

PREVIEW QUESTION BANK

Module Name : Plant Genetic Resources - 03-ENG
Exam Date : 29-Jun-2024 Batch : 14:30-16:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	201	Movement of DNA from one bacterium to another through a tubular bridge or pilus: 1. Conjugation 2. Transposition 3. Transfection 4. Transduction A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
2	202	Which of the following is responsible for eliminating toxic oxygen by-products from cells? 1. Mitochondria 2. Golgi complex 3. Peroxisomes 4. Chloroplasts A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
3	203	A form of multiple parasitism in which a parasite preferentially attacks a host that is already parasitized by another species is known as 1. Cleptoparasitism 2. Ectoparasitoid 3. Obligate parasitism 4. Superparasitism A1 : 1	4.0	1.00

		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

4	204	For mass multiplication of DD-136 nematode, the common host used is 1. Silk moth 2. Fruit sucking moth 3. Codling moth 4. Lesser wax moth A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

5	205	Chlorpyrifos methyl is effective against stored product insects except 1. <i>Rhizopertha dominica</i> 2. <i>Tribolium castaneum</i> 3. <i>Caryedon serratus</i> 4. <i>Oryzaephilus surinamensis</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

6	206	Which of the following insects often cause inhalational allergies in human following large emergence of adult insects. 1. Stick insects 2. May flies 3. Ear wigs 4. Preying mantis A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

7 207

4.0 1.00

Given below are two statements:

Statement (I): Climate is a weather condition related to smaller areas at a given place and at a given time,

Statement (II): Weather is a condition of atmosphere at a given place and at a given time

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

1. Both Statement (I) and Statement (II) are correct.
2. Both Statement (I) and Statement (II) are incorrect.
3. Statement (I) is correct but Statement (II) is incorrect.
4. Statement (I) is incorrect but Statement (II) is correct.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

8 208

4.0 1.00

The local name of cyclone in Philippines is

1. Hurricane
2. Cyclone
3. Baquio
4. Typhoon

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

9 209

4.0 1.00

Which one of the following are secondary tillage implements?

- (A) Subsoiler
- (B) Cultivator
- (C) Disc harrow
- (D) Wetland plough

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

10 210

_____ is the most suitable, drought resistant and persistent grass?

- 1. *Alyosia* sp.
- 2. *Cenchrus ciliaris*
- 3. *Stylosanthes hamata*
- 4. *Sorghum bicolor*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

11 211

The rainfed area in India is approximately

- 1. 30 mha
- 2. 40 mha
- 3. 57 mha
- 4. 70 mha

A1 : 1

A2 : 2

4.0 1.00

A3 : 3

A4 : 4

Objective Question

12	212	Which nutrient is often a limiting factor in agricultural production? 1. Nitrogen 2. Carbon 3. Oxygen 4. Hydrogen A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

13	213	What is a potential disadvantage of agroforestry systems? 1. Increased soil erosion 2. Decreased carbon sequestration 3. Reduced biodiversity 4. Enhanced susceptibility to pests A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

14	214	Pungency in mustard oil is due to 1. Amino acid 2. Allyl isothiocyanate 3. Erusic acid 4. Oxalic acid A1 : 1 A2 : 2	4.0	1.00
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		A3 : 3		
		A4 : 4		
Objective Question				
15	215	Sesamum belongs to the family 1. Chenopodiaceae 2. Papilionaceae 3. Leguminosae 4. Pedaliaceae A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
16	216	Dark period is critical in which type of plant? 1. Short day plant 2. Long day plant 3. Day neutral plant 4. All the options A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
17	217	Which of the following is NOT a significant contributor to greenhouse gas emissions from livestock farming? 1. Carbon dioxide 2. Methane 3. Nitrous oxide 4. Ammonia A1 : 1 A2 : 2 A3 : 3	4.0	1.00

A4 : 4

Objective Question

18	218	Fe deficiency is mostly seen in crops growing on 1. Calcareous or alkaline soils 2. Salt affected soils 3. Acidic soils 4. Neutral soils A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

19	219	EDV (Essentially Derived Varieties) are those which are derived from 1. crossing two commercially known varieties 2. hybrid introduced from other countries 3. existing variety through genetic engineering or mutation 4. crossing commercially known variety with its wild relative A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

