

2 Seed Science and Technology ICAR SEPT 2022

Topic:- GEN KNOW COMMON PHD

1) Colour of the tag used on certified seed bags is[Question ID = 16958][Question Description = 101_221_GKD_SEP22_Q01]

1. Blue [Option ID = 37829]
2. Purple [Option ID = 37830]
3. White [Option ID = 37831]
4. Golden Yellow [Option ID = 37832]

2) Following are the statements regarding the Usar soil -

- A. It is reclaimed by adding lime.
- B. This soil has pH more than seven.
- C. Paddy crop can be grown in this soil.

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

[Question ID = 16959][Question Description = 102_221_GKD_SEP22_Q02]

1. A and B only [Option ID = 37833]
2. B and C only [Option ID = 37834]
3. C only [Option ID = 37835]
4. A only [Option ID = 37836]

3) When total utility of a commodity increases, marginal utility will be

[Question ID = 16960][Question Description = 103_221_GKD_SEP22_Q03]

1. Negative but increasing
[Option ID = 37837]
2. Positive but decreasing
[Option ID = 37838]
3. Constant
[Option ID = 37839]
4. Either positive or negative
[Option ID = 37840]

4) Where is the headquarter of International Fund for Agriculture Development located?

[Question ID = 16961][Question Description = 104_221_GKD_SEP22_Q04]

1. Vienna, Austria
[Option ID = 37841]
2. Rome, Italy
[Option ID = 37842]
3. New York, USA
[Option ID = 37843]
4. Berlin, Germany
[Option ID = 37844]

5) Mid-Oceanic Ridges are one of the important divisions of the ocean floor. In this respect, point out the incorrect statement regarding the 'Mid-Oceanic Ridges'. [Question ID = 16962][Question Description = 105_221_GKD_SEP22_Q05]

1. It is the largest mountain chain on the surface of the earth [Option ID = 37845]
2. It is a series of interconnected chain within the ocean. [Option ID = 37846]
3. It is characterised by a central rift system [Option ID = 37847]
4. The rift system at the crest is the zone of very low volcanic activity. [Option ID = 37848]

6) Consider the following facts about the union territory of India and point out the one which is incorrect in relation to union territory.[Question ID = 16963][Question Description = 106_221_GKD_SEP22_Q06]

1. These are the areas under the direct control of central government. [Option ID = 37849]
2. Also known as the 'centrally administered territories. [Option ID = 37850]

3. These territories constitute a conspicuous departure from the unitary feature of India. [Option ID = 37851]
4. There is no uniformity in their administrative systems. [Option ID = 37852]

7) Variety of flora and fauna are found in the different types of forest in India. In this regard, species of trees like teak, *sal shisham*, *sandalwood*, etc. are found in which of the following type of forests in India?[Question ID = 16964][Question Description = 107_221_GKD_SEP22_Q07]

1. Tropical evergreen forests [Option ID = 37853]
2. Tropical thorn forests [Option ID = 37854]
3. Tropical deciduous forests [Option ID = 37855]
4. Montane forests [Option ID = 37856]

8) The Marginal Preference Theory of consumption behaviour was proposed by

[Question ID = 16965][Question Description = 108_221_GKD_SEP22_Q08]

1. Armstrong
[Option ID = 37857]
2. J.K.Hicks
[Option ID = 37858]
3. Neumann
[Option ID = 37859]
4. Edmund Cannon
[Option ID = 37860]

9) Point out the incorrect statements regarding the service sector in India.[Question ID = 16966][Question Description = 109_221_GKD_SEP22_Q09]

1. It is the highest contributor to GDP [Option ID = 37861]
2. It requires skilled labour [Option ID = 37862]
3. It is the fastest growing sector [Option ID = 37863]
4. It is restricted to very few sectors. [Option ID = 37864]

10) Consider the statements regarding the agriculture sector in India and point out the incorrect statement.[Question ID = 16967][Question Description = 110_221_GKD_SEP22_Q10]

1. Agriculture sector is the largest employer of workforce [Option ID = 37865]
2. It has contributed to the Gross Value Added (GVA) [Option ID = 37866]
3. Growth in allied sectors is the major drivers of overall growth in the sector. [Option ID = 37867]
4. Minimum Support Price (MSP) policy is used as to promote crop uniformity. [Option ID = 37868]

11) In case of related goods, the cross elasticity of demand is[Question ID = 16968][Question Description = 111_221_GKD_SEP22_Q11]

1. Low [Option ID = 37869]
2. High [Option ID = 37870]
3. Zero [Option ID = 37871]
4. Unity [Option ID = 37872]

12) With reference to organic farming in India, consider the following statements :

- A. The National Programme for Organic Production' (NPOP) is operated under the guidelines and directions of the Union Ministry of Rural Development.
- B. The Agricultural and Processed Food Products Export Development Authority' (APEDA) functions as the Secretariat for the implementation of NPOP.
- C. Sikkim has become India's first fully organic state.

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

[Question ID = 16969][Question Description = 112_221_GKD_SEP22_Q12]

1. A and B only
[Option ID = 37873]
2. B and C only
[Option ID = 37874]
3. C only
[Option ID = 37875]
4. A, B and C

[Option ID = 37876]

13) With reference to the circumstances in Indian agriculture, the concept of "Conservation Agriculture" assumes significance. Which of the following falls under the Conservation Agriculture ?

- A. Avoiding the monoculture practices.
- B. Adopting minimum tillage.
- C. Avoiding the cultivation of plantation crops.
- D. Using crop residues to cover soil surface.
- E. Adopting spatial and temporal crop sequencing/ crop rotations.

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

[Question ID = 16970][Question Description = 113_221_GKD_SEP22_Q13]

- 1. A, C and D only [Option ID = 37877]
- 2. B, C, D and E only [Option ID = 37878]
- 3. B, D and E only [Option ID = 37879]
- 4. A, B, C and E only [Option ID = 37880]

14) Consumers are likely to get a variety of goods in which kind of market competition[Question ID = 16971][Question Description = 114_221_GKD_SEP22_Q14]

- 1. Monopoly [Option ID = 37881]
- 2. Duopoly [Option ID = 37882]
- 3. Oligopoly [Option ID = 37883]
- 4. Monopolistic [Option ID = 37884]

15) What is the correct chronological order of the following laws enacted for the conservation and protection of environment ?

- A. Environment (Protection) Act.
- B. Water (Prevention & Control of Pollution) Act.
- C. Air (Prevention & Control of pollution) Act.
- D. National Green Tribunal Act.

