Class 9 Biology Chapter 1 Full Length Quiz

The Science of Biology

National Curriculum 2022-2023 (Inclusive Scheme of Studies 2024) · FBISE Model Paper Pattern

Total Marks	50 (Section A: 20 | Section B: 18 | Section C: 12)
Time Allowed	Section A: 40 minutes | Sections B and C: 1 hour

Name: _____ **Roll Number:** _____ **Date:** _____

Candidate Sign: _____ **Invigilator Sign:** _____

SECTION – A (Marks 20)

Time: 40 minutes

Note: Section A is compulsory. Fill the correct bubble for each question. Each question carries 0.5 mark. Deleting/overwriting is not allowed. Do not use lead pencil.

S #	Question	(A)	(B)	(C)	(D)
1.	Biology is considered a subset of natural sciences because it studies:	non-living matter only	living organisms and their relationship with their surroundings	only the history of the Earth	only the physical properties of matter
2.	The Greek word *logos* means:	life	cell	plant	thought, reasoning and study
3.	The Quranic verse "We made every living thing from water" suggests that living things have:	different origins	a common origin	only a plant origin	no water content
4.	Which one is **NOT** a main division of biology?	Botany	Zoology	Anatomy	Microbiology
5.	The study of the size, shape and structure of animals, plants and micro-organisms is called:	Morphology	Physiology	Histology	Taxonomy
6.	Which of the following correctly matches a branch with its example?	Anatomy – digestion and respiration	Physiology – structure of muscles and heart	Anatomy – muscles, heart, brain and kidneys	Physiology – dental structure in humans
7.	Epithelial tissue forming a continuous layer over the body surface is studied in:	Cytology	Histology	Embryology	Ecology
8.	The study of the structure and functions of the cell is called cytology. It is also called:	molecular biology	internal morphology	cell biology	environmental biology
9.	The study of genes and heredity in organisms is called:	Embryology	Taxonomy	Physiology	Genetics
10.	The development of an organism from a fertilized egg is studied in:	Genetics	Embryology	Paleontology	Pathology
11.	The history of life on Earth based on fossils is studied in:	Ecology	Taxonomy	Paleontology	Morphology
12.	The scientific name of humans, *Homo sapiens*, is an example of:	Taxonomy	Anatomy	Cytology	Physiology

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S #	Question	(A)	(B)	(C)	(D)
13.	The study of the interrelationship of organisms and their environment, also known as environmental biology, is:	Marine biology	Ecology	Embryology	Molecular biology
14.	Which branch of biology deals with the study and diagnosis of diseases?	Pharmacology	Immunology	Pathology	Physiology
15.	Immunization of a person against polio through vaccination is related to:	Immunology	Pharmacology	Genetics	Pathology
16.	Aspirin, morphine, insulin and penicillin are studied in:	Pathology	Pharmacology	Immunology	Histology
17.	Limbs of the human body working like levers is an example of:	Biochemistry	Biophysics	Biogeography	Biostatistics
18.	The study of chemical reactions such as digestion, respiration and photosynthesis in living organisms is:	Biophysics	Biogeography	Biochemistry	Bio-economics
19.	Locating fragments of DNA on chromosomes is an example of:	Biochemistry	Bio-economics	Biogeography	Computational biology
20.	Another name for biostatistics is:	Biometry	Biotechnology	Bio-economics	Biogeography
21.	The production of wheat, fish and rice and the study of their export value is an example of:	Biophysics	Biochemistry	Bio-economics	Biometry
22.	A scientist inserts the human insulin gene into bacteria. Which branch of biology is this?	Anatomy	Biotechnology	Physiology	Pharmacy
23.	The science of improving farming methods is called:	Forestry	Agriculture	Farming	Fisheries
24.	Which field is correctly matched with its career?	Horticulture – veterinary science	Forestry – plant breeding	Animal husbandry – animal training	Fisheries – environmental engineering
25.	Bioinformatics is a combination of biology and:	Geography	Economics	Chemistry	Information technology
26.	Which of the following represents the correct sequence of the biological method?	observation, hypothesis, experiment, deduction, theory	hypothesis, observation, deduction, experiment, theory	observation, hypothesis, deduction, experiment, theory	observation, deduction, hypothesis, theory, experiment
27.	Which of the following is **NOT** a characteristic of a good hypothesis?	It is a tentative idea	It is a general statement	It is testable and falsifiable	It is proven true before experiments
28.	Deductions in the biological method are drawn using the logic of:	either ... or	if ... then	because ... so	and ... or

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STIMULUS / SITUATION / SCENARIO BASED MCQs

