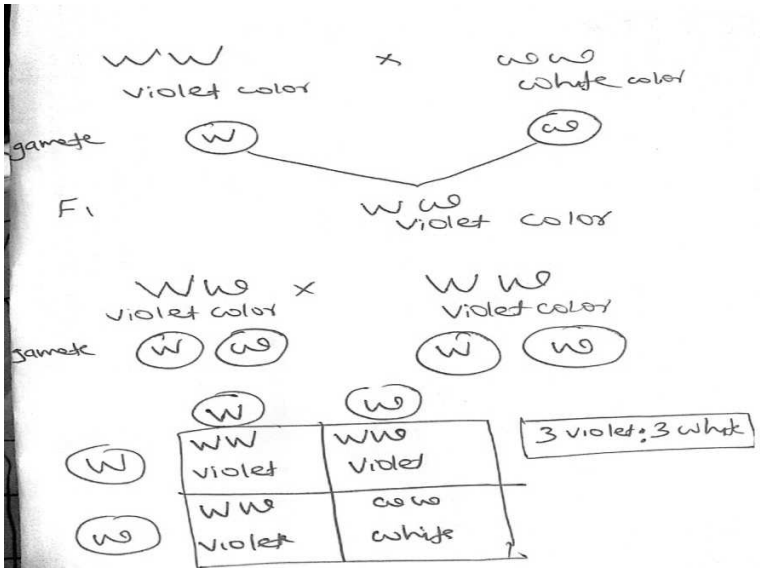
ZOOLOGY MODEL EXAMINATION ANSWER KEY FEB-2018

HSE-II

QN	Answer	Value point
1	Myometrium	**1**
2	*Trichoderma polysporum*	**1**
3	*Salmonella typhi*	
4	1.Gamete Intra fallopian transfer 2. a. Collect egg from a donor b. Transfer the egg into the fallopian tube of another female who cannot produce one, but can provide suitable environment for fertilisation and further development.	**1** **1**
5	<table><tr><th>Vasectomy</th><th>Tubectomy</th></tr><tr><td>a)Sterilisation procedure in the male b)Here a small part of the vas deferens is removed or tied up through a small incision on the scrotum.</td><td>a)Sterilisation procedure in the Female b)a small part of the fallopian tube is removed or tied up through a small incision in the abdomen or through vagina.</td></tr></table>	**2**
6	**a)**  **b) Test cross**	**1.5** **0.5**
7	a)Yes b)Genotype of Ramu's Father and mother are either I^AI^A or I^Ai and I^BI^B or I^Bi respectively. Genotype of AB blood group is I^AI^B . AB blood group is heterozygous but here both alleles express their own type of sugar, it an example for codominance, It is an deviation from Mendelian principle.	**0.5** **1.5**
8	**a)Down's Syndrome** **b)Turner's Syndrome**	**1** **1**
9	**A-**Digestion of DNA by restriction endonucleases. B-Transferring (blotting) of separated DNA fragment to synthetic membranes, such as nitrocellulose or nylon.	**0.5** **0.5**

	c-Any **2 uses** of DNA Finger printing such as • Test of paternity. • Identify the criminals (Rape/Murder etc) • Population diversity determination. • Determination of genetic diversity.	**1**
10	a) 1-A genetic material should be able to generate its replica 3-A genetic material should be able to express itself in the form of Mendelian Characters. b) A genetic material **<u>should provide</u>** the scope for slow changes (mutation) that are required for evolution	**1** **1**
11	**1) DNA Replication** **2) DNA dependent DNA Polymerase** **3) DNA ligase** **4) S-Phase**	**0.5** **0.5** **0.5** **0.5**
12	**1) A-CH_4** **B-NH_3** **2) Sugar, Fat, Pigments**	**1** **1**
13	**Before industrialisation** set in (1850) , thick growth of almost white-coloured lichen covered thetrees - in that background the white winged moth survived but the dark-coloured moth were picked out by predators. the lichens can be used as industrial pollution indicators They will not grow in areas that are polluted. Hence, moths that were able to camouflage themselves, i.e., hide in the background, survived. **During post industrialization** period (1920) , the tree trunks became dark due to industrial smoke and soots. Under this condition the white-winged moth did not survive due to predators, darkwinged or melanised moth survived. **This showed that in a mixed population, those that can better-adapt, survive(Natural selection) and increase in population size**	**2**
14	1.Brewer's Yeast (***Saccharomyces cervisiae***) 2. ***Monascus purpureus***	**1** **1**
15	Ramapithecus-Australopithecines-Homo Habilis-Homo erectus-Neanderthal man-Homo sapiens	**6×0.5 =3**
16	**<u>Symptoms of Cancer</u>** : Uncontrolled growth of cell, Metastasis etc. **<u>Detection :</u>** Biopsy and histopathological studies , CT scan, MRI scan, Antibodies against cancer-specific antigens etc. **<u>Treatment:</u>** surgery, radiation therapy and immunotherapy.	**1** **1** **1**
17	**Yes,** Write an account on Habitat loss and fragmentation, Over exploitation, Alien species invasion, Co Extinction	**0.5** **2.5**
18	**1) A-RNA** **B-RNA Polymerase** 2) **<u>a)Capping :</u>** In Eukaryotes an unusual nucleotides $_{m}G_{PPP}$ (methyl guanosine triphosphate) is added to the 5'-end of hnRNA. **<u>b)Tailing:</u>** In tailing, adenylate residues (200- 300) are added at 3'-end of Mrna in a template independent manner.	**0.5** **0.5** **1** **1**