

PREVIEW QUESTION BANK

Module Name : SCPH25 Plant Molecular Biology and Biotechnology - ENG
Exam Date : 27-Oct-2023 Batch : 14:30-17:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negativ Marks
Objective Question				
1	991001	What are the options available with advance search in google scholar? A. Search based on exact word B. Search based on year of publication C. Search excluding specific word D. Search based on author's name E. Search based on publisher Choose the most appropriate answer from the options given below: 1. A, B, D and E only 2. A, B, C and D only 3. B,C,D and E only 4. A, B, C, D and E A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
2	991002	Software 'Zotero' is a 1. Search engine 2. Reference manager 3. Citation manager 4. h-index indicator A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
3	991003		4.0	0.00

		What are the most widely used classifications of measurement scales? A. Nominal scale B. Ordinal scale C. Technical scale D. Interval scale E. Ratio scale Choose the most appropriate answer from the options given below: 1. A, B, D and E only 2. A, B, C and D only 3. B, C, D and E only 4. A, C, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

4	991004	Which of the following tools are used as reference manager A. Endnote B. Mendeley C. ithenticate Choose the most appropriate answer from the options given below: 1. A and C only 2. B and C 3. A and B only 4. A, B and C A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

5	991005	A researcher should select a Journal for publication based on which of the following criteria? A. Aim and scope of the journal B. Whether the journal is open access C. Terms and conditions of the journal D. Duration of the journal for the reviewer's comment Choose the most appropriate answer from the options given below: 1. A, B and C only 2. B, C and D only 3. A, B, C and D 4. A and B only	4.0	0.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

6	991006	Advance search in Google scholar is used for 1. Reference management 2. Coding 3. Citation of publication 4. Precise search of publication A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

7	991007	Which of the following parameters are essential for publication of a manuscript according to the editor? A. Manuscript is written in proper format B. Manuscript falls under aims and scope of the journal C. Referencing should be done only using a reference manager tool D. There should not be any plagiarism in the manuscript E. Authors contribution is clearly mentioned Choose the most appropriate answer from the options given below: 1. A, B, C and D only 2. A, B, D and E only 3. B, C, D and E only 4. A, B, C, D and E A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

8	991008		4.0	0.00
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What are the possible sources of error while performing any measurement?

- A. Instrument
- B. Respondent
- C. Measurer
- D. Hypothesis
- E. Situation

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

9	991009	Which of the following are the tests of proper measurement? A. Test of Validity B. Test of Reliability C. Test of Suitability D. Test of Practicality Choose the most appropriate answer from the options given below: 1. A, B and C only 2. A, B and D only 3. B, C, and D only 4. A, B, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

10	991010		4.0	0.00
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Arrange the following in a correct sequence for four-stage process of developing measurement tools

- A. Specification of concept dimensions
- B. Selection of indicators
- C. Concept development
- D. Formation of index

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

11	991011	Which of the following approaches are used for ranking scales? A. Method of ratio level B. Method of paired comparisons C. Method of rank order Choose the most appropriate answer from the options given below: 1. A and B only 2. C only 3. A, B and C 4. B and C only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

12	991012		4.0	0.00
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		Which of the following approaches are used for scale construction? A. Consensus scale approach B. Item analysis approach C. Factor analysis approach D. Arbitrary approach E. Cumulative scale approach Choose the most appropriate answer from the options given below: 1. A, C and E only 2. A, B, C and D only 3. A, B, C, D and E 4. A, C, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

13	991013	Which are the factors that a researcher should keep in mind while selecting appropriate method for data collection? A. Availability of funds B. Time factor C. Nature and scope of the enquiry D. Ease of using the method E. Precision Choose the most appropriate answer from the options given below: 1. A, B, C and D only 2. A, B, D and E only 3. A, B, C and E only 4. A, B, C, D and E A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

14	991014	A research type that accurately portrays characteristics of particular individual, situation or a group is called as: 1. Formulative research 2. Descriptive research 3. Exploratory research 4. Diagnostic research A1 : 1	4.0	0.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

