SECOND YEAR HIGHER SECONDARY SECOND TERMINAL EVALUATION DECEMBER-2018

Part-III

Zoology-Answer key

Qn	Answer	Score
1	Co-Dominance	**1**
2	Thyamine, cytosine, uracil	**1**
3	a)ZIFT-Zygote intra fallopian transfer b)ICSI-Intra cytoplasmic sperm injection	**1** **1**
4	a)Sustained high fever (39° to 40°C), weakness, stomach pain, constipation, headache and loss of appetite are some of the common symptoms of this disease. Intestinal perforation and death may occur in severe cases b)***Salmonella typhi*, widal test**	**1** **1**
5	a) Hardy-weinberg principle b) i) Gene migration or gene flow, ii) Genetic drift, iii) Mutation, iv) Genetic recombination and v) Natural selection.	**1** **1**
6	**a-iii** **b-i** **c-iv** **d-ii**	
7	a) George Gamow b)any four salient features	**1** **1**
8	a)Francis Crick b) It is the unidirectional flow of information form DNA-RNA-Protein	**1** **1**
9	**Benign tumors** normally remain confined to their original location and do not spread to other parts of the body and cause little damage. **The malignant tumors**, are a mass of proliferating cells called neoplastic or tumor cells. These cells grow very rapidly, invading and damaging the surrounding normal tissues. As these cells actively divide and grow they also starve the normal cells by competing for vital nutrients. Cells sloughed from such tumors reach distant sites through blood, and wherever they get lodged in the body, they start a new tumor there. This property called **metastasis** is the most feared property of malignant tumors	**2**
10	a) Tall pea plant with yellow seed × tall pea Plant with green seed TtYy × Ttyy Gamete TY Ty tY ty Ty ty b) 3 c) 1	**1** **0.5** **0.5**

	TY	Ty	tY	ty
Ty	TTYy Tall yellow	TTyy Tall green	TtYy Tall Yellow	Ttyy Tall Green
ty	TtYy Tall Yellow	Ttyy Tall green	ttYy dwarf Yellow	ttyy Dwarf green

11	a)Down's Syndrome b)45A+XX or 45A+XY	**1** **1**
12	Arrange in the following order c-----e---f----a----d-----b	 **2**
13	**<u>Homologous organs</u>** Homologus organs are organs having **same structure** and origin **but different functions**. This phenomenon is called **homology**. such organs are developed due to **divergent evolution**. **(any one example)** Eg:1) whales, bats, Cheetah and human (all mammals) share similarities in the pattern of bones of forelimbs Eg;2) the thorn and tendrils of *Bougainvillea* and *Cucurbita* represent homology Eg;3) vertebrate hearts or brains **<u>Analogous organ</u>** Organs having **same function** but different structure and origin. This phenomenon is called Analogy. Such organs are developed due to **Convergent evolution (any one example)** **Eg;1) Wings of butterfly and of birds** **Eg;2) the eye of the octopus and of mammals** **Eg;3) the flippers of Penguins and Dolphins.** **Eg;4) Sweet potato (root modification) and potato (stem modification)**	**2**
14	Physical barrier, physiological barrier, cellular barrier, cytokine barrier	**2**
15	**a)** **<u>I)capping :</u>** It is the addition of an unusual nucleotide (Methyl guanosine triphosphate) to the 5' end of hnRNA **<u>ii)Exon :</u>** It is the coding sequence in hnRNA **<u>iii)Introns :</u>** It is the non-coding sequence in hnRNA **<u>IV)RNA Splicing :</u>** It is the process by which Introns (Non coding sequences) are removed and Exons are join together in a defined order to form functional mRNA b) The RNA Produced as a result of transcription in Eukaryotes contains both Exons (Coding sequences) and Introns (non coding sequences),such RNA are non functional. Such RNA is called hnRNA (Heterogenous nuclear RNA) mRNA contains only coding sequence. hnRNA is called precursor of mRNA	**0.5** **0.5** **0.5** **0.5** **1**
16	a)It is the a structural and functional unit between developing embryo (foetus) and maternal body .-Placenta b) human chorionic gonadotropin (hCG), human placental lactogen (hPL), estrogens, progestogens. c) 1. The placenta facilitate the supply of oxygen and nutrients to the embryo 2. it helps in the removal of carbon dioxide and excretory/waste materials produced by the embryo.	**1** **1** **1**
17	a-Barrier method b-IUDs c-Vasectomy d-Lactational amenorrhea /Periodic abstinence e-Cervical cap/ vault/ Diaphragm f-Medicated IUDs	**0.5*6=3**
18	a)Females produce two /different types of gametes b)ZZ-ZW mechanism c) XX-XY Example= Man , Drossophila XX-XO Example = Insects Haplo-Diploidy Example Honey Bee	**1** **1** **1**