**Chapter 1:Cells and Sub-cellular Organelles** 

- 1. Who discovered the cell?
- a) Robert Koch
- b) Robert Hooke
- c) Anton van Leeuwenhoek
- d) Rudolf Virchow
- **Correct option: b**
- 2. Which of the following is not found in prokaryotic cells?
- a) Ribosomes
- b) Cell membrane: O C M B A D L O B Y M A X
- c) Nu<mark>cleu</mark>s
- d) Cy<mark>topl</mark>asm
- **Correct option: c**
- 3. Which organelle controls all the activities of a cell?
- a) Mitochondria
- b) Golgi apparatus
- c) Nucleus

# d) Ribosome

**Correct option: c** 

- 4. Cell wall is absent in:
- a) Bacteria
- b) Animals
- c) Fungi
- d) Plants

**Correct option: b** 

5. Which of the following is called the powerhouse of the cell?

SOCH BADLO BY MAK

- a) Ly<mark>soso</mark>me
- b) Mitochondria
- c) Nu<mark>cleus</mark>
- d) Ribosome
- Correct option: b

6. The cell membrane is mainly composed of:

- a) Proteins and glucose
- b) Proteins and lipids
- c) DNA and RNA
- d) Cellulose and pectin
- **Correct option: b**
- 7. Which organelle helps in the synthesis of proteins?

SOCH BADLO BY MAX

- a) Mitochondria
- b) Golgi bodies
- c) Ri<mark>boso</mark>mes
- d) Va<mark>cuol</mark>es
- **Correct option: c**
- 8. The function of lysosomes is:
- a) Energy production
- b) Digestion of worn-out cell parts
- c) Photosynthesis
- d) Protein synthesis

**Correct option: b** 

- 9. Which organelle is found only in plant cells?
- a) Ribosome
- **b)** Chloroplast
- c) Mitochondria
- d) Golgi body
- **Correct option: b**
- **10. Which structure gives shape and support to the plant cell?**
- b) Cy<mark>topl</mark>asm
- c) Va<mark>cuol</mark>e
- d) Ce<mark>ll wa</mark>ll
- **Correct option: d**
- **11. The cell theory was proposed by:**
- a) Robert Brown
- b) Schleiden and Schwann

- c) Hooke and Virchow
- d) Watson and Crick
- **Correct option: b**
- 12. DNA is mostly found in:
- a) Cytoplasm
- b) Ribosome
- c) Golgi bodies
- d) N<mark>ucleu</mark>s
- **Correct option: d**
- 13. Which of the following is a membrane-bound organelle?

SOCH BADLO BY MAX

- a) Ribosome
- b) Cytoskeleton
- c) Mitochondrion
- d) Nucleoid
- **Correct option: c**

14. Ribosomes are manufactured in:

- a) Cytoplasm
- b) Endoplasmic reticulum
- c) Mitochondria
- d) Nucleolus
- **Correct option: d**
- 15. Chlorophyll is present in:
- a) N<mark>ucleu</mark>s
- b) Chloroplast
- c) Mitochondria S O C H B A D t O B Y M A X
- d) Ri<mark>boso</mark>me
- **Correct option: b**
- 16. The jelly-like substance inside the cell membrane is:
- a) Cytosol
- b) Protoplasm
- c) Cytoplasm
- d) Nucleoplasm

# **Correct option: c**

- **17.** Which part of the cell is responsible for packaging and transport?
- a) Golgi apparatus
- b) Ribosome
- c) Vacuole
- d) Cytoplasm
- **Correct option:** a
- 18. Mitochondria provide energy in the form of:
- a) DNA
- b) ATP
- c) RNA
- d) NADPH
- **Correct option: b**

19. Which organelle is responsible for photosynthesis?

a) Mitochondria

- b) Ribosomes
- c) Chloroplast
- d) Nucleus
- **Correct option: c**
- 20. What is the basic structural and functional unit of life?
- a) Tissue
- b) Organ
- c) Organ system
- d) Cell
- Correct option: d 3 () () HI () A () L () () H A A K
- 21. Which organelle contains digestive enzymes?
- a) Ribosome
- b) Ly<mark>sosome</mark>
- c) Golgi body
- d) Vacuole
- Correct option: b

22. What is the function of centrioles in animal cells?

- a) Photosynthesis
- b) Digestion
- c) Cell division
- d) Protein synthesis

**Correct option: c** 

23. The membrane around the nucleus is called:

- a) Pl<mark>asma</mark> membrane
- b) Ce<mark>ll wa</mark>ll
- c) Nuclear envelope (Control (State Onto Control (State OntoControl (State Onto Control (State Onto Control (State Onto Contro
- d) Nucleoplasm

**Correct option: c** 

24. Which of the following is a double membrane-bound organelle?

- a) Ribosome
- b) Lysosome
- c) Mitochondrion
- d) Vacuole

# **Correct option: c**

- **25. Prokaryotic cells reproduce by:**
- a) Mitosis
- b) Meiosis
- c) Binary fission
- d) Budding
- **Correct option: c**
- 26. Which organelle stores water and waste in plant cells?
- a) Nu<mark>cleu</mark>s
- b) Vacuole
- c) Go<mark>lgi b</mark>ody
- d) Ch<mark>lorop</mark>last
- **Correct option: b**

**27.** Which of the following organelles is involved in the formation of lipids?

- a) Smooth ER
- b) Rough ER
- c) Ribosome
- d) Nucleolus
- **Correct option: a**
- 28. Which type of cell has a well-defined nucleus?
- a) Prokaryotic
- b) Vi<mark>rus</mark>
- c) Eu<mark>kary</mark>otic
- d) Ba<mark>cter</mark>ial
- **Correct option: c**
- 29. Which of the following is absent in animal cells?

SOCH BADLO BY MAK

- a) Lysosomes
- b) Centrosome
- c) Cell wall
- d) Nucleus
- **Correct option: c**

- 30. What do chloroplasts and mitochondria have in common?
- a) Single membrane
- b) Presence in animal cells
- c) Production of glucose
- d) Double membrane and own DNA
- **Correct option: d**
- 31. Cellulose is the main component of:
- a) Ce<mark>ll me</mark>mbrane: O C M B A D L O B Y M A K
- b) Nuclear envelope
- c) Ce<mark>ll wa</mark>ll
- d) Cy<mark>topl</mark>asm
- **Correct option: c**

32. The rough endoplasmic reticulum is rough because of:

- a) Enzymes
- b) Ribosomes

- c) Mitochondria
- d) Vesicles
- **Correct option: b**
- 33. Which of these cells lack a nucleus?
- a) White blood cells
- b) Red blood cells
- c) Liver cells
- d) Pl<mark>ant c</mark>ells
- **Correct option: b**
- 34. Which of the following is the site of aerobic respiration?

SOCH BADLO BY MAK

- a) Golgi bodies
- b) Ribosomes
- c) Mitochondria
- d) Nucleus
- Correct option: c

35. Who coined the term "protoplasm"?

- a) Robert Hooke
- b) Purkinje
- c) Schleiden
- d) Schwann
- **Correct option: b**
- 36. What are organelles?
- a) La<mark>rge o</mark>rgans
- b) Cell organs
- c) Membrane-bound structures inside cells
- d) Multicellular organisms
- **Correct option: c**
- 37. DNA replication occurs in:
- a) Cytoplasm
- b) Ribosome
- c) Nucleus
- d) Golgi bodies

### **Correct option: c**

**38. Which of these organelles is responsible for protein modification and packaging?** 

- a) Ribosome
- b) Golgi apparatus
- c) Nucleolus
- d) Vacuole

**Correct option: b** 

39. The semi-fluid substance between the cell membrane and nucleus is:

SOCH BADLO BY MAK

- a) Nucleoplasm
- b) Cy<mark>topla</mark>sm
- c) Protoplasm
- d) Vacuole

**Correct option: b** 

40. Which of the following has its own DNA?

- a) Golgi body
- b) Lysosome
- c) Mitochondria
- d) Ribosome
- **Correct option: c**
- 41. Which structure is present in plant but not in animal cells?

SOCH BADLO BY MAX

- a) Mitochondria
- b) Nucleus
- c) Ce<mark>ll wa</mark>ll
- d) Ri<mark>boso</mark>me
- **Correct option: c**

42. Which organelle forms spindle fibers during cell division in animals?

- a) Centriole
- b) Ribosome
- c) Nucleus
- d) Lysosome

### **Correct option:** a

43. Which structure regulates the movement of substances into and out of the cell?

SOCH BADLO BY MAX

- a) Cell wall
- b) Plasma membrane
- c) Nucleus
- d) Cytoplasm

**Correct option: b** 

- 44. Function of the nucleolus is:
- a) Energy production
- b) DNA storage
- c) Ribosome synthesis
- d) Cell wall formation

**Correct option: c** 

45. Organisms with no true nucleus are:

- a) Animals
- b) Fungi
- c) Bacteria
- d) Plants
- **Correct option: c**
- 46. The cytoplasm includes:
  a) Only water
  b) Nucleus and vacuoles
  c) Organelles and cytosol
  d) Ribosomes only
  Correct option: c
- 47. Which organelle helps in detoxification in liver cells?
- a) Ribosome
- b) Mitochondria
- c) Smooth ER
- d) Golgi body
- **Correct option: c**

- 48. Which organelle forms vesicles for secretion?
- a) Nucleus
- b) Ribosome
- c) Golgi body
- d) Mitochondria
- **Correct option: c**

49. Which of the following has a selectively permeable membrane?

SOCH BADLO BY MAK

- a) Ce<mark>ll wa</mark>ll
- b) Nucleus
- c) Ce<mark>ll me</mark>mbrane
- d) Cy<mark>topl</mark>asm

**Correct option: c** 

50. The smallest living unit in an organism is:

- a) Atom
- b) Tissue

c) Cell

d) Organelle

**Correct option: c** 

**Chapter 2:Molecular Biology** 

**1.** What is the central dogma of molecular biology?

a) DNA  $\rightarrow$  RNA  $\rightarrow$  Protein

- b) RNA  $\rightarrow$  DNA  $\rightarrow$  Protein
- c)  $Protein \rightarrow DNA \rightarrow RNA$
- d) DNA  $\rightarrow$  Protein  $\rightarrow$  RNA

Correct option: a 3 () () H () A () ( O () Y M A X

2. Which enzyme is responsible for synthesizing RNA from a DNA template?

- a) DN<mark>A polymerase</mark>
- b) RNA polymerase
- c) Ligase

d) Helicase

**Correct option: b** 

- 3. In DNA, adenine pairs with:
- a) Cytosine
- b) Guanine
- c) Thymine
- d) Uracil
- **Correct option: c**
- 4. Which of the following is not a component of a nucleotide?
- b) Nitrogenous base
- c) Amino acid
- d) Pentose sugar
- **Correct option: c**

5. During transcription, the DNA strand that is read is called the:

- a) Coding strand
- b) Template strand

- c) Leading strand
- d) Lagging strand
- **Correct option: b**
- 6. Which RNA carries amino acids to the ribosome?
- a) mRNA
- b) tRNA
- c) rRNA
- d) sn<mark>RNA</mark>
- **Correct option: b**
- 7. The process of protein synthesis from mRNA is called:

SOCH BADLO BY MAX

- a) Transcription
- b) Replication
- c) Translation
- d) Translocation
- **Correct option: c**

- 8. Which of the following is a start codon?
- a) UAA
- b) AUG
- c) UGA
- d) UAG
- **Correct option: b**
- 9. Which enzyme unwinds the DNA helix during replication?

SOCH BADLO BY MAK

- a) Lig<mark>ase</mark>
- b) Helicase
- c) Pr<mark>imase</mark>
- d) Topoisomerase
- **Correct option: b**
- 10. In eukaryotes, transcription occurs in the:
- a) Cytoplasm
- b) Nucleus
- c) Ribosome
- d) Endoplasmic reticulum

# **Correct option: b**

- **11. Which of the following is not involved in DNA replication?**
- a) DNA polymerase
- b) RNA polymerase
- c) Ligase
- d) Helicase
- **Correct option: b**
- 12. The enzyme that joins Okazaki fragments is:
- a) DNA polymerase
- b) Ligase
- c) He<mark>licas</mark>e
- d) Primase
- **Correct option: b**

13. Which base is found in RNA but not in DNA?

a) Adenine

- b) Thymine
- c) Uracil
- d) Cytosine
- **Correct option: c**
- 14. The process by which DNA makes a copy of itself is called:
- a) Transcription
- **b)** Translation
- c) Re<mark>plica</mark>tion
- d) Tr<mark>ansd</mark>uction
- Correct option: c 3 () C H B A () L O B Y M A K
- 15. Which of the following is a purine base?
- a) Cy<mark>tosine</mark>
- b) Thymine
- c) Adenine
- d) Uracil

**Correct option: c** 

- 16. Which of the following is not a function of DNA?
- a) Storage of genetic information
- b) Protein synthesis
- c) Transmission of genetic information
- d) Catalysis of biochemical reactions
- **Correct option: d**

17. Which type of mutation involves a single nucleotide change?
a) Frameshift mutation
b) Point mutation
c) Deletion mutation
d) Insertion mutation
Correct option: b

- 18. The anticodon is a part of:
- a) mRNA
- b) tRNA
- c) rRNA

# d) DNA

**Correct option: b** 

**19.** Which of the following is not a stop codon?

- a) UAA
- b) UAG
- c) UGA
- d) AUG

Correct option: d

20. The enzyme responsible for synthesizing the RNA primer during DNA replication is:

SOCH BADLO BY MAK

- a) DNA polymerase
- b) RNA polymerase
- c) Primase
- d) Ligase

**Correct option: c** 

21. Which of the following processes is carried out by the ribosome?

SOCH BADLO BY MAK

- a) DNA replication
- b) Transcription
- c) Translation
- d) RNA splicing
- **Correct option: c**
- 22. In prokaryotes, the site of transcription is the:
- a) N<mark>ucleu</mark>s
- b) Cy<mark>topl</mark>asm
- c) Ribosome
- d) Endoplasmic reticulum
- **Correct option: b**
- 23. Which of the following best describes a gene?
- a) A segment of RNA that codes for a protein
- b) A segment of DNA that codes for a protein
- c) A protein that regulates transcription
- d) A carbohydrate that stores genetic information

### **Correct option: b**

24. Which enzyme is responsible for adding nucleotides during DNA replication?

SOCH BADLO BY MAK

- a) DNA ligase
- b) DNA helicase
- c) DNA polymerase
- d) RNA polymerase

**Correct option: c** 

- 25. Which of the following is not a type of RNA?
- a) mRNA
- b) tRNA
- c) rRNA
- d) dRNA

**Correct option: d** 

26. The process of removing introns from pre-mRNA is called:

- a) Capping
- b) Polyadenylation
- c) Splicing
- d) Translation
- **Correct option: c**
- 27. Which of the following statements about the genetic code is true?
  a) It is overlapping
  b) It is ambiguous
  c) It is universal
  d) It is species-specific
  Correct option: c

28. Which of the following is not involved in the process of translation?

- a) mRNA
- b) tRNA
- c) rRNA
- d) DNA

#### **Correct option: d**

- **29. Which of the following enzymes is involved in transcription?**
- a) DNA polymerase
- b) RNA polymerase
- c) Ligase
- d) Helicase
- **Correct option: b**
- 30. Which of the following is a function of tRNA?
- a) Carrying genetic information from DNA to ribosomes
- b) Catalyzing peptide bond formation
- c) Bringing amino acids to the ribosome
- d) Forming the structure of ribosomes

