

# National Testing Agency

<b>Question Paper Name :</b>	Seed Science and Technology 17th September Shift 2
<b>Subject Name :</b>	Seed Science and Technology
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<b>Duration :</b>	120
<b>Total Marks :</b>	480
<b>Display Marks:</b>	Yes

## Seed Science and Technology

<b>Group Number :</b>	1
<b>Group Id :</b>	19088976
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	120
<b>Show Attended Group? :</b>	No
<b>Edit Attended Group? :</b>	No
<b>Break time :</b>	0
<b>Group Marks :</b>	480
<b>Is this Group for Examiner? :</b>	No

## Part A: General Knowledge

<b>Section Id :</b>	190889152
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory

<b>Number of Questions :</b>	20
<b>Number of Questions to be attempted :</b>	20
<b>Section Marks :</b>	80
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	190889192
<b>Question Shuffling Allowed :</b>	Yes

**Question Number : 1 Question Id : 1908898422 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 4 Wrong Marks : 1**

Which of the following is the device used to measure the power and speed of the wind?

1. Avometer
2. Anemometer
3. Airometer
4. Aviontimeter

**Options :**

19088933581. 1
19088933582. 2
19088933583. 3
19088933584. 4

**Question Number : 2 Question Id : 1908898423 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Correct Marks : 4 Wrong Marks : 1**

Optical fibre used the concept of which of the following?

1. Reflection
2. Refraction
3. Total internal reflection
4. Total internal refraction

**Options :**

- 19088933585. 1
- 19088933586. 2
- 19088933587. 3
- 19088933588. 4

**Question Number : 3 Question Id : 1908898424 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Yellow vein mosaic is the viral disease of which of the following plants?

- 1. Ladyfinger
- 2. Papaya
- 3. Sugarcane
- 4. Banana

**Options :**

- 19088933589. 1
- 19088933590. 2
- 19088933591. 3
- 19088933592. 4

**Question Number : 4 Question Id : 1908898425 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following organ(s) is affected by Mumps disease?

- 1. Entire body
- 2. Skin
- 3. Eye
- 4. Parotid

**Options :**

- 19088933593. 1
- 19088933594. 2
- 19088933595. 3

19088933596. 4

**Question Number : 5 Question Id : 1908898426 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is the chemical name of vitamin B<sub>2</sub>?

1. Riboflavin
2. Calciferol
3. Pyridoxin
4. Niacin

**Options :**

19088933597. 1

19088933598. 2

19088933599. 3

19088933600. 4

**Question Number : 6 Question Id : 1908898427 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is not the input unit of the computer?

1. Mouse
2. Keyboard
3. Screen
4. Scanner

**Options :**

19088933601. 1

19088933602. 2

19088933603. 3

19088933604. 4

**Question Number : 7 Question Id : 1908898428 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The digital computer operates on which of the following principle?

1. Measurement
2. Calculation
3. Logical
4. Electrification

**Options :**

19088933605. 1

19088933606. 2

19088933607. 3

19088933608. 4

**Question Number : 8 Question Id : 1908898429 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The non-cooperation movement of Gandhiji was launched in which of the following year?

1. 1915
2. 1922
3. 1920
4. 1930

**Options :**

19088933609. 1

19088933610. 2

19088933611. 3

19088933612. 4

**Question Number : 9 Question Id : 1908898430 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

An Islamic revivalist movement named Wahabi movement was founded by which of the following person?

1. Sian Saheb
2. Syed Ahmed
3. Haji Shariat-Allah
4. DaduMian

**Options :**

19088933613. 1

19088933614. 2

19088933615. 3

19088933616. 4

**Question Number : 10 Question Id : 1908898431 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is considered as the “Magna Carta of England Education in India”?

1. Hunter education commission
2. Lord Macaulay’s Minute
3. Wood’s Despatch
4. Thomas Babington Macaulay

**Options :**

19088933617. 1

19088933618. 2

19088933619. 3

19088933620. 4

**Question Number : 11 Question Id : 1908898432 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following nutrient does not come under the ambit of 'macro-nutrients in Soil Health Card?

1. Nitrogen
2. Zinc
3. Phosphorous
4. Potassium

**Options :**

19088933621. 1

19088933622. 2

19088933623. 3

19088933624. 4

**Question Number : 12 Question Id : 1908898433 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Cole crops, root crops and legumes come under the ambit of which of the following?

1. Olericulture
2. Pomology
3. Viticulture
4. Arboriculture

**Options :**

19088933625. 1

19088933626. 2

19088933627. 3

19088933628. 4

**Question Number : 13 Question Id : 1908898434 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The study of individual trees, shrubs, vines, and perennial woody plants is known as which of the following?

1. Turf management
2. Arboriculture
3. Pomology
4. Viticulture

**Options :**

19088933629. 1

19088933630. 2

19088933631. 3

19088933632. 4

**Question Number : 14 Question Id : 1908898435 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The ministry is implementing MIDH (Mission for Integrated Development of Horticulture) with effect from which of the following year?

1. 2012-13
2. 2019-20
3. 2015-16
4. 2014-15

**Options :**

19088933633. 1

19088933634. 2

19088933635. 3

19088933636. 4

**Question Number : 15 Question Id : 1908898436 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**



The interaction of soils with living things, particularly plants are well known as which of the following?

1. Edaphology
2. Pedology
3. Soil zoology
4. Pedogenesis

**Options :**

19088933637. 1

19088933638. 2

19088933639. 3

19088933640. 4

**Question Number : 16 Question Id : 1908898437 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following systems has also incorporated social aspects in itself?

1. Landscaping
2. Permaculture
3. Horticulture
4. Forest gardening

**Options :**

19088933641. 1

19088933642. 2

19088933643. 3

19088933644. 4

**Question Number : 17 Question Id : 1908898438 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What do you term the phenomenon whereby the specific gene is added to the plant for producing a desirable phenotype?