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

[Question ID = 16972][Question Description = 115_221_GKD_SEP22_Q15]

- 1. B, C, A, D [Option ID = 37885]
- 2. A, B, C, D [Option ID = 37886]
- 3. C, B, A, D [Option ID = 37887]
- 4. D, C, B, A [Option ID = 37888]

16) The scientific study of soil is[Question ID = 16973][Question Description = 116_221_GKD_SEP22_Q16]

- 1. Earth Study [Option ID = 37889]
- 2. Soil Science [Option ID = 37890]
- 3. Pedology [Option ID = 37891]
- 4. Soil Chemistry [Option ID = 37892]

17) *Triticum aestivum*, the common bread wheat is -

[Question ID = 16974][Question Description = 117_221_GKD_SEP22_Q17]

- 1. Tetraploid
[Option ID = 37893]
- 2. Hexaploid
[Option ID = 37894]
- 3. Haploid
[Option ID = 37895]
- 4. Diploid
[Option ID = 37896]

18) Sectoral inflation refers to[Question ID = 16975][Question Description = 118_221_GKD_SEP22_Q18]

- 1. Running inflation [Option ID = 37897]

2. Comprehensive inflation [Option ID = 37898]
3. Sporadic inflation [Option ID = 37899]
4. Creeping inflation [Option ID = 37900]

19) Keynes Liquidity trap refers to[Question ID = 16976][Question Description = 119_221_GKD_SEP22_Q19]

1. Speculative demand for money [Option ID = 37901]
2. Transactions motive of money is inelastic [Option ID = 37902]
3. Precautionary motive of money is inelastic [Option ID = 37903]
4. Transactions motive of money is constant [Option ID = 37904]

20) A business is solvent if[Question ID = 16977][Question Description = 120_221_GKD_SEP22_Q20]

1. Total receipts exceed total expenditures [Option ID = 37905]
2. Total debt exceeds total equity [Option ID = 37906]
3. Total sales exceed total cash expense [Option ID = 37907]
4. Total assets exceed total liabilities [Option ID = 37908]

Topic:- Crop Sc 1_PHD

1) Given below are two statements

Statement I: SDN-2 involves a template-guided repair of a targeted DNA break using an externally supplied template sequence.

Statement II: SDN-3 Involves a template-guided repair of a targeted DNA break using a sequence template, typically double-stranded DNA containing an entire gene or an even longer genetic element(s).

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

[Question ID = 2401][Question Description = 101_45_CRS_SEP22_Q01]

1. Both Statement I and Statement II are true [Option ID = 9601]
2. Both Statement I and Statement II are false [Option ID = 9602]
3. Statement I is true but Statement II is false [Option ID = 9603]
4. Statement I is false but Statement II is true [Option ID = 9604]

2) Visible manifestations of crossing over is called:

[Question ID = 2402][Question Description = 102_45_CRS_SEP22_Q02]

1. Chiasmata
[Option ID = 9605]
2. Dyad
[Option ID = 9606]
3. Tetrad
[Option ID = 9607]
4. Synaptonemal complex
[Option ID = 9608]

3) A population-based approach which is used to identify marker-trait associations (MTA) by exploiting linkage disequilibrium is called:

[Question ID = 2403][Question Description = 103_45_CRS_SEP22_Q03]

1. Recombination mapping
[Option ID = 9609]
2. Association mapping
[Option ID = 9610]
3. Genome mapping
[Option ID = 9611]
4. Transcriptome mapping
[Option ID = 9612]

4) The class of RNA which is evolutionarily conserved, time, order and tissue specific are called:

[Question ID = 2404][Question Description = 104_45_CRS_SEP22_Q04]

1. siRNA
[Option ID = 9613]

2. lncRNA

[Option ID = 9614]

3. miRNA

[Option ID = 9615]

4. Piwi-interacting RNA

[Option ID = 9616]

5) 'Hidden hunger' is also known as:

[Question ID = 2405][Question Description = 105_45_CRD_SEP22_Q05]

1. Invisible malnutrition

[Option ID = 9617]

2. Concealed malnutrition

[Option ID = 9618]

3. Micronutrient malnutrition

[Option ID = 9619]

4. Zero malnutrition

[Option ID = 9620]

6) Match List I with List II

List I	List II
Common name	Botanical name
A. Finger millet	I. <i>Panicum sumatrense</i>
B. Little millet	II. <i>Panicum miliaceum</i>
C. Foxtail millet	III. <i>Eleusine coracana</i>
D. Proso millet	IV. <i>Setaria italica</i>

Choose the correct answer from the options given below:

[Question ID = 2406][Question Description = 106_45_CRD_SEP22_Q06]

1. A - III, B - I, C - IV, D - II [Option ID = 9621]

2. A - III, B - II, C - IV, D - I [Option ID = 9622]

3. A - II, B - I, C - IV, D - III [Option ID = 9623]

4. A - I, B - III, C - IV, D - II [Option ID = 9624]

7) The Protection of Plant Variety and Farmers Right Act, 2001 (PPVFR Act) is an Act of the Parliament of India that was enacted to provide for the establishment of an effective system for protection of ?

[Question ID = 2407][Question Description = 107_45_CRD_SEP22_Q07]

1. to all forms of intellectual properties.

[Option ID = 9625]

2. to all forms of publication.

[Option ID = 9626]

3. to plant breeders, researchers and farmers who have developed any new plant varieties and not on the extant plant varieties developed.

[Option ID = 9627]

4. to plant breeders, researchers and farmers who have developed any new or extant plant varieties.

[Option ID = 9628]

8) What is the probability of having three girl children by any parent?

[Question ID = 2408][Question Description = 108_45_CRD_SEP22_Q08]

1. $\frac{1}{2}$ [Option ID = 9629]

2. $\frac{1}{8}$ [Option ID = 9630]

3. $\frac{1}{4}$ [Option ID = 9631]

4. $\frac{3}{8}$ [Option ID = 9632]

9) Randomization, replication, and local control are considered as the basic principles of:

[Question ID = 2409][Question Description = 109_45_CRD_SEP22_Q09]

1. Experimental design

[Option ID = 9633]

2. Experimental planning

[Option ID = 9634]

3. Experimental scheduling

[Option ID = 9635]

4. Experimental forecasting

[Option ID = 9636]

10) Mendel crossed pea plants that were yellow seeded (homozygous) with plants of green seed (homozygous). What was/were the phenotype of the seeds on selfed F₁ plants?