**Correct option: c** 

**31.** Which of the following is not a component of the lac operon?

a) Promoter

- b) Operator
- c) Repressor
- d) Enhancer
- **Correct option: d**
- **32. Which of the following is true about eukaryotic mRNA?**
- a) It is not processed after transcription
- b) It contains introns and exons
- c) It is translated in the nucleus
- d) It <mark>is cir</mark>cular
- Correct option: b ( O C H ( B A D L O B Y M A X
- 33. Which of the following is not a post-transcriptional modification?
- a) 5' <mark>capping</mark>
- b) Polyadenylation
- c) Splicing
- d) DNA methylation
- **Correct option: d**

34. Which of the following is a stop codon?

- a) UAA
- b) AUG
- c) GGU
- d) CCC
- **Correct option: a**

35. Which of the following is not true about DNA replication?

a) It is semi-conservative

b) It occurs during the S phase of the cell cycle

- c) It requires RNA primers
- d) It occurs in the cytoplasm of eukaryotic cells

Correct option: d

36. Which of the following is not a function of rRNA?

- a) Structural component of ribosomes
- b) Catalyzing peptide bond formation
- c) Carrying amino acids to the ribosome

# d) Ensuring proper alignment of mRNA and tRNA

**Correct option: c** 

37. Which of the following is not a characteristic of the genetic code?

- a) Triplet
- b) Non-overlapping
- c) Degenerate
- d) Ambiguous

**Correct option: d** 

38. Which of the following is not involved in the initiation of translation?

SOCH BADLO BY MAK

- a) Small ribosomal subunit
- b) Ini<mark>tiato</mark>r tRNA
- c) mRNA
- d) DNA

**Correct option: d** 

39. Which of the following is not a type of point mutation?

a) Silent mutation

b) Missense mutation

c) Nonsense mutation

d) Frameshift mutation

**Correct option: d** 

40. Which of the following is not true about RNA?
a) It is usually single-stranded
b) It contains the sugar deoxyribose
c) It contains uracil instead of thymine
d) It can function as an enzyme
Correct option: b

41. Which of the following is not a function of DNA polymerase?

- a) Synthesizing new DNA strands
- b) Proofreading newly synthesized DNA
- c) Removing RNA primers
- d) Joining Okazaki fragments

## Correct option: d

**42. Which of the following is not a component of the transcription initiation complex?** 

- a) RNA polymerase
- **b)** Transcription factors
- c) Promoter region
- d) Ribosome

**Correct option: d** 

43. Which of the following is not a step in PCR (Polymerase Chain Reaction)?

SOCH BADLO BY MAK

- a) Denaturation
- b) Annealing
- c) Extension
- d) Translation

**Correct option: d**
44. Which of the following is not a function of the 5' cap added to eukaryotic mRNA?

a) Protecting mRNA from degradation

- b) Assisting in ribosome binding
- c) Facilitating nuclear export
- d) Coding for amino acids

**Correct option: d** 

45. Which of the following is not involved in the elongation phase of translation?

H BADLO BY MAX

- a) Aminoacyl-tRNA
- b) Pe<mark>ptidy</mark>l transferase
- c) Release factors
- d) Ribosome

**Correct option: c** 

46. Which of the following is not a type of RNA processing?

- a) 5' capping
- b) Polyadenylation
- c) Splicing

#### d) Replication

**Correct option: d** 

47. Which of the following is not true about the genetic code?

- a) It is universal
- b) It is redundant
- c) It is overlapping
- d) It is composed of codons

**Correct option: c** 

- 48. Which of the following best describes a codon?
- a) A segment of DNA that regulates replication
- b) A three-nucleotide sequence on mRNA that codes for an amino acid
- c) A part of tRNA that binds to mRNA
- d) A protein that starts transcription

**Correct option: b** 

49. Which of the following helps in the formation of peptide bonds between amino acids during translation?

- a) DNA polymerase
- b) Peptidyl transferase
- c) RNA ligase
- d) tRNA synthetase
- **Correct option: b**

50. Which molecule acts as the blueprint for protein synthesis?

- a) rRNA
- b) tRNA
- c) mRNA
- d) DNA polymerase of the total of the second s
- **Correct option: c**

Chapter 3:Enzymes

- 1. Enzymes are biologically active:
- a) Lipids
- b) Carbohydrates
- c) Proteins
- d) Nucleic acids

#### **Correct option: c**

- **2.** The substance upon which an enzyme acts is called:
- a) Product
- b) Substrate
- c) Catalyst
- d) Coenzyme
- **Correct option: b**
- 3. The region of an enzyme where the substrate binds is called:
- a) Pa<mark>ssive</mark> site
- b) Catalytic site
- c) Active site (More specific Binding site)
- d) Substrate pocket
- **Correct option: c**

4. Which of the following is not true about enzymes?

a) They are reusable

b) They are consumed in reactions

- c) They lower activation energy
- d) They are specific

**Correct option: b** 

- 5. Which of the following affects enzyme activity?
- a) Temperature
- b) pH
- c) Substrate concentration
- d) Al<mark>l of t</mark>hese
- 6. Optimum temperature for human enzymes is around:
- a) 10°C b) 25°C c) 37°C
- d) 50°C

**Correct option: c** 

7. Extreme pH can:
a) Activate enzymes
b) Enhance product formation
c) Denature enzymes
d) Replace substrate
Correct option: c

8. Enzymes speed up reactions by: a) Increasing energy

b) Ra<mark>ising</mark> activation energy () A () L O () Y (A A X

c) Lowering activation energy

d) Providing ATP

**Correct option: c** 

9. Which of the following acts as a coenzyme?

a) Water

b) NAD+

c) Glucose

#### d) DNA

**Correct option: b** 

**10.** Inhibitors that bind to the active site are called:

- a) Allosteric inhibitors
- b) Non-competitive inhibitors
- c) Competitive inhibitors
- d) Reverse inhibitors

Correct option: c

11. Which factor does not directly affect enzyme activity?

SOCH BADLO BY MAX

- a) Temperature
- b) Light
- c) pH
- d) Substrate concentration

Correct option: b

12. Enzyme + Substrate →

- a) Product only
- b) Enzyme-substrate complex
- c) Product + enzyme-substrate
- d) Substrate
- **Correct option: b**
- 13. Most enzymes are named by adding the suffix "-ase" to the name of:

OCH BADLO BY MAX

- a) Product
- b) Enzyme
- c) Substrate
- d) Pr<mark>otein</mark>
- **Correct option: c**
- 14. Which statement is incorrect about enzymes?
- a) They speed up chemical reactions
- b) They are consumed during reaction
- c) They are highly specific
- d) They are sensitive to environmental conditions

#### **Correct option: b**

# 15. Which enzyme breaks down hydrogen peroxide?

- a) Amylase
- b) Catalase
- c) Lipase
- d) Pepsin
- **Correct option: b**
- 16. Digestive enzymes act best at: O C B Y M A X
- a) Low temperatures
- b) Neutral pH
- c) Body temperature
- d) Very high temperatures

**Correct option: c** 

17. Pepsin works best in:

a) Alkaline pH

- b) Acidic pH
- c) Neutral pH
- d) Basic pH
- **Correct option: b**
- **18.** A non-protein part essential for enzyme function is called:
- a) Catalyst
- b) Inhibitor
- c) Co<mark>enzy</mark>me
- d) Is<mark>otope</mark>
- Correct option: c 5 O C H B A D L O B Y M A X
- 19. The term 'apoenzyme' refers to:
- a) A cofactor
- b) A complete enzyme
- c) Inactive protein portion of enzyme
- d) Enzyme inhibitor
- **Correct option: c**

- 20. The complete active enzyme is called:
- a) Apoenzyme
- b) Holoenzyme
- c) Prosthetic group
- d) Inhibitor
- **Correct option: b**
- 21. Allosteric site is the site:
  a) That binds the product
  b) Where substrate binds
  c) Other than the active site
  d) That breaks enzyme
  Correct option: c

22. An enzyme works by binding with a substrate to form:

BADLO BY MAK

- a) A molecule
- b) A product
- c) A complex

### d) ATP

**Correct option: c** 

# 23. Which enzyme helps digest proteins?

SOCH BADLO BY MAK

- a) Lipase
- b) Amylase
- c) Pepsin
- d) Maltase

Correct option: c

- 24. Amylase digests:
- a) Pr<mark>otein</mark>s
- b) Carbohydrates
- c) Lip<mark>ids</mark>
- d) DNA

Correct option: b

25. Lipase breaks down:

- a) Proteins
- b) Sugars
- c) Fats
- d) Nucleic acids
- **Correct option: c**
- 26. The action of enzyme is:
- a) Reversible
- b) Irr<mark>ever</mark>sible
- c) Ra<mark>ndom</mark>
- d) None
- **Correct option:** a
- 27. Which is not a characteristic of enzymes?

SOCH BADLO BY MAK

- a) Specificity
- b) Catalytic activity
- c) Destructive nature
- d) Reusability
- **Correct option: c**

- 28. Which is a digestive enzyme?
- a) Hemoglobin
- b) Pepsin
- c) Insulin
- d) Myosin
- **Correct option: b**
- 29. What is the product of lipase action on fat?
- a) Amino acids SOCH BADLO BY MAK
- b) Gl<mark>ucos</mark>e
- c) Fatty acids and glycerol
- d) Nucleo tides

**Correct option: c** 

30. Which of the following is a protein-digesting enzyme?

- a) Sucrase
- b) Trypsin

- c) Amylase
- d) Lactase
- **Correct option: b**
- **31. Denaturation of enzymes results in loss of:**

SOCH BADLO BY MAK

- a) Substrate
- b) Function
- c) Products
- d) Co<mark>fact</mark>or
- **Correct option: b**
- 32. Which is a hydrolytic enzyme?
- a) Ca<mark>talas</mark>e
- b) Pe<mark>psin</mark>
- c) Urease
- d) Hexokinase
- Correct option: b

33. Effect of enzyme concentration is visible when:

a) Substrate is absent

b) Substrate is limiting

c) Substrate is in excess

d) Enzyme is absent

**Correct option: c** 

34. Which enzyme helps in DNA replication?

- a) RNA polymerase
- b) DNA ligase
- c) DNA polymerase O C D (B A O L O (B Y M A X
- d) Helicase

**Correct option: c** 

35. What happens to enzyme activity at very high temperatures?

- a) Increases
- b) Decreases
- c) Becomes optimal
- d) Denatures

# Correct option: d

## **36. Feedback inhibition in enzymes is due to:**

- a) Substrate
- b) Enzyme itself
- c) End product
- d) Coenzyme
- **Correct option: c**

37. Name the enzyme that breaks down proteins in the small intestine:

- a) Amylase
- b) Tr<mark>ypsin</mark>
- c) Lipase
- d) Catalase
- **Correct option: b**

38. Which enzyme is active in saliva?

- a) Pepsin
- b) Amylase
- c) Lipase
- d) Lactase
- **Correct option: b**
- 39. Which part of enzyme interacts with substrate?
- a) Active site
- b) Cofactor
- c) Ho<mark>loen</mark>zyme
- d) Al<mark>loste</mark>ric site S O C H B A D L O B Y M A K
- **Correct option:** a
- 40. Which is true about enzymes?
- a) Work at any pH
- b) Are consumed in reaction
- c) Can be denatured
- d) Are lipids
- **Correct option: c**

## 41. Coenzymes are usually derived from:

- a) Carbohydrates
- b) Proteins
- c) Vitamins
- d) Nucleic acids
- **Correct option: c**
- 42. Induced fit model explains:
- a) En<mark>zyme</mark> inhibition
- b) Enzyme denaturation
- c) Substrate binding
- d) pH effect
- **Correct option: c**

43. An example of an intracellular enzyme is:

a) Pepsin

- b) Catalase
- c) Trypsin
- d) Amylase
- **Correct option: b**

44. Prosthetic group is:
a) Inorganic enzyme
b) Protein portion
c) Tightly bound non-protein part
d) Enzyme inhibitor

45. Enzymes used in detergents are:

- a) Ca<mark>talase</mark>
- b) Protease
- c) Ligase
- d) Sucrase

**Correct option: b** 

46. Which enzyme breaks urea into ammonia and CO<sub>2</sub>?

- a) Catalase
- b) Urease
- c) Amylase
- d) Trypsin
- **Correct option: b**

47. Which enzyme is used in glucose test strips?

SOCH BADLO BY MAK

- a) In<mark>verta</mark>se
- b) Ur<mark>ease</mark>
- c) Glucose oxidase
- d) Sucrase
- **Correct option: c**

### 48. Denatured enzyme has lost its:

- a) Mass
- b) Activity
- c) Substrate

#### d) Color

**Correct option: b** 

# 49. Which of the following is heat-stable?

- a) Pepsin
- b) DNA
- c) Thermophilic enzymes
- d) Amylase

**Correct option: c** 

### 50. The term "enzyme" was coined by:

SOCH BADLO BY MAK

- a) Ro<mark>bert</mark> Hooke
- b) Kuhne
- c) Da<mark>rwin</mark>
- d) Watson
- Correct option: b

**Chapter 4:Bioenergetics** 

- 1. The study of energy relationships in living organisms is called:
- a) Biophysics
- b) Thermodynamics
- c) Bioenergetics
- d) Metabolism
- **Correct option: c**
- 2. Photosynthesis occurs in:
- a) M<mark>itoch</mark>ondria
- b) Ri<mark>boso</mark>mes
- c) Chloroplasts
- d) Cy<mark>topl</mark>asm
- **Correct option: c**

**3.** The light-dependent reactions of photosynthesis take place in:

SOCH BADLO BY MAX

- a) Stroma
- b) Thylakoid membrane
- c) Cytoplasm

#### d) Inner membrane

**Correct option: b** 

- 4. The green pigment involved in photosynthesis is:
- a) Carotene
- b) Xanthophyll
- c) Chlorophyll
- d) Phycobilin

**Correct option: c** 

5. Which of the following is a product of light reaction?

SOCH BADLO BY MAX

- a) Gl<mark>ucos</mark>e
- b) NADP
- c) NADPH
- d) CO<sub>2</sub>

Correct option: c

6. The main source of energy for photosynthesis is:

- b) Sunlight
- c) Heat
- d) Glucose
- **Correct option: b**
- 7. The dark reaction occurs in the:
- a) Grana
- b) Th<mark>ylak</mark>oid
- c) St<mark>roma</mark>
- d) M<mark>emb</mark>rane
- **Correct option: c**
- 8. Which gas is used in photosynthesis?