1. Genetic manipulation
2. Genetic recombination
3. Genetic modification
4. Genetic hybridisation

**Options :**

19088933645. 1

19088933646. 2

19088933647. 3

19088933648. 4

**Question Number : 18 Question Id : 1908898439 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What is the focus of the participatory plant breeding program?

1. Scientists
2. Plants
3. Environment
4. Farmers

**Options :**

19088933649. 1

19088933650. 2

19088933651. 3

19088933652. 4

**Question Number : 19 Question Id : 1908898440 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

How do you term the form of agriculture, in which, industrialized production of crops and animal products takes place?

1. Manufactured agriculture
2. Modern agriculture
3. Industrial agriculture
4. Mechanistic agriculture

**Options :**

19088933653. 1

19088933654. 2

19088933655. 3

19088933656. 4

**Question Number : 20 Question Id : 1908898441 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Micro-irrigation fund of Rs. 5,000 crore has been placed with which of the following organization?

1. NABARD
2. IDBI
3. SBI
4. RRBs

**Options :**

19088933657. 1

19088933658. 2

19088933659. 3

19088933660. 4

## **Part B Core : Crop Sciences-I**

**Section Id :** 190889153

**Section Number :** 2

**Section type :** Online

Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	200
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	190889193
Question Shuffling Allowed :	Yes

Question Number : 21 Question Id : 1908898442 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In one of the following plant, pollination generally occurs after the flower open, but the position of anthers in relation to stigmas ensures self-pollination.

- 1. Alfalfa
- 2. Tomato
- 3. Pigeonpea
- 4. Sunflower

Options :

- 19088933661. 1
- 19088933662. 2
- 19088933663. 3
- 19088933664. 4

Question Number : 22 Question Id : 1908898443 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In Pigeonpea the hybrid GTH-1 was released using the A<sub>2</sub> cytoplasm. Name the species from where this A<sub>2</sub> cytoplasm was derived

1. *Cajanus cajanifolium*
2. *Cajanus scaraboides*
3. *Cajanus sericeus*
4. *Cajanus acutifolius*

**Options :**

19088933665. 1

19088933666. 2

19088933667. 3

19088933668. 4

**Question Number : 23 Question Id : 1908898444 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Out of the two methods for multicolour FISH, the direct method uses one of the following as reporter molecules. Choose the molecule.

1. Biotin
2. Digoxigenin
3. Dinitrophenol
4. Fluorochromes

**Options :**

19088933669. 1

19088933670. 2

19088933671. 3

19088933672. 4

**Question Number : 24 Question Id : 1908898445 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

If the garden pea has 14 chromosomes in its diploid complement, how many double trisomies could theoretically exist

1. 6
2. 9
3. 16
4. 21

**Options :**

19088933673. 1

19088933674. 2

19088933675. 3

19088933676. 4

**Question Number : 25 Question Id : 1908898446 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Out of the four statements given below , which of the statements are true

- A. Mass selection is the best method for improving metric traits with low heritabilities
- B. Matings between siblings are the most extreme form of inbreeding possible among sexually reproducing species
- C. Line breeding is a special form of inbreeding used to maintain a high genetic relationship to a desired ancestor
- D. Loss of vigor (vegetative and/or reproductive) commonly accompanies an increase in polygenic homozygosity

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

**Options :**

19088933677. 1

19088933678. 2

19088933679. 3

19088933680. 4

**Question Number : 26 Question Id : 1908898447 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Structural and functional rearrangements of chromatin are mediated by the modification of histone tails. These rearrangements include following process and one of the given process is not related to chromatin remodeling. Find the odd one.

1. Acetylation
2. Ubiquitinylation
3. Phosphorylation
4. Translation

**Options :**

19088933681. 1

19088933682. 2

19088933683. 3

19088933684. 4

**Question Number : 27 Question Id : 1908898448 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

A form of clonal reproduction in species hybrids whose gametes carry only the nuclear genome derived from one of the parental species

1. Hybridoma
2. Hybrid dysgenesis
3. Hybridogenesis
4. Hybrid swarm

**Options :**

19088933685. 1

19088933686. 2

19088933687. 3

19088933688. 4

**Question Number : 28 Question Id : 1908898449 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**



**Correct Marks : 4 Wrong Marks : 1**

Match the Brassica species with its chromosome number (n)

List I	List II
A. <i>Brassica napus</i>	I. $n = 18$
B. <i>Brassica juncea</i>	II. $n = 19$
C. <i>Brassica rapa</i>	III. $n = 8$
D. <i>Brassica nigra</i>	IV. $n=10$

Choose the *correct* answer from the options given below:

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

**Options :**

19088933689. 1

19088933690. 2

19088933691. 3

19088933692. 4

**Question Number : 29 Question Id : 1908898450 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Suppose that in bees the dominant gene  $b^+$  produces wild-type (brown) eyes, and its recessive allele  $b$  produces pink eye color. If a pink-eyed queen mates with a brown-eyed drone, their offspring would most likely be in one of the following pattern of segregation. Choose the correct pattern of segregation.

1. only wild-type progeny
2. wild-type workers and pink-eyed drones
3. only pink-eyed progeny
4. workers =  $\frac{1}{2}$  wild :  $\frac{1}{2}$  pink-eye; all drones wild type

**Options :**

19088933693. 1

19088933694. 2

19088933695. 3

19088933696. 4



**Question Number : 30 Question Id : 1908898451 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In humans, the genes that are present on the X-chromosome show what kind of transmission from one to another generation?

1. Zig-zag transmission
2. Criss-cross transmission
3. Anti-parallel transmission
4. Direct transmission

**Options :**

19088933697. 1

19088933698. 2

19088933699. 3

19088933700. 4

**Question Number : 31 Question Id : 1908898452 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements

**Statement I:** Sex-influenced traits show higher penetrance in one sex.

**Statement II:** Sex-limited traits show zero penetrance in other sex.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

**Options :**

19088933701. 1

19088933702. 2

19088933703. 3

19088933704. 4

**Question Number : 32 Question Id : 1908898453 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is/are sequencing-based marker(s)?

