23BCP113

UG PROGRAM (4 YEARS HONORS) WITH SINGLE MAJOR

AT THE END OF FIRST SEMESTER

INTRODUCTION TO CLASSICAL BIOLOGY

(Common for B.Sc. (Human Genetics, Forensic Science, Cyber Forensics, Botany, Bio-Chemistry, Bio-Technology, Microbiology, Zoology, Aquaculture, Fisheries, Forestry, Horticulture, Agriculture and Rural Development), B.Voc (Agriculture, Horticulture, Industrial Aquaculture and Fisheries, Agriculture and Entrepreneurship, Fisheries))

(w.e.f. Admitted Batch 2023-24)

Time: 3Hours **Maximum: 70 marks**

Section-A(Multiple Choice questions) **30x1=30**

1. What does binomial nomenclature use to name a species? [ ]

A) Three Latin words

B) Two Latin or Latinized words

C) One Latin word

D) Four Latin words

2. Who developed the binomial nomenclature system? [ ]

A) Charles Darwin

B) Carl Linnaeus

C) Gregor Mendel

D) Albert Einstein

3. In binomial nomenclature, what does the first word represent in the scientific name? [ ]

A) Family

B) Genus

C) Order

D) Kingdom

4. What is the primary purpose of trinomial nomenclature? [ ]

A) Naming species using three Latin words

B) Identifying the kingdom and phylum of a species

C) Denoting subspecies or geographical variations within a species

D) Naming species using one Latin word

5. Which part of the trinomial name typically represents the subspecies or geographical identifier?

A) The first term [ ]

B) The second term

C) The third term

D) The family name

6. What is the primary focus of ecology? [ ]

A) The study of celestial bodies

B) The study of geological formations

C) The study of relationships between organisms and their environment

D) The study of human history

7. In which organelle does respiration primarily occur in plant cells? [ ]

A) Chloroplasts

B) Nucleus

C) Mitochondria

D) Endoplasmic reticulum

8. What is the primary goal of respiration in plants? [ ]

A) Release oxygen

B) Convert glucose into energy (ATP)

C) Produce carbon dioxide

D) Facilitate photosynthesis

9. Which part of the cell does glycolysis occur during respiration? [ ]

A) Nucleus

B) Cytoplasm

C) Mitochondria

D) Chloroplast

10. What is the waste product of plant respiration released into the atmosphere? [ ]

A) Oxygen

B) Glucose

C) Carbon dioxide

D) Water

11. Which factor can affect the rate of respiration in plants? [ ]

A) Moon phases

B) Soil color

C) Light intensity, temperature, and plant state

D) Wind direction

12. What is the primary organ in plants where transpiration occurs? [ ]

A) Roots

B) Flowers

C) Leaves

D) Stems

13. Which organ system is responsible for the coordination and control of body functions, including sensory perception and communication? [ ]