[Question ID = 2410][Question Description = 110_45_CRS_SEP22_Q10]

1. Yellow [Option ID = 9637]

2. Green [Option ID = 9638]

3. 3 Yellow : 1 Green [Option ID = 9639]

4. 1 Yellow : 3 Green [Option ID = 9640]

11) In mitosis, the decondensation of the chromosomes and the restoration of the internal organelles are characteristic of the:

[Question ID = 2411][Question Description = 111_45_CRS_SEP22_Q11]

1. Anaphase

[Option ID = 9641]

2. Telophase

[Option ID = 9642]

3. Interphase

[Option ID = 9643]

4. Prophase

[Option ID = 9644]

12) The DNA sequences which have been seen to exist in a left-handed, double-helical form are:

[Question ID = 2412][Question Description = 112_45_CRS_SEP22_Q12]

1. A DNA

[Option ID = 9645]

2. B DNA

[Option ID = 9646]

3. C DNA

[Option ID = 9647]

4. Z DNA

[Option ID = 9648]

13) Match List I with List II

List I	List II
Crop	Sequenced
A. Rice	I. Chinese Spring
B. Wheat	II. Nipponbare
C. Maize	III. Asha
D. Chick pea	IV. B73
E. Pigeonpea	V. CDC Frontier

Choose the correct answer from the options given below:

[Question ID = 2413][Question Description = 113_45_CRS_SEP22_Q13]

1. A - II, B - IV, C - III, D - V, E - I [Option ID = 9649]

2. A - II, B - I, C - IV, D - V, E - III [Option ID = 9650]

3. A - III, B - I, C - II, D - V, E - IV [Option ID = 9651]

4. A - II, B - III, C - I, D - V, E - IV [Option ID = 9652]

14) The genomic constitution of bread wheat is:

[Question ID = 2414][Question Description = 114_45_CRS_SEP22_Q14]

1. AABBCC

[Option ID = 9653]

2. AABDD

[Option ID = 9654]

3. AABB

[Option ID = 9655]

4. AABGG

[Option ID = 9656]

15) Given below are two statements

Statement I: RNA polymerase III catalyzes the synthesis of the transfer RNA molecules in eukaryotes

Statement II: It also catalyzes the synthesis of the 5S rRNA molecules in eukaryotes

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

[Question ID = 2415][Question Description = 115_45_CRD_SEP22_Q15]

1. Both Statement I and Statement II are correct [Option ID = 9657]
2. Both Statement I and Statement II are incorrect [Option ID = 9658]
3. Statement I is correct but Statement II is incorrect [Option ID = 9659]
4. Statement I is incorrect but Statement II is correct [Option ID = 9660]

16) Which of the given hybrid is modified three-way cross:

[Question ID = 2416][Question Description = 116_45_CRD_SEP22_Q16]

1. $[(A \times B) \times (C \times C')]$
[Option ID = 9661]
2. $[(A \times B) \times C]$
[Option ID = 9662]
3. $[(A \times A') \times B]$
[Option ID = 9663]
4. $[(A \times B) \times (C \times D)]$
[Option ID = 9664]

17) Triticale was developed by crossing of [Question ID = 2417][Question Description = 117_45_CRD_SEP22_Q17]

1. *Triticum durum* and *Aegilops tauchii* followed by chromosome doubling [Option ID = 9665]
2. *Triticum durum* and *Secale cereale* followed by chromosome doubling [Option ID = 9666]
3. *Triticum durum* and *Aegilops uratu* followed by chromosome doubling [Option ID = 9667]
4. Both 1 and 2 [Option ID = 9668]

18) Pusa RH10 is a single cross hybrid of

[Question ID = 2418][Question Description = 118_45_CRD_SEP22_Q18]

1. Maize [Option ID = 9669]
2. Rice [Option ID = 9670]
3. Wheat [Option ID = 9671]
4. Mustard [Option ID = 9672]

19) Certified class of seed under the Indian Seeds Act

A. Certified Seed

B. Foundation Seed

C. Breeder Seed

D. Nucleus Seed

E. TL seed

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

[Question ID = 2419][Question Description = 119_45_CRD_SEP22_Q19]

1. A and B only [Option ID = 9673]
2. A, B and C only [Option ID = 9674]
3. A, B, C and D only [Option ID = 9675]
4. A, B, C, D and E [Option ID = 9676]

20) What is the working sample size for Thousand-Seed Weight (TSW) determination by ISTA procedure - 'Counting replicates'.

[Question ID = 2420][Question Description = 120_45_CRS_SEP22_Q20]

1. 100 seeds in four replicates

[Option ID = 9677]

2. 100 seeds in six replicates

[Option ID = 9678]

3. 100 seeds in eight replicates

[Option ID = 9679]

4. 100 seeds in ten replicates

[Option ID = 9680]

21) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R
Assertion A : Some times, in CGMS based hybrid, nearly 40-50% of the F_1 plants are found to be male sterile.

Reason R : During nucleus seed production of R line of the CGMS based hybrid, progeny testing is done to ensure the homozygosity of the restorer gene.

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

[Question ID = 2421][Question Description = 121_45_CRS_SEP22_Q21]

1. Both A and R are true and R is the correct explanation of A [Option ID = 9681]
2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 9682]
3. A is true but R is false [Option ID = 9683]
4. A is false but R is true [Option ID = 9684]

22) Foundation seed of female parent and certified seed of hybrid CANNOT be produced in the same season and location even by providing suitable isolation distance in

[Question ID = 2422][Question Description = 122_45_CRS_SEP22_Q22]

1. CGMS based hybrid [Option ID = 9685]
2. GMS based hybrid [Option ID = 9686]
3. PGMS based hybrid [Option ID = 9687]
4. Petunia hybrid [Option ID = 9688]

23) Hygroscopic epidermis of the seed coat, which becomes mucilaginous during seed imbibition is present in:

[Question ID = 2423][Question Description = 123_45_CRS_SEP22_Q23]

1. Marigold

[Option ID = 9689]

2. Pomegranate

[Option ID = 9690]

3. Hazelnut

[Option ID = 9691]

4. Flax

[Option ID = 9692]

24) Seed dispersal by reptiles is known as [Question ID = 2424][Question Description = 124_45_CRS_SEP22_Q24]

1. Amphizoochory [Option ID = 9693]
2. Myrmecochory [Option ID = 9694]
3. Saurochory [Option ID = 9695]
4. Bovinochory [Option ID = 9696]

25) Match List I with List II

List I	List II
Seed Processing Equipment	Separation Principle
A. Aspirator	I. Terminal velocity
B. Roll mill	II. Surface texture and shape
C. Table separator	III. Specific gravity
D. Dockins seed grader	IV. Thickness
	V. Length

Choose the correct answer from the options given below:

[Question ID = 2425][Question Description = 125_45_CRS_SEP22_Q25]

1. A - I, B - III, C - II, D - V [Option ID = 9697]

2. A - V, B - III, C - II, D - IV [Option ID = 9698]
3. A - IV, B - III, C - II, D - V [Option ID = 9699]
4. A - I, B - II, C - III, D - IV [Option ID = 9700]

26) Processing equipment used to separate cuscuta seeds from alfalfa seeds[Question ID = 2426][Question Description = 126_45_CRIS_SEP22_Q26]

