

SHIVAJI UNIVERSITY, KOLHAPUR

Regular/ Repeater Examination March/April - 2022

RAJE RAMRAO MAHAVIDYALAYA, JATH

B. Sc. (Part I) (Semester: – II) (CBCS) Examination, June 2022

Subject: Zoology

Subject Code: 72846

Cell Biology and Evolutionary Biology (DSC-15B)

Question Bank

Q.I. Multiple Choice Questions

1. The was formulated in 1839 by two German scientists, Schleiden and Schwann.

- | | |
|--------------------------------|-----------------------------|
| A) Cell theory | B) Theory of evolution |
| C) Theory of evolution of life | D) Theory of origin of life |

2. is the Heart of cell.

- | | |
|------------------|-----------------|
| A) Nucleus | B) Mitochondria |
| C) Golgi complex | D) ribosomes |

3. The cell was first seen microscopically by

- | | |
|----------------|----------------|
| A) Schleiden | B) Schwann |
| C) Leeuwenhock | D) Robert Hook |

4. The nucleus is separated from cytoplasm by.....

- | | |
|---------------|---------------------|
| A) Protoplasm | B) Cell membrane |
| C) Cell wall | D) Nuclear membrane |

5. Ultrastructural studies reveal that the nuclear membrane is made up of membranes.

- A) One
- B) Two
- C) Three
- D) Four

6. Nucleolus is associated with the biogenesis of

- A) Endoplasmic reticulum
- B) Ribosome
- C) Lysosomes
- D) Golgi complex

7. Who coined the term Nucleolus?

- A) Fontana
- B) Robert brown
- C) Camillo Golgi
- D) Robert Hook

8. What is important function of Nucleus?

- A) Photosynthesis
- B) cellular Respiration
- C) Lipid Synthesis
- D) Protein synthesis

9. The term chromosome was coined by.....

- A) Waldeyer
- B) Karl Nageli
- C) Hofmeister
- D) Walter

10. The chromosome consist of two symmetrical spirally coiled and filamentous structure called as.....

- A) chromatids
- B) chromomeres
- C) genes
- D) centromeres

11. Under electron microscope the chromatin shows a string of beads named as

- A) Chromosomes
- B) Nucleosomes
- C) somite's
- D) genes

12. Presence of whole set of chromosomes is called

- A) Haploids
- B) Diploids
- C) Triploids
- D) Euploidy

13. are 'V' shaped chromosomes having two nearly equal arms.

- A) Submetacentric
- B) metacentric
- C) Acrocentric
- D) Telocentric

14. Plasma membrane is Membrane

- A) Selective permeable
- B) Permeable
- C) Impermeable
- D) Semipermeable

15. The boundary of animal cell is

- A) Cell wall
- B) Plasma Membrane
- C) Both A and B
- D) None of these.

16. Fluid Mosaic model of plasma membrane was proposed by.....

- A) Danielli and Davson
- B) Robertson
- C) Garter and Grandes
- D) Singer and Nicolson

17. The phospholipid molecule consist of

- A) Cell wall
- B) Polar head
- C) Nonpolar tail
- D) Both B and C

18. The chemical composition of plasma membrane consists of

- A) lipids
- B) proteins
- C) Carbohydrates
- D) all of these.

19. Which of the following region is hydrophilic in the cell membrane?

- A) Surface of the cell membrane.
- B) Interior of the cell membrane
- C) Nucleoside of the cell
- D) Ribosomes of the cell

20. The term 'mitochondria' was introduced by.....

- A) Kollikar
- B) Fleming
- C) Fontana
- D) Benda

21. The particles present on the inner membrane of mitochondria are stalked are called

- A) F1 particle
- B) F2 particle
- C) F3 particle
- D) F4 Particle

22. The inner mitochondrial membrane gives out certain finger like projections is known as.....

- A) ribosomes
- B) flagella
- C) cristae
- D) pseudopodia

23. The function of smooth endoplasmic reticulum is

- A) protein synthesis
- B) lipid synthesis
- C) glucose synthesis
- D) RNA synthesis

24. Golgi apparatus is absent in

- A) Eukaryotes
- B) Prokaryotes
- C) Both A and B
- D) None of them

25. Which of the following are components of Golgi complex?

- A) Cisternae
- B) Vesicles
- C) Tubules
- D) All of them

26. Where is endoplasmic reticulum located?

- A) Cytoplasm
- B) inside nucleus
- C) In mitochondria
- D) none of these.