A) Circulatory System

B) Nervous System

C) Musculoskeletal System

D) Respiratory System

14. What is the primary function of the respiratory system in animals? [ ]

A) Transportation of nutrients

B) Protection of the body

C) Exchange of gases with the environment

D) Regulation of body temperature

15. Which organ system provides support, protection, and enables movement in animals? [ ]

A) Immune System

B) Digestive System

C) Musculoskeletal System

D) Excretory System

16. The digestive system is responsible for which of the following processes in animals? [ ]

A) Coordination and control

B) Exchange of gases

C) Breakdown of food and nutrient absorption

D) Removal of waste products

17. Which system removes metabolic wastes and regulates water balance in animals? [ ]

A) Circulatory System

B) Reproductive System

C) Excretory System

D) Immune System

18. Which glands in animals primarily produce hormones that are chemical messengers? [ ]

A) Muscles

B) Skin

C) Endocrine glands

D) Digestive glands

19. Which of the following is a key difference between prokaryotic and eukaryotic cells? [ ]

A) Presence of membrane-bound organelles

B) Size of ribosomes

C) Cell wall composition

D) Method of binary fission

20. In eukaryotic cells, the genetic material is organized into: [ ]

A) Single circular chromosomes

B) Histones

C) Nucleoids

D) Multiple linear chromosomes

21. What is the primary method of cell division in prokaryotic cells? [ ]

A) Mitosis

B) Meiosis

C) Binary fission

D) Conjugation

22. What is the composition of the cell wall in many prokaryotic cells? [ ]

A) Chitin

B) Cellulose

C) Peptidoglycan

D) Lipids

23. Which type of cells possess a cytoskeleton composed of microtubules, microfilaments, and intermediate filaments? [ ]

A) Prokaryotic cells

B) Eukaryotic cells

C) Both prokaryotic and eukaryotic cells

D) Neither prokaryotic nor eukaryotic cells

24. Which phase of the cell cycle involves the replication of DNA? [ ]

A) G1 phase

B) S phase

C) G2 phase

D) Mitosis

25. Which element is the central component of all organic compounds? [ ]

A) Hydrogen

B) Oxygen

C) Carbon

D) Nitrogen

26. What is the general formula of alkanes, a class of hydrocarbons? [ ]

A) CnH2n

B) CnH2n + 2

C) CnHn

D) CnHn-2

27. Which functional group is present in alcohols? [ ]

A) -OH

B) – C OOH

C) – N H2

D) – C = 0

28. What is the main function of enzymes in biological systems, related to organic chemistry? [ ]

A) Energy storage

B) Catalysts for chemical reactions

C) Structural support

D) Genetic information storage

29. Which class of organic compounds includes sugars and starches, serving as a source of energy in living organisms? [ ]

A) Alkanes

B) Aldehydes

C) Carbohydrates

D) Alcohols

30. Which of the following is NOT a noble gas? [ ]

A) Helium

B) Neon

C) Argon

D) Nitrogen

Section-B (Fill in the blanks) 10x1=10

31. Ecosystems consist of both _____and Biotic components.

32. Noise pollution is caused by excessive _____ in the environment.

33. After fertilization the structure formed is called _____

34 The primary site for the Calvin cycle is the _____

35. The Human heart is made of _____muscles.

36. _____is the culture of single species in one pond.

37. The cell cycle is divided into two main phases, _____ and Mitotic phase.

38. _____ proposed the theory of continuity of germplasm in 1892 AD.

39. Hydrogen bond was discovered by _____

40. NaCl is the example for _____ bond.

Section-C(Very short answer questions) 10x1=10

41. Define Taxonomy.

42. Name a Greenhouse gas?

43. Define Transpiration?

44. Give an example of a cultivated mushroom.

45. What is Respiration?

46. Which is the Largest animal cell?

47. Who discovered the Nucleus?

48. Where is giant chromosome located?

49. What is called Chemistry?

50. Name of the Isotopes of Hydrogen.

Section-D (Matching) 2x5=10

A.

51. Ecosystem	[ ]	A) bee glue
52. Anther	[ ]	B) pharmacy
53. Propolis	[ ]	C) produce pollen
54. Plasmid	[ ]	D) DNA
55. Drug	[ ]	E) study of ecology

B.

56. Food web	[ ]	A) Fungi
57. Mushroom	[ ]	B) chromosome
58. Sponges	[ ]	C) space
59. Telocentric	[ ]	D) complex interconnection
60. Matter	[ ]	E) canal system

Section-E(True Or False) 10x1=10

61. Taxonomy is the study of ecosystem.
62. Carbon dioxide is not a green house gas.
63. Autogamy involves the transfer of pollen from one flower to another on the same plant.
64. The end product of Glycolysis in aerobic respiration is water.
65. Larynx is a cartilaginous box which helps in sound production.
66. Rearing the Honeybees is known as sericulture.
67. Golgi bodies are abundant in secretory cell.
68. Diseases caused by pathogens are called infectious diseases.
69. TRI stands for Total release impact.
70. Hydrogen bonding is a type of dipole-dipole interaction.