1. Dodder mill [Option ID = 9701]
2. Needle separator [Option ID = 9702]
3. Buckhorn machine [Option ID = 9703]
4. Gravity Separator [Option ID = 9704]

27) Which among the following is an exclusively seed borne disease

[Question ID = 2427][Question Description = 127_45_CRIS_SEP22_Q27]

1. Loose smut of Wheat
[Option ID = 9705]
2. Blast of Paddy
[Option ID = 9706]
3. Tikka disease of Groundnut
[Option ID = 9707]
4. Downy Mildew of Bajra
[Option ID = 9708]

28) The causal organism of purple stain of Soybean is a

- A. Seed borne fungus
- B. Soil borne fungus
- C. Seed borne bacteria
- D. Soil borne bacteria

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

[Question ID = 2428][Question Description = 128_45_CRIS_SEP22_Q28]

1. C and D only [Option ID = 9709]
2. A and B only [Option ID = 9710]
3. A only [Option ID = 9711]
4. C only [Option ID = 9712]

29) Match List I with List II

List I	List II
Scientists	Contribution
A. Roberts E.H.	I. Intermediate seed storage behaviour
B. Ellis R.H.	II. Controlled deterioration test
C. George Lakon	III. Seed viability equation
D. Powell A. and Mathews S.	IV. TTZ test
	V. Electrical conductivity test

Choose the correct answer from the options given below:

[Question ID = 2429][Question Description = 129_45_CRIS_SEP22_Q29]

1. A - I, B - III, C - IV, D - V [Option ID = 9713]
2. A - III, B - II, C - IV, D - I [Option ID = 9714]
3. A - III, B - I, C - IV, D - II [Option ID = 9715]
4. A - I, B - IV, C - II, D - V [Option ID = 9716]

30) The common name of storage pest *Sitotroga cerealella* is:

[Question ID = 2430][Question Description = 130_45_CRIS_SEP22_Q30]

1. Rice weevil
[Option ID = 9717]
2. Lesser grain borer
[Option ID = 9718]
3. Khapra beetle

[Option ID = 9719]

4. Angoumois grain moth

[Option ID = 9720]

31) The phenomenon observed in mangrove species where seeds germinate before they are dispersed, but the seedlings do not emerge from the fruit prior to dispersal is called[Question ID = 2431][Question Description = 131_45_CRS_SEP22_Q31]

1. Amphicarpy [Option ID = 9721]
2. Geocarpy [Option ID = 9722]
3. Cryptovivipary [Option ID = 9723]
4. Pseudovivipary [Option ID = 9724]

32) Arrange the following crops in the decreasing order of seed longevity under best storage conditions:

- A. Groundnut
- B. Sorghum
- C. Lettuce
- D. Sunflower
- E. Rice

Choose the *correct* answer from the options given below

[Question ID = 2432][Question Description = 132_45_CRS_SEP22_Q32]

1. B, A, D, C, E

[Option ID = 9725]

2. A, C, B, E, D

[Option ID = 9726]

3. A, C, D, B, E

[Option ID = 9727]

4. B, E, C, A, D

[Option ID = 9728]

33) The certificate of registration issued by PPVFRA for an extant variety of paddy shall be valid for a total period (including renewal) of:

[Question ID = 2433][Question Description = 133_45_CRS_SEP22_Q33]

1. 15 years from date of registration of variety

[Option ID = 9729]

2. 15 years from date of notification of variety under Seed Act

[Option ID = 9730]

3. 18 years from date of registration of variety

[Option ID = 9731]

4. 18 years from date of notification of variety under Seed Act

[Option ID = 9732]

34) The International Seed Federation (ISF) has its secretariat headquarters at

[Question ID = 2434][Question Description = 134_45_CRS_SEP22_Q34]

1. Thailand [Option ID = 9733]
2. Switzerland [Option ID = 9734]
3. USA [Option ID = 9735]
4. France [Option ID = 9736]

35) Plant germplasm evaluation as described by ICAR-NBPGR and Bioversity International refers to:[Question ID = 2435][Question Description = 135_45_CRS_SEP22_Q35]

1. The description of germplasm for quantitative or breeder driven traits including yield performance, biotic and abiotic stresses and biochemical traits. [Option ID = 9737]
2. The description of germplasm for all characters essential to identify each accession including DNA sequences and markers [Option ID = 9738]
3. Screening of plant germplasm collection for specific biotic and abiotic stresses as required in a breeding programme. [Option ID = 9739]
4. Characterization of germplasm accessions with high heritability. [Option ID = 9740]

36) A common list of various characteristics and their expression states for a crop help a germplasm curator to classify and manage germplasm accessions in a genetic resources management programme. Such documents are known as:[Question ID = 2436][Question Description = 136_45_CRS_SEP22_Q36]

1. Germplasm catalogues [Option ID = 9741]
2. Crop Germplasm descriptors [Option ID = 9742]
3. Genetic resources list [Option ID = 9743]
4. PGR portals [Option ID = 9744]

37) Characterisation and evaluation of germplasm accessions in a gene bank is an essential activity in germplasm curation. The requirement arises due to which of the following reasons:

- A. Promoting germplasm utilization
- B. Estimation of diversity represented in gene bank collections
- C. Identification of gaps in the germplasm collection
- D. Scientific management of germplasm collections

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

[Question ID = 2437][Question Description = 137_45_CRS_SEP22_Q37]

1. A, C and D only [Option ID = 9745]
2. A, B and D only [Option ID = 9746]
3. A, B and C only [Option ID = 9747]
4. A, B, C and D [Option ID = 9748]

38) PGR Portal, PGR Map, CWR Portal, PGR Clim, are plant genetic resources informatics related databases from which country?

[Question ID = 2438][Question Description = 138_45_CRS_SEP22_Q38]

1. USA
[Option ID = 9749]
2. ICRISAT, IRRI, CIMMYT
[Option ID = 9750]
3. AVRDC, Taiwan
[Option ID = 9751]
4. India
[Option ID = 9752]

39) Who enumerated the Biological Species Concept?[Question ID = 2439][Question Description = 139_45_CRS_SEP22_Q39]

1. Van Valen, 1976 [Option ID = 9753]
2. Mayr, 1970 [Option ID = 9754]
3. Mishler and Brandon, 1987 [Option ID = 9755]
4. Darwin, 1859 [Option ID = 9756]

40) Responsibility for implementation of plant quarantine regulation and the PQ order is with which organization:[Question ID = 2440][Question Description = 140_45_CRS_SEP22_Q40]

1. ICAR- National Bureau of Plant Genetic Resources [Option ID = 9757]
2. Indian Council of Agricultural Research, DARE [Option ID = 9758]
3. The Directorate of Plant Protection, Quarantine and Storage (DPPQS) of Ministry of Agriculture and Farmers Welfare [Option ID = 9759]
4. Council of Scientific and Industrial Research [Option ID = 9760]

41) Which of the following statements is incorrect for chromatin:

[Question ID = 2441][Question Description = 141_45_CRS_SEP22_Q41]

1. It is a complex of DNA and proteins [Option ID = 9761]
2. It is found in Eukaryotic cells [Option ID = 9762]
3. Composed of an octamer of two sets of 4 histones namely, H2, H3A, H3B and H4 [Option ID = 9763]
4. It is composed of nucleosomes [Option ID = 9764]

42) Which of the following is NOT a gene editing technique?