20	220	What is the role of "companion planting" in agriculture? 1. Enhancing soil fertility through crop rotation 2. Growing different crop species together to deter pests 3. Cultivating plants in hydroponic system 4. Increasing soil compaction through cover cropping A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
21	1101	Which of the following marker system is called as Selective Restriction Fragment Amplification? 1. Restriction fragment length polymorphism 2. Amplified fragment length polymorphism 3. Simple sequence repeats 4. Random amplified polymorphic DNA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
22	1102	A specialized form of selection based on genome wide distributed markers, in which the information from marker genotype data covering the entire genome forms the basis of selection is termed as _____ (A). Genomic selection (B). Genome wide selection (C). Genome wide association studies (D). Marker-assisted recurrent selection Choose the correct answer from the options given below: 1. (A), (B) and (C) only. 2. (A) and (B) only. 3. (A), (B), (C) and (D). 4. (B), (C) and (D) only. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
23	1103	The term "Genetics of Disaster" by Harlan refers to _____ 1. Breeding of narrow genetic base cultivars and their wide cultivation 2. Breeding of broad genetic base cultivars and their wide adaptation 3. Development of transgenics in food crops 4. Development of Bt cotton	4.0	1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

24 1104

4.0 1.00

PJHM-1 is a hybrid variety of _____

1. Wheat
2. Rice
3. Maize
4. Jowar

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

25 1105

4.0 1.00

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

Assertion (A) : Gene regulatory networks (GRN) are both bipartite and directional.

Reason (R) : GRN are bipartite because there are two types of nodes: genes and regulators, although some genes are themselves regulators of other genes or proteins. GRN are directional because regulators control genes and usually not the other way around.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26 1106

4.0 1.00

The gene "M" has 10 alleles, viz. M_1 to M_{10} . How many genotypes are possible for the gene M with various allelic combinations?

1. 55
2. 100
3. 110
4. 10

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

27 1107

The formula $\frac{3D}{\sqrt{N}}$ is used for the estimation of

1. Variance
2. Standard error
3. Standard variance
4. Error variance

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

28 1108

The biological mechanism by which proteins are transported to the appropriate destinations in the cell or outside of it is termed as _____

- (A). Protein targeting
- (B). Protein mixing
- (C). Protein sorting
- (D). Protein purification

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

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

A1 : 1

4.0 1.00

A2 : 2

A3 : 3

A4 : 4

Objective Question

29 1109

Which of the following mapping populations shows heterogeneous genetic background?

- (A) Near Isogenic Lines
- (B) Recombinant Inbred Lines
- (C) F_2
- (D) Doubled Haploids

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

30 1110

In a genetic analysis experiment, the rust resistance gene was found to be completely linked with red glume color. The leaf rust resistant stock with red glume was crossed with contrasting leaf rust susceptible white glumed line. The F_1 plant between them was found to be susceptible and red glumed. The genetic nature of both the genes were found to be monogenic. In F_2 population the likely frequency of susceptible red glumed plant will be

- 1. $1/4$
- 2. $1/16$
- 3. $1/2$
- 4. $9/16$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

31	1111	The mutagenic action of Gamma-rays was discovered by 1. H.J. Muller in Drosophila 2. T.H. Morgan in Drosophila 3. L.J. Stadler in Barley 4. B. McClintock in Maize A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

32	1112	The mutant line with herbicide tolerance in rice is 1. Improved MTU1010 2. Improved Kala Namak 3. Robin 4. Pokkali A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

33	1113	Given below are two statements: Statement (I): The single cross hybrids have highest yield potential Statement (II): The single cross hybrid seed is harvested from detasseled line in commercial seed production plot In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. 1. Both Statement (I) and Statement (II) are correct. 2. Both Statement (I) and Statement (II) are incorrect. 3. Statement (I) is correct but Statement (II) is incorrect. 4. Statement (I) is incorrect but Statement (II) is correct. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

34	I114	The number of secondary trisomic lines possible in <i>Triticum durum</i> is 1. 14 2. 28 3. 21 4. 42 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

35	I115	The nitrogenous base Cytocine is 1. 4-amino-6-oxypyrimidine 2. 6-amino-2-oxypyrimidine 3. 2-amino-4-oxypyrimidine 4. 4-amino-2-oxypyrimidine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

36	I116	Given below are two statements: Statement (I): The prophase is longest stage during mitotic cell division Statement (II): The nuclear membrane completely disappears at the prophase In light of the above statements, choose the <i>most appropriate</i> answer from the options given below 1. Both Statement (I) and Statement (II) are correct. 2. Both Statement (I) and Statement (II) are incorrect. 3. Statement (I) is correct but Statement (II) is incorrect. 4. Statement (I) is incorrect but Statement (II) is correct. A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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A4 : 4

