

SECOND YEAR HIGHER SECONDARY EXAMINATION MARCH 2017

FINALIZED SCHEME OF VALUATION

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Subject - Biology - Part A Botany

TOTAL SCORE - 30


Code No. SY 26

Qn.No	SUB QTN	Scoring Indicators	Split Score	Total Score
1		c. Cut the DNA into pieces	1	1
2		JFM (Joint Forest Management)/ Chipko movement / Vanamahotsava/Afforestation /Reforestation	1	1
3		d. Ozone	1	1
4		Tolerant to abiotic stress Pest resistant Reduced post harvest loss Increased efficiency of mineral usage Enhanced nutritional value Tailor made plants are alternative sources to industries Any two of the above	1+1	2
5		Mutualism - e. Mycorrhizae Predation - c. Biological control Commensalism - a. An orchid growing on a tree trunk Competition - b. Gauss's Exclusion Principle	1/2 1/2 1/2 1/2	2
6	a b c d	Zoozpores Conidia Bud Gemmule	1/2 1/2 1/2 1/2	2
7	a b	PCR for Early detection of diseases, Gene mutation, Cancer and other genetic disorders, Amplification of pathogenic nucleic acid. (Any one point - 1 score) ELISA - Antigen Antibody interaction	1 1	2
8	a b	Pyramid of Biomass/ Upright pyramid Reason - Energy flows from a trophic level to next higher trophic level, Only 10% of energy of a TL will be transferred to next higher TL/ 10% Law/ 2nd Law of Thermodynamics, At each TL some energy is lost in the form of heat (Any one such relevant reason)	1 1	2
9		Increase in atmospheric Co ₂ concentration, Loss of biodiversity, Loss of habitat, Disturb hydrologic cycle, soil erosion, Desertification, Co ₂ - O ₂ imbalance in atmosphere, Global warming (Any two similar correct responses)	1+1	2
10	a b	Mortality/D/Death rate Emigration/E $N_{t+1} = N_t + [(B+I) - (D+E)]$	1/2 1/2 1	2

1/4

	Dicot Embryo	Monocot Embryo		
11	Two cotyledons Coleoptile absent Colerhiza absent Epiblast absent Long embryonal axis Diagram with labelling - full score 2 Any two similar correct differences - full score 2	One cotyledon(Scutellum) Coleoptile present Coleorrhiza present Epiblast present Short embryonal axis		2
12	a Biomagnification b DDT in birds disturb Ca metabolism Thinning of egg shells Premature breaking of egg shells Decline in bird population. (Any one point - 1 score)		2 1	2
13	a Organism which breaks down detritus into smaller particles b Earth worm, Termite or similar organism		1/2+1/2 1 1	2
14	a Syngamy and Triple fusion b PEN (Primary endosperm nucleus)		1/2+1/2 1	2
15	1. Isolation of DNA 2. Fragmentation of DNA by RE 3. Isolation of desired DNA fragment 4. Ligation of DNA fragment into vector 5. Transferring the rDNA in to the host 6. Culturing the recombinant host in the medium 8. Down stream processing/ Extraction of desired product Any six steps - 3 score [Sequence not to be considered] rDNA diagrammatic sketch with label - full score 3		6x 1/2	3
16	a Hind II b First capital letter- Genus name second two letters - Species name Next letter - Strain of bacterium from which the RE is isolated Last roman number- order of isolation of enzyme [Using Eco R I explanation with 4 points - 2 scores]		1 1/2 1/2 1/2 1/2	3
17	a A - Epidermis B - Endothecium C - Middle layers D - Tapetum b Tapetum/D		1/2 1/2 1/2 1/2 1	3






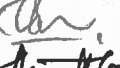





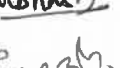
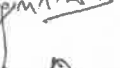


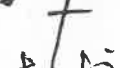





18	<p>a Mule</p> <p>b Out crossing- Cross between individuals of same breed but beyond 4 to 6 generations/ Mating of animals within the same breed but having no common ancestors on either side of their pedigree upto 4-6 generations/ Help to overcome inbreeding depression/ Helps to increase the quality of productivity of breed/ Progeny is out cross</p> <p>Cross breeding- Cross between individuals of two different breeds/ Hizardale = Bikaneri ewes x Marino rams/ Superior males of one breed mated with superior females of another breed / Allows to combine desirable qualities of two different breed/ Used for commercial production of Hybrid animals</p> <p>Any one point each from out crossing and cross breeding give 2 scores</p> 	1 1 1	3
TOTAL SCORE		37	37

SECOND YEAR - BOTANY

(4)

Scheme finalized by

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