SECOND YEAR HIGHER SECONDARY EXAMINATION,MARCH 2021

Part –III BOILOGY: BOTANY Max Score:30

QN No	SCORING INDICATORS	SPLIT SCORE	Total score
I 1.	**b) Bamboo**	**1**	**1**
2.	Zygote	**1**	**1**
3.	Biofortification	**1**	**1**
4.	c) PCR -Amplification of gene	**1**	**1**
5.	Parasitism	**1**	**1**
6.	Epicotyl	**1**	**1**
7.	d)Bone marrow transplantation	**1**	**1**
II	**Monoecious-Plant with Both male and female reproductive steuctures in the same one. e.g. Coconut/Cucurbits**	**½ + ½**	
8.	**Dioeciuus –Plant with male and female reproductive structures in different ones. e.g. Papaya/Date palm**	**½ + ½**	**2**
9.	**The first letter of the name comes from the genus /second two letters comes from the species of the prokaryotic cell from which they were isolated /next leter denotes strain/Roman number following the names indicate the order in which the enzymes were isolated from the strain of bacteria (*Any two may get 2 Score)**	**1+1**	**2**
10.	**Multiple Ovulation Embryo Transfer Technology**	**1**	
	Used to increase herd size in short time/The genetic mother get available for repeated cycles of super ovulation	**1**	**2**
11.	**Proembryo,Globular embryo,Heart shaped embryo,Mature embryo**	**½ x 4**	**2**
12.	**a)Homogametes(Isogametes) b)Heterogametes**	**½ + ½**	
	dissimilar gametes/One motile other non motile	**1**	2
13.	**Oestrus cycle e.g.-Non primates/cows/sheep/rats/deers/dogs**	**½ + ½**	
	Menstrual cycle e.g.-Primates/Monkey/Apes/Humans	**½ + ½**	2
14.	**Genetic engineering**		
	Bioprocess engineering/Chemical engineering	1+1	2

15.	Refers to increase in concentration of toxicant at successive trophic levels e.g –DDT/Mercury	1 +1	2
16	Convertion of forest for agricultural lands/Axing of trees for timber and firewood/Cattle ranching/Slash and burn agriculture or Jhum cultivation	½ x4	2
17	a) + b) + c) - d) Commensalism	½ x4	2
18.	Proinsulin contains A,B and C poly peptide chains/It is non functional	1	
	Insulin contains A and,B poly peptide chains alone/It is functional	1	2
19	Amp ^{R} and tet ^{R}	½ + ½	
	This sequence is controlling the copy number of linked DNA	1	2
20.	Fragmentation,Leaching,Catabolism,Humification,Mineralisation any four in correct sequence may get 2 score	½ x4	2
21.	Flowers are large/colourful/fragrant/rich in nectar/small flowers are clustered into an inflorescence	½ x4	2
22.	Fruit formed without fertilisation of ovary	1	
	It can be induced by the application of growth hormones like Auxins	1	2
23	A genetic mechanism that- prevent self pollination/Prevent fertilisation of ovules/by inhibiting pollen germination or pollen tube growth in the pistil(Any correct response full score may be given)	2	2
24.	a)Lichen b)Succession takes place in wet areas/successional series progress from hydric to mesic condition/Pioneer is	1	
	Phytoplankton and climax community is forest/ or writing four successional stages in correct sequence may get 1 score	1	2
25	First trophic level-Phytoplankton Sec Trophic level-Zooplankton Third trophic level-Fish Fourth trophic level-Man	½ x4	2

26.	a)Platinum/Paladium/Rhodium Unburned hydrocarbons are converted in to CO_2 & water/ CO and Nitric oxide are changed to CO_2 & N_2 gas	1 1	2
III 27	Mortality & Emigration By the death of organisms (Mortality) Population decline By leaving a habitat population of that organism decline in that habitat	1 1 1	3
28.	a)cry gene b) *Bacillus thuringiensis* c)Bt cotton contain cry gene which produce CRY protein/when an insect ingest this protein,it come into contact with the alkaline pH of the gut of the incect/then the CRY protein become active toxin/the activated protein binds to the surface of midgut epithelial cells and create pores/thus kill the insect	½ + ½ 1+1	3
29.	Epidermis,Endothecium,Middle layers,Tapetum Nourishing the developing pollen grains	½ x4 1	3
30.	1,(C)-Isolation of DNA 2,(e) Fragmentation of DNA 3,(f) Isolation of desired DNA fragment 4,(a)Ligation of DNA fragment in to a vector 5,(d) Transfering the rDNA into the host 6,(b) Culturing the host cell in a medium at large scale	½ x6	3
31.	Selection of good breed having high yielding potential and desease resistance / They have to be housed well with adequate water and be maintained desease free/Provide qualitative and quantitative fodder/ Stringent cleanliness and hygiene/Mechanise the Dairy farm/Regular visit by a veterinary doctor(Any three responses)	1x3	3
	Prepared by ***SREERENGAM JAYAKUMAR***, HSST SG BOTANY,MSMHSS CHATHINAMKULAM,KOLLAM		
	TOTAL	60	60

Last updated on 14-04-2021