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(To be filled in by the candidate)

Biology**H.S.S.C (12th) 1st Annual 2023**

Time : 20 Minutes

Paper : II

SWL-12-23

Objective - (i)

Marks : 17

Paper Code	8	4	6	1
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Note: - You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number in your answer book. Use marker or pen to fill the circle. Cutting or filling up two or more circles will result no mark.

SECTION-A

Q.1	Questions	A	B	C	D
1.	How much water is needed to eliminate 1g of ammonia nitrogen?	1 ml	50 ml	100 ml	500 ml
2.	Which bones are part of pelvic girdle?	Ilium and scapula	Ischium and pubis	Pubis and suprascapula	Ischium and clavicle
3.	What happens during muscle contraction?	I-band shortens, H-zone disappears	I-band shortens, Z-lines brought away	Z-lines brought closer, H-zone maximizes	I-band elongates, H-zone disappears
4.	Which are the growth promoter hormones?	Cytokinins and abscisic acid	Auxins and ethene	Auxins and cytokinins	Auxins and abscisic acid
5.	Which of the given share a common hypothalamic releasing factor?	LH and FSH	LH and Prolactin	TSH and FSH	FSH and Prolactin
6.	The most effective temperature for vernalisation is :	5°C	10°C	7°C	4°C
7.	Yellow cytoplasm of ascidian egg produces:	Epidermis	Gut	Muscle cells	Neural tube
8.	Which are not present in RNA?	Adenine and thymine	Thymine and deoxyribose	Uracil and deoxyribose	Uracil and ribose
9.	In prokaryotes, the promoter binding sequence TTGACA is also called _____ sequence.	-35	-10	-75	-25
10.	Persons affected from Turner's syndrome have _____ chromosomes.	44 Autosomes -X	44 Autosomes +X	44 Autosomes +Y	44 Autosomes -Y
11.	Two normal parents have an albino child. What is the probability that their next child will also be an albino?	50 %	75 %	25 %	100 %
12.	Thermus aquaticus is a:	RNA polymerase	DNA ligase	RNA primase	DNA polymerase
13.	Organic chemical needed to make aspartame is :	phenylalanine	Alanine	Proline	Valine
14.	In terrestrial vertebrates, gill pouches develop into _____.	Gills	Middle ear	Eustachian tube	Auditory tube
15.	The biotic components that obtain their energy from dead decaying materials are:	Producers	Primary consumers	Secondary consumers	Decomposers
16.	Which biome has very fertile and rich organic matter soil?	Deciduous forests	Grass land	Deserts	Tundra
17.	Which component of CFCs destroys ozone?	Carbon	Fluorine	Chlorine	All of these

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Biology**H.S.S.C (12th) 1st Annual 2023**

Time : 2:40 Hours

Paper : II

SWL-12-23

Subjective

Marks : 68

Note:- Section B is compulsory. Attempt any 3 questions from Section C.**SECTION-B****2. Write short answers to any Eight parts.****(8 x 2 = 16)**

- i. What is a flame cell?
- ii. Define heat shock proteins.
- iii. How do terrestrial animals dispose of excess heat from the body? Discuss it.
- iv. How does a plant cell maintain turgor pressure by tonoplast? Comment on it.
- v. How does secondary xylem produce growth rings during secondary growth?
- vi. How is callus formed on damaged surfaces of stem and root? Give its significance.
- vii. Ovulation in human female is due to hormonal control. Comment on it.
- viii. What are fraternal twins?
- ix. What is Eutrophication?
- x. Distinguish Littoral zone from Limnetic zone.
- xi. What is a nutrient cycle?
- xii. What are industrial effluents? Give their any two effects.

3. Write short answers to any Eight parts.**(8 x 2 = 16)**

- i. Write two physiological roles of gibberellins.
- ii. What is Parkinson's disease? Write its treatment.
- iii. Define effectors. Give examples.
- iv. Compare protanopia with deuteranopia.
- v. Differentiate between homozygote and heterozygote.
- vi. Justify, why AB blood group is a universal recipient?
- vii. What is a probe? Give its importance.
- viii. What is Taq polymerase? Give its significance.
- ix. Why urine is preferable than milk for biotechnology?
- x. Differentiate between primary and secondary succession.
- xi. Define biome and biosphere.
- xii. How nitrogen is depleted and what are its remedies?

4. Write short answers to any Six parts.**(6 x 2 = 12)**

- i. How is coelom formed in chick embryo?
- ii. Compare teratology with gerontology.
- iii. What is phosphodiester bond? Sketch it.
- iv. Differentiate between sense strand and antisense strand of DNA.
- v. What is phenylketonuria? What kind of disorder is it?
- vi. What is equatorial plate? When is it formed in meiosis?
- vii. How does cytokinesis occur in animal cells?
- viii. What is endosymbiotic hypothesis? Give an example.
- ix. How does genetic drift affect the gene frequency?

SECTION-C**(EACH QUESTION CARRIES EIGHT MARKS) (4+4=8) (8 x 3 = 24)**

5. (a) Discuss kidney stone formation and its treatment.
(b) Write a note on cancer (Uncontrolled cell division).
6. (a) Describe the structure of axial skeleton.
(b) Explain the components of ecosystem.
7. (a) How is nervous system of planaria better developed than that of Hydra?
(b) How does comparative anatomy support evolution?
8. (a) How sexual reproduction is different from asexual reproduction? Give a detailed answer.
(b) State Mendel's law of segregation. Explain this law with the help of an example.
9. (a) What is aging? Describe its causes and symptoms.
(b) What are restriction endonucleases? Give their role in recombinant DNA technology.