Objective Question

37 1117

The current chairperson of Protection of Plant Varieties and Farmers' Rights Authority is

1. S Nagrajan
2. P L Gautam
3. K V Prabhu
4. T Mohapatra

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

Objective Question

38 1118

In a genetic analysis of resistant stock, the F_1 plant with contrasting susceptible parent was found to be resistant. The F_2 population was segregating in a ratio of 13 resistant and 3 susceptible. The test cross will segregate in

1. 3 resistant and 1 susceptible
2. 1 resistant and 1 susceptible
3. 9 resistant and 7 susceptible
4. 3 susceptible and one resistant

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

1.00

Objective Question

39 1119

The ability of a seed to produce mucilage upon hydration is known as

- (A). Myxospermy
- (B). Mesospermy
- (C). Polyspermy
- (D). Monospermy

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. (A) only

4.0

1.00

		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
40	1120	Rafflesia flowers are exclusively pollinated by 1. Honey bee 2. Fly 3. Wasp 4. Beetle A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
41	1121	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : In hybrid seed production plot of GMS based hybrid, nearly 50% of the female plants are rogued out. Reason (R) : Male sterility phenotype in GMS line is governed by the nuclear recessive gene. 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. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
42	1122		4.0	1.00

Gynoecious cucumber lines are maintained by using

1. Silver nitrate
2. Ethrel
3. IAA
4. ABA

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

43 1123

4.0 1.00

Match List-I with List-II

List-I	List-II
Seed Processing Equipment	Effective for separation of
(A). Specific gravity separator	(I). Partially filled achenes
(B). Indented Cylinder Separator	(II). Broken caryopsis
(C). Dodder mill	(III). Rough surfaced admixture
(D). Spiral separators	(IV). Splits in soybean

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

44 1124

4.0 1.00

		Burr reducer is used to remove 1. Testa 2. Cork 3. Aril 4. Pericarp A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
45	1125	Concept of 'Quality Declared Seed (QDS) system was introduced by 1. OECD 2. ISTA 3. AOSA 4. FAO A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
46	1126	Under OECD certification system, the colour of the pre-basic seed is 1. White 2. White with diagonal violet stripe 3. Red 4. Blue A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
47	1127		4.0	1.00

		Which among the following is not an ROS scavenging enzyme 1. Catalase 2. Glutathione 3. Superoxide dismutase 4. Peroxidase A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
48	1128	The National Centre for Genetic Resources Preservation is located in 1. Japan 2. Australia 3. Norway 4. USA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
49	1129	Which seed company produced the genetically modified Round Up Ready seeds? 1. Pioneer 2. Monsanto 3. Bayer 4. Corteva A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
50	1130	An example of externally seed borne pathogen is 1. <i>Ustilago nuda</i> 2. <i>Ustilago hordei</i> 3. <i>Xanthomonas campestris</i> pv. <i>phaseoli</i> 4. <i>Drechslera graminea</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
51	1131	Turkey 'X' is a disorder attributed to seed contamination by 1. <i>Penicillium rubrum</i> 2. <i>Aspergillus niger</i> 3. <i>Aspergillus flavus</i> 4. <i>Aspergillus clavatus</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
52	1132	The natural habitat of <i>Alternaria porri</i> 1. Brassica seeds 2. Soil 3. Paddy seeds 4. Onion seeds A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
53	1133	The Chairperson of NBA is 1. Dr Vinod Mathur 2. Dr T Mohapatra 3. C Achalender Reddy 4. Dr PL Gautam A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
54	1134	Indian Seed Congress is hosted annually by 1. ISST 2. NSAI 3. ISF 4. IARI A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				

55	1135	Pre-breeding involves: 1. Identification of desirable trait expressions not present in the cultivated germplasm and transferring them from unadapted germplasm into breeding populations. 2. Identification of novel traits in crop wild relatives and their transfer to cultivated gene pool resulting in broadening of genetic base. 3. Attempts to transfer genes controlling novel trait variations from crop wild relatives and unadapted germplasm into agronomically superior cultivars overcoming the problems of 'linkage drag'. 4. 1,2 and 3 above A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