SOCH BADLO BY MAK

- a) O₂
- b) CO<sub>2</sub>
- c) N<sub>2</sub>
- d) H₂

**Correct option: b** 

- 9. Photosynthesis is a/an:
- a) Catabolic process
- b) Exothermic reaction
- c) Anabolic process
- d) Neutral reaction
- **Correct option: c**
- **10.** Oxygen released during photosynthesis comes from:

SOCH BADLO BY MAK

- a) CO₂
- b) W<mark>ater</mark>
- c) Gl<mark>ucos</mark>e
- d) Chlorophyll
- **Correct option: b**

11. Which molecule captures light energy in plants?

a) NADPH

b) ATP

c) Chlorophyll

- d) Starch
- **Correct option: c**
- **12. Which of the following is not required for photosynthesis?**
- a) **CO**₂
- b) Water
- c) Ox<mark>ygen</mark>
- d) Light
- Correct option: CSOCH BADLO BY MAK
- **13.** During light reaction, water is split in a process called:
- a) Hy<mark>droly</mark>sis
- b) Electrolysis
- c) Photolysis
- d) Chemolysis
- **Correct option: c**

- 14. ATP and NADPH are used in which stage?
- a) Glycolysis
- b) Light reaction
- c) Calvin cycle
- d) Electron transport
- **Correct option: c**
- 15. The final product of photosynthesis is: a) ATP

SOCH BADLO BY MAK

- b) Gl<mark>ucos</mark>e
- c) CO<sub>2</sub>
- d) Water
- Correct option: b
- **16.** Calvin cycle occurs in the:
- a) Grana
- b) Mitochondria
- c) Cytoplasm

#### d) Stroma

**Correct option: d** 

- **17. Glucose is stored in plants as:**
- a) Sucrose
- b) Glycogen
- c) Cellulose
- d) Starch

**Correct option: d** 

18. Photosynthesis is vital for:

SOCH BADLO BY MAK

- a) W<mark>ater</mark> production
- b) Light production
- c) Energy conversion
- d) Protein synthesis
- **Correct option: c**

**19.** Photosynthesis converts:

a) Chemical energy to light energy
b) Light energy to chemical energy
c) Thermal energy to light
d) Sound to chemical energy
Correct option: b

- 20. Which is a limiting factor in photosynthesis?
- a) Light intensity
- b) Temperature
- c) CO<sub>2</sub> concentration
- d) All of these SOCH BADLO BY MAX
- **Correct option: d**

- 21. Which is not a phase of photosynthesis?
- a) Light reaction
- b) Glycolysis
- c) Dark reaction
- d) Calvin cycle

## **Correct option: b**

# **22.** Chlorophyll absorbs which color most efficiently?

- a) Green
- b) Blue
- c) Yellow
- d) Orange

**Correct option: b** 

- 23. T<mark>he en</mark>ergy currency of the cell is: O 13 Y 14 A K
- a) DNA
- b) ATP
- c) Protein
- d) NADH
- **Correct option: b**

24. Which is required in the Calvin cycle?

a) Light

- b) Oxygen
- c) ATP
- d) NADP
- **Correct option: c**

25. ATP stands for:
a) Adenosine triphosphate
b) Adenosine tetraphosphate
c) Adenine phosphate
d) Adenosine trioxy phosphate
Correct option: a

<b>26. NADP</b> H is a:
a) Pr <mark>otein</mark>
b) Sug <mark>ar</mark>
c) Energy carrier
d) Enzyme
Correct option: c

27. Aerobic respiration requires:

- a) CO<sub>2</sub>
- b) O₂
- c) N₂
- d) H₂
- **Correct option: b**

28. First step of aerobic respiration is:

SOCH BADLO BY MAK

- a) Kr<mark>ebs c</mark>ycle
- b) Gl<mark>ycoly</mark>sis
- c) Ph<mark>otos</mark>ynthesis
- d) Fermentation

**Correct option:** b

29. Glycolysis takes place in the:

- a) Mitochondria
- b) Cytoplasm
- c) Ribosomes

# d) Chloroplast

**Correct option: b** 

**30. End products of glycolysis are:** 

- a) Glucose and ATP
- b) Pyruvic acid and ATP
- c) Oxygen and ATP
- d) CO<sub>2</sub> and Water

Correct option: b

**31. Which of the following occurs in mitochondria?** 

SOCH BADLO BY MAX

- a) Gl<mark>ycoly</mark>sis
- b) Ph<mark>otosynthesis</mark>
- c) Calvin cycle
- d) Krebs cycle

Correct option: d

- 32. Fermentation is a type of:
- a) Anaerobic respiration
- b) Photosynthesis
- c) Aerobic process
- d) Hydrolysis
- **Correct option: a**
- 33. Krebs cycle occurs in:
- a) Cy<mark>topla</mark>sm
- b) N<mark>ucleu</mark>s
- c) Mitochondria S O C H B A D t O B Y M A X
- d) Ri<mark>boso</mark>me
- **Correct option: c**
- 34. Electron transport chain is located in:
- a) Cytoplasm
- b) Outer membrane
- c) Inner mitochondrial membrane
- d) Nucleoplasm

#### **Correct option: c**

## **35. Final product of aerobic respiration is:**

- a) Alcohol
- b) Lactic acid
- c) Water and CO<sub>2</sub>
- d) Pyruvic acid

# **Correct option: c**

- 36. Which produces more ATP? a) Anaerobic respiration b) Photosynthesis
- c) Aerobic respiration
- d) Gl<mark>ycolys</mark>is

**Correct option: c** 

37. Which organisms perform alcoholic fermentation?

a) Humans
- b) Plants
- c) Bacteria
- d) Yeasts
- **Correct option: d**
- 38. Which of the following does not occur in aerobic respiration?
- a) Oxygen use
- b) CO<sub>2</sub> release
- c) Lactic acid production
- d) Water formation
- Correct option: c 5 O C H B A D L O BY M AX
- **39. Which of the following occurs without oxygen?**
- a) Krebs cycle
- b) Glycolysis
- c) Electron transport
- d) All of these
- **Correct option: b**

40. Respiration is a:
a) Anabolic process
b) Energy-releasing process
c) Energy-storing process
d) Light-absorbing process
Correct option: b

41. In aerobic respiration, maximum ATP is produced in:

SOCH BADLO BY MAX

- a) Gl<mark>ycoly</mark>sis b) Kr<mark>ebs cycle</mark>
- c) ETC
- d) Fe<mark>rmentation</mark>

**Correct option: c** 

42. Which is a 6-carbon sugar used in respiration?

- a) Ribose
- b) Glucose
- c) Fructose

# d) Galactose

**Correct option: b** 

43. Number of ATP molecules from 1 glucose in aerobic respiration:

SOCH BADLO BY MAK

- a) 2
- b) 18
- c) 32
- d) 38

Correct option: d

44. In anaerobic respiration, end product in muscle is:

- a) Et<mark>hano</mark>l
- b) CO<sub>2</sub>
- c) La<mark>ctic ac</mark>id
- d) Water

Correct option: c

45. Which of the following steps produces CO<sub>2</sub>?

a) Glycolysis

- b) Calvin cycle
- c) Krebs cycle
- d) ETC
- **Correct option: c**

46. Respiration and photosynthesis both involve:

- a) Light energy
- b) Electron carriers
- c) Pr<mark>otein</mark> synthesis
- d) Water splitting: O C H (3 A O L O B Y M A K
- **Correct option: b**
- 47. ATP synthase is found in:
- a) Cytoplasm
- b) Nucleus
- c) Mitochondria and chloroplast
- d) Ribosome
- **Correct option: c**

- 48. Source of energy in respiration is:
- a) Glucose
- b) Oxygen
- c) CO<sub>2</sub>
- d) Light
- **Correct option:** a
- 49. Which cycle is also known as the citric acid cycle?

- a) Ca<mark>lvin cycle</mark>
- b) Kr<mark>ebs c</mark>ycle
- c) Ur<mark>ea cy</mark>cle
- d) Gl<mark>ycoly</mark>sis
- **Correct option: b**

50. Which process stores energy in glucose bonds?

- a) Respiration
- **b)** Fermentation

- c) Photosynthesis
- d) Digestion
- **Correct option: c**

#### **Chapter 5: Acellular Life**

- **1.** Viruses are considered living when they:
- a) Are crystallized
- b) Are inside a host cell
- c) Ar<mark>e fre</mark>e in the environment
- d) M<mark>utate</mark> outside the host
- Correct option: b o C H B A D L O B Y M A X
- 2. Viruses are made up of:
  a) Protein and DNA only
  b) Protein and RNA only
  c) Protein coat and nucleic acid
  d) Cell membrane and DNA
  Correct option: c

- 3. The outer covering of a virus is called:
- a) Capsule
- b) Capsid
- c) Cell wall
- d) Coat sheath
- **Correct option: b**
- 4. The study of viruses is called:

- a) M<mark>icrob</mark>iology
- b) Vi<mark>rology</mark>
- c) Pa<mark>tholo</mark>gy
- d) Cy<mark>tolo</mark>gy
- **Correct option:** b
- 5. Which of the following is acellular?
- a) Bacteria
- b) Amoeba
- c) Virus

# d) Paramecium

**Correct option: c** 

- **6. Bacteriophage infects:**
- a) Animals
- b) Plants
- c) Fungi
- d) Bacteria

Correct option: d

7. Tobacco Mosaic Virus (TMV) affects:

SOCH BADLO BY MAK

- a) H<mark>uman</mark>s
- b) An<mark>imal</mark>s
- c) To<mark>bacco plants</mark>
- d) Bacteria
- Correct option: c

8. Viruses reproduce by:

- a) Binary fission
- b) Budding
- c) Using host machinery
- d) Meiosis
- **Correct option: c**
- 9. Which of the following diseases is caused by a virus?

- a) Tuberculosis
- b) AIDS
- c) M<mark>alaria</mark>
- d) Ty<mark>phoi</mark>d
- **Correct option: b**
- **10.** The viral nucleic acid may be:
- a) Only DNA
- b) Only RNA
- c) Either DNA or RNA
- d) Both DNA and RNA

**Correct option: c** 

- **11. The HIV virus contains:**
- a) DNA
- b) RNA
- c) Protein only
- d) None of these
- **Correct option: b**
- 12. Polio is caused by:
- a) Ba<mark>cteri</mark>a
- b) Pr<mark>otoz</mark>oa
- c) Virus
- d) Fu<mark>ngus</mark>
- **Correct option: c**
- 13. Which virus has a helical shape?

- a) Polio virus
- b) Bacteriophage

- c) Tobacco Mosaic Virus
- d) Influenza virus
- **Correct option: c**
- 14. Viruses are inactive:
  a) Inside host cell
  b) In the presence of oxygen
  c) Outside the host cell
  d) In dark conditions
  Correct option: c
- 15. Retroviruses have:
- a) DNA
- b) RNA and reverse transcriptase

- c) DNA and RNA
- d) Only protein
- **Correct option: b**

16. A capsid is made up of units called:

- a) Virions
- b) Capsomers
- c) Prions
- d) Lysosomes
- **Correct option: b**
- **17. Viruses are transmitted through:**
- a) Air
- b) W<mark>ater</mark>
- c) Ve<mark>ctors</mark>
- d) Al<mark>l of t</mark>hese
- **Correct option: d**
- 18. Which of the following is used in vaccine production?

- a) Bacteria
- b) Antibodies
- c) Viruses
- d) Red blood cells

#### **Correct option: c**

- **19. Which part of a virus determines its host specificity?**
- a) RNA
- b) DNA
- c) Protein coat
- d) Surface proteins
- **Correct option: d**
- 20. Which is not a viral disease?
- a) In<mark>fluen</mark>za
- b) COVID-19
- c) Ch<mark>olera</mark>
- d) Measles
- **Correct option: c**
- **21. Viral replication occurs in:**
- a) Cytoplasm only

b) Nucleus only
c) Outside the host
d) Inside host cell
Correct option: d

22. Viruses cause disease by:
a) Producing toxins
b) Damaging host cells
c) Competing for food
d) Digesting host enzymes
Correct option: b

23. Corona viruses primarily affect:

a) Digestive system

b) Circulatory system

c) Nervous system

d) Respiratory system

**Correct option: d** 

24. Which of these viruses can integrate its DNA into host DNA?

SOCH BADLO BY MAK

- a) Variola virus
- b) HIV
- c) Polio virus
- d) TMV
- **Correct option: b**

25. A complete virus particle is called a:

- a) Vi<mark>rion</mark>
- b) Prion
- c) Ca<mark>psom</mark>er
- d) Pl<mark>asmi</mark>d
- **Correct option:** a

### **26.** Viruses differ from bacteria in:

- a) Being smaller
- b) Having no cellular structure
- c) Needing host to replicate

#### d) All of these

**Correct option: d** 

- 27. Lytic cycle ends with:
- a) DNA replication
- b) Host cell lysis
- c) Protein synthesis
- d) Mitosis

**Correct option: b** 

28. Virus-like infectious proteins are called:

SOCH BADLO BY MAK

- a) Prions
- b) Virions
- c) Capsomers
- d) Phages
- Correct option: a

29. Which of the following is used in gene therapy?

- a) Fungi
- b) Bacteria
- c) Virus
- d) Protists
- **Correct option: c**

30. A virus that infects plant cells is:

- a) Adenovirus
- b) To<mark>bacc</mark>o Mosa<mark>ic Virus</mark>
- c) Re<mark>trovi</mark>rus
- d) La<mark>mbd</mark>a phages 🕜 🗇 🗤 🚯 🕭 🖓 L O 🐻 Y 🔛 🗛 X

**Correct option: b** 

- **31.** Viruses are inactive without:
- a) Water
- b) Host cell
- c) Light
- d) Sugar
- **Correct option: b**

- 32. The first virus discovered was:
- a) Polio virus
- b) TMV
- c) Influenza virus
- d) HIV
- **Correct option: b**
- **33. Which of the following diseases is caused by a DNA virus?**

- a) AI<mark>DS</mark>
- b) Polio
- c) Smallpox
- d) Rabies
- **Correct option: c**
- 34. The virus envelope is derived from:
- a) Host cell membrane
- b) Host cytoplasm

- c) Its own coat
- d) Host ribosomes
- **Correct option: a**
- 35. Which of the following is used in COVID-19 mRNA vaccines?