- A. Restriction Fragment Length Polymorphism (RFLP)
- B. Expressed Sequence Tags (ESTs)
- C. Diversity Array technologies (DArTs)
- D. Amplified Fragment Length Polymorphism (AFLP)

Choose the *correct* answer from the options given below:

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

**Options :**

19088933705. 1

19088933706. 2

19088933707. 3

19088933708. 4

**Question Number : 33 Question Id : 1908898454 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The undesirable effect caused due to the presence of a large chunk of donor chromosome even after many backcrosses is known as?

- 1. Association
- 2. Linkage equilibrium
- 3. Linkage disequilibrium
- 4. Linkage drag

**Options :**

19088933709. 1

19088933710. 2

19088933711. 3

19088933712. 4

**Question Number : 34 Question Id : 1908898455 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Biofortification of crops means?

- A. Enrichment of crop edible portion for major nutrients.
- B. Enrichment of crop edible portion for some micronutrients.
- C. Inclusion of herbicide tolerance in the crops.
- D. Inclusion of insecticide tolerance in the crops.

Choose the *correct* answer from the options given below:

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

**Options :**

19088933713. 1

19088933714. 2

19088933715. 3

19088933716. 4

**Question Number : 35 Question Id : 1908898456 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which cell organelle plays an important role in cell wall formation?

- A. Golgi bodies
- B. Endoplasmic reticulum
- C. Lysosome
- D. Ribosome

Choose the *correct* answer from the options given below:

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

**Options :**

19088933717. 1

19088933718. 2

19088933719. 3

19088933720. 4

**Question Number : 36 Question Id : 1908898457 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Methylation in the genome can be identified by?

- A. Bisulphite sequencing
- B. Monosulphite sequencing
- C. Dideoxy sequencing
- D. Deoxy sequencing

Choose the *correct* answer from the options given below:

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

**Options :**

19088933721. 1

19088933722. 2

19088933723. 3

19088933724. 4

**Question Number : 37 Question Id : 1908898458 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In the process of genomic DNA isolation from the plant cell/tissue, the DNA is generally precipitated by adding?

1. Alkali
2. Alcohol
3. Acid
4. Phosphate buffer

**Options :**

19088933725. 1

19088933726. 2

19088933727. 3

19088933728. 4

**Question Number : 38 Question Id : 1908898459 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Functional genomics can be studied through?

- A. Subtracted cDNA Libraries
- B. Whole-genome sequencing
- C. cDNA Microarrays
- D. RNA Seq

Choose the *correct* answer from the options given below:

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

**Options :**

19088933729. 1

19088933730. 2

19088933731. 3

19088933732. 4

**Question Number : 39 Question Id : 1908898460 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Working sample size for the conduct of tetrazolium test in onion is

- 1. 25 seeds
- 2. 60 seeds
- 3. 100 seeds
- 4. 400 seeds

**Options :**

19088933733. 1

19088933734. 2

19088933735. 3

19088933736. 4

**Question Number : 40 Question Id : 1908898461 Question Type : MCQ Option Shuffling : No Is**



**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In case of coated seeds, the components of purity analysis are

- A. Pure pellets
- B. Unpelleted seed
- C. Other seed pellet
- D. Inert matter

Choose the *correct* answer from the options given below:

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

**Options :**

19088933737. 1

19088933738. 2

19088933739. 3

19088933740. 4

**Question Number : 41 Question Id : 1908898462 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Genetic male sterility (GMS) is exploited during hybrid seed production of

- 1. Chrysanthemum
- 2. Petunia
- 3. Ornamental sunflower
- 4. Snapdragon

**Options :**

19088933741. 1

19088933742. 2

19088933743. 3

19088933744. 4

**Question Number : 42 Question Id : 1908898463 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Aeroponics technology is exploited in seed production of

1. Alfalfa
2. Potato
3. Aster
4. Phlox

**Options :**

19088933745. 1

19088933746. 2

19088933747. 3

19088933748. 4

**Question Number : 43 Question Id : 1908898464 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Aril is the edible part of the seed in

- A. Litchi
- B. Nutmeg
- C. Durian
- D. Hazelnut
- E. Cocoa

Choose the *correct* answer from the options given below:

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

**Options :**

19088933749. 1



19088933750. 2

19088933751. 3

19088933752. 4

**Question Number : 44 Question Id : 1908898465 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The planting ratio of female and male parent followed during single cross hybrid seed production of pearl millet is

1. 1:1
2. 3:2
3. 6:2
4. 2:1

**Options :**

19088933753. 1

19088933754. 2

19088933755. 3

19088933756. 4

**Question Number : 45 Question Id : 1908898466 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

**Assertion A :** Complete seed processing procedural improves the seed health condition of the seed.

**Reason R :** Seeds are treated and dried (if necessary) before bagging.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

**Options :**

19088933757. 1

19088933758. 2

19088933759. 3

19088933760. 4

**Question Number : 46 Question Id : 1908898467 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

**Match List I with List II**

<b>List I</b>	<b>List II</b>
<b>Vigour test</b>	<b>Crop</b>
A. Cool germination test	I. Cotton
B. Cold test	II. Maize
C. Electrical conductivity test	III. Soybean
D. Controlled deterioration test	IV. Mustard

Choose the **correct** answer from the options given below:

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

**Options :**

19088933761. 1

19088933762. 2

19088933763. 3

19088933764. 4

**Question Number : 47 Question Id : 1908898468 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The "Seedling Symptomatology Test" to observe for *Fusarium* infection in cereal crops was developed by \_\_\_\_\_?

1. NA Cobb
2. Perry
3. Hiltner
4. SB Mathur

**Options :**

19088933765. 1

19088933766. 2

19088933767. 3

19088933768. 4

**Question Number : 48 Question Id : 1908898469 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is both externally and internally seed-borne pathogen?