27. Who discovered endoplasmic reticulum?

- A) Porter and Thompson
- B) Robert Brown
- C) Robert Hook
- D) Koshland

28. Which organelle consists of a network of membranous tubules?

- A) Ribosomes
- B) Mitochondria
- C) Endoplasmic reticulum
- D) Cytoplasm

29. Endoplasmic reticulum membrane which is associated with ribosomes is called.....

- A) ER lumen
- B) SER
- C) RER
- D) endosomes

30. Lysosome are also known as

- A) Power house of cell
- B) suicide bags of cell
- C) food vacuole of cell
- D) contractile vacuole of cell

40. The early cell types which were formed on the earth, were-----

- A) Aerobic autotrophic
- B) Anaerobic, heterotrophic
- C) Anaerobic, autotrophic
- D) Aerobic, heterotrophic

41. The dinosaurs ruled the earth during -----period

- A) Jurassic
- B) Devonian
- C) Cambrian
- D) Permian

42. Which of the following is the earliest era-----

- A) Coenozoic
- B) Mesozoic
- C) Paleozoic
- D) Pre-cambrian

43. The prebiotic earth in the beginning was-----

- A) Marshy
- B) Rocky
- C) Sandy
- D) Gaseous

44. The phenomenon of continental drift was first discovered by-----

- A) Darwin
- B) Mendel
- C) Alfred Wegener
- D) Oparin

45. Vishnu rock is a name given to a rock layer, which is found in-----

- A) Badrikedar
- B) Gangotri
- C) Grand canyon(U. S. A.)
- D) Kailas

46. -----extinction is known as great dying

- A) Ordovician
- B) late Devonian
- C) Permian Triassic
- D) Triassic Jurassic

47. Deccan trap formation is supposed to be due to-----

- A) Earthquakes
- B) Stroms
- C) Tsunamies
- D) Flood basalt lava

48. In Cretaceous tertiary extinction about -----% species was extinct.

A) 80

B) 75

C) 90

D) 60

49. Asteroid impact theory for K-T mass extinction is put forward by-----

A) Darwin

B) Mendel

C) Alvarez

D) Wegener

50. The type of rock on which most of the fossils occurs is—

A) Sedimentary

B) Igneous

C) Metamorphis

D) None of these

Q. II. Long Answer Type Questions.

1. Describe structure of chromosome with its functions.
2. Explain structure and functions of nucleus.
3. Explain in detail fluid mosaic model of plasma membrane and add a note on its functions.
4. Describe in detail structure and functions of mitochondria.
5. Describe in detail structure and functions of endoplasmic reticulum.
6. Give an account on structure and functions of Lysosomes.
7. Describe the Oparin-Haldane theory of chemical evolution.
8. Describe the theory of natural selection.
9. Describe De Vries theory of organic evolution.
10. Describe the different types of fossils.

Q. III. Write Short Notes.

1. Cell theory.
2. Ultrastructure of nucleus.
3. Functions of Nucleus.
4. Write note on Chromatin
5. Types of chromosomes
6. Explain Nucleolus
7. Fluid mosaic model of plasma membrane
8. Functions of plasma membrane
9. Structure of mitochondria
10. Function of Golgi complex
11. Functions of endoplasmic reticulum
12. Functions of Lysosomes.
13. Miller's experiment
14. Struggle for existence.
15. Postulates of Neo-Darwinism

16. Industrial melanisation.
17. Petrification
18. Carbonization
19. Dating of Fossils.
20. Concept of species.