56	1136	Evaluation of germplasm for quality traits are often misleading due to: 1. High genotype x environmental interactions in expression of traits. 2. Expression of secondary metabolites profiles depend on ecological factors. 3. The cultivation conditions are often not comparable for assessing quality traits greatly influence by environmental factors. 4. Options 1,2 and 3 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

57	1137	Which of the following DNA markers are codominant in inheritance? 1. RAPD, ISSR 2. SSR, SNP, RFLP 3. SCOT, SRAP 4. AFLP, SCAR A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question				
58	1138	The species concept that explains that a species' integrity is maintained by interbreeding within a species as well as by reproductive barriers between organisms in different species is known as: 1. Phylogenetic species concept 2. Ecological species concept 3. Biological species concept 4. Modern species concept A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
59	1139	Van Valen's (1976) Ecological species concept explains that a species taxon as a lineage of organisms is maintained and segmented by ecological forces. Accordingly, the species integrity is maintained by: 1. Stabilizing selection while disruptive selection can lead to new species 2. Reproductive barriers between organisms 3. Exchange genetic information through interbreeding 4. Pre-zygotic barriers upon hybridization A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
60	1140	Reproductive isolating barriers are responsible for: 1. Preventing breakdown of interspecific hybrids 2. Preventing gene flow between species 3. Ensure increase in diversity of subpopulations 4. Increasing gene flow between species A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
61	1141	In a self-fertilizing species, maximum diversity can be captured by: 1. Sampling greater number of subpopulations rather than increasing sample size within subpopulations 2. Sampling larger number of individuals within subpopulations 3. Collecting larger number of seeds from each plant within subpopulations 4. Collecting equal number of seeds from each plant in a subpopulation. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
62	1142	Correct nomenclature for a fertile amphidiploid generated between two species, <i>Abelmoschus esculentus</i> and <i>A. tetraphyllus</i> var <i>tetraphyllus</i> is: 1. <i>Abelmoschus esculentus</i> x <i>tetraphyllus</i> var. <i>tetraphyllus</i> 2. <i>Abelmoschus</i> x <i>esculophyllus</i> 3. <i>A. esculentus</i> x <i>A. tetraphyllus</i> var <i>tetraphyllus</i> amphidiploid 4. <i>Abelmoschus</i> x <i>esculotetraphyllus</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
63	1143	The ability of crop variety to become adapted to new climatic and edaphic conditions is called 1. Adaptation 2. Acclimatization 3. Domestication 4. Natural selection A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				

64	1144	The concept of Pureline was proposed by in the year on the basis of his studies with beans (<i>Phaseolus vulgaris</i>) variety called 1. Vavilov, 1905, Prince 2. Vavilov, 1913, Princess 3. Johannsen, 1903, Princess 4. Johannsen, 1905, Prince A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

65	1145	Allopolyploid that has two copies of each genome present in it and, as a consequence, behaves as a diploid during meiosis 1. Diploids 2. Polyploids 3. Amphidiploids 4. Autopolyploids A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

66	1146	Which of the following is not a two gene dwarf variety of wheat? 1. Sonora-63 2. Sonora-64 3. Kalyan Sona 4. Moti A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

67	1147		4.0	1.00
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Match the following crop species with their respective haploid chromosome number. Match **List-I** with **List-II**

List-I	List-II
(A). Hordeum	(I). 8
(B). Chickpea	(II). 7
(C). Sunflower	(III). 12
(D). Rice	(IV). 17

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

- (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
- (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
- (A) - (IV), (B) - (II), (C) - (III), (D) - (I)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

68 1148

Statement I- Primary gene pool consists of cultivated species and landraces.

Statement II- The secondary gene pool consists of the progenitor species that are crossable with reduced fertility of the resulting hybrids and progenies.

Statement III- The tertiary gene pool consists of all the species that are crossable with cultivated species.

- All the statements are correct
- I and II are correct III is incorrect
- I is incorrect, II and III are correct
- All the statements are incorrect

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

69 1149

4.0 1.00

Crop varieties developed to express a specified desirable monogenic, oligogenic, or polygenic traits combination are often referred to as

1. Super organic
2. Genetically modified crops
3. Designer crops
4. Transgenics

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

70	1150	Diversity array technology (DArT) is a high throughput, low-cost genotyping system. It is essentially similar to..... procedure 1. AFLP 2. RFLP 3. SNP 4. SSR A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

71	1000201	Sequence of domestication of crop plants A. Rice B. Barley C. Mung bean D. Finger millet E. Emmer Wheat Choose the correct answer 1. A-B-C-D-E 2. B-E-A-C-D 3. D-E-A-C-B 4. C-B-A-D-E	4.0	1.00
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A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