1. *Ustilago nuda*
2. *Sclerospora graminicola*
3. *Tilletia indica*
4. *Neovossia horrida*

**Options :**

19088933769. 1

19088933770. 2

19088933771. 3

19088933772. 4

**Question Number : 49 Question Id : 1908898470 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Under the Protection of Plant Varieties and Farmers' Rights Act, the power to correct the clerical error or an obvious mistake in the registration certificate is delegated to

1. Registrar
2. Registrar General
3. Chairman
4. Chairperson

**Options :**

19088933773. 1

19088933774. 2

19088933775. 3

19088933776. 4

**Question Number : 50 Question Id : 1908898471 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements:

**Statement I:** The seed viability equation is a mathematical model that has been developed to predict seed storage life in different environments.

**Statement II:** The seed viability equation applies to both recalcitrant and orthodox seeds

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

**Options :**

19088933777. 1

19088933778. 2

19088933779. 3

19088933780. 4

**Question Number : 51 Question Id : 1908898472 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is a variable cost?

1. Initial investment
2. Interest on loan
3. Wages
4. Cost of production facility

**Options :**

19088933781. 1

19088933782. 2

19088933783. 3

19088933784. 4

**Question Number : 52 Question Id : 1908898473 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In India, which one of the following is NOT related to guidelines and protocols for the safety assessment of GMOs?

1. IBSC
2. GEAC
3. RCGM
4. NBPGR

**Options :**

19088933785. 1

19088933786. 2

19088933787. 3

19088933788. 4

**Question Number : 53 Question Id : 1908898474 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is not protected by IP legislation?

1. Trademarks
2. Trade secrets
3. Patents
4. Industrial designs

**Options :**

19088933789. 1

19088933790. 2

19088933791. 3

19088933792. 4

**Question Number : 54 Question Id : 1908898475 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The permit to import germplasm/GMOs for research purposes in the country is issued by \_\_\_\_\_?

1. Director, NBPGR
2. Director, IISS
3. Plant Protection Advisor to Government of India
4. Director, NSRTC

**Options :**

19088933793. 1

19088933794. 2

19088933795. 3

19088933796. 4

**Question Number : 55 Question Id : 1908898476 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The Indian Biological Diversity Act was passed in the Parliament in the year 2002, the authority constituted thereby has its headquarters in:

1. New Delhi
2. Bengaluru
3. Chennai
4. Kolkata

**Options :**

19088933797. 1

19088933798. 2

19088933799. 3

19088933800. 4

**Question Number : 56 Question Id : 1908898477 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Self-pollination in plants results in

1. increased homozygosity
2. increased heterozygosity
3. heterosis
4. asexuality

**Options :**

19088933801. 1

19088933802. 2

19088933803. 3

19088933804. 4

**Question Number : 57 Question Id : 1908898478 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**



Reduction in genetic variation that occurs when a small subset of individuals occupy and establish in a new colony:

1. Bottleneck effect
2. Founder effect
3. Domestication
4. Population sub-structure

**Options :**

19088933805. 1

19088933806. 2

19088933807. 3

19088933808. 4

**Question Number : 58 Question Id : 1908898479 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Highly valued cotton variety called Egyptian cotton belongs to the species

1. *Gossypium herbaceum*
2. *G. barbadense*
3. *G. arboreum*
4. *G. hirsutum*

**Options :**

19088933809. 1

19088933810. 2

19088933811. 3

19088933812. 4

**Question Number : 59 Question Id : 1908898480 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**



Carrot (*Daucus carota*) belongs to the family

1. Apiaceae
2. Cruciferae
3. Fabaceae
4. Solanceae

**Options :**

19088933813. 1

19088933814. 2

19088933815. 3

19088933816. 4

**Question Number : 60 Question Id : 1908898481 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which among the following is not the amber colored, dwarf and high yielding variety of wheat developed and released for cultivation in India that resulted in green revolution

1. Kalyan Sona
2. Sonalika
3. Lerma Rojo
4. Sharbati Sonara

**Options :**

19088933817. 1

19088933818. 2

19088933819. 3

19088933820. 4

**Question Number : 61 Question Id : 1908898482 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The language used for scientific nomenclature of plants is

1. English
2. Spanish
3. Latin
4. Roman

**Options :**

19088933821. 1

19088933822. 2

19088933823. 3

19088933824. 4

**Question Number : 62 Question Id : 1908898483 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

An example of multilocus dominant DNA marker

1. AFLP
2. RFLP
3. STMS
4. SSR

**Options :**

19088933825. 1

19088933826. 2

19088933827. 3

19088933828. 4

**Question Number : 63 Question Id : 1908898484 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following does **not** contribute as good evidence for the Origin of Agriculture:

1. Phytoliths
2. Coprolites
3. Charred seeds
4. Soil composition

**Options :**

- 19088933829. 1
- 19088933830. 2
- 19088933831. 3
- 19088933832. 4

**Question Number : 64 Question Id : 1908898485 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The old World consists of all, **except** one of the following geographical areas :

- 1. Africa
- 2. Europe
- 3. Asia
- 4. Few Atlantic islands

**Options :**

- 19088933833. 1
- 19088933834. 2
- 19088933835. 3
- 19088933836. 4

**Question Number : 65 Question Id : 1908898486 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following phenomenon **would not** necessarily give rise to true-to-type plants :

- 1. Polyembryony
- 2. Asexual reproduction
- 3. Apomixis
- 4. Parthenocarpy

**Options :**

- 19088933837. 1
- 19088933838. 2
- 19088933839. 3

19088933840. 4

**Question Number : 66 Question Id : 1908898487 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Regeneration of germplasm stored in Long term Genebank is carried out when the seed viability drops below:

1. 65% of the initial viability
2. 75% of the initial viability
3. 85% of the initial viability
4. 90% of the initial viability

**Options :**

19088933841. 1

19088933842. 2

19088933843. 3

19088933844. 4

**Question Number : 67 Question Id : 1908898488 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

For registration of plant varieties at PPV & FR, it is **not** essential to have one of the following criteria of :

