

SECOND YEAR HIGHER SECONDARY SAY/IMP. EXAMINATION, JUNE 2016.
(Finalised Scheme of Valuation)

Subject: Biology - Part A Botany

Code No: 2017 Part A

Qn.No	Scoring Indicators	Split Score	Total Score
1	Microsporogenesis	1	1
2.	Clone	1	1
3a	Collection of variability Evaluation and selection of parents Cross hybridisation Selection and testing of superior recombinants Testing, release and commercialisation of new cultivars (Any 3 points)	$\frac{1}{2} \times 3$	$1\frac{1}{2}$
(b)	meristem culture short explanation of meristem culture OR. (Tissue culture & its explanation)	$\frac{1}{2}$ $\frac{1}{2} + \frac{1}{2}$	$1\frac{1}{2}$ 1
4	c-synergid	1	1
5	a. Wind and insect	1	1
6	Separation of DNA fragments DNAs are -vely charged particles The fragments of macromolecules move towards anode under an		

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	<ul style="list-style-type: none"> - electric field through a medium. - ethidium bromide used for staining - exposed to UV rays. - The smaller the fragment size, the faster it moves - Extracted by elution <p style="text-align: center;">(Any 4 points)</p>	1/2 x 4	2
7	<p>Silencing of a specific mRNA Prevent infestation of pest meloidogyne (Any point related to RNA interference)</p> <p>meloidogyne incognita in tobacco plants</p>	1 1	2
8	<pre> graph TD Producers[Producers] --> Consumers[Consumers] Consumers --> Detritus[Detritus] Detritus -- Decomposition --> SoilSolution[Soil solution] SoilSolution -- uptake --> Producers RockMinerals[Rock minerals] -- weathering --> SoilSolution Producers -- Litter fall --> Detritus </pre> <p>OR Full explanation at give</p>		3

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	full score or $\frac{1}{2}$ score to each point in flow chart without correct sequence.		
9	d - sporo pollenio	1	1
10	A epidermis B Endothecium c middle layer D Tapetum	$\frac{1}{2} \times 4$	2
11a	PCR - Polymerase chain reaction Denaturation, Annealing, Extension OR.	$\frac{1}{2}$ } $\frac{1}{2} \times 3$ }	2.
b	Extra chromosomal DNA origin of replication, selectable marker, cloning sites	$\frac{1}{2}$ } $\frac{1}{2} \times 3$ }	2
12	ADA gene The lymphocytes of patients is cultured outside. ADA gene is introduced cell is introduced into the patient	$\frac{1}{2}$ } $\frac{1}{2} \times 3$ }	2
13	Exponential - Resources unlimited / J shaped curve / equation Logistic - Resources limited / sigmoid or S shaped curve / equation	1 } 1 }	2

Qn.No	Scoring Indicators	Split Score	Total Score
14a	Increase in concentration of toxicant at successive trophic level	1 } 1 }	2
b	thinning of eggshell/premature breaking		
15	Thick cuticle, stomata in pits or sunken stomata, store water in the body, CAM pathway, no leaf, spines, photosynthetic functions by flattened stem (Any 4)	1/2 x 4	2
16.	Break down of detritus into small particles.	1	1
17	Excreta can be recycled into fertilizer. (compost), Hygienic, efficient, cost effective, reduces wastage of water, reduces the need for chemical fertilizer. (Any two)	1 x 2	2

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