

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 circles. Cutting or filling up two or more circles will result no mark.

SECTION-A

SWL-24

Q.1	Questions	A	B	C	D
1.	In a nucleotide, a nitrogenous base is attached to carbon number:	5	4	3	1
2.	A set of three nucleotides on mRNA specifying a particular amino acid is called:	Code	Genetic code	Codon	Anticodon
3.	Brothers having same parents are not similar due to:	Mitosis	Synopsis	Apoptosis	Crossing over
4.	On looking at a pure white cat, a student of genetics said, "Alas, the cat is deaf!". Guess the genotype of cat.	W/W	W/w	w/w	Both A & B
5.	Indicate the salt tolerant plant among the given:	Acacia	Mango	Arabidopsis	Shisham
6.	In which disease a patient lacks a gene coding for trans-membrane carrier of chloride ions?	SCID	Cystic fibrosis	Cancer	Hodgkin's lymphoma
7.	Which protein is similar in all aerobic organisms?	Cytochrome b	Haemoglobin	Cytochrome c	Both A & C
8.	The term niche was coined by:	Joseph Grinnell	Charles Elton	Tansley	Hult
9.	Select the inappropriate matching.	Khanpur ↔ Cholistan	Yazman ↔ Thar	Mianwali ↔ Thal	Gilgit ↔ Grassland
10.	<i>Homo sapiens</i> have been on the earth for about:	10,000 years	20,000 years	40,000 years	60,000 years
11.	Which of the given retards cell elongation in plants?	Red light	Blue light	Ultraviolet rays	Both A & C
12.	An individual produced by parthenogenesis is:	Male	Female	Male or female	Hermaphrodite
13.	Transient alteration in brain due to excessive rapid electrical discharges in the grey matter are diagnosed as:	Epilepsy	Parkinsonism	Alzheimer's disease	Goiter
14.	Hormone that stimulates conversion of glucose into lipids and proteins is:	Cortisol	Insulin	Aldosterone	Glucagon
15.	What is not true about sclerenchyma?	Lignin	Branched pits	Protoplast	Thick cell wall
16.	Nastic movements are due to balance or ratio between:	Abscissic acid and gibberellin	Abscissic acid and cytokinin	Abscissic acid and auxins	Both A & C
17.	Production of heat or high temperature during fever is called:	Pyrogen	Pyrexia	Antitoxin	Both A & C

Biology

H.S.S.C (12th) 1st Annual 2024

Roll No. _____ (To be written by the candidate,

Paper : II

Subjective

Marks : 68

Time : 2:40 Hours

SECTION-B Note:- Section B is compulsory.

2. Write short answers to any EIGHT parts. (8 x 2 = 16)

- i. How do fresh water organisms maintain osmoregulation? vii. How would you differentiate between oviparous and viviparous condition?
- ii. Human nephrons have association of three types of capillary beds. Give their names and location in the kidney. viii. What is the importance of pollen tube in spermatophytes?
- iii. Why leaves are said to be excretophores? ix. What is profundal zone? What is its source of nutrition?
- iv. What do you know about skeletal deformities because of genetic causes? Discuss any two of them. x. Give two adaptations in plants and animals for terrestrial ecosystem.
- v. What kind of cells are responsible for bone formation? xi. How chlorine is responsible for ozone depletion?
- vi. Name unpaired bones of cranium. xii. What is acid rain? Write its any two effects.
3. Write short answers to any EIGHT parts. (8 x 2 = 16)
- i. Define Biological Rhythms. Write names of its types. vii. Write names of things which are required to produce recombinant DNA.
- ii. Write functions of cerebellum. viii. What is restriction fragment length polymorphism? How is it detected?
- iii. How would you define innate behaviour? Give example. ix. How would you define Transgenic Organisms?
- iv. What do you remember about law of independent assortment? x. How does a predator affect prey and vice versa?
- v. Why blood group O is called universal donor? xi. What does happen in denitrification?
- vi. What do you understand by sex limited trait? Give example. xii. How would you compare autecology and synecology?
4. Write short answers to any SIX parts. (6 x 2 = 12)
- i. Define lateral meristem. Give example. vi. Define cell cycle. Give its sketch also.
- ii. How coelom is formed in chick embryo? vii. What is malignant tumour?
- iii. What is nucleosome? viii. Comparative embryology is an evidence of evolution. Justify.
- iv. Differentiate between leading strand and lagging strand of DNA. ix. Define Hardy-Weinberg Theorem.
- v. How does phenylketonuria affect body?

SECTION-C

Note:- Attempt any THREE questions. Each question carries EIGHT (4+4=8) marks.

(8x3=24)

5. (a) How are excretory products made concentrated in the human kidney?

(b) Write down four differences between mitosis and meiosis.

6. (a) How are broken bones repaired? Explain.

(b) What is succession? Explain it with an example of xerosere. Write down any four factors which may affect gene frequency.

7. (a) Discuss the main events involved in initiation of nerve impulse.

(b) In monohybrid cross, we get 3:1 phenotype and 1.2:1 genotype ratio. Prove it with one example.

8. (a) Describe the role of phytochrome in photoperiodism.

(b) Write a note on embryonic induction. (b) What is polymerase chain reaction? How does it work? Give its applications also.

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