15	991015	A researcher interested to investigate the reasons for human behaviour, should conduct A. Quantitative research B. Qualitative research C. Motivation research D. Analytical research Choose the most appropriate answer from the options given below: 1. B and C only 2. A and D only 3. B only 4. B, C and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

16	991016	Study of causal relationship between variables comes under which category of research study? 1. Descriptive research study 2. Exploratory research study 3. Hypothesis-testing research study 4. Fundamental research study A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

17	991017	Study of experimental designs has originated from 1. Social science research 2. Agricultural research 3. Statistical research 4. Chemical research A1 : 1	4.0	0.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

18	991018	Prof. R.A. Fisher is associated with : 1. Observational design and operation of research 2. Experimental design in social science research 3. Experimental design in agricultural research 4. Statistical design and analysis of experiment A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

19	991019	Which of the following are the principles of experimental design? A. Replication B. Randomization C. Statistical analysis D. Local control Choose the most appropriate 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	0.00
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Objective Question

20	991020		4.0	0.00
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Which of the following are the alternative hypothesis to test whether the population mean (μ) is equal to the hypothesis mean (μ_{H0})?

- A. $H_a : \mu \neq \mu_{H0}$
- B. $H_a : \mu < \mu_{H0}$
- C. $H_0 : \mu = \mu_{H0}$
- D. $H_a : \mu > \mu_{H0}$

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

21	991021	If the significance level is 5 percent in two-tailed test, the probability of the acceptance area will be: 1. 0.95 2. 0.095 3. 95 4. 9.5 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

22	991022	If a population does not follow normal distribution, which kind of test can be performed? A. <i>U</i> test B. Chi square test C. Wilcoxon-Mann-Whitney test D. <i>F</i> test E. Kruskal-Wallis test Choose the most appropriate answer from the options given below: 1. A, B and C only 2. C, D and E only 3. A, C and E only 4. B, C and E only A1 : 1	4.0	0.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

23	991023	Which of the following are parametric tests? A. z-test B. U-test C. t-test D. χ^2 -test E. F-test Choose the most appropriate answer from the options given below: 1. A, B, C and D only 2. A, C, D and E only 3. B, C, D and E only 4. A, B, C, D and E A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

24	991024	Find out the h-index of a researcher based on the citations of the publication given below 1st publication - 10 citations 2nd publication - 8 citations 3rd publication - 7 citations 4th publication - 5 citations 5th publication - 4 citations 6th publication - 3 citations 1. 3 2. 4 3. 5 4. 7 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

25	991025		4.0	0.00
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		How the Impact Factor of a journal is calculated? 1. Total number of citations of a journal/ Total number of publications of that journal 2. Number of citations of a journal in last one year/ Number of publications of that journal in last one year 3. Number of citations of a journal in last two years/ Number of publications of that journal in last two years 4. Number of citations of a journal in last three years/ Number of publications of that journal in last three years A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

26	991026	Find out the i-10 index of a researcher from the following data: 1st publication - 12 citations 2nd publication - 13 citations 3rd publication - 15 citations 4th publication - 8 citations 5th publication - 7 citations 6th publication - 10 citations 7th publication - 11 citations 1. 4 2. 5 3. 6 4. 7 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

27	991027		4.0	0.00
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		For bivariate populations, correlation can be studied through - Karl Pearson's coefficient of correlation - Coefficient of partial correlation - Coefficient of multiple correlation - Charles Spearman's coefficient of correlation - Cross tabulation Choose the most appropriate answer from the options given below: - A, D and E only - A, B and C only - A, B and D only - B, D and E only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

28	991028	Simple regression analysis defines the relationship between: - Dependent and extraneous variable - Independent and extraneous variable - Dependent and independent variable - Two different dependent variables A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

29	991029	Which one of the following tools is used to detect plagiarism? - Turnitin - MS Word - Google scholar - Zotero A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

30

991030

Match List I with List II

4.0

0.00

LIST I		LIST II	
A.	Descriptive research	I.	To gain familiarity with a phenomenon or to develop new insights about it
B.	Exploratory research	II.	To test a hypothesis defining (causal) relationship between variables
C.	Diagnostic research	III.	To describe the characteristics of a particular situation, group or individual
D.	Hypothesis-testing research	IV.	To determine the frequency with which something occurs or with which it is associated with something else

Choose the correct answer from the options given below:

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

31	991031	If the aim of a research project is to 'develop a flood tolerant variety of rice', then the nature of the research project can be defined as: 1. Applied research 2. Fundamental research 3. Quantitative research 4. Descriptive research A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

32	991032		4.0	0.00
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Which of the following statements best describe the difference between 'Research Method' and Research Methodology'?