72 1000202

4.0 1.00

Match the right answer

List-I	List-II
(A). Malasian Papeda	(I). Citrus macroptera
(B). Rangpur lime	(II). Citrus latipes
(C). Khasi mandarin	(III). Citrus limonia
(D). Khasi Papeda	(IV). Citrus reticulata

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

73 1000203

4.0 1.00

Match the right answer

List-I	List-II
(A). Nokrek Bioshpere Reserve	(I). Underutilized fruits
(B). Amarkantak Biosphere Reserve	(II). Citrus
(C). Agasthyamalai Biosphere Reserve	(III). Flowers
(D). Nanda Devi National Park	(IV). Medicinal Plants

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

74 1000204

4.0 1.00

Match the right answer

List-I	List-II
(A). Autochory	(I). Figs
(B). Anemochory	(II). Jackfruit
(C). Vivipary	(III). Orchids
(D). Zoochory	(IV). Balsam

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

75 1000205

4.0 1.00

In some flowers it is difficult to distinguish sepals from petal and are therefore called ----- example of this is -----

1. Sepals and Lilies
2. Sepals and Tulips
3. Tepals and Nymphaea
4. Sepals and Rose

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

76 1000206

4.0 1.00

		Suitable explants for long-term ex-situ conservation of Citrus germplasm is ——— and largest field collection of Citrus exists in ———. 1. Pollen and CCRI, Nagpur, India 2. Dormant buds and Geneva, USA 3. Embryonic axes and JKI, Germany 4. Embryos and University of California, Riverside		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

77	1000207	Statement 1: Artificial classification of plants is based on evolutionary relationships Statement 2: Natural classification of plants is based on the special purpose criteria In the light of above statements, choose the most appropriate answer from the options given below 1. Both statement 1 and 2 are false 2. Statement 1 is true and 2 is false 3. Statement 2 is true and 1 is false 4. Both the statements are true	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

78	1000208	Statement 1: Seasoning of wood is the process where wood is placed under the water to saturate and later dried Statement 2: Teak and oak are soft woods while Cedar and Red wood are hard woods In the light of above statements, choose the most appropriate answer from the options given below 1. Both statement 1 and 2 are false 2. Statement 1 is true and 2 is false 3. Statement 2 is true and 1 is false 4. Both the statements are true	4.0	1.00
		A1 : 1		
		A2 : 2		

		A3 : 3		
		A4 : 4		

Objective Question

79	1000209	Statement 1: Parboiling of rice is a recent technique and evolved in Europe Statement 2: Adult beri-beri disease is much less in people consuming parboiled rice than raw rice 1. Both statement 1 and 2 are false 2. Both the statements are true 3. Statement 1 is true and 2 is false 4. Statement 2 is true and 1 is false A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

80	1000210	Statement 1: In situ on farm conservation is a dynamic conservation strategy Statement 2: Community seed banks are for the conservation of local landraces and form the part of formal seed system in India 1. Both statement 1 and 2 are false 2. Both the statements are true 3. Statement 2 is true and 1 is false 4. Statement 1 is true and 2 is false A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

81	1000211	Statement 1: Desiccation sensitive seeds are not preferred for cryobanking Statement 2: Desiccation tolerant seeds with high oil content may be preferred for long-term storage in the traditional genebank 1. Both statement 1 and 2 are false 2. Both the statements are true 3. Statement 1 is true and 2 is false 4. Statement 2 is true and 1 is false	4.0	1.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
82	1000212	Statement 1: Sesame is the oldest oil seed crop producing oil with high stability and does not rancid like other fats. Statement 2: Mustard oil has more percentage of polyunsaturated fats than monounsaturated fat and doesnot rancid. 1. Both statement 1 and 2 are false 2. Both the statements are true 3. Statement 1 is true and 2 is false 4. Statement 2 is true and 1 is false A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
83	1000213	Hanuman Phala is -----, Sita Phal is ----- and Ram Phal ----- 1. Annona cherimolia, Annona muricata and Annona reticulata 2. Annona reticulata, Annona muricata and Annona cherimolia 3. Annona cherimolia, Annona reticulata and Annona squamosa 4. Annona muricata, Annona cherimolia and Annona reticulata A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
84	1000214	Guinea grass is -----Para grass is -----and Spear grass is ----- 1. Heteropogon contortus, Panicum maximum and Bracharia mutica 2. Cenchrus ciliaris, Bracharia mutica and Panicum maximum 3. Cularis gayana, Panicum maximum and Bracharia mutica 4. Panicum maximum, Bracharia mutica and Heteropogon contortus	4.0	1.00

