NSC Exam Analysis 1st Shift

Q1. Turmeric belongs to which plant family?
(a) Lamiaceae
(b) Solanaceae
(c) Zingiberaceae
(d) Fabaceae
S1. Ans (c)
Sol.

- Turmeric (*Curcuma longa*) is a perennial herbaceous plant.
- It belongs to the family **Zingiberaceae**, which is also known as the **ginger family**.
- This family includes other important plants like ginger (*Zingiber officinale*) and cardamom (*Elettaria cardamomum*).
- Turmeric is primarily grown for its rhizomes, which are widely used as a spice, dye, and in traditional medicine.

Q2. Breeder seed is the progeny of which seed?
(a) Certified seed
(b) Foundation seed
(c) Nucleus seed
(d) Hybrid seed
S2. Ans (c)
Sol.

- **Breeder seed** is the progeny of **Nucleus seed**.
- It is produced under the supervision of **plant breeders** in research institutions.
- It serves as the source of **Foundation seed**.
- The quality and genetic purity of breeder seeds are of utmost importance in seed production programs.

Q3. Coffee belongs to which plant family?
(a) Rubiaceae
(b) Fabaceae
(c) Asteraceae
(d) Solanaceae
S3. Ans (a)
Sol.

- **Coffee plants** belong to the family **Rubiaceae**.
- The genus **Coffea** includes several species, with **Coffea arabica** and **Coffea canephora (Robusta)** being the most commercially important.
- Rubiaceae is a large family of flowering plants, often referred to as the **Madder family**.
- Coffee beans are harvested from the fruits of the coffee plant.

Q4. The smell of Gladiolus is due to which compounds?
(a) Essential oils
(b) Terpenes
(c) Flavonoids
(d) Volatile Organic Compounds (VOCs)

S4. Ans (d)
Sol.

- The fragrance of **Gladiolus flowers** is primarily due to **Volatile Organic Compounds (VOCs)**.
- VOCs are small, aromatic molecules released into the air.
- They play a key role in **attracting pollinators**.
- Different flowers emit distinct VOCs, contributing to their unique scents.

Q5. Which practice involves the selective removal of plant parts to improve health and productivity?
(a) Grafting
(b) Mulching
(c) Pruning
(d) Budding
S5. Ans (c)
Sol.

- **Pruning** is a horticultural and agricultural practice that involves the **selective removal of branches, leaves, or shoots** from a plant.
- It improves plant health, shape, and productivity.
- It also helps in controlling pests and diseases and improving light and air circulation.
- Pruning is commonly practiced in fruit trees, ornamental plants, and vineyards.

Q6. Eggplant belongs to which plant family?
(a) Fabaceae
(b) Solanaceae
(c) Cucurbitaceae
(d) Asteraceae
S6. Ans (b)
Sol.

- **Eggplant** (*Solanum melongena*) is commonly known as **Brinjal** in India.
- It belongs to the **Solanaceae family**, also known as the **Nightshade family**.
- This family includes other crops like **tomato, potato, and chili**.
- Solanaceae plants are known for producing alkaloids, which have both medicinal and toxic properties.

Q7. Match the following seed classes with their respective tag colors:

Seed Class	**Tag Color**
A. Breeder Seed	I. Blue
B. Foundation Seed	II. Purple or Orange
C. Registered Seed	III. White
D. Certified Seed	IV. Golden Yellow or Buff

Choose the correct answer from the options given below:
(a) A-IV, B-III, C-II, D-I
(b) A-II, B-I, C-III, D-IV
(c) A-III, B-II, C-I, D-IV
(d) A-I, B-IV, C-III, D-II

S7. Ans (a)
Sol.

- **Breeder Seed:** Identified by a **Golden Yellow or Buff color tag**.
- **Foundation Seed:** Identified by a **White color tag**.
- **Registered Seed:** Identified by a **Purple or Orange color tag**.
- **Certified Seed:** Identified by a **Blue color tag**.

Q8. What is the scientific name of Turmeric?
(a) Zingiber officinale
(b) Curcuma longa
(c) Elettaria cardamomum
(d) Cinnamomum verum
S8. Ans (b)
Sol.

- The scientific name of **Turmeric** is **Curcuma longa**.
- It belongs to the **Zingiberaceae family**.
- Turmeric is primarily cultivated for its rhizomes, which are widely used as a **spice, medicine, and dye**.
- It is a tropical crop grown in states like **Maharashtra, Andhra Pradesh, Telangana, and Tamil Nadu**.