- a) Whole virus
- b) Live attenuated virus
- c) Viral mRNA
- d) Vi<mark>ral D</mark>NA
- **Correct option: c**
- **36.** Viroids are made up of:
- a) Protein only
- b) DNA only
- c) RNA only
- d) RNA and protein
- **Correct option: c**

37. Which of the following is acellular but infectious?

a) Protozoa

- b) Prion
- c) Mycoplasma
- d) Cyanobacteria
- **Correct option: b**

38. Which disease is caused by a prion?

- a) Dengue
- b) Rabies
- c) M<mark>ad co</mark>w disease ) Com (S.A. D.L. O., B.Y., M.A.X
- d) M<mark>easle</mark>s

**Correct option: c** 

- 39. Which of the following has no genetic material?
- a) Viroid
- b) Prion
- c) Virus
- d) Bacteriophage

#### **Correct option: b**

- 40. Viral capsid is composed of:
- a) Lipids
- b) Carbohydrates
- c) Proteins
- d) Nucleic acids
- **Correct option: c**
- 41. Bacteriophage infects: () A () ( O () Y M A X
- a) H<mark>uman</mark> cells
- b) Plant cells
- c) Bacterial cells
- d) Fungal cells
- **Correct option: c**

42. The eclipse phase in viral replication is when:

a) Virus enters cell

b) Virus becomes inactive

c) No complete virions are detected

d) Virus lyses host cell

**Correct option: c** 

- 43. Which of these is a retrovirus?
- a) TMV
- b) HIV
- c) Smallpox
- d) In<mark>fluen</mark>za
- Correct option: b ( O C H ( B A O L O B Y M A X
- 44. In lysogenic cycle, viral DNA:
- a) Replicates outside the host
- b) Integrates into host genome
- c) Is destroyed
- d) Forms capsid
- **Correct option: b**

- 45. Viruses can be crystallized, showing they are:
- a) Living
- b) Non-living
- c) Eukaryotic
- d) Autotrophs
- **Correct option: b**

46. A virus is considered living because it can: a) Grow independently

- b) Reproduce in host of the BACHLO BACK MARK
- c) Metabolize
- d) Ph<mark>otos</mark>ynthesize

**Correct option:** b

47. During replication, Viruses are made by;

- a) Golgi apparatus
- b) Host ribosomes
- c) Nucleolus

### d) Outside cell

**Correct option: b** 

### 48. The nucleic acid in TMV is:

- a) DNA
- b) RNA
- c) Both
- d) None

**Correct option: b** 

# 49. Which of the following is the correct viral classification?

SOCH BADLO BY MAK

- a) An<mark>imal</mark>ia
- b) M<mark>oner</mark>a
- c) Protista
- d) None of these
- **Correct option: d**

50. Which structure is absent in viruses?

- a) Capsid
- b) Ribosome
- c) DNA or RNA
- d) Envelope
- **Correct option: b**

Chapter 6:Prokaryotes

1. Which of the following is a prokaryote?

- a) A<mark>moeb</mark>a
- b) Pa<mark>ram</mark>ecium
- c) Ba<mark>cteri</mark>um
- d) Algae
- **Correct option: c**
- 2. Prokaryotic cells lack:
- a) Plasma membrane
- b) Nucleus
- c) Cytoplasm
- d) DNA

## **Correct option: b**

- **3. DNA in prokaryotes is found in the:**
- a) Nucleus
- b) Nucleolus
- c) Nucleoid
- d) Cytoplasm
- **Correct option: c**
- 4. Ce<mark>ll wa</mark>ll of bacteria is made of:
- a) Cellulose
- b) Chitin
- c) Pe<mark>ptido</mark>glycan
- d) Pe<mark>ctin</mark>
- **Correct option: c**
- 5. The shape of spirillum bacteria is:
- a) Rod-shaped

b) Spherical

c) Spiral

d) Comma-shaped

**Correct option: c** 

- 6. Which of the following is not a bacterial shape?
- a) Cocci
- b) Bacilli
- c) Sp<mark>irilla</mark>
- d) Eu<mark>glen</mark>a
- Correct option: dg @ CHC B A D L O BY MAX
- 7. The genetic material of bacteria is usually:
- a) Linear DNA
- b) Circular DNA
- c) Double helix RNA
- d) Chromatin

**Correct option: b** 

- 8. Bacteria reproduce by:
- a) Mitosis
- b) Meiosis
- c) Binary fission
- d) Budding
- **Correct option: c**
- 9. Plasmids are:
- a) Membrane-bound organelles
- b) Ex<mark>tra c</mark>ircular DNA in bacteria 👔 👔 🕐 👘 🔥 🗶
- c) Pr<mark>otein</mark>s
- d) Ri<mark>boso</mark>mes
- **Correct option:** b
- 10. Which structure helps bacteria in movement?
- a) Pili
- b) Capsule
- c) Flagella

#### d) Ribosomes

**Correct option: c** 

# **11.** Which part of bacteria helps in conjugation?

- a) Capsule
- b) Flagella
- c) Pili
- d) Ribosome

Correct option: c

#### 12. Gram-positive bacteria stain:

- a) Pink
- b) Red
- c) Pu<mark>rple</mark>
- d) Blue-green
- Correct option: c

13. Bacteria that can make their own food are called:

- a) Heterotrophs
- b) Autotrophs
- c) Decomposers
- d) Consumers
- **Correct option: b**

14. Photosynthetic bacteria use:

- a) Chloroplasts
- b) Ch<mark>loro</mark>somes
- c) Th<mark>ylako</mark>ids
- d) M<mark>itoch</mark>ondria <u>S</u> O C M (S & O L O (B Y ) M A X
- **Correct option: b**

**15.** Bacteria that live in extreme environments are:

- a) Cyanobacteria
- b) Archaebacteria
- c) Protists
- d) Actinomycetes
- **Correct option: b**

- 16. Which of the following is found in prokaryotic cells?
- a) Mitochondria
- b) Nucleus
- c) Ribosomes
- d) Golgi apparatus
- **Correct option: c**
- 17. Cyanobacteria were also called:
- a) Bl<mark>ue-gr</mark>een algae 🔾 💭 👔 🖓 🕻 🔿 👪 🗛 🛪
- b) Green algae
- c) Protozoa
- d) Di<mark>atom</mark>s
- **Correct option: a**

**18. Which prokaryote performs nitrogen fixation in rice fields?** 

- a) Azotobacter
- b) Rhizobium

- c) Nostoc
- d) Pseudomonas
- **Correct option: c**

## **19. The outermost layer in bacterial cells may be:**

- a) Capsule
- b) Cell wall
- c) Plasma membrane
- d) N<mark>ucleo</mark>id
- **Correct option: a**
- 20. Which of the following is not a feature of prokaryotes?

- a) Ce<mark>ll wa</mark>ll
- b) Ribosomes
- c) Circular DNA
- d) Membrane-bound nucleus
- **Correct option: d**

- 21. Coccus bacteria are:
- a) Rod-shaped
- b) Spiral-shaped
- c) Spherical
- d) Comma-shaped

**Correct option: c** 

## 22. Bacillus refers to which shape?

- a) Sp<mark>iral</mark>
- b) Rod
- c) Sp<mark>heric</mark>al
- d) Irr<mark>egul</mark>ar
- **Correct option: b**
- 23. The function of bacterial capsule is to:

- a) Aid in locomotion
- b) Protect from phagocytosis
- c) Help in respiration
- d) Perform photosynthesis

#### **Correct option: b**

- **24. Bacterial endospores are:**
- a) Reproductive bodies
- b) Resistant dormant structures
- c) Capsules
- d) Digestive enzymes

**Correct option: b** 

- 25. Bacteria without cell walls are called:
- a) Ar<mark>chae</mark>a
- b) Cy<mark>anob</mark>acteria
- c) Mycoplasma
- d) Sp<mark>irilla</mark>
- **Correct option: c**

26. The site of protein synthesis in bacteria is:

a) Nucleoid

- b) Ribosome
- c) Capsule
- d) Pili
- **Correct option: b**
- 27. Bacteria may gain new traits through:
- a) Conjugation
- b) Respiration
- c) En<mark>docy</mark>tosis
- d) Bu<mark>ddin</mark>g
- Correct option: a S O C H B A D L O B Y M A X
- 28. Which of these is not a function of bacterial flagella?
- a) Locomotion
- b) Conjugation
- c) Chemotaxis
- d) Motility
- **Correct option: b**

29. Which part of a prokaryotic cell stores food and waste?

- a) Vesicle
- b) Ribosome
- c) Inclusion body
- d) Nucleoid
- **Correct option: c**
- 30. Which group is strictly prokaryotic?
- a) Pr<mark>otist</mark>a
- b) M<mark>oner</mark>a
- c) Fu<mark>ngi</mark>
- d) Plantae
- **Correct option:** b
- 31. Which structure is absent in all prokaryotes?
- a) DNA
- b) Cytoplasm
- c) Cell membrane
## d) Nucleolus

**Correct option: d** 

- **32.** Bacterial ribosomes are of type:
- a) 80S
- b) 70S
- c) 60S
- d) 50S

Correct option: b

33. Which of these is used in biotechnology and genetic engineering?

SOCH BADLO BY MAK

- a) M<mark>itoch</mark>ondria
- b) Pl<mark>asmi</mark>ds
- c) Ch<mark>lorop</mark>lasts
- d) Nucleus
- Correct option: b

34. The reproduction in bacteria is usually:

- a) Asexual
- b) Sexual
- c) By spores
- d) Budding
- **Correct option: a**
- **35.** Cyanobacteria differ from other bacteria by having:

- a) Nucleus
- b) Ch<mark>loro</mark>phyll
- c) M<mark>itoch</mark>ondria
- d) Ce<mark>llulo</mark>se
- **Correct option: b**
- **36.** Bacteria convert milk to yogurt through:
- a) Decomposition
- b) Photosynthesis
- c) Fermentation
- d) Respiration
- **Correct option: c**

- 37. The genetic material in prokaryotes is not enclosed in a:
- a) Cell wall
- b) Membrane
- c) Protein coat
- d) Cytoplasm
- **Correct option: b**
- 38. Bacteria that obtain energy from sunlight are called:
- a) He<mark>tero</mark>trophs 🔮 💮 🗇 👘 🚯 🕭 🖓 L O 🛛 😽 🖌 🗛 🗶
- b) Chemoautotrophs
- c) Ph<mark>otoa</mark>utotrophs
- d) Decomposers
- **Correct option: c**
- **39. Harmful bacteria are called:**
- a) Pathogens
- **b)** Commensals

- c) Saprophytes
- d) Autotrophs
- **Correct option: a**

### 40. Which process helps bacteria to survive harsh conditions?

- a) Conjugation
- **b)** Sporulation
- c) Binary fission
- d) Fe<mark>rmen</mark>tation
- Correct option: b
- 41. Which of the following is not found in bacterial cytoplasm?

- a) Ri<mark>boso</mark>mes
- b) DNA
- c) Golgi bodies
- d) Plasmids
- **Correct option: c**

- 42. Pili in bacteria are used for:
- a) Motility
- b) Respiration
- c) Conjugation
- d) Photosynthesis

**Correct option: c** 

43. Which of the following is a photosynthetic prokaryote?

- a) Eu<mark>glen</mark>a
- b) Cy<mark>anob</mark>acteria
- c) Algae
- d) Amoeba
- **Correct option: b**

44. Which term refers to the total genetic material of a bacterium?

- a) Nucleoid
- b) Genome
- c) Ribosome
- d) Plasmid

### **Correct option: b**

- 45. Archaebacteria differ from true bacteria in their:
- a) Shape
- b) Cell wall composition
- c) Habitat
- d) All of these
- **Correct option: d**
- 46. Prokaryotes lack membrane-bound:
- a) Ri<mark>boso</mark>mes
- b) Or<mark>gane</mark>lles
- c) DNA
- d) En<mark>zymes</mark>
- **Correct option: b**

47. Which of these is a thermophilic archaeon?

a) Halobacterium

- b) Thermoplasma
- c) Escherichia coli
- d) Rhizobium
- **Correct option: b**
- 48. Which of the following prokaryotes lives in salty conditions?
- a) E. coli
- b) Thermus aquaticus
- c) Ha<mark>loba</mark>cterium
- d) Cy<mark>anob</mark>acteria
- Correct option: c 3 O C H B A D L O B Y M A X
- 49. Cell membrane in bacteria is responsible for:
- a) Photosynthesis
- b) Protein synthesis
- c) Respiration
- d) Motility
- **Correct option: c**

- 50. Which of the following is common in all prokaryotes?
- a) Cell wall
- b) Nucleus
- c) Plasmids
- d) Nucleoid
- **Correct option: d**

## **Chapter 7:Protista and Fungi**

1. Which of the following is a unicellular protist?

SOCH BADLO BY MAX

- a) Sp<mark>irogy</mark>ra
- b) A<mark>moeb</mark>a
- c) M<mark>ushro</mark>oms
- d) Fern
- **Correct option: b**

## 2. Protists with plant-like characteristics are called:

- a) Protozoa
- b) Algae

- c) Fungi
- d) Bacteria
- **Correct option: b**
- 3. Which protist moves by pseudopodia?
- a) Paramecium
- b) Amoeba
- c) Euglena
- d) Di<mark>atom</mark>s
- **Correct option: b**
- 4. Which protist has both plant and animal characteristics?

- a) Amoeba
- b) Paramecium
- c) Euglena
- d) Volvox
- **Correct option: c**

5. The locomotory organelles of Paramecium are:

- a) Flagella
- b) Cilia
- c) Pseudopodia
- d) Pili
- **Correct option: b**
- 6. Which protist is used as a model organism in genetics?

- a) Vo<mark>lvox</mark>
- b) Pa<mark>ram</mark>ecium
- c) Am<mark>oeb</mark>a
- d) Euglena
- **Correct option: b**
- 7. Diatoms are important because they:
- a) Cause diseases
- b) Perform photosynthesis
- c) Fix nitrogen
- d) Are decomposers

### **Correct option: b**

- 8. The cell wall of diatoms contains:
- a) Cellulose
- b) Chitin
- c) Silica
- d) Peptidoglycan
- **Correct option: c**
- 9. Volvox is an example of: () A () ( O () Y M A K
- a) Un<mark>icell</mark>ular algae
- b) Colonial algae
- c) Multicellular fungi
- d) Pr<mark>otozo</mark>a
- **Correct option: b**

10. Which protist causes malaria?

a) Trypanosoma

- b) Plasmodium
- c) Giardia
- d) Paramecium
- **Correct option: b**
- **11. Plasmodium is transmitted by:**
- a) Mosquito
- b) Fly
- c) Tick
- d) W<mark>ater</mark>
- Correct option: a 3 () () HI () A () L () B Y ( M A K
- **12. Which of the following is a parasitic protozoan?**
- a) Eu<mark>glena</mark>
- b) Plasmodium
- c) Volvox
- d) Diatoms
- **Correct option: b**

- 13. Ciliates move by:
- a) Flagella
- b) Cilia
- c) Pseudopodia
- d) None of these
- **Correct option: b**
- 14. Amoeba feeds by:
  a) Photosynthesis
  b) Phagocytosis
  c) Diffusion
  d) Osmosis
  Correct option: b
- 15. Euglena produces food by:
- a) Photosynthesis only
- b) Heterotrophic nutrition only
- c) Both photosynthesis and heterotrophic nutrition

### d) None of the above

**Correct option: c** 

**16. Which pigment is found in green algae?** 

- a) Chlorophyll a and b
- b) Phycoerythrin
- c) Fucoxanthin
- d) Carotenoids only

Correct option: a

17. Which group of protists are known as "plant-like" protists?

SOCH BADLO BY MAK

- a) Pr<mark>otozo</mark>a
- b) Algae
- c) Fu<mark>ngi</mark>
- d) Slime molds
- **Correct option: b**

**18. Algae are important because they:** 

a) Produce oxygen through photosynthesis

- b) Cause diseases
- c) Are parasites
- d) Break down organic matter

**Correct option: a** 

19. Which of the following algae is used as food and in agar production?

- a) Red algae
- b) Green algae
- c) Br<mark>own</mark> algae
- d) Di<mark>atom</mark>s
- **Correct option: a**
- 20. The reproductive structure in Volvox is called:
- a) Zoospore
- b) Gamete
- c) Zygospore
- d) Sporangium

### **Correct option: c**

- **21. Fungi obtain their nutrition by:**
- a) Photosynthesis
- b) Saprophytic or parasitic mode
- c) Chemosynthesis
- d) Autotrophic mode

**Correct option:** b

- 22. The cell wall of fungi is made up of:
- a) Cellulose
- b) Chitin
- c) Pe<mark>ptido</mark>glycan
- d) Sil<mark>ica</mark>
- **Correct option: b**

23. Fungi reproduce by:

a) Binary fission

- b) Budding and spores
- c) Seeds
- d) Fragmentation only
- **Correct option: b**
- 24. Yeast reproduces mainly by:
- a) Binary fission
- b) Budding
- c) Sp<mark>ores</mark>
- d) Fragmentation
- Correct option: b 3 O C H B A D L O B Y M A K
- **25.** The body of a fungus is called:
- a) Mycelium
- b) Hyphae
- c) Thallus
- d) Colony

**Correct option: c** 

26. The network of thread-like structures in fungi is called:

- a) Mycelium
- b) Hyphae
- c) Spores
- d) Buds
- **Correct option: a**
- 27. Fungi lack:
  a) Chlorophyll
  b) Cell wall
  c) Nucleus
  d) Cytoplasm
  Correct option: a
- 28. The spores in fungi are:
- a) Sexual and asexual
- b) Only sexual
- c) Only asexual

## d) Neither sexual nor asexual

**Correct option:** a

## **29.** Which of the following fungi is used in antibiotics production?

SOCH BADLO BY MAK

- a) Penicillium
- b) Yeast
- c) Mushrooms
- d) Algae

**Correct option: a** 

30. The edible fungi are:

- a) M<mark>ushr</mark>ooms
- b) Pe<mark>nicill</mark>ium
- c) Ye<mark>ast</mark>
- d) Molds

**Correct option: a** 

31. Which of the following is a harmful fungus?

- a) Penicillium
- b) Aspergillus
- c) Rhizopus
- d) All of these
- **Correct option: b**
- **32.** Fungi store food in the form of:
- a) Starch
- b) Gl<mark>ycog</mark>en
- c) Ce<mark>llulo</mark>se
- d) Su<mark>crose</mark>
- **Correct option: b**
- 33. Which fungus is used in baking and brewing?