		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
85	1000215	Statement 1. Cole crops are mostly originated in Asia and South America Statement 2. Kale was the first Cole crop selected and adapted by human Which of the statements given above is/are correct? 1. 1 only correct 2. 2 only correct 3. Both 1 and 2 are correct 4. Neither 1 nor 2 correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
86	1000216	Saccharum robustum is native of ----- while S. barberi is native of ----- 1. Africa and China 2. USA and Indonesia 3. China and India 4. Africa and South Asia A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
87	1000217		4.0	1.00

----- gum is used as an adhesive in the rolling of cigars and ----- is used to make cigarette paper

1. Tragacanth gum and Flax
2. Gum Arabic and cotton
3. Palas gum and Ramie
4. Gum Karya and Roselle

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

88	1000218	Consider the following statements: Statement 1: Multilateral System of the ITPGRFA has 75 food and forage crops in the Annex1 Statement 2: The Food and Agriculture Organization of the United Nations (FAO) has been designated to act as the Third-Party Beneficiary under the Multilateral System. Which of the statements given above is/are correct? 1. 1 only 2. 2 only 3. Both 1 and 2 4. None 1 nor 2	4.0	1.00
		A1 : 1 A2 : 2 A3 : 3 A4 : 4		

Objective Question

89	1000219	Multiple statement type Statement 1: It is more difficult to use species from the secondary gene pool in crop improvement due to various reproductive barriers. Statement 2: Prebreeding is the prime requirement for the efficient utilization of germplasm of wild species. 1. Both statement 1 and 2 are false 2. Statement 1 is true but statement 2 is false 3. Statement 1 is false but statement 2 is true 4. Both the statements are true	4.0	1.00
		A1 : 1		

		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

90	1000220	Indigenous Traditional knowledge (ITK) based on local technologies has immensely contributed to the use of local commodities for health and nutrition Statement 1: ITKs are more of localized technologies and used by particular communities for generations Statement 2: ITKs are just based on generational experience and need, but not based on the scientific facts or innovations Which of the statements given above is/are correct? 1. 1 only 2. 2 only 3. Both 1 and 2 4. None 1 nor 2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

91	1000221	Cactus pear have originated in ————— and distributed in arid and semi arid regions of the world, —————part is edible and nutritious 1. India and roots 2. Mexico and Nopal 3. Europe and stem 4. Africa and flowers A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

92	1000222		4.0	1.00
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		Hazelnut belongs to family contains cob which is a catkin. 1. Caricaceae , Dioecious 2. Corylaceae, Monoecious 3. Euphorbiaceae, Monoecious 4. Bromeliaceae, Dioecious A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

93	1000223	Acrylyl isothiocyanate and Allyl isothiocyanate are obtained from white mustard oil and black mustard oil called- 1. Sinalbin and Sinigrin respectively 2. Sinigrin and Sinalbin respectively 3. Sinalbin only 4. Sinigrin and myrosine respectively A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

94	1000224	Statement A – Study on desiccation and freezing tolerance of explant is not much important in developing suitable cryopreservation protocol. Statement B- Cryoprotectants are used to avoid ice crystal formation, however, can be toxic at high concentrations. 1. Both A and B are correct 2. A is correct and B is incorrect 3. B is correct and A is incorrect 4. Both A and B are incorrect. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

95	1000225	Statement A – Slow freezing involves slower cooling rates while vitrification involves rapid cooling. Statement B- Rapid thawing is used to prevent the formation of ice crystals during sample rewarming 1. Both A and B are correct 2. A is correct and B is incorrect 3. B is correct and A is incorrect 4. Both A and B are incorrect A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

96	1000226	Several important plant introductions were made into India before Independence over the years across centuries. Choose the correct answers from the statements provided. (A) Persians introduced banana, mango and cabbage (B) Portuguese introduced maize, groundnut, chillies, potato, sweet potato, guava, pineapples, papaya, cashew nut and tobacco (C) Dutch introduced coffee, cocoa, roses and marigold (D) East India Company introduced tea, litchi, loquat from China, cabbage, cauliflower, annatto and mahogany Choose the correct answer from the options given below: 1. C and D only 2. D and A only 3. B and D only 4. A and B only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