1. Distinctiveness
2. Uniqueness
3. Stability
4. Uniformity

**Options :**

19088933845. 1

19088933846. 2

19088933847. 3

19088933848. 4

**Question Number : 68 Question Id : 1908898489 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The High constant temperature oven method for determining moisture content of seeds is to be used for one of the following :

1. Any types of seeds
2. Oily seeds alone
3. Large sized seeds only
4. Protein and starch rich, non-oily seeds

**Options :**

19088933849. 1

19088933850. 2

19088933851. 3

19088933852. 4

**Question Number : 69 Question Id : 1908898490 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Match List I with List II

List I	List II
Methodology / microscopy	Its utilization in plant sciences
A. ELISA	I. Study of surfaces of biomaterials
B. GISH	II. Reconstruction of 3-D structures
C. SEM	III. Detection of translocation
D. TEM	IV. Detection of plant viruses
E. Confocal microscopy	V. Study of internal features of cells & organelles

Choose the **correct** answer from the options given below:

1. A - III, B - I, C - II, D - IV, E - V
2. A - IV, B - III, C - I, D - V, E - II
3. A - II, B - IV, C - III, D - V, E - I
4. A - I, B - II, C - III, D - IV, E - V

**Options :**

19088933853. 1  
19088933854. 2  
19088933855. 3  
19088933856. 4

**Question Number : 70 Question Id : 1908898491 Question Type : MCQ Option Shuffling : No Is  
Question Mandatory : No  
Correct Marks : 4 Wrong Marks : 1**

Seed dormancy is controlled by all, **except** one of the following:

1. Light
2. Duration of seed storage
3. Temperature
4. Seed volume

**Options :**

19088933857. 1  
19088933858. 2  
19088933859. 3  
19088933860. 4

## Part C : Seed Science and Technology

<b>Section Id :</b>	190889154
<b>Section Number :</b>	3
<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions :</b>	50
<b>Number of Questions to be attempted :</b>	50
<b>Section Marks :</b>	200
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Sub-Section Number :</b>	1

**Sub-Section Id :**

190889194

**Question Shuffling Allowed :**

Yes

**Question Number : 71 Question Id : 1908898492 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Bumblebees are the most effective pollinators than honey bees in

1. Sesame
2. Red clover
3. Buckwheat
4. Lettuce

**Options :**

19088933861. 1

19088933862. 2

19088933863. 3

19088933864. 4

**Question Number : 72 Question Id : 1908898493 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Paired cross row method is followed during the maintenance (NS production) of

1. Female line of two-line Maize hybrid
2. Male line of two-line Maize hybrid
3. Female line of three-line Maize hybrid
4. Maize composite

**Options :**

19088933865. 1

19088933866. 2

19088933867. 3

19088933868. 4

**Question Number : 73 Question Id : 1908898494 Question Type : MCQ Option Shuffling : No Is**



**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

**Assertion A :** For commercial certified seed production, seed-to-seed method is used in Turnip.

**Reason R :** Uprooting and storage of roots adds to the cost of turnip seed production.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is **NOT** the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

**Options :**

19088933869. 1

19088933870. 2

19088933871. 3

19088933872. 4

**Question Number : 74 Question Id : 1908898495 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

**Assertion A :** Low soil nitrogen and high soil phosphorus regime during pea seed production affects the seed quality.

**Reason R :** 'Hollow heart' in peas manifests in delayed germination and reduced seedling growth.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is **NOT** the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true



**Options :**

19088933873. 1

19088933874. 2

19088933875. 3

19088933876. 4

**Question Number : 75 Question Id : 1908898496 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Match **List I** with **List II**

<b>List I</b>	<b>List II</b>
<b>Terminology</b>	<b>Crop</b>
A. Topping	I. Turnip
B. Hollow stem	II. Cauliflower
C. Racing	III. Lettuce
D. Scooping	IV. Cucumber
	V. TPS (True Potato Seed)

Choose the **correct** answer from the options given below:

1. A - V, B - III, C - IV, D - II
2. A - III, B - II, C - IV, D - I
3. A - I, B - II, C - III, D - IV
4. A - IV, B - II, C - III, D - V

**Options :**

19088933877. 1

19088933878. 2

19088933879. 3

19088933880. 4

**Question Number : 76 Question Id : 1908898497 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements

**Statement I:** Tomato flowers have pepper pot type anther cone.

**Statement II:** Chili flowers have salt cellar type anther cone.

In the light of the above statements, choose the **most appropriate** answer from the options given below

1. Both statement I and statement II are true
2. Both statement I and statement II are false
3. Statement I is true but statement II is false
4. Statement I is false but statement II is true

**Options :**

19088933881. 1

19088933882. 2

19088933883. 3


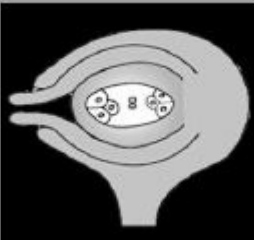


19088933884. 4

**Question Number : 77 Question Id : 1908898498 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Match **List I** with **List II**

List I	List II
Mature Ovule Picture.	Ovule Type.
<p>A. </p>	<p>I. Orthotropous</p>
<p>B. </p>	<p>II. Hemitropous</p>
<p>C. </p>	<p>III. Campylotropous</p>
<p>D. </p>	<p>IV. Circinotropous</p>
	<p>V. Anatropous</p>

Choose the **correct** answer from the options given below:

1. A - I, B - II, C - III, D - IV
2. A - I, B - II, C - V, D - III
3. A - V, B - II, C - III, D - I
4. A - II, B - I, C - V, D - III

**Options :**

19088933885. 1

19088933886. 2

19088933887. 3

19088933888. 4

**Question Number : 78 Question Id : 1908898499 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Sequence the events occurring during seed development.