- a) Rhizopus
- b) Yeast
- c) Penicillium
- d) Aspergillus
- **Correct option: b**

- 34. Rhizopus belongs to the group:
- a) Zygomycetes
- b) Ascomycetes
- c) Basidiomycetes
- d) Deuteromycetes
- **Correct option:** a
- 35. The sexual spores of Rhizopus are called:

- a) Zy<mark>gosp</mark>ores
- b) Ba<mark>sidio</mark>spores
- c) As<mark>cosp</mark>ores
- d) Conidiospores
- **Correct option: a**

36. Mushrooms reproduce sexually by:

- a) Spores
- b) Budding

- c) Binary fission
- d) Fragmentation
- **Correct option: a**
- 37. Fungi that live on dead organic matter are called:
- a) Parasites
- b) Saprophytes
- c) Symbionts
- d) Autotrophs
- **Correct option: b**
- 38. The hyphae that penetrate host tissue in parasitic fungi are called:

- a) Rhizoids
- b) Haustoria
- c) Stolons
- d) Mycelium
- Correct option: b

**39.** The main function of fungal spores is:

- a) Nutrition
- b) Reproduction and dispersal
- c) Photosynthesis
- d) Respiration
- **Correct option: b**

40. Lichens are a symbiotic association between fungi and:

- a) Al<mark>gae o</mark>r cyanobacteria
- b) Ba<mark>cteri</mark>a
- c) Pr<mark>otozo</mark>a
- d) Moss
- **Correct option: a**
- 41. Which fungal group lacks sexual reproduction?
- a) Zygomycetes
- b) Basidiomycetes
- c) Ascomycetes
- d) Deuteromycetes

# **Correct option: d**

- 42. Penicillium produces:
- a) Alcohol
- b) Antibiotic
- c) Vitamin
- d) Enzymes
- **Correct option: b**
- 43. Mycorrhiza is a symbiotic association of fungi with:
- a) Al<mark>gae</mark>
- b) Roots of plants
- c) Pr<mark>otozo</mark>a
- d) Mosses
- **Correct option: b**

44. The vegetative part of fungi consists of:

a) Spores

- b) Hyphae
- c) Buds
- d) Zygospores
- **Correct option: b**
- 45. Fungi play an important role in:
- a) Photosynthesis
- b) Decomposition of organic matter
- c) Nitrogen fixation
- d) Pollination
- Correct option: b ( O C H ( B A D L O B Y M A X
- 46. Which is a common fungal disease in plants?
- a) Rust
- b) Malaria
- c) Tuberculosis
- d) AIDS

**Correct option:** a

- 47. Mushrooms belong to:
- a) Zygomycetes
- b) Ascomycetes
- c) Basidiomycetes
- d) Deuteromycetes
- **Correct option: c**

48. Asexual spores produced by fungi are called:

- a) Zygospores
  b) Conidiospores
  b) Conidi
- c) Ba<mark>sidio</mark>spores
- d) As<mark>cosp</mark>ores

**Correct option: b** 

49. Fungi differ from plants because they:

- a) Have chlorophyll
- b) Store food as starch
- c) Are heterotrophic

### d) Have roots

**Correct option: c** 

# **50.** Fungi reproduce sexually through:

- a) Budding
- b) Binary fission
- c) Spores
- d) Fragmentation

**Correct option: c** 

- **1. Plants that complete their life cycle in one year are called:**
- a) Bi<mark>ennia</mark>ls
- b) Perennials
- c) Annuals
- d) Ephemerals
- **Correct option: c**

2. The main function of xylem is:

- a) Transport of food
- b) Transport of water and minerals
- c) Photosynthesis
- d) Storage of food

**Correct option: b** 

- 3. Phloem transports:
- a) W<mark>ater</mark>
- b) M<mark>inera</mark>ls
- c) Fo<mark>od</mark>
- d) H<mark>ormo</mark>nes
- **Correct option: c**
- 4. The green pigment responsible for photosynthesis is:

- a) Carotene
- b) Xanthophyll
- c) Chlorophyll
- d) Anthocyanin

#### **Correct option: c**

- **5. The protective covering of seeds is called:**
- a) Cotyledon
- b) Seed coat
- c) Embryo
- d) Endosperm
- **Correct option: b**
- 6. Plants that have seeds but no flowers belong to:
- a) Angiosperms
- b) Gymnosperms
- c) Bryophytes
- d) Pt<mark>eridophytes</mark>
- **Correct option: b**

7. The vascular tissue present in ferns is:

a) Phloem only

- b) Xylem only
- c) Both xylem and phloem
- d) None
- **Correct option: c**
- 8. The dominant generation in bryophytes is:
- a) Sporophyte
- b) Gametophyte
- c) Se<mark>edlin</mark>g
- d) Embryo
- Correct option: b ( O C H ( B A D L O B Y M A X
- 9. In which group do you find seeds enclosed within fruits?
- a) Gy<mark>mnos</mark>perms
- b) Angiosperms
- c) Pteridophytes
- d) Bryophytes
- **Correct option: b**

- **10.** The male reproductive organ of a flower is called:
- a) Stigma
- b) Ovary
- c) Anther
- d) Style
- **Correct option: c**
- **11.** The female reproductive organ of a flower is called:
- a) Sti<mark>gma</mark>
- b) Anther
- c) Filament
- d) Se<mark>pal</mark>
- **Correct option:** a

12. The process by which pollen grains are transferred to the stigma is called:

- a) Fertilization
- **b)** Pollination

- c) Germination
- d) Photosynthesis
- **Correct option: b**

13. Plants that have vascular tissues but do not produce seeds are called:

DOH BADLO BY MAK

- a) Bryophytes
- b) Pteridophytes
- c) Gymnosperms
- d) Angiosperms
- Correct option: b

14. Which plant group is known as "amphibians of the plant kingdom"?

- a) Bryophytes
- b) Pteridophytes
- c) Gymnosperms
- d) Angiosperms
- **Correct option:** a

- **15. The fruit develops from:**
- a) Ovule
- b) Ovary
- c) Pollen
- d) Stigma
- **Correct option: b**

**Correct option:** b

16. The type of root system found in monocots is:
a) Tap root system
b) Fibrous root system
c) Adventitious root system
d) None of these

- 17. Which part of the plant anchors it to the soil?
- a) Stem
- b) Root
- c) Leaf

## d) Flower

**Correct option: b** 

## **18.** Photosynthesis mainly takes place in:

- a) Stem
- b) Root
- c) Leaf
- d) Flower

**Correct option: c** 

# 19. Which pigment gives red color to leaves during autumn?

SOCH BADLO BY MAK

- a) Ch<mark>loro</mark>phyll
- b) Ca<mark>rote</mark>ne
- c) An<mark>thocy</mark>anin
- d) Xanthophyll
- Correct option: c

**20.** The site of cellular respiration in plant cells is:

- a) Chloroplast
- b) Mitochondria
- c) Nucleus
- d) Ribosome
- **Correct option: b**

21. The small openings on the underside of leaves for gas exchange are:

- a) St<mark>omat</mark>a
- b) Tr<mark>icho</mark>mes
- c) Lenticles
- d) Guard cells
- **Correct option:** a
- 22. Guard cells control:
- a) Opening and closing of stomata
- b) Water transport
- c) Nutrient absorption
- d) Seed dispersal

### **Correct option:** a

# **23.** Plants that live for more than two years are called:

- a) Annuals
- b) Biennials
- c) Perennials
- d) Ephemerals
- **Correct option: c**
- 24. Which part of the flower attracts pollinators?
- a) Se<mark>pals</mark>
- b) Petals
- c) Sti<mark>gma</mark>
- d) Anther
- **Correct option: b**

25. Which tissue provides mechanical support in plants?

a) Parenchyma
- b) Collenchyma
- c) Sclerenchyma
- d) Xylem
- **Correct option: c**

26. The term 'phyllotaxy' refers to:
a) Arrangement of roots
b) Arrangement of leaves on stem
c) Arrangement of flowers
d) Arrangement of seeds
Correct option: b

**27.** The phenomenon of seedling growth towards light is called:

a) Geotropism
b) Phototropism
c) Hydrotropism
d) Thigmotropism
Correct option: b

- 28. The phenomenon of growth in response to gravity is called:
- a) Phototropism
- b) Geotropism
- c) Chemotropism
- d) Hydrotropism
- **Correct option: b**
- 29. Which hormone promotes cell elongation in plants?

- a) Au<mark>xin</mark>
- b) Cy<mark>tokinin</mark>
- c) Gi<mark>bber</mark>ellin
- d) Et<mark>hylen</mark>e
- **Correct option:** a

**30.** Which plant hormone is responsible for fruit ripening?

- a) Auxin
- b) Cytokinin
- c) Gibberellin

### d) Ethylene

**Correct option: d** 

- **31.** Plants that have parallel venation in leaves belong to:
- a) Dicots
- b) Monocots
- c) Gymnosperms
- d) Bryophytes

**Correct option: b** 

32. The process by which seeds begin to grow is called:

SOCH BADLO BY MAK

- a) Pollination
- b) Fertilization
- c) Germination
- d) Photosynthesis
- **Correct option: c**

**33.** The first root that emerges from a germinating seed is called:

- a) Fibrous root
- b) Tap root
- c) Primary root
- d) Adventitious root
- **Correct option: c**
- 34. The male gamete in plants is produced in:
- a) Ovule
- b) Anther
- c) Sti<mark>gma</mark>
- d) Ovary
- **Correct option: b**
- **35.** Plants with two cotyledons in their seeds are called:

- a) Monocots
- b) Dicots
- c) Gymnosperms
- d) Bryophytes
- **Correct option: b**

- 36. Which of the following is not a gymnosperm?
- a) Pine
- b) Fir
- c) Cycas
- d) Mango
- **Correct option: d**
- **37.** Conifers are examples of:
- a) An<mark>gios</mark>perms S O C H B A D L O B Y M A K
- b) G<mark>ymno</mark>sperms
- c) Br<mark>yoph</mark>ytes
- d) Pt<mark>erido</mark>phytes
- **Correct option: b**

**38. Which part of the plant conducts photosynthesis?** 

- a) Root
- b) Stem

c) Leaf

d) Flower

**Correct option: c** 

## **39. The reproductive structures of bryophytes are:**

- a) Flowers
- b) Cones
- c) Archegonia and Antheridia
- d) Se<mark>eds</mark>
- **Correct option: c**
- 40. Seedless vascular plants include:
- a) Bryophytes
- b) Pteridophytes
- c) Gymnosperms
- d) Angiosperms
- Correct option: b

- 41. Which tissue stores food in plants?
- a) Collenchyma
- b) Parenchyma
- c) Sclerenchyma
- d) Phloem
- **Correct option: b**
- 42. The mature ovule develops into:
- a) Se<mark>ed</mark>
- b) Fr<mark>uit</mark>
- c) Po<mark>llen g</mark>rain
- d) Fl<mark>ower</mark>
- **Correct option: a**
- 43. The stem of a plant grows in length due to:

- a) Cambium
- b) Apical meristem
- c) Lateral meristem
- d) Parenchyma

### **Correct option: b**

## 44. Which part of the plant transports food?

- a) Xylem
- b) Phloem
- c) Cambium
- d) Parenchyma
- **Correct option:** b
- 45. The process of water loss from leaves is called:
- a) Transpiration
- b) Respiration
- c) Ph<mark>otos</mark>ynthesis
- d) Absorption
- **Correct option: a**

46. Which part of the plant anchors it and absorbs water?

a) Stem

- b) Leaf
- c) Root
- d) Flower
- **Correct option: c**
- 47. The opening and closing of stomata are controlled by:
- a) Guard cells
- b) Epidermal cells
- c) M<mark>esop</mark>hyll cells
- d) Xy<mark>lem</mark>
- Correct option: a 3 () C H () A () L () B Y ( M A K
- 48. Which of the following plants is a monocot?
- a) Su<mark>nflower</mark>
- b) Wheat
- c) Rose
- d) Pea

**Correct option: b** 

- 49. The tissue responsible for secondary growth in plants is:
- a) Apical meristem
- b) Intercalary meristem
- c) Lateral meristem
- d) Parenchyma
- **Correct option: c**

50. The part of the seed that provides food to the developing embryo is called:

SOCH BADLO BY MAX

- a) Co<mark>tyledon</mark>
- b) En<mark>dosp</mark>erm
- c) Seed coat
- d) Embryo sac
- **Correct option: b**

### **Chapter 9: Diversity in Plant Functions**

1. Plants produce food by the process of:

- a) Respiration
- **b)** Photosynthesis
- c) Transpiration
- d) Fermentation
- **Correct option: b**
- 2. The gas released during photosynthesis is:

- a) Carbon dioxide
- b) Oxygen
- c) Ni<mark>troge</mark>n
- d) Hydrogen
- **Correct option: b**
- 3. Stomata are mainly responsible for:
- a) Absorption of water
- b) Gas exchange and transpiration
- c) Food storage
- d) Mineral transport

### **Correct option: b**

- 4. The opening and closing of stomata are controlled by:
- a) Guard cells
- b) Epidermal cells
- c) Mesophyll cells
- d) Phloem cells
- **Correct option:** a
- 5. Transpiration helps in:
  a) Food production
  b) Water transport and cooling
  c) Seed formation
  d) Photosynthesis
  Correct option: b

6. Which of the following is a parasitic plant?

- a) Cuscuta
- **b)** Sunflower

- c) Rose
- d) Pea
- **Correct option: a**
- 7. Plants that get nutrients from dead organic matter are called:
- a) Parasites
- b) Saprophytes
- c) Autotrophs
- d) Ep<mark>iphy</mark>tes
- **Correct option: b**
- 8. Plants that grow on other plants but do not harm them are called:

