

BOARD OF SECONDARY EDUCATION, KARACHI
Secondary School Certificate (S.S.C.) Annual Examination

Class X (Science Group)	Biology	2022	English Medium
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Max. Marks: 60 | Time: 3 Hours

SECTION "A" — MULTIPLE CHOICE QUESTIONS (MCQs) Marks: 24

NOTE: (i) Attempt all the Questions of this Section. (ii) Do not copy down the part questions. Write only the answer against the proper number of the Question and its part according to the question Paper. (iii) Each question carries 1 Mark.

1. Choose the correct Answer for each from the given question:

(i)	The biological function which performs gaseous exchange ☆ Photosynthesis ☆ Respiration ☆ Growth ☆ Alveoli
(ii)	The network of blood capillaries present in the layer of skin: ☆ Epidermis ☆ Dermis ☆ Hypodermis ☆ Endodermis
(iii)	The hormone ADH release from: ☆ Pituitary gland ☆ Kidneys ☆ Liver ☆ Lungs
(iv)	The automatic process of altering focus to get sharper image of near object is: ☆ Vision ☆ Accommodation ☆ Focus ☆ All of these
(v)	"Kitab ul Manazir" was written by: ☆ Jabir Bin Hayan ☆ Ibn al Haitham ☆ Ali Ibn Isa ☆ Bu Ali Sina
(vi)	The framework which gives shape to any structure is: ☆ Bone ☆ Skeleton ☆ Cartilage ☆ Architecture
(vii)	The part of brain involved in reasoning is: ☆ Fore brain ☆ Cerebrum ☆ Cortex ☆ Frontal lobe
(viii)	The pair of muscles where both work in opposite direction is: ☆ Antagonist ☆ Cardiac ☆ Smooth ☆ Abductor
(ix)	The type of seed production without fusion of male and female gametes is: ☆ Parthenocarp ☆ Apomixes ☆ Grafting ☆ Scion or Crystal
(x)	The way by which gene transmits characters from parents to offspring is: ☆ Genetics ☆ Inheritance ☆ Heredity ☆ Allele
(xi)	Any biological region recognized by its climate or vegetation is: ☆ Ecosystem ☆ Biomes ☆ Biosphere ☆ Biomass or Sub class
(xii)	The study of complete graph of human genome is called: ☆ PCR ☆ HGP ☆ Medicine ☆ Soma-Clonal
(xiii)	The bread dough rises during alcoholic fermentation is due to: ☆ Methyl alcohol ☆ CO ₂ ☆ Ethyl alcohol ☆ H ₂ O
(xiv)	Father of antiseptic is: ☆ Alexander Fleming ☆ Edward Jenner ☆ Joseph Lister ☆ Oswald Schmiedeborg
(xv)	Drugs that slow normal brain functioning, is called: ☆ Narcotics ☆ Hallucinogen ☆ Marijuana ☆ Sedatives
(xvi)	Disorder which is associated with degeneration of alveoli is: ☆ Bronchitis ☆ Lungs cancer ☆ Asthma ☆ Emphysema
(xvii)	The outer part of DNA helix made up of sugar and phosphate, is called: ☆ Nucleoprotein ☆ Upright ☆ Rungs ☆ Phosphoester
(xviii)	The vitamin necessary for proper vision is: ☆ Vitamin A ☆ Vitamin B ☆ Vitamin C ☆ Vitamin D
(xix)	The large muscle of arm is: ☆ Bicep ☆ Tricep ☆ Tetracep ☆ Pentacep
(xx)	The female gametes are fertilized in the rear end of: ☆ Oviduct ☆ Fallopian tube ☆ Ovaries ☆ All of these
(xxi)	Plants grow near coastal area are called: ☆ Xerophyte ☆ Halophyte ☆ Epiphyte ☆ Hygrophyte
(xxii)	Each stoma is formed by: ☆ One guard cell ☆ Two guard cells ☆ Three guard cells ☆ Four guard cells
(xxiii)	The cold war between the organisms of a community occupying the same habitat in ecosystem, is called: ☆ predation ☆ competition ☆ mutualism ☆ commensalism
(xxiv)	The part of brain involved in balance and precision in movement is: ☆ Cerebrum ☆ Cerebellum ☆ Thalamus ☆ Medulla Oblongata

SECTION "B" (Short Answer Question) Marks: 24

NOTE: Attempt any **EIGHT** questions from this section. Each question carries Three (3) marks.

2.	Write three differences between plant cell and animal cell.	3
3.	Draw neat and labelled diagram of Ovule.	3

4.	How does light affect on ecosystem?	3
5.	What is rickets? Write its causes.	3
6.	How is the asthma patient characterized?	3
7.	Why is skin considered as excretory organ?	3
8.	Define following terms: (a) Homologous chromosome (b) Allele (c) Recessive Allele	3
9.	What is algal bloom and how it destroys the life of an aquatic ecosystem?	3
10.	Draw neat and labelled diagram of hinge OR ball and socket joint.	3
11.	Why do antibiotics not affect against viral infection?	3
12.	Distinguish between sexual and asexual reproduction.	3
13.	State Mendel's law of independent assortment. (No need to draw checkerboard)	3

SECTION "C" (Detailed - Answer Question) (12)

NOTE: Attempt any **TWO** questions from this Section. Each question carries **SIX (6)** marks.

14.	Draw neat and labelled diagram of human ear.	6
15.	Describe the urinary system of man with the help of diagram.	6
16.	What is germination? Write the necessary conditions of it and also describe the epigeal and hypogeal germination.	6

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- Typeset by Tayarri from the printed question paper; no answer key is reproduced. The source sheet is pre-ticked by the publisher, so options are given unmarked.
- Source sheet is a guide reprint, not an original board sheet: it prints no board monogram and no paper code. Its heading reads *BIOLOGY 2022 (For Fresh Candidates of 2022)*.
- Section C offers three questions for **two** attempts totalling 12 marks — unlike the 2024 and 2025 papers, which offer six for four attempts totalling 24. Reproduced as printed.
- Board spellings kept verbatim: "harmone" (hormone), "Apomixes" (apomixis), "Scion or Crystal", "Upright" for the sugar-phosphate backbone, "Tetracep", "Pentacep", and "Choose the correct Answer for each from the given question".
- MCQ (i) prints no closing colon; reproduced as printed.
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