
- ALUs often have flags to indicate overflow or carry during operations.
- Modern ALUs handle floating-point operations unlike early models focused only on integer calculations.

Q.15 Which among the following registers in Instruction Cyele holds the last instruction fetched?

1. Memory Address Register (MAR)

2. Instruction Register (IR)

3. Program Counter (PC)

4. Memory Buffer Register (MBR)

Ans.:- 2(Instruction Register (IR))

- The Instruction Register (IR) holds the last instruction fetched during the instruction cycle.
- It temporarily stores the instruction that is currently being executed by the CPU.
- The IR ensures that the correct instruction is decoded and executed as part of the instruction cycle serving as a critical component in the execution process.
- Thus the correct answer is **Instruction Register (IR)**

Additional Information

- The Memory Address Register holds the address of the memory location to be accessed.
- The Program Counter tracks the address of the next instruction to be executed.
- The Memory Buffer Register temporarily holds data being transferred to/from memory ensuring proper data handling in CPU operations.

Q.16 In Gmail, what do you use when you receive a mail and want to send the mail in respoase of the same mail and to the original sender only?

1. Forward

2. Both Reply and Forward

3. Reply All

4. Reply

Ans.:- 4(Reply)

- In Gmail when you want to send a response to the original sender only you use the Reply option.
- This allows you to respond to the email while keeping the conversation between you and the sender.
- It ensures that only the sender receives your reply and no one else included in the email chain will see your response.
- This is ideal for one-on-one communication.

Additional Information

- Forward maintains the original content

making it easier for recipients to understand the context.

- Reply is useful in ongoing email conversations reducing the need to retype the previous communication.
- Reply All option ensures that the response is sent to everyone included in the original email thread which is particularly useful in group discussions. However it can lead to unnecessary inbox clutter if overused.

Q.17 Which of the following is not a magnetic disk?

1. Disk pack

2. DVD

3. Winchester disk

4. Zip disk

Ans.:- 2 (DVD)

- A magnetic disk is a storage device that uses magnetism to read and write data.
- Among the options, a DVD is not a magnetic disk.
- It uses optical technology to store and read data through laser unlike magnetic disks which rely on magnetic fields.

Additional Information

- A disk pack is a collection of hard disks used in mainframe storage systems allowing high-capacity data storage.
- The Winchester disk introduced in the 1970s was a significant advancement in hard drive technology with a sealed design.
- Zip disks introduced in the 1990s by Iomega offered portable storage holding 100 MB to 750 MB.

Q.18 Which of the following buttons are present in the Quick Access Toolbar by default in MS-Word 2010?

1. Undo, Redo, Name

2. Undo, Redo, Cut

3. Paste, Redo, Copy

4. Save, Undo, Redo

Ans.:- 4(Save, Undo, Red)

- In MS-Word 2010, the Quick Access Toolbar by default includes the Save,Undo and Redo buttons.
- These are essential for quickly saving a document, undoing actions, and redoing any changes that were undone.
- The toolbar is customizable but these three buttons are present by default to enhance user efficiency and ease of access while working on documents.

Additional Information

- The Quick Access Toolbar is a customizable feature in Microsoft Office applications located above or below the ribbon.
- It also supports keyboard shortcuts for quicker navigation.
- It can hold up to 50 commands depending on the users preferences.

Q.19 Which among the following statements is incorrect?

1. Memory is required in the webserver to downloading anything.

2. Uploading is a procedure for copying data from the device to the webserver.

3. Data travels from user's device to the web server while uploading.

4. Downloading is a procedure of copying files from the webserver to the machine.

Ans.:- 1

- The statement Memory is required in the webserver to downloading anything is incorrect. Downloading refers to the process of transferring data from the webserver to the user's device.
- While the server stores and sends the data it doesn't specifically require additional memory for each download

operation beyond its usual functioning.

- The users device is responsible for receiving and storing the downloaded data, not the server's memory.

Additional Information

- A web server is a computer system that stores, processes, and delivers web pages to users.
- It uses HTTP/HTTPS protocols to communicate with clients.
- Common web servers
  - include Apache
  - Nginx
  - Microsoft IIS.
- They host websites, handle requests, serve files, manage domains and ensure secure efficient web communication and performance.

Q.20 Which of the following Internet protocol specifies how data is exchanged over the Internet and how it should be beoken into IP packets?

1. PPP

2. HTTP

3. TCP

4. SMTP

Ans.:- 3(TCP)

- TCP specifies how data should be broken into packets transmitted over the Internet and reassembled at the destination.
- It ensures reliable and ordered delivery of data between applications across networked computers.
- TCP handles flow control, error detection and retransmission of lost data making it a fundamental protocol for establishing and maintaining communication on the Internet.

Additional Information

- PPP is a data link layer protocol for direct connections between nodes, often used in WANs.
- HTTP is an application layer protocol for transferring web pages over the internet.
- SMTP is also an application layer protocol used to send emails from clients to servers or between mail servers.