- a) Parasites
- b) Ep<mark>iphytes</mark>
- c) Saprophytes
- d) Carnivorous plants
- **Correct option: b**

9. Which plant traps insects to supplement its nutrition?

- a) Cuscuta
- b) Nepenthes
- c) Sunflower
- d) Pea
- **Correct option: b**

**10.** The main site of photosynthesis in plants is:

- a) St<mark>em</mark>
- b) Le<mark>af</mark>
- c) Root
- d) Flower
- **Correct option: b**

11. Plants that complete their life cycle in two years are called:

- a) Annuals
- b) **Biennials**
- c) Perennials
- d) Ephemerals

### **Correct option: b**

# **12.** Which plant hormone promotes cell elongation?

- a) Cytokinin
- b) Gibberellin
- c) Auxin
- d) Ethylene
- **Correct option: c**
- **13.** The process of losing water vapor from the plant surface is:
- a) Transpiration
- b) Respiration
- c) Ph<mark>otos</mark>ynthesis
- d) Absorption
- **Correct option: a**

14. Plants absorb water mainly through:

a) Roots

- b) Stem
- c) Leaves
- d) Flowers
- **Correct option: a**

**15. Plants that have a symbiotic relationship with nitrogen-fixing bacteria are:** 

SOCH BADLO BY MAK

- a) Legumes
- b) Conifers
- c) Fe<mark>rns</mark>
- d) Mosses
- **Correct option:** a

16. Which pigment is involved in absorbing light during photosynthesis?

- a) Carotene
- b) Chlorophyll
- c) Xanthophyll
- d) Anthocyanin
- **Correct option: b**

- 17. Which process releases energy stored in glucose?
- a) Photosynthesis
- b) Respiration
- c) Transpiration
- d) Fermentation
- **Correct option: b**
- **18.** The carbohydrate formed in photosynthesis is:

- a) St<mark>arch</mark>
- b) Gl<mark>ucos</mark>e
- c) Cellulose
- d) Su<mark>cros</mark>e
- **Correct option: b**

**19. Plants store excess food mainly in the form of:** 

- a) Glucose
- b) Starch

- c) Cellulose
- d) Sucrose
- **Correct option: b**
- **20. The conducting tissue that transports water in plants is:**
- a) Phloem
- b) Xylem
- c) Cambium
- d) Pa<mark>renc</mark>hyma
- **Correct option: b**
- 21. The conducting tissue that transports food in plants is:

- a) Xylem
- b) Ph<mark>loem</mark>
- c) Parenchyma
- d) Collenchyma
- **Correct option: b**

- 22. Plants take in carbon dioxide mainly through:
- a) Roots
- b) Stomata
- c) Lenticels
- d) Cuticle
- **Correct option: b**
- 23. The process by which plants release oxygen is called:
- a) Respiration
- b) Ph<mark>otos</mark>ynthesis
- c) Transpiration S O C H B A D L O B Y M A X
- d) Fermentation
- **Correct option: b**
- 24. The function of root hairs is:
- a) Absorption of water and minerals
- b) Photosynthesis
- c) Food storage
- d) Reproduction

### **Correct option:** a

- **25. Plants that live in water are called:**
- a) Hydrophytes
- b) Xerophytes
- c) Mesophytes
- d) Epiphytes
- **Correct option: a**
- 26. Plants adapted to dry environments are called:
- a) Hydrophytes
- b) Xerophytes
- c) Mesophytes
- d) Halophytes
- **Correct option: b**

27. Which plant is an example of xerophyte?

a) Cactus

- b) Water lily
- c) Rice
- d) Fern
- **Correct option:** a
- 28. Plants that grow in salty soil are called:
- a) Hydrophytes
- b) Xerophytes
- c) Ha<mark>loph</mark>ytes
- d) Ep<mark>iphy</mark>tes
- Correct option: c 3 O C H B A D L O B Y M A K
- 29. The term 'phototropism' refers to:
- a) Growth towards water
- b) Growth towards light
- c) Growth away from gravity
- d) Growth away from touch
- **Correct option: b**

- **30.** Plants growing towards gravity show:
- a) Positive geotropism
- b) Negative geotropism
- c) Positive phototropism
- d) Negative phototropism
- **Correct option: a**
- 31. The green pigment located in the chloroplast is called:

- a) Ch<mark>loro</mark>phyll
- b) Ca<mark>rote</mark>ne
- c) Xa<mark>ntho</mark>phyll
- d) Anthocyanin
- **Correct option:** a
- 32. The site of aerobic respiration in plant cells is:
- a) Chloroplast
- b) Mitochondria
- c) Nucleus

### d) Golgi apparatus

**Correct option: b** 

**33.** The movement of water molecules from high to low concentration through a semipermeable membrane is called:

SOCH BADLO BY MAX

- a) Diffusion
- b) Osmosis
- c) Active transport
- d) Facilitated diffusion

**Correct option: b** 

34. Plants use energy stored in glucose for:

- a) Photosynthesis
- b) Respiration
- c) Transpiration
- d) Germination

**Correct option: b** 

35. Which process produces ATP in plants?

- a) Photosynthesis
- b) Cellular respiration
- c) Transpiration
- d) Fermentation
- **Correct option: b**

36. The opening of stomata is regulated by:

- a) Water pressure in guard cells
- b) Ai<mark>r pre</mark>ssure
- c) Ro<mark>ot pr</mark>essure S () (C ) (S A () L () (S Y ) M A X
- d) Phloem pressure

**Correct option: a** 

- 37. Plants lose most of their water through:
- a) Roots
- b) Stem
- c) Stomata
- d) Flowers

### **Correct option: c**

- **38.** Plants with thin, soft stems are called:
- a) Woody plants
- b) Herbaceous plants
- c) Climbers
- d) Epiphytes
- **Correct option: b**
- 39. Which part of the plant helps in vegetative propagation?
- a) Se<mark>eds</mark>
- b) Roots
- c) Stem cuttings
- d) Flowers
- **Correct option: c**

40. The transport of food in plants occurs mainly in:

a) Phloem

- b) Xylem
- c) Cambium
- d) Cortex
- **Correct option:** a
- **41. The hormone responsible for fruit ripening is:**
- a) Auxin
- b) Cytokinin
- c) Ethylene
- d) Gi<mark>bber</mark>ellin
- Correct option: C 3 O C H B A D L O B Y MAX
- 42. Which of the following is NOT a function of roots?
- a) Absorption of water
- b) Photosynthesis
- c) Anchorage
- d) Storage of food
- **Correct option: b**

43. The thickened underground stem used for food storage is called:

- a) Rhizome
- b) Tuber
- c) Bulb
- d) Corm
- **Correct option: b**

44. The outer protective layer of plant organs is called:

SOCH BADLO BY MAK

- a) Ep<mark>ider</mark>mis b) Cortex
- c) Ph<mark>loem</mark>
- d) Xy<mark>lem</mark>
- **Correct option:** a

45. The opening of stomata occurs mainly during:

- a) Night
- b) Day
- c) Evening

### d) Winter

**Correct option: b** 

**46.** The type of leaf arrangement where one leaf grows at each node is:

- a) Opposite
- b) Alternate
- c) Whorled
- d) Rosette
- **Correct option: b**

47. The movement of wa<mark>te</mark>r through a plant from roots to leaves is called:

SOCH BADLO BY MAX

- a) Os<mark>mos</mark>is
- b) Transpiration stream
- c) Photosynthesis
- d) Respiration

**Correct option: b** 

48. Which plants use modified leaves to trap insects?

- a) Cuscuta
- **b)** Nepenthes
- c) Pinus
- d) Rosa
- **Correct option: b**

49. Which of the following is a function of parenchyma cells?
a) Photosynthesis and storage
b) Support and strength
c) Transport of food
d) Transport of water
Correct option: a

- 50. Plants absorb minerals from soil mainly through:
- a) Roots hairs
- b) Stem
- c) Leaves
- d) Flowers

**Correct option:** a

**Chapter 10:Animalia** 

- **1. Animals that have backbone are called:**
- a) Invertebrates
- b) Vertebrates
- c) Amphibians
- d) Reptiles

**Correct option: b** 

2. Animals without backbone are called:

SOCH BADLO BY MAK

- a) Ve<mark>rteb</mark>rates
- b) Invertebrates
- c) Mammals
- d) Birds
- Correct option: b

3. Which of the following is an invertebrate?

- a) Fish
- b) Frog
- c) Earthworm
- d) Snake
- **Correct option: c**
- 4. The body symmetry in starfish is:
- a) Bilateral
- b) Radial
- c) As<mark>ymm</mark>etrical
- d) Sp<mark>herical</mark>
- **Correct option: b**
- 5. The phylum to which earthworm belongs is:

- a) Arthropoda
- b) Annelida
- c) Mollusca
- d) Cnidaria
- **Correct option: b**

- 6. Which phylum includes insects?
- a) Mollusca
- b) Arthropoda
- c) Annelida
- d) Porifera
- **Correct option: b**
- 7. Th<mark>e lar</mark>gest phylum in Animalia is:

- a) M<mark>ollus</mark>ca
- b) Annelida
- c) Ar<mark>thro</mark>poda
- d) Ch<mark>orda</mark>ta
- **Correct option: c**
- 8. The exoskeleton of arthropods is made of:
- a) Calcium carbonate
- b) Cellulose

- c) Chitin
- d) Keratin
- **Correct option: c**
- 9. Which animal has a water vascular system?

- a) Eart<mark>hworm</mark>
- b) Starfish
- c) Cockroach
- d) Fr<mark>og</mark>
- **Correct option: b**
- **10.** Sponges belong to phylum:
- a) Po<mark>rifer</mark>a
- b) Cn<mark>idaria</mark>
- c) Mollusca
- d) Annelida
- Correct option: a

11. Cnidarians are characterized by:

a) Radial symmetry and stinging cells

b) Bilateral symmetry

c) Segmented body

d) Exoskeleton

**Correct option: a** 

12. The body of a jellyfish is made mostly of:

- a) Ca<mark>lcium</mark>
- b) Chitin
- c) Water
- d) Cartilage

Correct option: c (95-98%l

13. Which of the following is a characteristic of mammals?

- a) Lay eggs
- b) Have scales
- c) Produce milk
- d) Have feathers

### **Correct option: c**

- **14. Birds are characterized by:**
- a) Scaly skin
- b) Feathers and beak
- c) Gills
- d) Mammary glands
- **Correct option: b**
- 15. Amphibians live: Charles A Otto Brancher
- a) Only on land
- b) Only in water
- c) Both in water and on land
- d) Only in trees
- **Correct option: c**

16. Reptiles are:

a) Warm-blooded

b) Cold-blooded

- c) Have feathers
- d) Have mammary glands

**Correct option: b** 

- **17. Which of the following animals is a mammal?**
- a) Frog
- b) Snake
- c) Bat
- d) Turtle
- Correct option: c 3 O C H B A D L O B Y M A X

18. The process by which amphibians breathe through skin is called:

- a) Cutaneous respiration
- b) Pulmonary respiration
- c) Gaseous exchange
- d) Photosynthesis
- **Correct option:** a
19. The heart of fish has:
a) One atrium and one ventricle
b) Two atria and two ventricles
c) One atrium and two ventricles
d) Two atria and one ventricle
Correct option: a

20. Which organ helps fish to maintain balance in water?

- a) Lungs
- b) Swim bladder S O C PC B A D L O B Y M A K
- c) Gills
- d) Liver
- **Correct option: b**

21. The skeletal system of vertebrates is made up of:

- a) Chitin
- b) Cartilage and bone
- c) Calcium carbonate

### d) Cellulose

**Correct option: b** 

**22.** The characteristic feature of insects is:

- a) Four pairs of legs
- b) Three pairs of legs and wings
- c) No legs
- d) Two pairs of antennae

**Correct option: b** 

#### 23. Which animal has radial symmetry?

SOCH BADLO BY MAK

- a) Ea<mark>rthw</mark>orm
- b) Starfish
- c) Co<mark>ckroach</mark>
- d) Snake
- **Correct option: b**

24. The body cavity present in most animals is called:

- a) Coelom
- b) Blastocoel
- c) Pseudocoelom
- d) Cytoplasm
- **Correct option: a**

**25.** Which of the following is a cold-blooded animal?

- a) Dog
- b) Fr<mark>og</mark>
- c) Elephant
- d) Tig<mark>er</mark>
- **Correct option: b**
- 26. The largest mammal is:
- a) Elephant
- b) Blue whale
- c) Hippopotamus
- d) Giraffe
- **Correct option: b**

- 27. The blood of arthropods is usually:
- a) Red
- b) Blue-green
- c) Colorless or pale
- d) Green
- **Correct option: c**
- 28. The respiratory organs of fish are:

- a) Lu<mark>ngs</mark>
- b) Gills
- c) Tr<mark>ache</mark>a
- d) Skin
- **Correct option: b**
- 29. Animals that eat only plants are called:
- a) Carnivores
- **b)** Herbivores

- c) Omnivores
- d) Parasites
- **Correct option: b**
- **30.** The first animals to colonize land were:

- a) Birds
- b) Amphibians
- c) Reptiles
- d) M<mark>amm</mark>als
- **Correct option: b**
- **31. The term 'ectothermic' means:**
- a) Warm-blooded
- b) Cold-blooded
- c) Have feathers
- d) Have fur
- **Correct option: b**

32. The nervous system of vertebrates is:

- a) Diffuse
- b) Centralized with brain and spinal cord
- c) Absent
- d) Made up of nerve nets

**Correct option: b** 

33. The main excretory organ in mammals is:

- a) Liver
- b) Ki<mark>dney</mark>
- c) Skin
- d) Lu<mark>ngs</mark>
- **Correct option: b**
- 34. The blood circulation in amphibians is:
- a) Single circulation
- b) Double circulation
- c) No circulation
- d) Mixed circulation

# **Correct option: b**

- **35.** The wings of birds are modified:
- a) Legs
- b) Forelimbs
- c) Tails
- d) Antennae
- **Correct option: b**
- **36.** The reproductive system that involves laying eggs is called:
- a) Vi<mark>vipar</mark>ous
- b) Oviparous
- c) Ov<mark>oviv</mark>iparous
- d) As<mark>exual reproduction</mark>
- **Correct option: b**
- **37.** The backbone is also called:
- a) Spinal cord

- b) Vertebral column
- c) Notochord
- d) Cartilage
- **Correct option: b**
- 38. Which of the following animals undergoes metamorphosis?
- a) Snake
- b) Frog
- c) Elephant
- d) Lizard
- Correct option: b 3 () () H () A () ( () B Y ( M A K
- 39. Which class of animals has feathers?
- a) M<mark>ammal</mark>ia
- b) Aves
- c) Reptilia
- d) Amphibia
- **Correct option: b**

40. Which of the following is an example of an arthropod?

SOCH BADLO BY MAK

- a) Earthworm
- b) Spider
- c) Starfish
- d) Snail
- **Correct option: b**

41. The function of nephridia in annelids is:

- a) Di<mark>gesti</mark>on
- b) Ex<mark>creti</mark>on
- c) Circulation
- d) Movement

