

PT-2/HALF YEARLY EXAMINATION, 2022-23

BIOLOGY

Time - 3 Hours

Class - XI

M.M. : 70

Date - 14.09.2022 (Wednesday)

Name of the student _____ Section _____

General Instructions:

- All questions are compulsory.
- The question paper has 4 sections-Section A, section B, section C and section D.
- There are 33 questions in the question paper.
- Section A has 14 questions of one mark each and 2 case based questions of 4 marks each.
- Section B has 9 questions of 2 marks each.
- Section C has 5 questions of 3 marks each.
- Section D has 3 questions of 5 marks each.

SECTION-A

- Q.1 Mention the unique features of living Organism?
- Q.2 Which term is used to refer to the number of varieties of plants and animals on earth?
- Q.3 Name an organelle devoid of membrane covering?
- Q.4 What are the Plastids 'storing fat' known as?
- Q.5 What are the Chromosomes having equal or almost equal arms called as?
- Q.6 Which phase of cell cycle is known as Quiescent stage?
- Q.7 Mention the significance of mitosis.
- Q.8 Four daughter cells formed after meiosis are:
a) genetically similar b) genetically different c) Anucleate d) Multinucleate
- Q.9 Which is the simplest amino acid?
- Q.10 What are the Zwitterions?
- Q.11 Which group of fungi is commonly known as imperfect fungi?
- Q.12 Which of these is an example of amoeboid protozoans?
a) Trypanosoma b) Paramecium c) Gonyaulax d) Entamoeba
- Q.13 Identify the Class to which Laminaria (kelp) and fucus (rock weed) belong to?
- Q.14 Which organelle is known as "The Power house of cell".
- Q.15 Mahima after returning from Biology class, asked her father, why do only green plants manufacture their food using sunlight and not the animals? Father replied that green plants have this ability due to the presence of green pigment called chlorophyll (present in the chloroplasts) in their cells.
- a) Name the various types of plastids found in plants.
b) Which plastids are known as "The kitchen of the cell"?
c) Which plastids are found in flowers and fruits?
d) Why plastids are known as "semi-autonomous organelle"?

Q.16 Viruses are non-cellular organisms that are characterised by an inert crystalline genetic material. These are obligate parasites and do not have a biosynthetic machinery. Therefore, they use host machinery to replicate themselves. Viruses are ultra-microscopic nucleoprotein entities having variable size and shape. The basic structure of virus is composed of envelope, capsid and nucleoid. Based on the type of genetic material, viruses are classified as Deoxyvira and Ribovira.

- a) What is the feature of virus capsid? b) How viroids differ from viruses?
c) What are bacteriophages? d) Name a disease caused by viroids.

SECTION-B

Q.17 What do we learn from identification of individual and populations?

Q.18 Find out what do the terms 'algal bloom' and 'red tides' signify?.

Q.19 Differentiate between artificial and natural classification systems.

Q.20 Define the following terms and give suitable examples of each: a-isogamy b-anisogamy

Q.21 What is a mesosome in a prokaryotic cell? Mention the functions that it performs.

Q.22 Draw the structure of amino acid 'Alanine'.

Q.23 What are macromolecules? Give examples.

Q.24 Why is mitosis called equational division?

Q.25 Name the stage of cell cycle at which one of the following events occur?

- a) Chromosomes move to spindle equator.
b) Centromere splits and chromatids separate.
c) Pairing between homologous chromosomes takes place
d) Crossing over between homologous chromosomes takes place.

SECTION-C

Q.26 List out the advantages of binomial nomenclature.

Q.27 Differentiate between the Green, Brown and red algae on account of their cell wall composition, reserve food and pigments.

Q.28 Describe the ultrastructure of cilia and flagella diagrammatically.

Q.29 How does cytokinesis in plant cells differ from that in animal cells?

Q.30 Describe the following words:

- a) Synapsis b) Bivalent c) Chiasmata

SECTION-D

Q.31 a) Differentiate between pili and fimbriae.

b) Define the term 'mycorrhiza'. How do these associations affect plant? Explain with examples.

Q32. Answer the following questions:

a) Mention the economic importance of algae.

b) Why "green algae are considered to be the ancestors of all land plants". Justify the statement by giving reasons.

Q.33 Explain the lock and key hypothesis of enzyme action.