97	1000227		4.0	1.00
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The best known examples when the introduced variety is subjected to selection to isolate a superior variety or alternatively, is hybridized with local varieties to transfer one or few characters from this variety to the local ones are:

- (A). Wheat varieties Sonora 64, Lerma Rojo from CIMMYT, Mexico
- (B). Rice varieties Taichung Native 1, IR 8, 1R 28, 1R 36 from IRRI, Philippines
- (C). Wheat varieties Kalyan Sona and Sonalika
- (D). Tomato varieties Pusa Ruby, Pusa Early Dwarf, Punjab Chauhara

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

98	1000228	The responsibility for introduction, maintenance and testing of germplasm of forest trees is entrusted to which of the following organizations? 1. National Bureau of Plant Genetic Resources, New Delhi 2. Forest Research Institute, Dehradun 3. Both NBPGR New Delhi and FRI Dehradun 4. All Research institutes of ICAR and MoEF A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

99	1000229	The single window system responsible for introduction and maintenance of germplasm of agricultural and horticultural plants for research purposes is the responsibility of which of the following organizations? 1. National Bureau of Plant Genetic Resources, New Delhi 2. Forest Research Institute, Dehradun 3. Both NBPGR New Delhi and FRI Dehradun 4. All Research institutes of ICAR and MoEF A1 : 1	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

100	1000230	Mechanical cleaning, fumigation, heat and chemical treatment, acid or alcohol wash etc are the processes used for what purposes in post-entry quarantine of germplasm? 1. Salvaging of infested, infected and/ or Contaminated Material 2. Prophylactic treatment of germplasm 3. Both salvaging and prophylactic treatments 4. For destroying contaminated material A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

101	1000231	Molecular markers ideally suited for both characterization and evaluation of germplasm? (A). Random genomic SSRs (B). SSRs linked to expressed traits (C). Random, uncharacterised SNPs (D). SNP related to expressed traits Choose the correct answer from the options given below: 1. Both A and B are correct 2. Both C and D are correct 3. Both B and D are correct 4. Both A and C are correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

102	1000232		4.0	1.00
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The checks used in germplasm characterizations must meet the following conditions:

1. Three or more checks used to include atleast one national and one locally adapted accession
2. Three or more checks to include atleast one superior high yielding variety and one national variety
3. There is no consideration required for local adaptation of checks
4. Checks must represent superior expressions for each traits

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

103	1000233	A core collection representing 10 % of the base collection with a minimum of 85 % representation of diversity has attracted several criticisms. The major valid objections are: (A). It will result in germplasm curators ignoring rest of the accessions leading to their loss (B). Core collection does not consider variations of importance to crop breeding (C). May result in loss of diversity for traits not included in initial characterizations (D). The germplasm descriptors used in characterizations do not include traits of importance to present day crop breeding Choose the correct answer from the options given below: 1. Only Option A is correct 2. Both options A and B are correct 3. Options A, C and D are correct 4. Only options C is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

104	1000234	FIGS procedure has so far been successful in identifications of sources of resistance in wheat to powdery mildew; Russian wheat aphid, stem rust, in barley to net blotch and drought tolerance in Vicia faba. What is the full form of FIGS? 1. DIVA-GIS 2. Focused Identification of Germplasm Strategy 3. Focused Investigation of Germplasm Samples 4. Foctorials-based Investigation of Germplasm Samples A1 : 1	4.0	1.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

105	1000235	The sample size for collecting germplasm depends on frequency of the least common allele or genotype. Accordingly, for a genotype or allele occurring at frequencies of 5%, the sample size required to capture this allele is? 1. 100 individuals 2. 90 individuals 3. 80 individuals 4. 50 individuals A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

106	1000236	The sample size for collecting germplasm depends on frequency of the rare allele or genotype. Accordingly, to achieve 95% probability of obtaining at least one copy of each allele for a locus with three alleles at 0.98, 0.01 and 0.01 frequencies respectively, the minimum sample size required is? 1. 100 individuals 2. 200 individuals 3. 365 individuals 4. 400 individuals A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

107	1000237		4.0	1.00
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Improper sampling of natural populations has several consequences on genetic structure of populations. Which of the following features are not due to sampling errors during carrying forward of populations?

