

SECOND YEAR HIGHER SECONDARY EXAMINATION, JUNE 2017
(Finalised Scheme of Valuation)

Subject: Biology - Part A Botany

Code No: 7017 Part A

Qn.No	Scoring Indicators	Split Score	Total Score
1.	Biomagnification	1	1
2.	<p>Ori - sequence from where replication starts</p> <ul style="list-style-type: none"> - any piece of DNA when linked to ori made to replicate - control copy numbers - make copy <p>(Any one point)</p> <p>selectable markers - identifying and eliminating transformants from non transformants.</p> <ul style="list-style-type: none"> - selectively permitting the growth of transformants. - identify transformation - identify recombination - Any two examples of selectable markers. <p>(Any one point)</p>	1	2

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Qn. No	Sub Qns	Answer Key / Value points	Score	Total
		(Any two points related to insect pollination) wind pollination - light pollen, non sticky, well exposed stamens, feathery stigma, single ovule, Inflorescence.	1 1/2	3
		(Any two points related to wind pollination) OR. B. a. Syngamy + Triple fusion → Double fertilisation or defenition	1	
		b. One male gamete fuses with secondary nucleus (polar nuclei) to produce primary endosperm (PEN)	1	3.
		c. (i) endosperm - Triploid/3n (ii) zygote - Diploid/2n.	1/2 } 1/2 }	
7.	a.	Fertility increases, organisms flourish, lake become shallower and warmer, Finally converted to land or Algal bloom, nutrient enrichment		

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8.	b.	(Any one point related to eutrophication)	1	2
		Dissolved oxygen decreases / changes	1	
9.		Rocks weathered \rightarrow phosphates \rightarrow released to soil \rightarrow Absorbed by plants \rightarrow when die phosphorus released by bacteria. or Diagrammatic representation of Phosphorus cycle	2.	2.
		Natality - No of births in a given period in a population or Birth rate. Mortality - No of deaths in a population or Death rate. Immigration - No of individual of same sps that have come into the habitat from elsewhere in a time period. Emigration - Individuals left the habitat in a given period.	Any two 1+1	2.


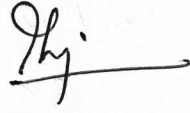


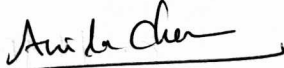
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Qn. No	Sub Qns	Answer Key / Value points	Score	Total
10.	a.	PCR / amplification of gene of interest	1	2
	b.	<i>Thermus aquaticus</i>	1	
11.		Regulate, migrate, conform, suspend hibernation, aestivation, Diapause encasement formation Any four points.	$\frac{1}{2} \times 4$	2.
12.		Apiculture / bee keeping	1	1
13.	A.			
	a.	<i>Bacillus thuringiensis</i>	1	3.
	b.	Cry / Bt toxin gene	1	
	c.	In the alkaline pH of insect gut, pro toxin get activated to active toxin, binds the surface of midgut epithelial cells cause lysis, eventually death. or Inactive toxin become active in high pH.	1	

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14.	B. a.	ADA/Adenosine deaminase deficiency SCID	1	3.
	b.	gene isolate from bone marrow cells producing ADA is introduced into cells at early embryonic stage.	2	
15	a.	plumule b. cotyledon	1x2	2.
	c.	Hypocotyl d. Radicle (Any two)		
16.		Grass → Grass hoppers - Birds → man		
		primary producers - primary consumers (1 st trophic level) (2 nd trophic level)	2	2.
17.		→ secondary consumers - Tertiary consumers (3 rd trophic level) (4 th trophic level)		
		or Correct food chain give full score.	1	1
	a) ELISA.		1	1
	b. Catalytic converter		1	1

← Total score - 30

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