- A. Influx of reserve materials
- B. Histodifferentiation
- C. Maximum dry weight
- D. Maturation drying
- E. Harvest maturity

Choose the *correct* answer from the options given below

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

**Options :**

19088933889. 1

19088933890. 2

19088933891. 3

19088933892. 4

**Question Number : 79 Question Id : 1908898500 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Order of sequence in which the structures become desiccation sensitive in germinated seed

A. Hypocotyl

B. Radicle

C. Epicotyl

D. Cotyledons

Choose the *correct* answer from the options given below

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

**Options :**

19088933893. 1

19088933894. 2

19088933895. 3

19088933896. 4

**Question Number : 80 Question Id : 1908898501 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Orthodox seeds are

- A. Peach
- B. Avocado
- C. Durian
- D. Passion fruit
- E. Litchi

Choose the *correct* answer from the options given below:

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

**Options :**

19088933897. 1

19088933898. 2

19088933899. 3

19088933900. 4

**Question Number : 81 Question Id : 1908898502 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The minimum water imbibed by the seed that will induce germination is known as

1. Critical hydration level
2. Critical water potential
3. Turgor water potential
4. Matric water potential

**Options :**

19088933901. 1

19088933902. 2

19088933903. 3

19088933904. 4

**Question Number : 82 Question Id : 1908898503 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The Cardinal temperature, at which the radicle emergence occurs at its maximum speed is known as

1. Base temperature
2. Sprout temperature
3. Optimum temperature
4. Chilling temperature

**Options :**

19088933905. 1

19088933906. 2

19088933907. 3

19088933908. 4

**Question Number : 83 Question Id : 1908898504 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Arrange the following equipments in the order in which they are used for processing alfalfa (Lucerne) seeds.

- A. Scalper
- B. Magnetic separator
- C. Air-screen cleaner
- D. Roll Mill
- E. Gravity separator

Choose the *correct* answer from the options given below

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



**Options :**

- 19088933909. 1
- 19088933910. 2
- 19088933911. 3
- 19088933912. 4

**Question Number : 84 Question Id : 1908898505 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In case of debearder, lower feed rate and higher speed of rotation will result in

- A. Better debearding
- B. Mechanical injury to seed
- C. Reduces the severity of debearding
- D. Better rubbing of seed material against each other

Choose the *correct* answer from the options given below:

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

**Options :**

- 19088933913. 1
- 19088933914. 2
- 19088933915. 3
- 19088933916. 4

**Question Number : 85 Question Id : 1908898506 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In case of mechanical seed thresher, too narrow concave clearance space and too high cylinder speed will result in

- A. More trash material in seed
- B. Broken and mechanical injured seed
- C. Better separation of seed
- D. Lesser trash material

Choose the *correct* answer from the options given below:

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

**Options :**

19088933917. 1

19088933918. 2

19088933919. 3

19088933920. 4

**Question Number : 86 Question Id : 1908898507 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Magnetic separator, separates the seeds based on differences in seed

- 1. Texture
- 2. Length
- 3. Density
- 4. Size

**Options :**

19088933921. 1

19088933922. 2

19088933923. 3

19088933924. 4

**Question Number : 87 Question Id : 1908898508 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

For better separation of seeds in an air-screen separator, the scalper and grading screens are set at

1. Steep and flat pitch respectively
2. Flat and steep pitch respectively
3. Steep pitch
4. Flat pitch

**Options :**

19088933925. 1

19088933926. 2

19088933927. 3

19088933928. 4

**Question Number : 88 Question Id : 1908898509 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

In specific gravity separator, increasing deck oscillation speed

1. Moves heavy seeds to low side of the deck
2. Moves Heavy seeds to high side of the deck
3. Moves seed mass to low side of the deck
4. Doesn't affect the seed movement along the side slope

**Options :**

19088933929. 1

19088933930. 2

19088933931. 3

19088933932. 4

**Question Number : 89 Question Id : 1908898510 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What is the value of Vigour Index I for the seed lot having germination % of 90, average seedling length (of ten normal seedlings) 100mm and 10 normal seedlings dry weight of 20mg?

1. 18000
2. 900
3. 9000
4. 1800

**Options :**

19088933933. 1

19088933934. 2

19088933935. 3

19088933936. 4

**Question Number : 90 Question Id : 1908898511 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

There is a pearl millet homogenous seed lot comprising of 2000 bags of 5kg each, which has to be sampled as per ISTA rules 2015. As a seed certification officer, how many primary samples you will take from the given seed lot?

1. 15
2. 20
3. 25
4. 30

**Options :**

19088933937. 1

19088933938. 2

19088933939. 3

19088933940. 4

**Question Number : 91 Question Id : 1908898512 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

As per ISTA procedure 2015, 90 g of sorghum seed sample was subjected to purity analysis and the calculated fraction percentages of different purity components is as follows:

Pure seed fraction - 95.66%

Inert matter fraction - 0.0559%

Other seeds fraction – 4.286%

While reporting the purity test results, fraction of pure seed is reported as

1. 95.66%
2. 95.6%
3. 95.7%
4. 96%

**Options :**

19088933941. 1

19088933942. 2

19088933943. 3

19088933944. 4

**Question Number : 92 Question Id : 1908898513 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

As per ISTA-2015, what is the working sample size for paddy to test the seed moisture, using the glass moisture bottles of 8 cm diameter?

1.  $39.0 \pm 1.0$  g
2.  $4.5 \pm 0.5$  g
3.  $9.0 \pm 1.0$  g
4.  $10.0 \pm 1.0$  g

**Options :**

19088933945. 1

19088933946. 2

19088933947. 3

19088933948. 4

**Question Number : 93 Question Id : 1908898514 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

For determination of other seeds in carrot, what is the size of the **working sample** size if the 1000 seed weight is 1.2 g?