- A. 'Research Method' pertains to the technique whereas 'Research Methodology' is the over-all experimental plan.
- B. 'Research Methodology' pertains to the technique whereas 'Research Method' is the over-all experimental plan.
- C. 'Research Methods' are used for quantitative research whereas 'Research Methodology' is used for qualitative research.
- D. 'Research Methods' are used for qualitative research whereas 'Research Methodology' is used for quantitative research.

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

33	991033	Before conducting an actual experiment (any method) which of the following should be done? A. Formulating of the research problem B. Survey of the literature C. Develop a working hypothesis D. Analyze the data. Choose the most appropriate answer from the options given below: 1. A, B, C and D 2. A, B and C only 3. C and D only 4. A nd D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

34	991034		4.0	0.00
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		Which of the following can be regarded as an example of a 'Qualitative' research? A. Identifying the causal pathogen for rice 'stem borer' disease in India. B. Estimating the area of land under basmati rice cultivation in the year 2023. C. Identifying the Covid 19 virus strain/s infecting people in Delhi. D. Identifying the most prevalent Covid 19 virus strain infecting people in Delhi. Choose the most appropriate answer from the options given below: 1. A and B only 2. A and C only 3. C and D only 4. B and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

35	991035	'Experimental error' can be defined as the: 1. impact of 'independent variable' on the value of dependent variable 2. impact of 'dependent variable' on the value of independent variable 3. impact of 'extraneous variable' on the value of dependent variable 4. value of 'extraneous variable' A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

36	991036	Which of the following traits can be regarded as an example of 'continuous variable'? 1. Basic Metabolic Rate (BMR) 2. RBC count 3. Number of patients infected with Nepha virus 4. WBC count A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

37	991037	In a research project designed to estimate the impact of rainfall on wheat production, which of the following can be considered as an 'Extraneous' variable? 1. Amount of rainfall 2. Weight of wheat grains 3. Accuracy of the weighing balance 4. Level of soil moisture in the wheat field A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

38	991038	In order to understand the prevalence of Covid 19 virus infection in different states of India, 100 samples were collected from each of the different states of India. This type of sampling can be defined as: 1. Stratified sampling 2. Simple random sampling 3. Systematic sampling 4. Convenience sampling A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

39	991039	'Sampling Error' can be defined as: 1. a wrong data recording 2. a wrong interpretation of the data 3. the difference between the value of 'Population mean' and the 'Sample mean' 4. an instrumental error A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

40	991040		4.0	0.00
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		Which one of the following data collection exercises would require an 'Informed consent' ? 1. Collection of blood samples from HIV patients 2. Estimation of rice crop yield in different villages of Punjab 3. Estimating the number of passengers travelling/week in Delhi metro 4. Estimating the number of non-Delhi passengers travelling/week in Delhi metro A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
41	991041	Which of the following CANNOT be patented? 1. A new technology for sequencing human genome 2. A naturally occurring basmati rice variety 3. A precision breeding technology 4. Plant imaging technology A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
42	991042	Contents compiled as a research article in a scientific journal is protected by: 1. Patent rights 2. Copyright 3. 'Trademark' rights 4. 'Design' rights A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
43	991043		4.0	0.00

		Indian patent laws operate under: 1. 'First to modify' principle 2. 'First to discover' principle 3. 'First to invent' principle 4. 'First to file' principle A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

44	991044	At global level, which one of the following research methodologies is being applied to both human and agricultural sciences? 1. Machine learning 2. Cancer research 3. Breeding 4. Hybrid development A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

45	991045	The traditional knowledge of utilization of natural plant based products for human health is protected under: 1. Protection of plant variety and farmer's right 2. Indian copyright law 3. National Biodiversity Act 4. Indian trademark law A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