Q9. Sona Masoori rice is primarily grown in which states?
(a) Tamil Nadu, Kerala, Odisha
(b) Punjab, Haryana, Uttar Pradesh
(c) Telangana, Andhra Pradesh, Karnataka
(d) Bihar, Jharkhand, West Bengal
S9. Ans (c)
Sol.

- **Sona Masoori** is a popular **medium-grain rice variety**.
- It is largely grown in the **Indian states of Telangana, Andhra Pradesh, and Karnataka**.
- This variety is lightweight, aromatic, and ideal for everyday consumption.
- It is commonly used in dishes like **biryanis, idlis, and fried rice**.

Q10. What is the scientific name of Jute?
(a) Gossypium herbaceum
(b) Corchorus olitorius
(c) Hibiscus cannabinus
(d) Cajanus cajan
S10. Ans (b)
Sol.

- The scientific name of **Jute** is **Corchorus olitorius**.
- Jute is also known as the **Golden Fibre**.
- It is primarily grown in the **Ganges Delta region** of India and Bangladesh.
- Jute is used for making **gunny bags, ropes, mats, and textile products**.

Q11. National Milk Day is celebrated on which date?
(a) January 12
(b) November 26
(c) October 15
(d) December 4
S11. Ans (b)
Sol.

- **National Milk Day** is celebrated on **November 26** in India.
- It marks the birth anniversary of **Dr. Verghese Kurien**, the Father of the **White Revolution**.
- The day recognizes his significant contribution to transforming India into the **largest producer of milk in the world**.
- Dr. Kurien was also the founder of **Amul**.

Q12. What is the full form of CMS?
(a) Crop Management System
(b) Cytoplasmic Male Sterility
(c) Controlled Moisture Storage
(d) Certified Management System
S12. Ans (b)
Sol.

- **CMS** stands for **Cytoplasmic Male Sterility**.
- It is a condition in plants where they are **unable to produce functional pollen**.
- CMS is widely used in **hybrid seed production** to prevent self-pollination.
- It occurs due to genetic factors present in the **cytoplasm of the plant cell**.

Q13. Paddy is primarily a crop of which season?
(a) Rabi
(b) Zaid
(c) Kharif
(d) Summer
S13. Ans (c)
Sol.

- **Paddy** is primarily a **Kharif crop** in India.
- It requires a **lot of water and warm temperatures** for growth.
- Kharif crops are sown at the **beginning of the monsoon season (June–July)** and harvested at the **end of the monsoon (September–October)**.
- Paddy cultivation is most prominent in **West Bengal, Punjab, and Uttar Pradesh**.

Q14. Which state is the largest producer of turmeric in India?
(a) Telangana
(b) Tamil Nadu
(c) Maharashtra
(d) Andhra Pradesh

S14. Ans (c)

Sol.

- **Maharashtra** is the largest producer of **turmeric** in India.
- Major turmeric-growing districts in Maharashtra include **Sangli and Satara**.
- The crop requires **hot and humid conditions** with well-drained soils.
- India is the **largest producer, consumer, and exporter** of turmeric in the world.

Q15. Where is the Directorate of Rice Development located?

(a) Hyderabad

(b) Patna

(c) Bengaluru

(d) Pune

S15. Ans (b)

Sol.

- The **Directorate of Rice Development** is located in **Patna, Bihar**.
- It functions under the **Department of Agriculture and Farmers Welfare, Ministry of Agriculture, Government of India**.
- The directorate is responsible for **monitoring and coordinating rice production programs across India**.

Q16. Which wheat variety was widely adopted during the Second Green Revolution?

(a) HD 2967

(b) PBW 343

(c) Lerma Rojo 64A

(d) Kalyansona

S16. Ans (c)

Sol.

- **Lerma Rojo 64A** and **Sonora 64** are wheat varieties widely adopted during the **Second Green Revolution**.
- These varieties were introduced from **Mexico** under the leadership of **Dr. Norman Borlaug**.
- They are known for their **high yield and disease resistance**.

Q17. What is the botanical name of Bajra (Pearl Millet)?

(a) Eleusine coracana

(b) Triticum aestivum

(c) Pennisetum typhoideum

(d) Oryza sativa

S17. Ans (c)

Sol.