[Question ID = 2442][Question Description = 142_45_CRS_SEP22_Q42]

1. CRISPR-Cas9 [Option ID = 9765]
2. Zinc Finger Nucleases (ZFN) [Option ID = 9766]
3. TALEN [Option ID = 9767]

4. Gene Gun [Option ID = 9768]

43) Which of the following is not correct statement about the 'Plant Genome Saviour Award'

[Question ID = 2443][Question Description = 143_45_CRS_SEP22_Q43]

1. It is conferred by PPV& FR Authority

[Option ID = 9769]

2. It is given to community of farmers/ farmers community-based organizations

[Option ID = 9770]

3. It is given to farmers who adopt newer crop varieties rapidly

[Option ID = 9771]

4. It is given annually

[Option ID = 9772]

44) Which one of the following plant parts gives rise to perisperm :[Question ID = 2444][Question Description = 144_45_CRS_SEP22_Q44]

1. Ovary [Option ID = 9773]

2. Persistent nucellus [Option ID = 9774]

3. Synergids [Option ID = 9775]

4. Inner integument [Option ID = 9776]

45) Which one of the following options is not correct in relation to hops, kiwi fruit, tree tomato and sunflower :

[Question ID = 2445][Question Description = 145_45_CRS_SEP22_Q45]

1. All are relatively new crops for India [Option ID = 9777]

2. All are exotic crops introduced into India [Option ID = 9778]

3. All have been exploited commercially in India [Option ID = 9779]

4. All were unintentionally associated with weed introduction [Option ID = 9780]

46) Which one of the following plant species has been reported to show more than 100 years of seed longevity :

[Question ID = 2446][Question Description = 146_45_CRS_SEP22_Q46]

1. *Shorea robusta* [Option ID = 9781]

2. *Phoenix sylvestris* [Option ID = 9782]

3. *Azadirachta indica* [Option ID = 9783]

4. *Pongamia pinnata* [Option ID = 9784]

47) Which one of the following would be most preferred/ suitable explant for *in vitro* conservation of a particular genotype :

[Question ID = 2447][Question Description = 147_45_CRS_SEP22_Q47]

1. Callus [Option ID = 9785]

2. Chimeric tissues [Option ID = 9786]

3. Seeds [Option ID = 9787]

4. Nodal cuttings [Option ID = 9788]

48) In maize seed the food is stored in :

[Question ID = 2448][Question Description = 148_45_CRS_SEP22_Q48]

1. Endosperm [Option ID = 9789]

2. Aleurone layer [Option ID = 9790]

3. Nucellar tissue [Option ID = 9791]

4. Scutellum [Option ID = 9792]

49) Which of the following is not an example of an aggregate fruit :[Question ID = 2449][Question Description = 149_45_CRS_SEP22_Q49]

1. *Rubus* spp. [Option ID = 9793]

2. *Ficus* spp. [Option ID = 9794]

3. *Fragaria ananassa* [Option ID = 9795]

4. *Annona* spp. [Option ID = 9796]

50) Characteristics of Non-drying oils are :

A. They are largely glycerides of unsaturated acids such as the oleics

B. They remain in a liquid state when exposed to air

- C. They are used in the manufacture of soaps and detergents and as raw materials for other industrial purposes
- D. Linseed, safflower, soybean, and tung are oils of this type

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

[Question ID = 2450][Question Description = 150_45_CRS_SEP22_Q50]

1. C and D only [Option ID = 9797]
2. A and D only [Option ID = 9798]
3. B and C only [Option ID = 9799]
4. A and B only [Option ID = 9800]

Topic:- 2 Seed Science and Technology_PHD

1) Given below are two statements

Statement I: During maize kernel maturation and drying, kernel milk line progress from the tip to the base of kernel.

Statement II: During maize kernel maturation and drying, sugars are replaced by starch.

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

[Question ID = 2501][Question Description = 101_43_SST_SEP22_Q01]

1. Both Statement I and Statement II are true
[Option ID = 10001]
2. Both Statement I and Statement II are false
[Option ID = 10002]
3. Statement I is true but Statement II is false
[Option ID = 10003]
4. Statement I is false but Statement II is true
[Option ID = 10004]

2) Total number of isolations required for production of breeder, foundation and certified seeds of three-way cross hybrid:

[Question ID = 2502][Question Description = 102_43_SST_SEP22_Q02]

1. Two
[Option ID = 10005]
2. Three
[Option ID = 10006]
3. Four
[Option ID = 10007]
4. Five
[Option ID = 10008]

3) A seed producer uses 100 kg foundation seeds of 'paddy variety Y' in 1 ha of land to produce the certified seed class. At the end of the season, he harvests 150 quintals of raw paddy seeds from 1 ha of land. After processing the seeds, he divides the total processed seeds equally to get 250 seed bags of 'paddy variety Y' weighing 50 kg each. In this situation, the seed multiplication rate of 'paddy variety Y' is:

[Question ID = 2503][Question Description = 103_43_SST_SEP22_Q03]

1. 1:150
[Option ID = 10009]
2. 1:125
[Option ID = 10010]
3. 1:100
[Option ID = 10011]
4. 1:80
[Option ID = 10012]

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

Assertion A : For NS and BS production, root-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:

[Question ID = 2504][Question Description = 104_43_SST_SEP22_Q04]

1. Both A and R are true and R is the correct explanation of A
[Option ID = 10013]
2. Both A and R are true but R is NOT the correct explanation of A
[Option ID = 10014]
3. A is true but R is false
[Option ID = 10015]
4. A is false but R is true
[Option ID = 10016]

5) Given below are two statements

Statement I: Under normal condition, thrum flowers do not set fruits in Brinjal.

Statement II: Under normal condition, majority of short styled flowers in Brinjal abort due to failure in pollination.