46	991046		4.0	0.00
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		Use of which one of the following research methodologies is rapidly increasing in the last few years in India? 1. Genome sequencing of various crop plant varieties 2. Estimation of crop yields 3. Impact of floods on crop yield 4. Impact of drought on crop yield A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

47	991047	Which one of the following is a primary source of genome sequence datasets? 1. UniProtKB 2. GenBank 3. SwissProt 4. Protein Data Bank A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

48	991048	A good research design must include details: A. about how the data would be collected B. availability of funds C. availability of relevant skills D. objective Choose the most appropriate answer from the options given below: 1. A and D only 2. A, C and D only 3. B only 4. A, B, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

49	991049	Ideally a 'research problem' should : A. be financially viable B. address a novel phenomenon C. should be socially relevant D. have been extensively worked upon by predecessors. Choose the most appropriate answer from the options given below: 1. A and B only 2. A, B and C only 3. A and D only 4. B, C and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

50	991050	Which one of the following research methods (technique) is being widely used to detect infection of Covid19 virus? 1. RT-Polymerase Chain Reaction 2. Polymerase Chain Reaction 3. Flow cytometry 4. X-ray A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

51	991051	In case of ABC model of flower development, loss of <i>APETALA3</i> gene will have 1. Sepal and Stamen 2. Sepal and Petal 3. Petal and Stamen 4. Sepal and Carpel A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
52	991052	Which of the following is an example of D class gene in ABCDE model of flower development? 1. <i>AGAMOUS</i> 2. <i>APETALA2</i> 3. <i>SEPALLATA</i> 4. <i>PISTILLATA</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
53	991053	Choose the correct statement regarding <i>SUPERMAN</i> gene A. Mutation in this gene have stamens instead of carpels. B. It is expressed in third whorl of flower C. It controls cell proliferation in ovules D. It maintains boundary between third and fourth whorl of flower Choose the most appropriate answer from the options given below: 1. A, B and C 2. B, C and D 3. A, B and D 4. A, B, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
54	991054	In relationship between cell cycle progression and cell specification during pollen development A. FBL17-SCF complex ubiquitinylates KRP6/7 in generative cell B. DUO1 and DUO3 inhibits differentiation in vegetative cell C. KRP6/7 inhibits CDKA in generative cell D. RBR remains complex with E2F/DP in vegetative cell Choose the most appropriate answer from the options given below: 1. A, B and C 2. A, C and D 3. A, B and D 4. A, B, C and D A1 : 1 A2 : 2	4.0	0.00

A3 : 3

A4 : 4

Objective Question

55	991055	Which of the following genes play important role in controlling multiple embryo sac formation? A. <i>AGO5</i> B. <i>AGO9</i> C. <i>MEM</i> D. <i>REV</i> Choose the most appropriate answer from the options given below: 1. A and C only 2. B and C only 3. A and B only 4. A, B, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

56	991056	Which of the following is not a cytokine receptor? 1. AHK2 2. CRE1 3. ETR1 4. AHK2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

57	991057		4.0	0.00
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What are the phenotypes of Etiolated Seedling?

- A. Elongated hypocotyl
- B. Closed apical hook
- C. More root development
- D. Accumulation of anthocyanin

Choose the most appropriate answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

58	991058	In relation to interactions between DELLAs and PIFs during seedling photomorphogenesis which of the following is TRUE: A. In darkness, high GA levels degrades DELLA proteins to block PIF transcription factors. B. Light causes fall in GA levels, resulting in accumulation of DELLA proteins C. DELLAs bind to PIFs to prevent PIF-induced gene transcription D. Light induces movement of phytochromes into the nucleus to degrade of PIF proteins Choose the most appropriate answer from the options given below: 1. A, B and C only 2. A, B and D only 3. B, C and D only 4. A, B, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

59	991059		4.0	0.00
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		Which of the following act as secondary messenger? A. cAMP B. Ca^{2+} C. Mg^{2+} D. cGMP Choose the most appropriate answer from the options given below: 1. A, B and C only 2. A, B and D only 3. B, C and D only 4. A, B, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