1. 3.0 g
2. 3.6 g
3. 30.0 g
4. 36.0 g

**Options :**

19088933949. 1

19088933950. 2

19088933951. 3

19088933952. 4

**Question Number : 94 Question Id : 1908898515 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

During the seed certification procedures for field inspection, if the percentages of contaminants found in first set of counts are more than the maximum permissible limit, but less than twice the permissible limit, then the

1. Seed field should be rejected
2. Seed field should be approved
3. Second set of counts should be taken
4. Decision should be postponed to next stage specific inspection

**Options :**

19088933953. 1

19088933954. 2

19088933955. 3

19088933956. 4

**Question Number : 95 Question Id : 1908898516 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**



**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

**Assertion A :** Allowable limits of seeds that are not true-to-type in certified seed lot is more in comparison to foundation seed lot.

**Reason R :** The allowed contaminants in the seed production plot also increase progressively at each stage of seed multiplication.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true and **R** is **NOT** the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

**Options :**

19088933957. 1

19088933958. 2

19088933959. 3

19088933960. 4

**Question Number : 96 Question Id : 1908898517 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Consumer Protection Act is significant to

1. All Goods and Services
2. Particular Goods and Services
3. Movable Goods
4. Immovable Goods

**Options :**

19088933961. 1

19088933962. 2

19088933963. 3

19088933964. 4



**Question Number : 97 Question Id : 1908898518 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

When the seller manipulates the price, it is known as -

1. Unfair trade practices
2. Caveat Emptor
3. Restricted trade practices
4. Competitive trade practices

**Options :**

19088933965. 1

19088933966. 2

19088933967. 3

19088933968. 4

**Question Number : 98 Question Id : 1908898519 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

OECD Seed Schemes for controlling international seed trade was founded in the year -

1. 1956
2. 1958
3. 1966
4. 1969

**Options :**

19088933969. 1

19088933970. 2

19088933971. 3

19088933972. 4

**Question Number : 99 Question Id : 1908898520 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements

**Statement I:** Elastic demand exists when price change does not result in significant changes in demand.

**Statement II:** The break-even point (BEP) is determined by the intersection of the total revenue line and the total cost line. The area above the BEP indicates that the company is making a huge profit.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

**Options :**

19088933973. 1

19088933974. 2

19088933975. 3

19088933976. 4

**Question Number : 100 Question Id : 1908898521 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

A license issued by the state government to carry out the business of selling, exporting, or importing seeds is as per the provision given under

1. Destructive Insects and Pests Act, 1914
2. Essential Commodities Act, 1955
3. Seeds Act, 1966
4. Seeds (Control) Order, 1983

**Options :**

19088933977. 1

19088933978. 2

19088933979. 3

19088933980. 4

Question Number : 101 Question Id : 1908898522 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following disease is **NOT** transmitted by Pollen?

1. Barley stripe mosaic virus (BSMV)
2. Bean common mosaic virus (BCMV)
3. Southern bean mosaic virus (SBMV)
4. Black gram mottle virus (BLMV)

Options :

19088933981. 1

19088933982. 2

19088933983. 3

19088933984. 4

Question Number : 102 Question Id : 1908898523 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Consider the following seed-borne diseases:

- A. Covered smut of barley – *Tilletia foetida*
- B. Flag smut of wheat – *Urocystis agropyri*
- C. Common bunt of wheat – *Ustilago hordei*
- D. Sheath rot of paddy - *Xanthomonas oryzae*

Which of the above combinations is/are **NOT CORRECTLY** matched?

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

Options :

19088933985. 1

19088933986. 2

19088933987. 3

19088933988. 4

**Question Number : 103 Question Id : 1908898524 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The primary source of inoculum for loose smut of wheat is -

1. Internally seed-borne hypha
2. Teleutospore in air
3. Teleutospore in soil
4. Teleutospore on external surface

**Options :**

19088933989. 1

19088933990. 2

19088933991. 3

19088933992. 4

**Question Number : 104 Question Id : 1908898525 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Consider the following statement on symptoms of smut disease:

- A. In the infected florets, ovaries are converted into conical structures called sori.
- B. Infected ovaries are smaller than healthy seeds.
- C. Infected ovaries are initially green, but later turn brown to black.

Choose the *correct* answer from the options given below:

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

**Options :**

19088933993. 1

19088933994. 2

19088933995. 3

19088933996. 4

**Question Number : 105 Question Id : 1908898526 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements

**Statement I:** Carboxin is sold as Apron and Metalaxyl is sold as Vitavax.

**Statement II:** Seeds are treated with Captan, Thiram and Metalaxyl to control the damping-off disease.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

**Options :**

19088933997. 1

19088933998. 2

19088933999. 3

19088934000. 4

**Question Number : 106 Question Id : 1908898527 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**



Given below are two statements

**Statement I:** Fumigation is the act of releasing and dispersing a toxic chemical, so it reaches the target organism in a semi-solid state.

**Statement II:** Chemicals applied as suspensions of particulate matter in the air (eg: aerosols, smokes, mists, and fogs) are considered as fumigants.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

**Options :**

19088934001. 1

19088934002. 2

19088934003. 3

19088934004. 4

**Question Number : 107 Question Id : 1908898528 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements

**Statement I:** Methyl bromide (MB) can be compressed and stored in metal cylinders as a liquid.

**Statement II:** Aluminum phosphide (AP) are solid products available as tablets or pellets, which under very dry conditions emit phosphine gas.

In light of the above statements, choose the *correct* answer from the options given below

1. Both Statement I and Statement II are true
2. Both Statement I and Statement II are false
3. Statement I is true but Statement II is false
4. Statement I is false but Statement II is true

**Options :**

19088934005. 1

19088934006. 2

19088934007. 3

19088934008. 4

**Question Number : 108 Question Id : 1908898529 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

What is the principal characteristics of all oxidizing agents?