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

[Question ID = 2505][Question Description = 105_43_SST_SEP22_Q05]

1. Both Statement I and Statement II are true
[Option ID = 10017]
2. Both Statement I and Statement II are false
[Option ID = 10018]
3. Statement I is true but Statement II is false
[Option ID = 10019]
4. Statement I is false but Statement II is true
[Option ID = 10020]

6) Anthesis of florets in safflower capitula proceeds in:

[Question ID = 2506][Question Description = 106_43_SST_SEP22_Q06]

1. Acropetal manner
[Option ID = 10021]
2. Basipetal manner
[Option ID = 10022]
3. Centripetal manner
[Option ID = 10023]
4. Centrifugal manner
[Option ID = 10024]

7) The soil water potential value at or below which seed germination is NOT induced is known:

[Question ID = 2507][Question Description = 107_43_SST_SEP22_Q07]

1. Osmotic water potential
[Option ID = 10025]
2. Critical water potential
[Option ID = 10026]
3. Turgor water potential
[Option ID = 10027]
4. Matric water potential
[Option ID = 10028]

8) The Cardinal temperature, below which radicle emergence will NOT occur is known as:

[Question ID = 2508][Question Description = 108_43_SST_SEP22_Q08]

1. Base temperature
[Option ID = 10029]
2. Pre-sprout temperature
[Option ID = 10030]

3. Optimum temperature

[Option ID = 10031]

4. Dormant temperature

[Option ID = 10032]

9) Sequence of stages in synthetic seed production

A. Embryogenic calli

B. Explant

C. Embryogenic medium

D. Somatic embryo

E. Encapsulation

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

[Question ID = 2509][Question Description = 109_43_SST_SEP22_Q09]

1. B, D, A, C, E

[Option ID = 10033]

2. A, D, C, B, E

[Option ID = 10034]

3. B, C, A, D, E

[Option ID = 10035]

4. B, A, C, D, E

[Option ID = 10036]

10) Seed germination type where cotyledons remain non-photosynthetic:

[Question ID = 2510][Question Description = 110_43_SST_SEP22_Q10]

1. Phanerocotylar

[Option ID = 10037]

2. Cryptocotylar

[Option ID = 10038]

3. Epicotylar

[Option ID = 10039]

4. Hypocotylar

[Option ID = 10040]

11) Seed appendage rich in oil and is NOT essential for seed germination is:

[Question ID = 2511][Question Description = 111_43_SST_SEP22_Q11]

1. Elaiosome

[Option ID = 10041]

2. Oleosome

[Option ID = 10042]

3. Glyoxysomes

[Option ID = 10043]

4. Peroxisome

[Option ID = 10044]

12) Recalcitrant seed are:

A. Mangosteen

B. Rambutan

C. Peach

D. Durian

E. Avocado

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

[Question ID = 2512][Question Description = 112_43_SST_SEP22_Q12]

1. A, B, C and D only

[Option ID = 10045]

2. B, C, D and E only

[Option ID = 10046]

3. A, C, D and E only

[Option ID = 10047]

4. A, B, D and E only

[Option ID = 10048]

13) Match List I with List II

List I	List II
Type of reproduction	Condition
A. Adventive Embryony	I. Direct embryogenesis from the somatic cells without formation of embryo sac
B. Apospory	II. Diploid embryo sac develops from somatic cell
C. Diplospory	III. Diploid embryo sac develops from MMC
D. Amphimixis	IV. Haploid embryo sac develops from MMC
	V. Triploid embryo sac develops from somatic cell

Choose the correct answer from the options given below:

[Question ID = 2513][Question Description = 113_43_SST_SEP22_Q13]

1. A - I, B - III, C - II, D - V [Option ID = 10049]

2. A - V, B - III, C - II, D - IV [Option ID = 10050]

3. A - IV, B - III, C - II, D - V [Option ID = 10051]

4. A - I, B - II, C - III, D - IV [Option ID = 10052]

14) Order of processing equipment used for processing chili seeds meant for vapor proof packaging

A. Dehumidified Dryer

B. Gravity separator

C. Air-screen cleaner

D. Cylinder separator

E. Seed treater

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

[Question ID = 2514][Question Description = 114_43_SST_SEP22_Q14]

1. A, E, C, D, B

[Option ID = 10053]

2. A, E, D, C, B

[Option ID = 10054]

3. B, D, E, C, A

[Option ID = 10055]

4. C, D, B, E, A

[Option ID = 10056]

15) Excessive seed damage occurs during maize shelling because of:

A. Lower feed rate

B. Narrower concave clearance

C. Higher cylinder speed

D. 14-16% seed moisture content

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

[Question ID = 2515][Question Description = 115_43_SST_SEP22_Q15]

1. A, B and C only

[Option ID = 10057]

2. B, C and D only

[Option ID = 10058]

3. A, B and D only

[Option ID = 10059]

4. B and D only

[Option ID = 10060]

16) Buckhorn machine utilizes the differences in seed surface[Question ID = 2516][Question Description = 116_43_SST_SEP22_Q16]

1. Stickiness when moist [Option ID = 10061]
2. Colour [Option ID = 10062]
3. Hardness when moist [Option ID = 10063]
4. Softness when moist [Option ID = 10064]

17) In specific gravity separator, decreasing deck oscillation speed[Question ID = 2517][Question Description = 117_43_SST_SEP22_Q17]

1. Moves heavy seeds to lower side slope of the deck [Option ID = 10065]
2. Moves heavy seeds to higher side slope of the deck [Option ID = 10066]
3. Moves seed mass to higher side slope of the deck [Option ID = 10067]
4. Doesn't affect the seed movement along the side slope [Option ID = 10068]

18) In a belt-bucket elevator, seed damage due to collision against headshield is more, if:

[Question ID = 2518][Question Description = 118_43_SST_SEP22_Q18]

1. The speed of the belt is lower than the optimum

[Option ID = 10069]

2. The speed of the belt is higher than the optimum

[Option ID = 10070]

3. The centrifugal force acting on the seed at the point of discharge (dumping) is very less

[Option ID = 10071]

4. The electrical force acting on the seed at the point of discharge (dumping) is less

[Option ID = 10072]

19) In case of free-flowing seed, the ideal slope angle from the elevator discharge spout to the bin is:

[Question ID = 2519][Question Description = 119_43_SST_SEP22_Q19]

1. 35°

[Option ID = 10073]

2. 45°

[Option ID = 10074]

3. 55°

[Option ID = 10075]

4. 60°

[Option ID = 10076]

20) Given below are two statements

Statement I: In processing plant, generally seed scalper machine is placed before seed drier machine.

Statement II: Green thrash material in the unprocessed seed lot will have more moisture content than the seed.