- (A). Loss of allelic diversity and genetic erosion
- (B). Random genetic drift, fixation of alleles, increased homozygosity
- (C). Population subdivision, loss of heterozygosity
- (D). Arising of new allelic variations, hybrid swarms

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

- 1. Options A and B are correct
- 2. Options B and C are correct
- 3. Options A and C are correct
- 4. Only option D is correct

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

108	1000238	What is the purpose of using Nomographs in seed conservation experiments? (A). To predict the retention of seed viability in defined storage environment for a particular period (B). Used for estimating the final seed viability in relation to the sample size used for storage (C). To determine combinations of temperature and moisture content which will ensure the retention of a desired level of seed viability for a specific period (D). To estimate seed sample size to ensure availability of viable seeds after their storage for a specific period Choose the correct answer from the options given below: 1. Options A and B are correct 2. Options B and C are correct 3. Options A and C are correct 4. Only option D is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

109	1000239		4.0	1.00
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		Which of the following is a post-zygotic barrier to reproduction?		
		1. Self-incompatibility 2. Male sterility 3. Hybrid break-down 4. Non-identical timing of anthesis		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

110	1000240	Which method classifies organisms based on morphology and structural features?	4.0	1.00
		1. Cladistics 2. Phylogenetics 3. Phenetics 4. Maximum parsimony		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

111	1000241	Two major types of secondary metabolites in plants that are used in chemotaxonomy are?	4.0	1.00
		1. Alkaloids and sulphur-containing compounds 2. Terpenoids, phenolic compounds 3. Phenolics and alkaloids 4. Sulphur-containing compounds and flavones		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

112	1000242		4.0	1.00
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		QTL seq by Takagi, 2013 is a cost-effective technique used in genome-based analysis follows which of the principle listed below? 1. Linkage disequilibrium analysis 2. Biparental mapping approach 3. Bulk Segregant Analysis 4. Whole Genome Association Analysis A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

113	1000243	The Angiosperm Phylogeny Group system (APG), based mostly on molecular phylogeny was first published in 1988. The most recent version is? 1. APG I 2. APG II 3. APG III 4. APG IV A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

114	1000244	One of the international agreements that provides framework for ensuring plant biosecurity? 1. The International Plant Protection Convention (IPPC) 2. Convention on Biological Diversity (CBD) 3. UPOV 4. APHIS, USA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

115	1000245		4.0	1.00
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		As per regulations, for import of new transgenics into India, for grow out test during quarantine inspections what level of containment facility is mandatory? 1. Containment facility of CL-1 level 2. Containment facility of CL-2 level 3. Containment facility of CL-3 level 4. Containment facility of CL-4 level		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

116	1000246	What is the consequence of fusion of two subpopulations followed by random mating? 1. Decrease in average heterozygosity estimates 2. Increase in average homozygosity of recessive alleles 3. Increase in average homozygosity of dominant alleles 4. Increase in average heterozygosity estimates	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

117	1000247	If the estimate of F_{ST} is just below 0.25, what does that indicate in relation to genetic differentiation of subpopulations? 1. Little genetic differentiation 2. Moderate genetic differentiation 3. Great genetic differentiation 4. Very great genetic differentiation	4.0	1.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

118	1000248		4.0	1.00
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Who invented the CRISPR-Cas9 gene editing technology?

- (A) Kary Mullis
- (B) Jennifer Doudna
- (C) Rosalind Franklin
- (D) Emmanuelle Charpentier

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

- 1. Options A and B are correct
- 2. Options A and C are correct
- 3. Options B and C are correct
- 4. Options B and D are correct

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

119 1000249

4.0 1.00

QTLseq and BSAseq are the cost-effective techniques used to detect associations between a trait and genomic region. How do these differ from conventional gene mapping techniques?

- (A) These use bulks of plants with contrasting expressions to identify candidate genomic regions
- (B) These genotype the mapping populations to detect linkages between genomic regions and traits
- (C) These use regression analysis to detect linkage between QTL and traits
- (D) These use generalised linear model to detect association between DNA polymorphism and traits

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

120 1000250

4.0 1.00

What purposes the DNA-based detection methods, Target amplification through PCR and Signal amplification with real-time PCR are used in transgene analysis?

- (A). For detection of presence of transgenes in plants
- (B). For determining expression of specific genes in an organism
- (C). For gene expression analysis
- (D). For identifying presence of specific gene expressions

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

- 1. Only Option A is correct
- 2. Only Option B is correct
- 3. Only Option C is correct
- 4. Only Option D is correct

A1 : 1

A2 : 2

A3 : 3

A4 : 4