**Correct option: b** 

42. The body covering of earthworms is:

- a) Scales
- b) Skin with mucus
- c) Chitinous exoskeleton

## d) Feathers

**Correct option: b** 

# 43. Which animal is a warm-blooded vertebrate?

- a) Crocodile
- b) Snake
- c) Dog
- d) Frog

**Correct option: c** 

# 44. Animals that feed on dead and decaying matter are called:

SOCH BADLO BY MAK

- a) He<mark>rbiv</mark>ores
- b) Carnivores
- c) De<mark>tritivores</mark>
- d) Parasites
- Correct option: c

45. The function of gills in fish is to:

a) Digest food

- b) Exchange gases
- c) Help in movement
- d) Sense environment
- **Correct option: b**

46. Which of the following animals has a segmented body?

- a) Cockroach
- b) Jellyfish
- c) Sp<mark>onge</mark>
- d) Starfish
- **Correct option:** a
- 47. The skeleton inside the body is called:
- a) Exoskeleton
- b) Endoskeleton
- c) Hydrostatic skeleton
- d) Chitinous skeleton

**Correct option: b** 

- 48. Which animal uses lungs for breathing?
- a) Fish
- b) Frog
- c) Starfish
- d) Earthworm
- **Correct option: b**

49. The animal that can regenerate lost body parts is:

SOCH BADLO BY MAK

- a) Ea<mark>rthw</mark>orm
- b) St<mark>arfish</mark>
- c) Co<mark>ckro</mark>ach
- d) Frog

**Correct option: b** 

50. Which class of vertebrates lays shelled eggs?

- a) Mammals
- b) Amphibians

c) Reptiles

d) Fish

**Correct option: c** 

Chapter 11:Reproduction

- 1. Reproduction is essential for:
- a) Gr<mark>owth</mark>
- b) Di<mark>gesti</mark>on
- c) Su<mark>rviva</mark>l of species Control (3.4. Ort, Control of species Control (3.4. Ort, Control of species Control of A. A. X.
- d) Ex<mark>creti</mark>on

**Correct option: c** 

- 2. Which of the following is a type of asexual reproduction?
- a) Fertilization
- b) Pollination
- c) Binary fission
- d) Internal reproduction

#### **Correct option: c**

- **3. Budding is a type of asexual reproduction found in:**
- a) Amoeba
- b) Paramecium
- c) Hydra
- d) Euglena
- **Correct option: c**
- 4. Binary fission occurs in: () A () L O () Y M A K
- a) Ea<mark>rthw</mark>orm
- b) Amoeba
- c) Hydra
- d) Ye<mark>ast</mark>
- **Correct option: b**

5. The offspring produced by asexual reproduction are:

a) Similar to each other

b) Genetically differentc) Formed by fusion of gametesd) Result of fertilization

**Correct option: a** 

- 6. Which one is an advantage of sexual reproduction?
- a) Rapid reproduction
- b) Genetic variation
- c) Identical offspring
- d) No need for mate

Correct option: b ( O C H ( B A O L O B Y M A X

7. In sexual reproduction, the fusion of male and female gametes forms a:

- a) Embryo
- b) Zygote
- c) Spore
- d) Bud

**Correct option: b** 

- 8. The process of formation of gametes is called:
- a) Fertilization
- **b)** Germination
- c) Gametogenesis
- d) Pollination
- **Correct option: c**
- 9. The fusion of male and female gametes is called:
- a) Ge<mark>rmin</mark>ation SOCOO BADLO BY MAX
- b) Pollination
- c) Fe<mark>rtiliz</mark>ation
- d) Zygote
- **Correct option: c**
- 10. Which organ produces sperm in males?
- a) Penis
- b) Testes

- c) Scrotum
- d) Vas deferens
- **Correct option: b**
- 11. In females, the ova are produced in the:
- a) Uterus
- b) Oviduct
- c) Ovary
- d) Ce<mark>rvix</mark>
- **Correct option: c**
- **12.** The site of fertilization in humans is usually the:
- a) Ovary
- b) Vagina
- c) Uterus

d) Fallopian tube (more specific proximal part of fallopian tube i-e ampulla)

SOCH BADLO BY MAK

Correct option: d

- 13. Which of these is not a part of the female reproductive system?
- a) Uterus
- b) Ovary
- c) Vas deferens
- d) Fallopian tube
- **Correct option: c**

14. The organ where the baby develops in the human female is:

SOCH BADLO BY MAK

- a) Ovary
- b) Ut<mark>erus</mark>
- c) Va<mark>gina</mark>
- d) Oviduct
- **Correct option:** b

15. Which hormone controls secondary sexual characteristics in males?

- a) Estrogen
- **b)** Testosterone

- c) Progesterone
- d) Oxytocin
- **Correct option: b**
- **16. The menstrual cycle usually lasts:**
- a) 15 days
- b) 21 days
- c) 28 days
- d) 35 days
- **Correct option: c**
- 17. Which structure carries sperm from testes to urethra?

- a) Epididymis
- b) Va<mark>s deferens</mark>
- c) Seminal vesicle
- d) Prostate gland
- **Correct option: b**

- 18. Zygote divides by:
- a) Meiosis
- b) Mitosis
- c) Binary fission
- d) Budding
- **Correct option: b**
- 19. Sperms are stored temporarily in:

- a) Te<mark>stes</mark>
- b) Ur<mark>ethr</mark>a
- c) Ep<mark>ididy</mark>mis
- d) Penis
- **Correct option: c**
- 20. Which gland adds fluid to sperm?
- a) Pancreas
- b) Seminal vesicle
- c) Ovary
- d) Pituitary

# **Correct option: b**

- **21. How many chromosomes are in a human sperm?**
- a) 23
- b) 46
- c) 44
- d) 22

**Correct option: a** 

- 22. The union of male and female gametes is called:
- a) Fu<mark>sion</mark>
- b) Copulation
- c) Fertilization
- d) Germination
- **Correct option: c**

23. The type of reproduction in bacteria is:

a) Sexual

b) Budding

- c) Binary fission
- d) Fragmentation
- **Correct option: c**
- 24. A fertilized egg is called a:
- a) Embryo
- b) Foetus
- c) Zygote
- d) Gamete
- Correct option: c 3 O C H B A D L O B Y M A K
- **25.** Twins that are genetically identical are called:
- a) Di<mark>zygotic</mark>
- b) Conjoined
- c) Fraternal
- d) Monozygotic
- **Correct option: d**

- 26. Testosterone is secreted by:
- a) Pituitary gland
- b) Ovary
- c) Adrenal gland
- d) Testes
- **Correct option: d**

27. Which part of the female reproductive system receives sperm?

- a) Ov<mark>ary</mark>
- b) Fa<mark>llopi</mark>an tubes 🔿 🔿 🖉 🚯 🖓 t O 🛛 😹 🗛 🗶
- c) Va<mark>gina</mark>
- d) Uterus
- **Correct option: c**

### 28. Which part connects uterus with vagina?

- a) Cervix
- b) Ovary
- c) Oviduct

### d) Bladder

**Correct option:** a

### **29.** Which of the following organisms reproduces by budding?

SOCH BADLO BY MAK

- a) Paramecium
- b) Euglena
- c) Amoeba
- d) Yeast

**Correct option: d** 

30. Mitosis ensures:

- a) Se<mark>xual</mark> reproduction
- b) Genetic recombination
- c) Identical daughter cells
- d) Variation
- Correct option: c

**31.** The time from fertilization to birth is called:

- a) Incubation
- b) Germination
- c) Gestation
- d) Ovulation
- **Correct option: c**
- 32. In plants, male gametes are produced in:
- a) Ovary
- b) Pollen grains
- c) Ov<mark>ule</mark>
- d) Sti<mark>gma</mark>
- **Correct option: b**
- 33. Which plant structure becomes seed after fertilization?

- a) Ovary
- b) Anther
- c) Ovule
- d) Style
- **Correct option: c**

- 34. The structure that connects mother and baby is:
- a) Placenta
- b) Umbilical cord
- c) Amnion
- d) Cervix
- **Correct option: b**

35. The uterus is lined by a tissue called:

- a) En<mark>dom</mark>etrium S 🕜 🗇 🗤 🚯 🗛 🖓 t 🔿 👪 🗛 K
- b) M<mark>yom</mark>etrium
- c) Ep<mark>ithel</mark>ium
- d) M<mark>esod</mark>erm
- **Correct option: a**

**36. Oogenesis takes place in:** 

- a) Uterus
- b) Ovary

- c) Oviduct
- d) Vagina
- **Correct option: b**
- **37. Which type of reproduction ensures maximum genetic variation?**

- a) Budding
- b) Sexual reproduction
- c) Fragmentation
- d) Fission
- **Correct option: b**
- **38.** During menstruation, the uterus sheds:
- a) Placenta
- b) Ovary
- c) Endometrial lining
- d) Ovule
- **Correct option: c**

39. After fertilization, zygote is implanted in:

- a) Ovary
- b) Uterus
- c) Vagina
- d) Oviduct
- **Correct option: b**
- 40. Which one is not asexual reproduction?
- a) Bu<mark>ddin</mark>g
- b) Binary fission
- c) Fe<mark>rtilization</mark>
- d) Spore formation
- **Correct option: c**
- 41. Which of the following organisms reproduces by binary fission?

- a) Amoeba
- b) Hydra
- c) Earthworm
- d) Yeast

#### **Correct option:** a

- **42.** The reproductive system starts functioning at:
- a) Birth
- b) Infancy
- c) Puberty
- d) Adulthood
- **Correct option: c**
- 43. Which of the following organs is only found in males?
- a) Ut<mark>erus</mark>
- b) Pr<mark>ostat</mark>e gland
- c) Fallopian tube
- d) Ovary
- **Correct option: b**

44. Which female organ is responsible for development of fetus?

a) Ovary

- b) Fallopian tube
- c) Uterus
- d) Cervix
- **Correct option: c**
- 45. In which stage is a zygote called embryo?
- a) 1 cell stage
- b) 2-cell stage
- c) 8-cell stage
- d) When it implants
- Correct option: do to the total to the total t
- 46. Which gland releases egg from ovary?
- a) Pituitary
- b) Thyroid
- c) Adrenal
- d) Pineal

**Correct option:** a (Pituitary gland releases LH hormone which releases egg from ovary)

- 47. The development of new individual from an unfertilized egg is:
- a) Budding
- b) Parthenogenesis
- c) Cloning
- d) Sporulation
- **Correct option: b**

48. Which of the following produces both eggs and sperms?

SOCH BADLO BY MAK

- a) Frog
- b) H<mark>uman</mark>
- c) Hy<mark>dra</mark>
- d) Ea<mark>rthw</mark>orm
- **Correct option: d**

49. A reproductive cell is also called a:

- a) Zygote
- b) Gamete

c) Embryo

d) Ovary

**Correct option: b** 

### 50. Male gametes are produced by which process?

- a) Binary fission
- b) Meiosis
- c) Mitosis
- d) Bu<mark>ddin</mark>g

**Correct option: b** 

Chapter 12:Inheritance

**1.** Inheritance is the transmission of characteristics from:

SOCH BADLO BY MAX

- a) Friends to friends
- b) Parents to offspring
- c) Teachers to students
- d) Offspring to parents

**Correct option: b** 

- 2. Gregor Mendel is known as the father of:
- a) Evolution
- b) Genetics
- c) Physiology
- d) Botany
- **Correct option: b**
- 3. Mendel used which plant for his experiments?

- a) W<mark>heat</mark>
- b) Rose
- c) Pea
- d) Cotton
- **Correct option: c**
- 4. Which term is used for alternative forms of a gene?

#### a) Chromosomes

- b) Alleles
- c) Traits

#### d) Loci

**Correct option: b** 

- **5. A dominant trait is expressed in the:**
- a) Homozygous state only
- b) Heterozygous state only
- c) Both homozygous and heterozygous
- d) Recessive condition

**Correct option: c** 

6. A recessive trait is only expressed when:

SOCH BADLO BY MAK

- a) Both alleles are recessive
- b) One allele is dominant
- c) Both alleles are dominant
- d) All of the above

**Correct option: a** 

7. Phenotype refers to:

- a) Genetic makeup
  b) Physical appearance
  c) Number of genes
  d) Type of gametes
  Correct option: b
- 8. Genotype refers to:
  a) Outer traits
  b) Internal organs
  c) Genetic composition
  d) All of the above
  Correct option: c
- 9. Tall (T) is dominant over dwarf (t). A heterozygous plant is:
  a) TT
  b) tt
  c) Tt
  d) tTt
  Correct option: c

- 10. If a plant has genotype TT, it is:
- a) Heterozygous
- b) Homozygous dominant
- c) Homozygous recessive
- d) Hybrid
- **Correct option: b**
- 11. In a monohybrid cross, the F2 phenotypic ratio is:

- a) 1:1
- b) 2:1
- c) 3:1
- d) 1:3

**Correct option: c** 

- 12. In F2 generation of monohybrid cross, genotypic ratio is:
- a) 1:1
- b) 1:2:1
c) 2:1:1

d) 3:1

**Correct option: b** 

13. A pure tall plant is crossed with a pure dwarf. All F1 are tall. This shows:

a) Dwarf is dominant

b) Tall is recessive

c) Tall is dominant

d) Bo<mark>th a</mark>re codominant

Correct option: C O C PI BADLO BY MAX

14. Which of these is not a Mendel's law?

a) Law of dominance

b) Law of mutation

c) Law of segregation

d) Law of independent assortment

**Correct option: b** 

- **15. Law of segregation states:**
- a) Alleles blend together
- b) Alleles are linked
- c) Alleles separate during gamete formation
- d) Chromosomes duplicate
- **Correct option: c**



## d) Carrier

**Correct option: b** 

## **18.** A test cross is done to find out the:

- a) Phenotype
- b) Size of chromosome
- c) Genotype
- d) Age of organism

Correct option: c

## **19. Which organism did Mendel experiment on?**

SOCH BADLO BY MAX

- a) Mouse
- b) Pe<mark>a pla</mark>nt
- c) Corn
- d) Human

Correct option: b

20. Which of the following is a recessive trait in humans?

a) Dimples

b) Hitchhiker's thumb

- c) Free earlobes
- d) Tongue rolling
- **Correct option: b**
- 21. Which is a dominant trait in humans?

- a) Straight hairline
- b) Attached earlobes
- c) Mi<mark>d-di</mark>gital hair
- d) Al<mark>binis</mark>m
- **Correct option: c**
- 22. The unit of inheritance is:
- a) RNA
- b) Chromosome
- c) Gene
- d) Cell
- **Correct option: c**

- 23. Genes are located on:
- a) Ribosomes
- b) Nucleus
- c) Chromosomes
- d) DNA
- **Correct option: c**

24. DNA stands for:
a) Deoxyribo Nucleic Acid
b) Dynamic Nucleic Acid
c) Double Nucleic Acid
d) Deoxy Nucleus Acid
Correct option: a

25. Number of chromosomes in human body cells:

- a) 44
- b) 23

c) 46

d) 22

**Correct option: c** 

26. Chromosomes are made up of:

a) Proteins only

b) DNA and RNA

c) DNA and proteins

d) RNA and lipids

**Correct option: c** 

27. Sex chromosomes in human males are:

a) XX b) XY c) YY d) ZZ Correct option: b

28. The genotype of a female is:

- a) XY
- b) XX
- c) YY
- d) X
- **Correct option: b**
- 29. Genes for a trait are located on:
- a) Same loci of homologous chromosomes
- b) Non-homologous chromosomes
- c) Ri<mark>boso</mark>mes
- d) Cy<mark>topl</mark>asm
- **Correct option: a**
- 30. Which of the following shows codominance?