60	991060	In the context of evolution of the GA signal transduction pathway, DELLA proteins gain growth suppression function: 1. Before the evolution of Lycophytes. 2. Before the divergence of Bryophytes. 3. Before the divergence of Algae. 4. Before the evolution of Gymnosperms. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

61	991061	Find the wrong statement 1. Diploid phase is dominant in Angiosperm lifecycle 2. Diploid phase is dominant in Animals lifecycle 3. Haploid phase is dominant in algal lifecycle 4. Haploid phase is dominant in Gymnosperm lifecycle A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
62	991062	During embryogenesis of Arabidopsis 1. First zygotic division is equal to divide apical and basal cell equally. 2. First zygotic division is unequal, with apical cell larger than basal cell. 3. First zygotic division is unequal, with basal cell larger than apical cell. 4. Apical cell divides horizontally to form two-cell pro-embryo. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
63	991063	Find the correct sequence of embryogenesis in <i>Capsella bursa-pastoris</i> (shepherd's purse) A. Egg- two cell stage- octant stage B. Globular stage- heart stage- torpedo stage C. Globular stage- triangular- heart stage D. Heart stage- mature embryo E. Torpedo stage- mature embryo Choose the most appropriate answer from the options given below: 1. A, C and D only. 2. A, B and D only. 3. A, C and E only. 4. A, B and E only. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
64	991064	Bilateral symmetry is found in 1. Heart stage and globular stage of higher plant embryo 2. Arthropods and echinoderms 3. Torpedo stage and heart stage of higher plant embryo 4. Arthropods and Mollusks A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question

65	991065	Embryo mutant for Arabidopsis gene <i>topless-1</i>: 1. Lack cotyledon and shoot meristem 2. Lack hypocotyl and root meristem 3. Lack cotyledon and hypocotyl 4. Lack shoot meristem and root meristem A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

66	991066	A synthesis based sequencing technology that results in LONGEST sequence read length is 1. Sanger sequencing 2. Reversible chain terminators (Illumina) 3. SMRT (PacBio) 4. Nanopore sequencing A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

67	991067	Among the given fruits, which is an example of climacteric fruit 1. Pineapple 2. Strawberry 3. Litchi 4. Mango A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

68	991068		4.0	0.00
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Select an option with a correct match of tomato fruit ripening related genes (List I) with the molecular nature (List II) of encoded proteins

LIST I		LIST II	
A.	<i>RIN</i> gene	I.	SBP family
B.	non-ripening (nor)	II.	MADS-box transcription factor
C.	Colorless non-ripening (Cnr)	III.	NAC domain factor
D.	Never-ripe (Nr)	IV.	ethylene receptor family

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

69	991069	A general limitation in the production of pharmaceutical proteins in plant cells is the immunological reaction against plant-specific glycan residues. This drawback can be reduced by A. Retaining the recombinant glycoprotein in endoplasmic reticulum B. Modify the enzymatic machinery of the Golgi apparatus C. Retaining the recombinant glycoprotein in Golgi apparatus D. Modify the enzymatic machinery of the endoplasmic reticulum Choose the most appropriate answer from the options given below: 1. A & B only 2. C & D only 3. C only 4. D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

70	991070	In plants, the bacterial toxin coronatine mimics as 1. Indole-3-butyric acid 2. trans-Zeatin 3. JA-isoleucine 4. 8'-Hydroxy ABA	4.0	0.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

71	991071	The T-DNA, covalently attached to VirD2 protein, is exported out of <i>Agrobacterium tumefaciens</i> via 1. type-VI secretion system 2. type-II secretion system 3. type-III secretion system 4. type-IV secretion system A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

72	991072	Which option is correct with regard to the below mentioned combinations of ‘categories of marker genes and selective agents’ used in plant biotechnology: A. <i>nptII</i> gene - Luciferin B. <i>hph</i> gene - Hygromycin C. <i>bar</i> gene - Phosphinothricin D. <i>uidA</i> gene - Kanamycin 1. C & D only 2. A & D only 3. A & B only 4. B & C only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