- The **botanical name of Bajra (Pearl Millet)** is **Pennisetum typhoideum**.
- Bajra is a **drought-resistant cereal crop** widely grown in **arid and semi-arid regions of India**.
- It is a staple food in **Rajasthan, Gujarat, Maharashtra, and Uttar Pradesh**.
- Rich in **proteins, fiber, iron, and magnesium**, Bajra is considered a **nutritious grain**.
- It is also used as **fodder for livestock** and plays a vital role in **food security** in dry regions.

Q18. The study of interaction between individuals and its environment is known as?
(a) Synecology
(b) Autecology
(c) Environmental Biology
(d) Ethology
S18. Ans (b)
Sol.

- **Autecology** is the branch of ecology that focuses on the study of an individual species or organism and its interactions with the environment.
- It studies the ecological requirements, behaviors, and adaptability of a single species.
- In contrast, **Synecology** focuses on groups of species or communities and their interactions.
- Understanding autecology is crucial for species conservation and habitat management.

Q19. What is the optimal temperature for green chili seed germination?
(a) 20–25°C
(b) 25–30°C
(c) 27–32°C
(d) 30–35°C
S19. Ans (c)
Sol.

- **Green chili seeds require a steady temperature of 27–32°C** for proper germination.
- At this temperature range, the seeds experience optimal metabolic activity, enzyme function, and cell division.
- Temperatures below or above this range can delay germination or reduce germination rates.
- Proper soil moisture and aeration are also essential for successful seed germination.

Q20. Seeds that can be dried to low moisture content and stored at low temperatures without losing viability for long periods are called?
(a) Recalcitrant seeds
(b) Orthodox seeds
(c) Viviparous seeds
(d) Dormant seeds
S20. Ans (b)
Sol.

- **Orthodox seeds** can withstand drying to low moisture content and can be stored at low temperatures without losing their viability.
- Examples include **rice, wheat, and maize seeds**.
- In contrast, **Recalcitrant seeds** (e.g., mango, jackfruit) cannot tolerate drying and low temperatures.
- Proper seed storage is essential to maintain seed viability for future use.

Q21. The Dapog method is related to?
(a) Tomato Nursery
(b) Rice Nursery
(c) Wheat Germination
(d) Maize Germination

S21. Ans (b)
Sol.

- The **Dapog method is a rice nursery technique** that originated in the Philippines.
- It involves growing rice seedlings on a flat, non-soil bed made of banana leaves, plastic sheets, or concrete.
- This method is labor-saving, water-efficient, and produces sturdy seedlings ready for transplanting.
- It is particularly suitable for areas with limited soil resources.

Q22. Which rice variety is highly resistant to Brown Planthopper (BPH)?
(a) IR64
(b) Swarna Sub-1
(c) Pusa Basmati 1
(d) MTU 1010
S22. Ans (a)
Sol.

- **IR64 is a popular rice variety known for its high resistance to Brown Planthopper (BPH).**
- BPH is a serious pest of rice that causes significant yield losses by sucking plant sap and transmitting diseases.
- Resistance in IR64 comes from the presence of specific resistance genes like **Bph1 and Bph2**.
- This variety also offers good grain quality and high yield.

Q23. The Cry-l gene, produced by the bacterium, is responsible for insecticidal activity. Which bacterium produces it?
(a) Escherichia coli
(b) Bacillus subtilis
(c) Bacillus thuringiensis
(d) Pseudomonas fluorescens
S23. Ans (c)
Sol.

- The **Cry-l gene** is derived from the bacterium **Bacillus thuringiensis (Bt)**.
- The Cry proteins are insecticidal and specifically target insect larvae by binding to their gut receptors.
- Bt genes are widely used in genetically modified crops, such as **Bt cotton and Bt brinjal**, to provide resistance against insect pests.
- This has significantly reduced the use of chemical pesticides in agriculture.

Q24. Butachlor herbicide is primarily used for controlling weeds in?
(a) Wheat
(b) Maize
(c) Rice
(d) Sugarcane
S24. Ans (c)
Sol.

- **Butachlor is a pre-emergence herbicide primarily used for weed control in rice fields.**
- It effectively targets grassy and broadleaf weeds.
- It is applied before the emergence of weeds to prevent their germination and growth.
- Proper timing and dosage are essential to ensure its effectiveness without harming the rice crop.

Q25. The botanical name of Finger Millet is?
(a) Oryza sativa
(b) Triticum aestivum
(c) Eleusine coracana
(d) Sorghum bicolor
S25. Ans (c)
Sol.