S #	Question	(A)	(B)	(C)	(D)
Scenario for MCQ# 29 to 32					
To find the cause of malaria, the blood of 100 malarial patients was examined under a microscope. The blood of 100 healthy persons was also examined. Almost all patients had *Plasmodium* in their blood. Only 7 out of 100 healthy persons had *Plasmodium*, and these 7 became ill after a few days. The other 93 had none.					
29.	The 100 healthy persons served as the:	experimental group	control group	hypothesis	deduction
30.	The hypothesis tested in this experiment, formulated by Laveran in 1882, was:	Marsh water causes malaria	Quinine causes malaria	*Plasmodium* is the cause of malaria	Mosquitoes spread malaria
31.	Which deduction was tested in this experiment?	All healthy persons should be ill	If *Plasmodium* is the cause of malaria, all persons ill with malaria should have it in their blood	*Plasmodium* cannot be seen in blood	Quinine should be given to all persons
32.	The 7 healthy persons had *Plasmodium* because they were in the:	recovery period	immunity period	drug resistance period	incubation period
Scenario for MCQ# 33 to 36					
A. F. A. King listed 20 observations about the spread of malaria. People who slept outdoors were more likely to get malaria, those under fine nets were less likely, and those near a smoky fire usually did not get it. On this basis he suggested a hypothesis. In 1897 Ronald Ross let a female *Anopheles* mosquito bite a malarial patient and later found *Plasmodium* multiplying inside it. He also let female *Culex* mosquitoes bite sick sparrows and then healthy sparrows, which became ill.					
33.	The hypothesis suggested by King was:	Marsh water carries *Plasmodium*	Mosquitoes transmit *Plasmodium* and are involved in the spread of malaria	Smoke causes malaria	Fine nets cause malaria
34.	The word "vector" means:	a drug used against a parasite	a symptom of a disease	an organism that carries a parasite and transfers it from one organism to another	a type of vaccine
35.	Which row correctly names the mosquito for malaria in humans, malaria in birds and dengue fever?	*Culex*, *Anopheles*, *Aedes*	*Anopheles*, *Culex*, *Aedes*	*Aedes*, *Culex*, *Anopheles*	*Anopheles*, *Aedes*, *Culex*
36.	In Ross's first experiment, *Plasmodium* was found multiplying in the mosquito's:	stomach	salivary gland	wings	legs
Scenario for MCQ# 37 to 40					
A student observes two plants of the same kind. Plant 1 grows in bright sunlight: dark green leaves, 12 leaves, height 30 cm. Plant 2 grows in shade: pale green leaves, 7 leaves, height 18 cm. She suggests, "Light affects the amount of chlorophyll in leaves." She thinks, "If light affects chlorophyll, then plants kept in the dark should have paler leaves."					
37.	Which of her observations is quantitative?	Dark green colour of Plant 1	Pale green colour of Plant 2	Shade as a growing condition	Height of 30 cm and 18 cm

S #	Question	(A)	(B)	(C)	(D)
38.	The statement "Light affects the amount of chlorophyll in leaves" is a:	deduction	law	hypothesis	result
39.	The statement "If light affects chlorophyll, then plants kept in the dark should have paler leaves" is a:	observation	deduction	theory	law
40.	A theory that has been verified and has wide application may become a biological:	observation	hypothesis	deduction	law

SECTION – B (3 x 6 = 18 Marks)

Sections B and C: 1 hour

Note: Attempt all questions. Each question has an internal choice (OR). Write answers on the given spaces.

#	Question	Marks		Question	Marks
1.	Define biology. Write the three main divisions of biology and what each studies.	1+2	**OR**	Write the Quranic instructions about (a) the origin of life and (b) the creation of man.	1.5+1.5
2.	Define Morphology, Cytology and Taxonomy. Give one example of each.	1+1+1	**OR**	Define Immunology, Pharmacology and Paleontology. Give one example of each.	1+1+1
3.	Differentiate between Biophysics and Biochemistry. Give one example of each.	1.5+1.5	**OR**	Briefly describe Biometry and Biogeography with one example of each.	1.5+1.5
4.	Write three characteristics of a good hypothesis.	3	**OR**	Write any three important observations carried out by A. F. A. King about the spread of malaria.	1+1+1
5.	Briefly explain horticulture and animal husbandry with examples of careers in each.	1.5+1.5	**OR**	Briefly explain medicine and surgery, and fisheries, with examples of careers in each.	1.5+1.5
6.	Sort the following observations into qualitative and quantitative: colour of a cat, height of a giraffe, weight of mango fruits, body temperature of birds, shape of leaves, song of a bird, speed of a tiger.	1+2	**OR**	Differentiate between a theory and a law. Give one example of each.	1.5+1.5

SECTION – C (2 x 6 = 12 Marks)

Note: Attempt both questions. Each question has an internal choice (OR).

#	Question	Marks		Question	Marks
7.	Recall your knowledge about the relationship of biology with other sciences to answer the following questions. (a) Define Biotechnology, Computational biology and Bio-economics with one example of each. (b) How is biology related to Physics and Chemistry? Explain with examples.	1+1+1 / 1.5+1.5	**OR**	Recall your knowledge about careers and collaboration in biology to answer the following questions. (a) Differentiate between farming and agriculture. Name one career associated with agriculture. (b) Justify with two examples that science is a collaborative field.	1.5+1.5 / 1.5+1.5
8.	Explain how the biological method is used to solve a biological problem. Describe the steps in correct sequence: (a) recognition of the problem and observations, (b) hypothesis and deductions, (c) experimentation and summarization of results.	2+2+2	**OR**	Explain the use of the biological method to understand the spread of malaria. (a) Describe the problem, King's observations and hypothesis. (b) State the deductions. (c) Describe the experiments of Ronald Ross and the result.	2+2+2

Marks Summary

Section	Questions	Marks
A: MCQs (28 + 12 stimulus based)	40 x 0.5	20
B: Short Questions	6 x 3	18
C: Long Questions	2 x 6	12
Total		**50**

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