73	991073	The CCaMK-CYCLOPS-DELLA protein complex is involved in arbuscular mycorrhizal symbioses with plants. In this complex, the most likely targets for Ca^{2+} and gibberellin signaling, respectively, should be 1. CYCLOPS & DELLA, respectively 2. CCaMK & DELLA, respectively 3. DELLA & CYCLOPS, respectively 4. CCaMK & CYCLOPS, respectively	4.0	0.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

74	991074	Select a correct combination of 'tissue-specific promoter' and its 'plant tissue' where it is functional - Promoter of <i>Profilin 2</i> : seed-specific - Promoter of <i>GluB-1</i> : green-tissue - Promoter of <i>rbcS</i> : root-specific - Promoter of <i>TA29</i> : anther-specific A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

75	991075	<i>In vivo</i> protein-protein interaction inside a living plant cell can be determined by: - Yeast two-hybrid - Surface plasmon resonance (SPR) spectroscopy - Yeast one-hybrid - Bioluminescence resonance energy transfer A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

76	991076	A set of primers and oligos that can efficiently genotype a bi-allelic SNP locus using Kompetitive Allele-specific PCR (KASP) assay will be - two forward and one reverse primers with FAM & HEX conjugated oligos - one forward and one reverse primers with FAM & HEX conjugated oligos - two forward and one reverse primer with FAM conjugated oligo - one forward and one reverse primer with HEX conjugated oligo A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		

Objective Question

77	991077	Molecular biology techniques that can be used to check an event of T-DNA integration and transgene-encoded protein expression, respectively, in a transgenic plant are 1. Southern and northern blot analysis 2. western and northern blot analysis 3. Southern and western blot analysis 4. northern and western blot analysis A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

78	991078	In 1994, the genetically engineered "Flavr Savr" plant approved for commercial cultivation by USA was developed for which crop plant: 1. Potato 2. Mustard 3. Tomato 4. Cotton A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

79	991079	The Ca^{2+}-permeable cation channels present in plants are: A. Cyclic nucleotide-gated channel (CNGC) B. Annexin C. AKT1 D. Glutamate Receptor (GLR) 1. A, B & D only 2. B & C only 3. A & C only 4. C only A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		

Objective Question

80	991080	A distinct sign which recognizes certain goods produced by specific person or company is called: 1. Patent 2. Trademark 3. Industrial design 4. Trade Secret A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

81	991081	Which of the following database is specifically dedicated to <i>Drosophila</i>? 1. GenBank 2. Uniprot 3. DictyBase 4. FlyBase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

82	991082	Which of the following data formats is used to store genome annotation data? 1. GFF3 2. FASTA 3. PDB 4. FASTQ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
83	991083	The BLAST sequence alignment tool performs: 1. Global sequence alignment 2. Local sequence alignment 3. Multiple sequence alignment 4. Phylogenetic analysis A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
84	991084	Arrange the following in DECREASING order of genome size: A. <i>Homo sapiens</i> B. <i>Oryza sativa</i> C. <i>Triticum astivum</i> D. <i>Arabidopsis thaliana</i> Choose the correct answer from the options given below: 1. A, B, C, D 2. A, C, D, B 3. A, C, B, D 4. C, A, B, D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
85	991085	The 'Gene Ontology' (GO) is used to represents which of the following aspects of the gene: A. Molecular function B. Associated Biological process C. Cellular localization D. Protein structure Choose the most appropriate answer from the options given below: 1. A, B and C only 2. A, B, C and D 3. A and B only 4. B and D only A1 : 1 A2 : 2	4.0	0.00

		A3 : 3		
		A4 : 4		

Objective Question

86	991086	MicroRNAs are generated by: 1. RNA dependent RNA polymerase (RDRP). 2. RNA pol II 3. Argonaut proteins 4. RNA pol III A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

87	991087	Which of the following depicts the correct difference between the miRNA and siRNAs? A. RDRP activity is required for siRNA generation but not for miRNAs B. Dicer activity is required for siRNA generation but not for miRNAs C. Argonaut activity is required for target degradation by miRNAs but not siRNAs D. RNA Pol III activity is needed to generate siRNAs but not miRNAs Choose the most appropriate answer from the options given below: 1. B and C only 2. A, B and C only 3. A only 4. A and B only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