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

[Question ID = 2520][Question Description = 120_43_SST_SEP22_Q20]

1. Both Statement I and Statement II are true [Option ID = 10077]
2. Both Statement I and Statement II are false [Option ID = 10078]
3. Statement I is true but Statement II is false [Option ID = 10079]
4. Statement I is false but Statement II is true [Option ID = 10080]

21) During the field inspection at flowering stage, if it is noticed that the neighboring field, which is within the prescribed isolation distance, is having the crop of same kind and variety at seedling stage with many contaminants/off-types, then the:

[Question ID = 2521][Question Description = 121_43_SST_SEP22_Q21]

1. Seed crop should be rejected from further certification procedural

[Option ID = 10081]

2. Neighboring field has to be ploughed down before further certification procedurals

[Option ID = 10082]

3. Seed crop should be accepted for further certification procedurals

[Option ID = 10083]

4. Field inspection should not be executed

[Option ID = 10084]

22) During potato seed production, isolation distance is provided between the seed crop and the contaminant to avoid:

[Question ID = 2522][Question Description = 122_43_SST_SEP22_Q22]

1. Out crossing

[Option ID = 10085]

2. Mechanical admixture

[Option ID = 10086]

3. Designated insect pests

[Option ID = 10087]

4. Difficulties during inspection

[Option ID = 10088]

23) Under Indian Seed legislation, validity period of dealer license is:

[Question ID = 2523][Question Description = 123_43_SST_SEP22_Q23]

1. 1 year

[Option ID = 10089]

2. 2 years

[Option ID = 10090]

3. 3 years

[Option ID = 10091]

4. 4 years

[Option ID = 10092]

24) Match List I with List II

List I	List II
Test	Crop
A. Peroxidase test	I. Soybean
B. NaOH test	II. Red & White Wheat
C. Acid PAGE of Hordein	III. Barley
D. Acid PAGE of avenins	IV. Oat
	V. Sunflower

Choose the correct answer from the options given below:

[Question ID = 2524][Question Description = 124_43_SST_SEP22_Q24]

1. A - I, B - III, C - II, D - V [Option ID = 10093]

2. A - V, B - III, C - II, D - IV [Option ID = 10094]

3. A - IV, B - III, C - II, D - V [Option ID = 10095]

4. A - I, B - II, C - III, D - IV [Option ID = 10096]

25) Match List I with List II

List I	List II
Kind of seed	Minimum Genetic purity standard
A. Paddy hybrid seeds	I. 95 percentage
B. Bt-Cotton hybrid seeds	II. 90 percentage
C. A line seeds of pearl millet hybrid	III. 99 percentage
D. Castor hybrid seeds	IV. 85 percentage
	V. 98 percentage

Choose the correct answer from the options given below:

[Question ID = 2525][Question Description = 125_43_SST_SEP22_Q25]

1. A - I, B - III, C - II, D - V [Option ID = 10097]

2. A - V, B - III, C - II, D - IV [Option ID = 10098]
3. A - IV, B - III, C - II, D - V [Option ID = 10099]
4. A - I, B - II, C - III, D - IV [Option ID = 10100]

26) Which one among the following DOES NOT belong to the family of storage fungi.

[Question ID = 2526][Question Description = 126_43_SST_SEP22_Q26]

1. *Aspergillus glaucus*
[Option ID = 10101]
2. *Aspergillus restrictus*
[Option ID = 10102]
3. *Penicillium*
[Option ID = 10103]
4. *Alternaria*
[Option ID = 10104]

27) Seeds that are highly susceptible to mechanical injuries during machine handling belong to:

[Question ID = 2527][Question Description = 127_43_SST_SEP22_Q27]

1. Barley
[Option ID = 10105]
2. Groundnut
[Option ID = 10106]
3. Mustard
[Option ID = 10107]
4. Maize
[Option ID = 10108]

28) At 40% relative humidity and 25°C temperature, oily seeds like groundnut equilibrate to a moisture content of:

[Question ID = 2528][Question Description = 128_43_SST_SEP22_Q28]

1. 6-7%
[Option ID = 10109]
2. 12-14%
[Option ID = 10110]
3. 9-10%
[Option ID = 10111]
4. 2-3%
[Option ID = 10112]

29) 5 °C temperature and 30% RH are the recommended conditions for:

[Question ID = 2529][Question Description = 129_43_SST_SEP22_Q29]

1. Medium term seed storage
[Option ID = 10113]
2. Seed drying for long term storage
[Option ID = 10114]
3. Short term seed storage
[Option ID = 10115]
4. Seed germination testing
[Option ID = 10116]

30) A comparatively high GSH to GSSG enzyme ratio in a seed sample is indicative of:

[Question ID = 2530][Question Description = 130_43_SST_SEP22_Q30]

1. Higher vigour of the seed lot
[Option ID = 10117]
2. Lower vigour of the seed lot
[Option ID = 10118]
3. Higher oil content in seeds

[Option ID = 10119]

4. Higher sucrose content in seeds

[Option ID = 10120]

31) Ministry of Environment, Forests and Climate Change, Govt. of India is the nodal ministry in India for which legal instrument:

[Question ID = 2531][Question Description = 131_43_SST_SEP22_Q31]

1. Plant Quarantine Order

[Option ID = 10121]

2. ITPGRFA

[Option ID = 10122]

3. PPV&FRA

[Option ID = 10123]

4. CBD

[Option ID = 10124]

32) The Authority established under -----, has its headquarters at Chennai.

[Question ID = 2532][Question Description = 132_43_SST_SEP22_Q32]

1. DIP Act [Option ID = 10125]

2. PPV &FR Act [Option ID = 10126]

3. Biological Diversity Act [Option ID = 10127]

4. ITPGRFA [Option ID = 10128]

33) Given below are two statements

Statement I: Higher Mean Germination Time indicates higher seed deterioration

Statement II: Lower Mean Germination Rate indicates higher seed deterioration

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

[Question ID = 2533][Question Description = 133_43_SST_SEP22_Q33]

1. Both Statement I and Statement II are true [Option ID = 10129]

2. Both Statement I and Statement II are false [Option ID = 10130]

3. Statement I is true but Statement II is false [Option ID = 10131]

4. Statement I is false but Statement II is true [Option ID = 10132]

34) Non-enzymatic antioxidant found in seeds

A. *Alpha-tocopherol*

B. *SOD*

C. *Catalase*

D. *Hydrogen peroxide*

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

[Question ID = 2534][Question Description = 134_43_SST_SEP22_Q34]

1. D only [Option ID = 10133]

2. A only [Option ID = 10134]

3. A and D only [Option ID = 10135]

4. B and C only [Option ID = 10136]

35) Stackburn disease in Rice is caused by [Question ID = 2535][Question Description = 135_43_SST_SEP22_Q35]

1. *Xanthomonas campestris* [Option ID = 10137]

2. *Alternaria trititica* [Option ID = 10138]

3. *Alternaria padwickii* [Option ID = 10139]

4. *Bipolaris sorokinina* [Option ID = 10140]

36) Match the following storage conditions with their appropriate seed packaging for dried seeds

List I	List II
Storage conditions	Appropriate containers
A. Long term storage	I. Muslin cloth bag

B. Medium term storage	II. Glass bottles/plastic containers
C. Community seed banks	III. Earthen pots
D. Drying chamber	IV. Tri-layered aluminium pouch