1. Is electron donor
2. Removes charge from electrons
3. Is electron acceptor
4. Burns electrons

**Options :**

19088934009. 1

19088934010. 2

19088934011. 3

19088934012. 4

**Question Number : 109 Question Id : 1908898530 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Seeds packed in moisture pervious containers having a water activity of 0.70 are placed in a storage module maintained at 30°C and 60% RH. The seeds will tend to

1. Gain moisture
2. Lose moisture
3. Neither gain, nor lose moisture
4. Initially lose, then gain moisture

**Options :**

19088934013. 1

19088934014. 2

19088934015. 3

19088934016. 4



**Question Number : 110 Question Id : 1908898531 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

According to the Seeds Act of 1966, which of the following functions is NOT applicable to a Seed Certification Agency?

1. It should be an autonomous body
2. It should involve itself in the production and marketing of seeds
3. It should have close linkages with technical and other related institutions
4. Its long-term objective should be to operate on no-profit no-loss basis

**Options :**

19088934017. 1

19088934018. 2

19088934019. 3

19088934020. 4

**Question Number : 111 Question Id : 1908898532 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Bad odor is sensed from a glass jar stored for a long-time containing dry soybean seed. This is due to

1. Autolysis
2. Oxidation
3. Anaerobic fermentation
4. Glycolysis

**Options :**

19088934021. 1

19088934022. 2

19088934023. 3

19088934024. 4

**Question Number : 112 Question Id : 1908898533 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Indian Grain Storage Management and Research Institute is located at

1. Ahmedabad, Gujarat
2. Hapur, Uttar Pradesh
3. Mangalore, Karnataka
4. Varanasi, Uttar Pradesh

**Options :**

19088934025. 1

19088934026. 2

19088934027. 3

19088934028. 4

**Question Number : 113 Question Id : 1908898534 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Consider the following storage insect pests:

- A. *Sitophilus oryzae*
- B. *Rhyzopertha dominica*
- C. *Oryzaephilus surinamensis*
- D. *Trogoderma granarium*

In which of the above storage insect pests both “adult and grub” is the damaging stage?

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

**Options :**

19088934029. 1

19088934030. 2

19088934031. 3

19088934032. 4

**Question Number : 114 Question Id : 1908898535 Question Type : MCQ Option Shuffling : No**  
**Is Question Mandatory : No**  
**Correct Marks : 4 Wrong Marks : 1**

PUSA bin is modification of

1. Mud structure
2. Kothar
3. Udaipur bin
4. PKV bin

**Options :**

19088934033. 1
19088934034. 2
19088934035. 3
19088934036. 4

**Question Number : 115 Question Id : 1908898536 Question Type : MCQ Option Shuffling : No**  
**Is Question Mandatory : No**  
**Correct Marks : 4 Wrong Marks : 1**

Given below are two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

**Assertion A:** The desorption equilibrium curve will be slightly higher than the adsorption curve.

**Reason R:** Appearance of additional polar sites for bound water arises because of tissue swelling.

In light of the above statements, choose the *correct* answer from the options given below

1. Both **A** and **R** are true and **R** is the correct explanation of **A**
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**
3. **A** is true but **R** is false
4. **A** is false but **R** is true

**Options :**

19088934037. 1
19088934038. 2

19088934039. 3

19088934040. 4

**Question Number : 116 Question Id : 1908898537 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

The viability equations are mathematical models that have been developed to predict seed storage life in different environments. To use the viability equation, one must know at least

1. Initial viability and storage temperature
2. Storage temperature and storage period
3. Equilibrium moisture content of the seed
4. Initial viability, storage temperature and storage period

**Options :**

19088934041. 1

19088934042. 2

19088934043. 3

19088934044. 4

**Question Number : 117 Question Id : 1908898538 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Match List I with List II

List I	List II
(Legislation)	(Description)
A. Industrial Licensing Policy	I. Regulates commercial use of genetic resources by both Indian and Non-Indian entities
B. New Policy on Seed Development	II. Permits seed inspector to draw seed samples of GM Crops
C. Biological Diversity Act	III. Permits import of vegetable seed on OGL
D. Environment Protection Act	IV. Permitting private companies to produce and market seeds
	V. Approval of <i>Bt</i> Cotton

Choose the **correct** answer from the options given below:

1. A - IV, B - I, C - III, D - II
2. A - V, B - II, C - I, D - III
3. A - IV, B - V, C - I, D - II
4. A - IV, B - III, C - I, D - II

**Options :**

19088934045. 1
19088934046. 2
19088934047. 3
19088934048. 4

**Question Number : 118 Question Id : 1908898539 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Essentially Derived Variety (EDV) is derived from Initial Variety (IV) while retaining the expression of the essential characteristics of the IV. Consider the following example:

Variety-A: Protected

Variety-B: EDV of A and protected

Variety-C: EDV of B and protected

Variety-D: EDV of C and protected

What will be the dependency status of Variety-D for commercialization?

1. dependent on Variety-A and not on Variety-B and Variety-C
2. dependent on Variety-B
3. dependent on Variety-C
4. dependent on Variety-A, Variety-B and Variety-C

**Options :**

19088934049. 1

19088934050. 2

19088934051. 3

19088934052. 4

**Question Number : 119 Question Id : 1908898540 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No**

**Correct Marks : 4 Wrong Marks : 1**

Which of the following is the appropriate method for cryopreservation?

1. Over solid carbon dioxide (at  $-79^{\circ}\text{C}$ )
2. Low-temperature deep freezers (at  $-80^{\circ}\text{C}$ )
3. In vapor phase nitrogen (at  $-50^{\circ}\text{C}$ )
4. In liquid nitrogen (at  $-196^{\circ}\text{C}$ )

**Options :**

19088934053. 1

19088934054. 2

19088934055. 3

19088934056. 4



Question Number : 120 Question Id : 1908898541 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
(Quality Parameter/Value)	(Explanation)
A. $LC_{50}$	I. Measure of seed longevity
B. $P_{50}$	II. Speed of germination
C. $t_{50}$	III. Uniformity of germination
D. $U_{9010}$	IV. Measure of acute toxicity

Choose the **correct** answer from the options given below:

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

**Options :**

19088934057. 1

19088934058. 2

19088934059. 3

19088934060. 4