88	991088	Which of the following is true for the technique 'Randomly Amplified Polymorphic DNA' (RAPD)? 1. It requires two different (10-15 bp) PCR primers. 2. It requires only one type of PCR primer. 3. It requires restriction digestion of the template before performing PCR. 4. It requires only restriction digestion. A1 : 1 A2 : 2	4.0	0.00
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A3 : 3

A4 : 4

Objective Question

89	991089	Which of the following is true for 'Marker-assisted backcrossing': A. A cross is made between Donor and Recurrent parent. B. The Donor parent is selfed. C. The F1 progeny is backcrossed with the Recurrent parent. D. The F1 progeny is backcrossed with the Donor parent. Choose the most appropriate answer from the options given below: 1. A and C only 2. A and D only 3. B and C only 4. B and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

90	991090	The microRNA mediated cleavage of the target mRNA transcript occurs in: 1. Nucleus 2. Cytoplasm 3. Both in nucleus and cytoplasm 4. Mitochondria. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

91	991091	Which of the following is/are true for LncRNA (Long non-coding RNA)? 1. They are transcribed by RNA pol II 2. They are transcribed by RNA pol III 3. They are transcribed by RNA pol IV 4. They are exogenous in nature A1 : 1 A2 : 2	4.0	0.00
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A3 : 3

A4 : 4

Objective Question

92	991092	Which BLAST algorithm should be used to align a cDNA sequence to a protein database? 1. BLAST-X 2. BLAST-P 3. BLAST-N 4. Both BLAST-N and BLAST-P can be used A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

93	991093	Which of the following techniques can be used to detect expression of sRNAs (e.g. miRNA or siRNAs)? A. Northern hybridization assay B. Western Blotting C. Quantitative Real Time-PCR D. sRNA seq Choose the most appropriate answer from the options given below: 1. A, B, C and D 2. B and C only 3. A, C and D only 4. B and C only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

94	991094	In actin filaments polymerized 'actin monomers' are associated with: 1. ADP 2. ATP 3. GTP 4. GDP A1 : 1 A2 : 2	4.0	0.00
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A3 : 3

A4 : 4

Objective Question

95	991095	Which of the following are true with respect to IPR (Intellectual Property Rights) of crop varieties? A. Naturally occurring crop lines/strains can be considered for protection under IPR. B. Naturally occurring crop lines/strains cannot be considered for protection under IPR. C. Developed plant varieties or Hybrids can be considered for protection under IPR. D. Developed plant varieties or Hybrids cannot be considered for protection under IPR. Choose the most appropriate answer from the options given below: 1. A, B and C only 2. B and C only 3. A and B only 4. A and C only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

96

991096

Match the type of traits that have been engineered in the crops given in list 1

4.0

0.00

LIST I		LIST II	
A.	Rice	I.	Oil content
B.	Tomato	II.	Nutritional enhancement
C.	Cotton	III.	Delayed maturation
D.	Soybean	IV.	Insect resistance

Choose the correct answer from the options given below:

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

97	991097		4.0	0.00
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		Which of the following statements are true for 'Transcription factors' in plants? A. Their site of action is in the nucleus. B. They have DNA binding activity. C. They can repress the expression of a gene D. Their own expression can be regulated by miRNA genes. Choose the most appropriate answer from the options given below: 1. A, B and D only 2. A, B, C and D 3. A and B only 4. C and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

98	991098	Which of the following components are needed to perform quantitative RT-PCR based expression profile of a transcription factor gene? A. mRNA population B. Thermostable Taq DNA polymerase C. RNA dependent RNA polymerase (RDRP) D. Reverse transcriptase Choose the most appropriate answer from the options given below: 1. A, B, C and D 2. A and D only 3. A and C only 4. A, B and D only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

99	991099	Find the wrong statement in reference to regulation of stem cells in shoot meristem 1. CLV3 protein express in stem cells 2. WUS proteins are produced in organizing center cells 3. In feedback loop CLV3 expression is restricted by WUS 4. Organizing center is present below stem cells A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		
Objective Question				
100	991100	According to which Act of Geographical Indication of Goods, Handicraft is registered as Geographical indication? 1. Act 2000 2. Act 1998 3. Act 1997 4. Act 1999 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00