- The **botanical name of Finger Millet is Eleusine coracana**.
- It is an important millet crop grown in semi-arid regions.
- Finger millet is rich in calcium, iron, and dietary fiber, making it a nutritious food grain.
- It is drought-tolerant and requires minimal water for cultivation.

Q26. The edible part of broccoli is?
(a) Stem
(b) Leaves
(c) Heads
(d) Roots
S26. Ans (c)
Sol.

- The **edible part of broccoli** is primarily the **"heads,"** which are made up of clusters of unopened flower buds.
- These green heads, along with parts of the upper stalk, are consumed as a vegetable.
- Broccoli belongs to the **Brassicaceae family (mustard family)** and is rich in vitamins C and K, fiber, and antioxidants.
- Other edible parts, such as leaves and stems, are also consumed but the main edible part remains the flower heads.

Q27. The five-kingdom classification was proposed in which year?
(a) 1965
(b) 1967
(c) 1969
(d) 1971
S27. Ans (c)
Sol.

- The **five-kingdom classification** was proposed by **R.H. Whittaker in 1969.**
- This classification divides living organisms into **Monera, Protista, Fungi, Plantae, and Animalia.**
- The classification was based on key characteristics such as **cell structure, mode of nutrition, reproduction, and phylogenetic relationships.**
- It laid the foundation for understanding biodiversity and evolutionary relationships among living organisms.

Q28. Which rice variety is salt-tolerant?
(a) IR36
(b) Basmati CSR 30
(c) Swarna Sub1
(d) MTU-1010

S28. Ans (b)
Sol.

- **Basmati CSR 30** is a **salt-tolerant rice variety** developed to thrive in saline soil conditions.
- It is specifically cultivated in regions with high soil salinity.
- The CSR (Central Soil Salinity Research Institute) varieties are known for their resilience and ability to produce good yields in saline-affected areas.
- Salt-tolerant varieties help improve productivity in challenging agricultural regions.

Q29. Juvenile hormones are sesquiterpenoids secreted from the?
(a) Corpora cardiaca
(b) Prothoracic glands
(c) Corpora allata
(d) Hypothalamus
S29. Ans (c)
Sol.

- **Juvenile hormones (JHs)** are sesquiterpenoids secreted by the **corpora allata (CA)** in insects.
- These hormones play a crucial role in **regulating growth, metamorphosis, and reproduction** in insects.
- Juvenile hormones maintain larval characteristics and prevent premature development into adult forms.
- In pest control, synthetic analogs of juvenile hormones are used to disrupt insect growth cycles.

Q30. Cashew can be vegetatively propagated by?
(a) Layering
(b) Grafting
(c) Budding
(d) Tissue culture
S30. Ans (b)
Sol.

- **Cashew trees** are primarily propagated vegetatively through **grafting.**
- Grafting ensures that the desired characteristics of the parent plant, such as fruit quality and yield, are retained.
- The **softwood grafting technique** is commonly used for cashew propagation.
- Vegetative propagation allows the production of high-yielding and disease-resistant varieties.

Q31. Silver shoot onion leaf in rice is caused by?
(a) Brown Plant Hopper
(b) Rice Gall Midge
(c) Rice Stem Borer
(d) Leaf Folder
S31. Ans (b)
Sol.

- **Silver shoot onion leaf in rice** is caused by the **Rice Gall Midge (Orseolia oryzae)**.
- It is a significant pest of rice crops, especially in regions with high humidity and stagnant water.
- The pest damages the plant by feeding on the growing shoot, leading to the formation of a **"silver shoot"** or **"onion leaf."**
- Infestation is common during the early stages of rice crop growth.

Q32. The family of Sarpagandha is?
(a) Solanaceae
(b) Apocynaceae
(c) Rubiaceae
(d) Fabaceae
S32. Ans (b)
Sol.

- **Sarpagandha (Rauvolfia serpentina)** belongs to the **Apocynaceae family.**
- This family is known for its **medicinal plants** with alkaloids used for treating high blood pressure, anxiety, and mental disorders.
- Sarpagandha is primarily used in traditional medicine systems such as **Ayurveda** and **Unani.**
- Its roots are the primary part used for medicinal purposes.

Q33. A date palm is a?
(a) Monoecious plant
(b) Dioecious plant
(c) Bisexual plant
(d) Asexual plant
S33. Ans (b)
Sol.

