

INTERNATIONAL INDIAN SCHOOL BURAIDAH

TERM EXAM (2019-2020)

BIOLOGY

Class XII-SET A

Max Marks 70

Time 3hrs

General Instructions:

(i) All questions are compulsory.

(ii) This question paper consists of four Sections A, B, C and D. Section A contains 5 questions of one mark each, Section B is of 7 questions of two marks each, Section C is of 12 questions of three marks each and Section D is of 3 question of five marks. Section.

(iii) There is no overall choice. However, an internal choice has been provided in all the sections. A student has to attempt only one of the alternatives in such questions.

(iv) Wherever necessary, the diagrams drawn should be neat and properly labelled.

SECTION-A

- 1- Why banana is considered a good example of Parthenocarpy? [1]
- 2- Name the type of flower which favors cross pollination. [1]
- 3- Name the hormones produced by placenta in a pregnant woman. [1]
- 4- Name a contraception method which can also prevent STDs.

OR

Expand ZIFT and GIFT, compare the difference. [1]

- 5- What is **colostrum**? **OR** What is autoimmune disease? [1]

SECTION-B

- 6- Detection of cancer at early stages can be helpful for its complete treatment.
Explain any two methods to detect cancer? [2]
- 7- A pollen grain has a hard outer covering called EXINE. Name the organic substance that make EXINE hard and mention its advantages to the pollen grain.

OR

Draw a neat diagram of mature pollen grain and label the following parts (a) Exine (b) Intine (c) Vegetative cell (d) Generative cell [2]

- 8- *In artificial hybridization if the female parent bears bisexual flowers Removal of anthers from the flower bud before the anther dehiscence by using forceps is called emasculation. Emasculated flowers have to be covered with a bag, generally made up of butter paper.* Explain why the flowers have to be covered? What if the female parent produces unisexual flowers? [2]
- 9- *Spermatogenesis starts at the age of puberty due to significant increase in the secretion of gonadotropin releasing hormone (GnRh).* Explain how GnRh stimulate the process of spermatogenesis. [2]
- 10- Compare point mutation and frame shift mutation. [2]
- 11- Hemophilia, (2) Sickle-cell anemia and (3) Phenylketonuria are some of the examples of Mendelian Disorders. In the above mentioned 1 to 3 disorders find out which one is a sex linked recessive disease, which one is autosomal linked recessive trait. Explain any one of the above mentioned disorders. **OR**
Explain female heterogamety in birds and compare it with male heterogamety. [2]
- 12- Describe and compare the terms **Somaclone** and **Somatic hybrids**. [2]

SECTION-C

- 13- Draw a neat diagram of electrostatic precipitator and label the parts to show how dirty air is cleaned. **OR**
Explain how Eutrophication destroys the pond or lake ecosystem. [3]
- 14- Explain inbreeding depression and mention how can we recover inbreeding depression? [3]
- 15- What are the important points that a bee keeper should know in order to be a successful bee keeper. **OR**
Explain MOET and mention how it is helpful to increase herd size. [3]
- 16- Your friend is addicted to smoking, how will you help your friend to stop smoking. Explain. **OR**
What is peer pressure how do you handle peer pressure in your real life situations? Explain with an example [3]
- 17- The following table shows the genetic basis of blood groups in human population but it is incomplete. Study the table and complete the empty boxes with correct answers.

Sl No	Allele from parent -1	Allele from parent-2	Genotype of offspring	Blood types of offspring
1	I^A		$I^A I^A$	A
2	I^A	I^B		AB
3	I^A	i		A
4	I^B	I^A	$I^A I^B$	
5		I^B	$I^B I^B$	
6	I^B	i		B
7	I	i		O

- 18- In an incomplete dominance a red RR is crossed with a white rr gametes R and r in F1 generation all are pink. Show your work to find the ratio of F2 generation for the same and explain incomplete dominance. [3]
- 19- Expand IUDs and explain with two examples how they work to prevent pregnancies.
- 20- Explain Oogenesis in human female. [3]
- 21- Draw a sectional view of seminiferous tubule and label the following parts. (a) spermatogonium (b) sertoli cells (c) primary spermatocytes (c)Secondary spermatocytes (d) Spermatids (e) Spermatozoa. [3]
- 22- Draw a mature embryo sac and show the following parts with label lines - antipodals, polar nuclei, central cell, egg, synergids and filiform apparatus. [3]
- 23- Explain double fertilization and triple fusion with the help of a neat diagram. [3]
- 24- Describe the followings (a) juvenile phase (b) oestrus cycle (c) life span. [3]

SECTION-D

- 25- Compare the differences between a wind pollinated flower and an insect pollinated flower. **OR**
Explain the role of various hormones that regulate menstrual cycle in human female with the help of a neat graph. [5]
- 26- With the help of a Punnett square, find the percentage of homozygous tall in a F2 population involving a true breeding tall and a true breeding dwarf pea plant.

OR

With the help of a neat diagram explain the life cycle of plasmodium in human and in mosquito [5]

27- What is "bio fortification" ? Write its importance. Mention the contribution of Indian Agricultural Research Institute towards it with the help of two examples.

OR

Explain biological magnification of DDT with the help of a neat flow chart. [5]
