Sample Question Paper - I (Botany)
Answer Key

Qn. No.	Sub Qn. No.	Value points/Scoring indicators	Score splitted	Total score
1		(B) DNA Amplification	1	1
2		Yeast	1	1
3		(D) Cockroach	1	1
4		Fragmentation, leaching, catabolism, humification and mineralisation. (Any four points give full score)	2	2
5		Any four uses of Genetically Modified Organisms	½ +½ + ½+½	2
6	A.	Using Agrobacterium vectors, nematode specific genes were introduced into the host plant. So both sense and antisense RNA are formed. These two RNA form a double stranded RNA that initiate RNAi, and thus silence the mRNA of nematode.	½ x4=2	2
		OR	OR	
	B.	Eli Lilly company prepared two DNA sequences corresponding to A & B and introduced in the plasmids of E.coli to produce insulin chains. Chains A & B combined to get insulin.	1 1	2
7		Thick cuticle on their leaf surface/ Stomata are arranged in deep pits to minimise water loss/CAM pathway/No leaves, which are reduced to spines / Photosynthesis by stem (Any two adaptations give full score)	1 1	2
8		A = Antipodals B = Secondary nucleus / Polar nuclei C = Egg D = Synergid	½ ½ ½ ½	2
9		A = Producers B = Consumers C = Detritus D = Soil solution	½ ½ ½ ½	2
10		Any two examples for mutualism give full score	1+1	2
11	(i)	Meiosis / Reduction division	1	3
	(ii)	Microsporogenesis : All microspores become functional pollengrains Megasporogenesis : After meiosis, only one megaspore becomes functional while others degenerate or Any other correct responses.	1 1	

Qn. No.	Sub Qns	Value points/Scoring indicators	Score splitted	Total score
12	(a)	(C) Sonalika	1	
	(b)	Breeding crops with higher levels of vitamins and minerals or protein and healtheir fats	1	3
		Protein content and quality / oil content & quality / vitamin content / mineral content	1	
		Any two objectives		
13		1. Isolation of genetic material	½	
		2. Cutting of DNA at specific locations	½	
		3. Amplification of gene of interest using PCR	½	
		4. Insertion of recombinant DNA into the host cell	½	3
		5. Obtaining the foreign gene product	½	
		6. Downstream processing	½	
		OR		
		1. First letter from the name of the genus of bacterium	1	
		2. Second two letters from species	1	
		3. Next letter from the name of strain	1	3
		4. Roman number is the order of discovery		
		Any three points give full score		
14	(i)	(B) Carbon dioxide	1	
	(ii)	Any three points regarding the control of global warming	3	4
		TOTAL	**30**	**30**

Sample Question Paper - I (Zoology)
Answer Key

Qn. No.	Sub Qns	Value points	Score	Total `
1	a.	Hotspots and sacred grove	½x2=1	
		Zoological Park and Wild Life Safari Park	½x2=1	2
	b.	A. Western ghats	1	1
2		ZIFT	1	1
3		Vasectomy & Tubectomy	½x2 = 1	
		Merit - highly effective Demerit - Reversibility is poor	½+½=1	2
4		a - 200 sperms & 50 ova	1	1
		b - a. Fallopian tube b. Vagina c. Ovary d. Uterus	½x4 = 2	2
5		a. Clostridum butylicum	1	
		b. Carried with the help of aerobic bacteria	1	2
6	A	a - Sickle cell anaemia	1	
		b - Phenyl Ketonuria	1	3
		c - Turners' Syndrome	1	
		OR		
	B	1 - Henking - X - body	1	
		2 - T.H. Morgan - Linkage in Drosophila	1	3
		3 - Sutton & Boveri - Chromosomal Theory of inheritance	1	
7		RY, Ry, rY, ry	½x4	2
8		Dryopithecus - Homo habilis		
		Homo erectus - Neanderthal man	½x4	2
9		a - Hardey - Weinberg Principle	1	
		b - Mutation, Natural Selection Migration, Genetic drift (Any two)	½x2=1	2
10	A	A - Salmonella typhi		
		B - Sustained fever 39-40^{0}C		
		C - Common cold		
		D - Running Nose and Nasal congestion	½x6	3
		E - Pneumonia		
		F - Haemophilus influenzae		
		OR		
	B	Primary Lymphoid Organs → Thymus, Bone marrow	½x3	
		Secondary Lymphoid Organs → Spleen, Peyer's Patches	½x3	3

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Qn. No.	Sub Qns	Value points	Score	Total
11		Helper T - Cells	1	1
12		a and d	1	1
13		(a) A - start codon B - stop codon (b) A - AUG B - UAA, UGA, UAG (any one)	½x2=1 ½x2=1	2
14		a - 2968 instead of 1968 b - No change	1	1
15		a - act as cap b - Joints DNA fragments during replication	1 1	2
		TOTAL		**30**