Choose the correct answer from the options given below:

[Question ID = 2536][Question Description = 136_43_SST_SEP22_Q36]

1. A - I, B - III, C - IV, D - II [Option ID = 10141]
2. A - III, B - II, C - IV, D - I [Option ID = 10142]
3. A - III, B - IV, C - I, D - II [Option ID = 10143]
4. A - IV, B - II, C - III, D - I [Option ID = 10144]

37) The 'High price strategy' in seed pricing is used in which one of the following cases:

[Question ID = 2537][Question Description = 137_43_SST_SEP22_Q37]

1. When few large companies dominate supply
[Option ID = 10145]
2. When the product is not price sensitive
[Option ID = 10146]
3. When the product is of high quality and value-added
[Option ID = 10147]
4. When there is very high market competition
[Option ID = 10148]

38) An ungerminated imbibed seed observed at the end of laboratory germination test is indicative of:

- A. Seed with Physiological Dormancy
- B. Dead Seed
- C. Seed with Physical Dormancy
- D. Aged viable seed

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

[Question ID = 2538][Question Description = 138_43_SST_SEP22_Q38]

1. A and D only
[Option ID = 10149]
2. A and C only
[Option ID = 10150]
3. A only
[Option ID = 10151]
4. A and B only
[Option ID = 10152]

39) Given below are two statements

Statement I: Effective seed demand is the seed quantity that the buyers are willing to purchase at a particular price

Statement II: Effective seed demand is same as seed requirement

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

[Question ID = 2539][Question Description = 139_43_SST_SEP22_Q39]

1. Both Statement I and Statement II are correct [Option ID = 10153]
2. Both Statement I and Statement II are incorrect [Option ID = 10154]
3. Statement I is correct but Statement II is incorrect [Option ID = 10155]
4. Statement I is incorrect but Statement II is correct [Option ID = 10156]

40) Demand forecasting technique which is based on the assumption that the seed demand will be same as previous year

[Question ID = 2540][Question Description = 140_43_SST_SEP22_Q40]

1. Growth trends [Option ID = 10157]
2. Target setting [Option ID = 10158]
3. Sampling [Option ID = 10159]
4. Growth rate adjusted for new technology [Option ID = 10160]

41) Nodal Institute in India for import of seeds to be used for research purpose is[Question ID = 2541][Question Description = 141_43_SST_SEP22_Q41]

1. NIPGR [Option ID = 10161]
2. IARI [Option ID = 10162]
3. NBPGR [Option ID = 10163]
4. NBA [Option ID = 10164]

42) During TTZ test, transverse cut of seeds is done for the staining preparation of

- A. *Avena sp.*
- B. *Chloris gayana*
- C. *Eragrostis sp.*
- D. *Hordeum vulgare*

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

[Question ID = 2542][Question Description = 142_43_SST_SEP22_Q42]

1. C only [Option ID = 10165]
2. A and D only [Option ID = 10166]
3. B and C only [Option ID = 10167]
4. A, B and C only [Option ID = 10168]

43) The detection technique where the analyte is bound between two primary antibodies[Question ID = 2543][Question Description = 143_43_SST_SEP22_Q43]

1. Electron microscopy [Option ID = 10169]
2. ELISA [Option ID = 10170]
3. Fluorescence spectrophotometry [Option ID = 10171]
4. Confocal laser scanning microscopy [Option ID = 10172]

44) Storage insects that oviposit on the external surface of the seed

- A. *Sitotroga cerealella*
- B. *Rhizopertha dominica*
- C. *Callosobruchus maculatus*
- D. *Sitophilus oryzae*

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

[Question ID = 2544][Question Description = 144_43_SST_SEP22_Q44]

1. D only [Option ID = 10173]
2. A and D only [Option ID = 10174]
3. B and C only [Option ID = 10175]
4. A, B and C only [Option ID = 10176]

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

Assertion A : Indicating Silica Gel turns pink at 45% RH

Reason R : Cobalt chloride has a pink colour under saturated condition

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

[Question ID = 2545][Question Description = 145_43_SST_SEP22_Q45]

1. Both A and R are true and R is the correct explanation of A [Option ID = 10177]
2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 10178]
3. A is true but R is false [Option ID = 10179]
4. A is false but R is true [Option ID = 10180]

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

Assertion A : Seed prices are prone to instability when supply or demand shifts in short term

Reason R : Agricultural products have relatively high elasticity of demand and supply

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

[Question ID = 2546][Question Description = 146_43_SST_SEP22_Q46]

1. Both A and R are true and R is the correct explanation of A

[Option ID = 10181]

2. Both A and R are true but R is NOT the correct explanation of A

[Option ID = 10182]

3. A is true but R is false

[Option ID = 10183]

4. A is false but R is true

[Option ID = 10184]

47) Filtration method for detection of *Ditylenchus dipsaci* is approved by ISTA for:

A. *Medicago sativa*

B. *Vicia faba*

C. *Pisum sativum*

D. *Phaseolus vulgaris*

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

[Question ID = 2547][Question Description = 147_43_SST_SEP22_Q47]

1. D only

[Option ID = 10185]

2. A and B only

[Option ID = 10186]

3. B, C and D only

[Option ID = 10187]

4. A, B and C only

[Option ID = 10188]

48) The difference in the value of a specified unit quantity (eg. tonne) of seed at different stages in the production/distribution chain is termed as:

[Question ID = 2548][Question Description = 148_43_SST_SEP22_Q48]

1. Overhead cost

[Option ID = 10189]

2. Variable cost

[Option ID = 10190]

3. Marketing margin

[Option ID = 10191]

4. Salvage value

[Option ID = 10192]

49) India's participation has been accepted by OECD council in which of the following OECD seed schemes:

A. Cereals

B. Grasses and legumes

C. Sugar Beet and Fodder Beet

D. Subterranean Clover and Similar Species

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

[Question ID = 2549][Question Description = 149_43_SST_SEP22_Q49]

1. A only

[Option ID = 10193]

2. A and B only

[Option ID = 10194]

3. B only

[Option ID = 10195]

4. A, B and C only

[Option ID = 10196]

50) Which among the following organizations involved in the seed sector can be categorized as Inter-governmental organization:

- A. International Union for the Protection of New Varieties of Plants (UPOV)
- B. Food and Agriculture Organization of the United Nations (FAO)
- C. Association of Official Seeds Analysts (AOSA)
- D. Asia and Pacific Seed Association (APSA)

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

[Question ID = 2550][Question Description = 150_43_SST_SEP22_Q50]

1. A and D only

[Option ID = 10197]

2. C and D only

[Option ID = 10198]

3. A and B only

[Option ID = 10199]

4. A, B and C only

[Option ID = 10200]