- **Date palm (Phoenix dactylifera)** is a **dioecious plant**, meaning it has separate male and female plants.
- The male plants produce pollen, and the female plants produce flowers, which develop into dates after pollination.
- Artificial pollination is often carried out in commercial cultivation to ensure a high yield.
- Date palms are commonly cultivated in **arid and semi-arid regions.**

Q34. Which state is the largest producer of jute in India?
(a) Assam
(b) Bihar
(c) Odisha
(d) West Bengal
S34. Ans (d)
Sol.

- **West Bengal** is the **largest producer of jute** in India, contributing about **75% of the country's total jute output.**
- The fertile **alluvial soil** of the **Ganges Delta** provides ideal conditions for jute cultivation.
- Other states producing jute include **Assam, Bihar, and Odisha.**
- Jute is used in making bags, ropes, carpets, and textiles.

Q35. The Anacardiaceae family includes which crop?
(a) Mango
(b) Cashew
(c) Guava
(d) Apple

S35. Ans (b)
Sol.

- The **Anacardiaceae family** includes **Cashew (Anacardium occidentale)** along with other economically important plants like **Mango (Mangifera indica)** and **Pistachio (Pistacia vera).**
- Plants in this family are often trees or shrubs with resin ducts.
- Cashew is valued for its **nut** and **cashew apple** and is widely cultivated in tropical regions.

Q36. Which fruit has the highest Vitamin A content?
(a) Papaya
(b) Guava
(c) Mango
(d) Orange
S36. Ans (c)
Sol.

- **Mango** is the fruit with the **highest Vitamin A content**, providing around **4,800 IU per 100 grams.**
- Vitamin A is essential for **vision, immune function, and skin health.**
- Mangoes are also rich in **antioxidants** and **dietary fiber.**
- They are widely consumed fresh, in juices, and desserts.

Q37. Which crop is the richest source of Vitamin B1 (Thiamine)?
(a) White Rice
(b) Wheat
(c) Brown Rice
(d) Corn
S37. Ans (c)
Sol.

- **Brown Rice** is an excellent source of **Vitamin B1 (Thiamine).**
- It also contains essential minerals such as **manganese, iron, zinc, and magnesium.**
- Thiamine plays a crucial role in **energy metabolism** and the **functioning of the nervous system.**
- Brown rice is less processed and retains its nutritional value compared to white rice.

Q38. Polygamous condition is found in which fruit?
(a) Apple
(b) Mango
(c) Papaya
(d) Banana
S38. Ans (c)
Sol.

- **Papaya (Carica papaya)** is a **polygamous species**, meaning it can have **male, female, and hermaphrodite flowers** on the same or different plants.
- This condition allows papaya to adapt to various environmental conditions for reproduction.
- Commercial papaya cultivation primarily focuses on hermaphrodite plants, which produce fruit.

Q39. Citrus Tristeza Virus is primarily spread through?
(a) Wind
(b) Budding and Grafting
(c) Soil
(d) Water
S39. Ans (b)
Sol.

- **Citrus Tristeza Virus (CTV)** spreads primarily through **budding and grafting** and by **aphids feeding on citrus plants.**
- It is a serious disease affecting citrus crops, causing symptoms such as **yellowing of leaves, stunted growth, and tree decline.**
- Effective management includes the use of **disease-free planting material** and **resistant rootstocks.**

Q40. Which was the first product to receive a GI tag in India?
(a) Basmati Rice
(b) Darjeeling Tea
(c) Alphonso Mango
(d) Kashmir Saffron
S40. Ans (b)
Sol.

- **Darjeeling Tea** was the **first product to receive a Geographical Indication (GI) tag in India in 2004–2005.**
- GI tags are given to products that have a **specific geographical origin** and possess qualities or a reputation due to that origin.
- Darjeeling Tea is known for its **unique aroma and flavor**, grown in the **Darjeeling district of West Bengal.**

Q41. Which state is the largest producer of Okra in India?
(a) Uttar Pradesh
(b) Tamil Nadu
(c) West Bengal
(d) Gujarat
S41. Ans (c)
Sol.

- **West Bengal** is the **largest producer of Okra (Lady's Finger)** in India.
- Okra (*Abelmoschus esculentus*) is a warm-season crop that thrives in **tropical and subtropical climates**.
- The state benefits from **fertile soil, adequate rainfall, and favorable temperature**, which contribute to high Okra production.
- It is a rich source of **dietary fiber, vitamins (A, C, and K), and minerals like magnesium and potassium**.
- West Bengal's efficient **agricultural practices and large cultivation areas** ensure its top rank in Okra production.

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