

Aravali International School (Rewari)
(Session 2021-2022)

Class - IX

Subject –Biology

Holiday Homework

CLASS XI – BIOLOGY ASSIGNMENT

CELL CYCLE & CELL DIVISION

1. Define genome & cell cycle. What are the 2 basic phases of cell cycle?
2. What is karyokinesis and cytokinesis? What are the three phases of interphase? Explain.
3. What is the significance of G₀ stage of cell cycle?
4. With help of diagrams describe various events of different phases of mitosis.
5. Why is mitosis called equational division?
6. How does cytokinesis in plant cell differ from that in animal cell?
7. What is the significance of mitosis?
8. Can there be mitosis without DNA replicate in 'S' phase?
9. List the key features of meiosis and define meiosis. Draw stages of meiosis I & II.
10. Describe the following: (a) homologous chromosomes (b) synapsis (c) bivalent (d) chiasmata
Draw a diagram to illustrate your answer.
11. List the features of : anaphase I, metaphase I, telophase

CELL: THE UNIT OF LIFE

1. What is cell theory? Who modified the hypothesis of Schleiden & Schwann?
2. Name a membraneless cell organelle, largest isolated animal cell, longest animal cell.
3. What are the main components of a Prokaryotic cell? Where do you find plasmids? Give 1 function of plasmid.
4. In a typical prokaryotic cell, explain the structure and function of each of the following:
 - (i) Plasma membrane (iv) flagellum
 - (ii) Capsule (v) pili and fimbriae

(iii) mesomes

5. Why do we call cell membrane to be dynamic, fluid and semi permeable?
6. "Fluid-mosaic model of cell membrane" was given by Singer-Nicolson. Explain the structure with help of labelled diagram.
7. Why does golgi apparatus remain in close association with E.R.?
8. Name the various types of vacuoles found in cells. Also mention the function of each.
9. With the help of diagram, explain the structure of Mitochondria.
10. Classify the types of Plastids found in plant cell. Name the pigments present in chloroplasts.
11. What do you understand by 'Cartwheel' like structure? Draw a well labelled diagram also.
12. Give a brief account of nucleosome and nuclearpore.
13. Why does the nucleus have an envelope around it? What are the principal roles of nucleus?
14. Name the primary constriction present in every chromosome.
15. Identify various types of chromosomes based on the position of centromere.