- a) Skin color
- b) Blood group AB
- c) Eye color
- d) Height

# **Correct option: b**

- **31. Blood group inheritance is an example of:**
- a) Simple dominance
- b) Codominance and multiple alleles
- c) Incomplete dominance
- d) Sex-linked inheritance

**Correct option: b** 

32. Which blo	od group	is univ	ersal d	onor? 🐻	
a) A					
b) AB	A				A 10
c) O					
d) B					

5

**Correct option: c** 

**33.** Universal recipient blood group is:

a) A

b) AB

c) O

d) B

**Correct option: b** 

- 34. Which of these is a sex-linked disorder?
- a) Diabetes
- b) Hemophilia
- c) Ca<mark>ncer</mark>
- d) Th<mark>alass</mark>emia

35. Genes for sex-linked disorders are mostly present on:

- a) X chromosome
- b) Y chromosome
- c) Autosomes
- d) All chromosomes

**Correct option:** a

36. Males are more affected by X-linked disorders because:

- a) They have two X chromosomes
- b) Y is stronger
- c) They have only one X chromosome
- d) They have no X chromosome
- **Correct option: c**



38. If both parents are carriers of a recessive gene, probability of affected child is:

a) 0%

b) 25%

c) 50%

d) 75%

**Correct option: b** 

- **39. Albinism is caused due to absence of:**
- a) Hemoglobin
- b) Melanin
- c) Chlorophyll
- d) In<mark>sulin</mark>
- **Correct option: b**
- 40. Thalassemia affects the production of:

SOCH BADLO BY MAK

- a) Insulin
- b) He<mark>mogl</mark>obin
- c) Melanin
- d) DNA

Correct option: b

41. Gregor Mendel conducted his experiments in which century?

- a) 18th
- b) 19th
- c) 20th
- d) 21st
- **Correct option: b**
- 42. Which of the following traits did Mendel study?
- a) Le<mark>af co</mark>lor
- b) Se<mark>ed shape</mark>
- c) Ro<mark>ot type</mark>
- d) St<mark>em h</mark>eight
- **Correct option: b**
- 43. Which of the following traits shows incomplete dominance?

- a) Red x white = pink flower
- b) AB blood group
- c) Rolling tongue
- d) Hemophilia

#### **Correct option:** a

# 44. What controls the expression of traits?

- a) Hormones
- b) Proteins
- c) Genes
- d) Ribosomes
- **Correct option: c**
- 45. Which of the following is not an inherited trait?
- a) Ey<mark>e col</mark>or
- b) Blood group
- c) La<mark>ngua</mark>ge
- d) Sk<mark>in col</mark>or
- **Correct option: c**

46. Sickle cell anemia is caused by mutation in:

a) Chromosome 21

- b) Hemoglobin gene
- c) Insulin gene
- d) X chromosome
- **Correct option: b**
- 47. Genes are made up of:
- a) RNA
- b) Proteins
- c) DNA
- d) Chromosomes
- Correct option: CSOCH BADLO BY MAK
- 48. The number of autosomes in humans is:
- a) 44
  b) 46
  c) 23
  d) 2
  Correct option: a

- 49. DNA fingerprinting is used in:
- a) Eye testing
- b) Identifying diseases
- c) Crime investigation
- d) Digestion
- **Correct option: c**
- 50. The main function of chromosomes is to:
- a) Control digestion
- b) Store energy S O C H (3 A O L O L S Y M A X
- c) Transmit genetic information
- d) Help in respiration

**Correct option: c** 

## Chapter 13:Chromosomes & DNA

- 1. The hereditary material in humans is:
- a) RNA

- b) DNA
- c) Protein
- d) Cytoplasm
- **Correct option: b**
- 2. DNA is mainly located in the:
- a) Ribosome
- b) Cytoplasm
- c) Nu<mark>cleu</mark>s
- d) M<mark>itoch</mark>ondria
- Correct option: C 3 O C H B A D L O B Y M A K
- 3. Chromosomes are made up of:
- a) RNA and lipids
- b) DNA and proteins
- c) DNA and lipids
- d) Carbohydrates and proteins

**Correct option: b** 

4. The number of chromosomes in human body cells is:

- a) 44
- b) 23
- c) 46
- d) 22
- **Correct option: c**

5. Which of the following is not a component of a nucleotide?

SOCH BADLO BY MAK

- a) Sugar
- b) Base
- c) Lip<mark>id</mark>
- d) Ph<mark>osph</mark>ate

**Correct option: c** 

- 6. The sugar present in DNA is:
- a) Glucose
- b) Ribose
- c) Deoxyribose

#### d) Fructose

**Correct option: c** 

## 7. Which of the following is a nitrogenous base?

- a) Adenine
- b) Glucose
- c) Ribose
- d) Phosphate

**Correct option: a** 

### 8. The double helix structure of DNA was proposed by:

SOCH BADLO BY MAK

- a) Da<mark>rwin</mark> and Wallace
- b) Watson and Crick
- c) Mendel and Morgan
- d) Lamarck and Pasteur
- **Correct option: b**

9. The shape of DNA molecule is:

- a) Spiral
- b) Zigzag
- c) Helical
- d) Circular
- **Correct option: c**
- 10. The backbone of DNA is made up of:
- a) Base pairs
- b) Sugar and phosphate
- c) Ribose and lipid
- **Correct option: b**
- 11. Which base pairs with adenine in DNA?
- a) Guanine
- b) Thymine
- c) Cytosine
- d) Uracil
- **Correct option: b**

- 12. Which base pairs with cytosine in DNA?
- a) Thymine
- b) Uracil
- c) Guanine
- d) Adenine
- **Correct option: c**
- 13. In RNA, thymine is replaced by:
- a) Cy<mark>tosin</mark>e
- b) G<mark>uanin</mark>e
- c) Ur<mark>acil</mark>
- d) Ad<mark>enin</mark>e
- **Correct option: c**
- 14. The number of chromosome pairs in humans is:

- a) 22
- b) 23

c) 44

d) 46

**Correct option: b** 

**15. The chromosomes that determine gender are called:** 

SOCH BADLO BY MAK

- a) Autosomes
- b) Hormones
- c) Sex chromosomes
- d) G<mark>enes</mark>
- **Correct option: c**
- **16.** Autosomes in humans are:
- a) 22 pairs
- b) 1 pair
- c) 44

d) Both a and c

Correct option: d



#### **Correct option: c**

- 20. DNA stands for:
- a) Deoxyribonucleic acid
- b) Double nucleic acid
- c) Dioxide nucleic acid
- d) Deoxyribose nucleic acid

**Correct option:** a

21. Which base is not found in DNA?

O BY MAX

- a) Ur<mark>acil</mark>
- b) Ad<mark>enin</mark>e
- c) Th<mark>ymin</mark>e
- d) Cy<mark>tosine</mark>
- **Correct option: a**

22. The sides of DNA ladder are composed of:

a) Base pairs

- b) Hydrogen bonds
- c) Sugar and phosphate
- d) Lipids
- **Correct option: c**
- 23. Which of these is a purine?
- a) Thymine
- b) Cytosine
- c) Ad<mark>enin</mark>e
- d) Ur<mark>acil</mark>
- Correct option: c 3 O C H B A D L O B Y M A K
- 24. The nitrogenous bases are held together by:
- a) Ionic bonds
- b) Hydrogen bonds
- c) Covalent bonds
- d) Peptide bonds
- **Correct option: b**

- 25. The process of DNA making a copy of itself is called:
- a) Replication
- b) Duplication
- c) Translation
- d) Transcription
- **Correct option: a**

26. Genes control:
a) Chemical reactions
b) Traits
c) Cell division
d) All of these
Correct option: d

# 27. Chromosomes are visible during:

- a) Interphase
- b) Prophase
- c) Metaphase

## d) Cell division

**Correct option: d** 

28. A normal human has how many sex chromosomes?

- a) 2
- b) 23
- c) 44
- d) 1

**Correct option: a** 

29. Which organelle is called the control center of the cell?

SOCH BADLO BY MAK

- a) M<mark>itoch</mark>ondria
- b) Ribosome
- c) Golgi apparatus
- d) Nucleus
- Correct option: d

30. What determines the specific trait of an organism?

- a) Proteins
- b) Genes
- c) Lipids
- d) Hormones
- **Correct option: b**

31. The portion of chromosome where genes are located is called:

- a) Locus
- b) Node
- c) Po<mark>le</mark>
- d) Linkage
- **Correct option:** a
- **32.** The total set of chromosomes in a species is called:
- a) Genome
- b) Gene pool
- c) Genotype
- d) Phenotype
- **Correct option:** a

33. The complementary base pair for guanine is:

- a) Adenine
- b) Cytosine
- c) Thymine
- d) Uracil
- **Correct option: b**
- 34. The unit of inheritance is:
- a) Pr<mark>otein</mark>
- b) Gene
- c) DNA
- d) Ch<mark>rom</mark>osome
- **Correct option: b**
- 35. In a chromosome, the centromere is:
- a) A gene
- **b)** The middle point

c) A base pair

- d) A DNA molecule
- **Correct option: b**
- **36. Which of the following is not part of a chromosome?**

- a) Centromere
- b) Chromatid
- c) Ribosome
- d) DNA
- **Correct option: c**
- **37.** Which of the following forms a gene?
- a) One nucleotide
- b) A sequence of nucleotides
- c) Ribosome
- d) Protein chain
- **Correct option: b**

- 38. Genes are found on:
- a) Cell membrane
- b) Ribosome
- c) Chromosomes
- d) Cytoplasm
- **Correct option: c**

39. Which of the following is a DNA base but not found in RNA?

- a) Cy<mark>tosin</mark>e
- b) Th<mark>ymin</mark>e
- c) Ur<mark>acil</mark>
- d) Ad<mark>enin</mark>e
- **Correct option: b**

### 40. A double-stranded DNA consists of how many strands?

a) 1 b) 2 c) 3 d) 4

#### **Correct option: b**

# **41.** The complete set of genetic material is called:

- a) Chromosome
- b) Genome
- c) Ribosome
- d) Allele
- **Correct option: b**
- 42. The term 'genetics' was first used by:
- a) M<mark>ende</mark>l
- b) Watson
- c) Ba<mark>teso</mark>n
- d) Cr<mark>ick</mark>
- **Correct option: c**

43. The pairing of bases in DNA follows:

a) A–G, T–C

- b) A-T, G-C
  c) A-C, T-G
  d) T-A, C-A
  Correct option: b
- 44. Which is the largest molecule in the human body?
- a) Protein
- b) Glucose
- c) DNA
- d) Li<mark>pid</mark>
- Correct option: CSOCH BADLO BY MAK
- 45. How many base pairs are present in the human genome?
- a) 3 million
- b) 3 billion
- c) 300 thousand
- d) 30 million
- **Correct option: b**

- 46. Function of DNA is to:
- a) Carry oxygen
- b) Digest food
- c) Store genetic information
- d) Produce energy
- **Correct option: c**

#### 47. The twisted shape of DNA is known as:

SOCH BADLO BY MAK

- a) Tw<mark>ister</mark>
- b) Coil
- c) Spiral
- d) Double helix
- **Correct option: d**

## 48. Which of these is not a component of DNA?

- a) Phosphate
- b) Ribose
- c) Adenine

# d) Cytosine

**Correct option: b** 

# 49. Which is not a function of chromosomes?

- a) Protein synthesis
- b) Cell division
- c) Inheritance
- d) Photosynthesis

Correct option: d

# 50. Chromosomes appear during which stage of cell cycle?

SOCH BADLO BY MAK

- a) In<mark>terph</mark>ase
- b) G1 phase
- c) M phase
- d) S phase
- **Correct option: c**

**Chapter 14:Evolution** 

- 1. Evolution is the change in organisms over:
- a) Days
- b) Years
- c) Generations
- d) Seasons
- **Correct option: c**
- 2. The theory of natural selection was proposed by:

- a) La<mark>marc</mark>k
- b) W<mark>atson</mark>
- c) Da<mark>rwin</mark>
- d) M<mark>ende</mark>l
- **Correct option: c**
- 3. According to Lamarck, organs develop due to:
- a) Random changes
- b) Mutations
- c) Use and disuse
- d) Migration

#### **Correct option: c**

# 4. The book Origin of Species was written by:

- a) Mendel
- b) Darwin
- c) Lamarck
- d) Wallace
- **Correct option: b**
- 5. A fossil is:
- a) Living organism
- b) Dead cell
- c) Preserved remains of organisms
- d) None of these
- **Correct option: c**
- 6. The study of fossils is called:
- a) Biology
- b) Geology
- c) Palaeontology
- d) Botany
- **Correct option: c**
- 7. Darwin visited the Galapagos Islands on the ship:
- a) HMS Eagle
- b) HMS Beagle
- c) HMS Whale
- d) H<mark>MS S</mark>hark
- 8. Evolution occurs due to:
- a) Genetic variation
- b) Weather
- c) Pollution
- d) Mutation only
- **Correct option:** a

- 9. The process of better adapted individuals surviving is called:
- a) Mutation
- b) Selection
- c) Natural selection
- d) Reproduction
- **Correct option: c**
- 10. Which is evidence of evolution?
- a) Sa<mark>me b</mark>lood group
- b) Si<mark>milar</mark> fossils <u>S O C PE B A O L O B Y M A X</u>
- c) Sa<mark>me d</mark>iet
- d) Br<mark>eath</mark>ing in air
- **Correct option: b**
- 11. Which of these shows evolution in modern times?
- a) Horse evolution
- **b)** Antibiotic resistance
- c) Dinosaur extinction

# d) Water cycle

**Correct option: b** 

# **12.** According to Darwin, survival depends on:

- a) Strength
- b) Intelligence
- c) Adaptation
- d) Speed

**Correct option: c** 

### 13. Which organ is vestigial in humans?

SOCH BADLO BY MAK

- a) Liver
- b) Kidney
- c) Appendix
- d) Heart
- Correct option: c

14. Homologous organs indicate:

- a) Common function
- b) Similar structure and origin
- c) Same size
- d) Same color
- **Correct option: b**
- 15. The wings of birds and bats are examples of:
- a) Homologous organs
- b) Analogous organs
- c) Ve<mark>stigi</mark>al organs
- d) Internal organs: O C M (3 & O t O (8 Y M A X
- **Correct option: b**
- 16. Which of the following is an extinct animal?
- a) Lion
- b) Deer
- c) Dinosaur
- d) Crocodile
- **Correct option: c**

- 17. Darwin's theory is based on:
- a) Sudden changes
- b) Gradual changes
- c) Catastrophes
- d) Experiments
- **Correct option: b**
- 18. Which structure is evidence of common ancestry?

- a) An<mark>alog</mark>ous
- b) Homologous
- c) Ve<mark>stigi</mark>al
- d) None
- **Correct option: b**

### **19. Fossils are found in:**

- a) Igneous rocks
- b) Metamorphic rocks

- c) Sedimentary rocks
- d) Sand dunes
- **Correct option: c**

## 20. Which one is not evidence of evolution?

- a) Embryology
- b) Fossils
- c) Vestigial organs
- d) In<mark>halat</mark>ion
- **Correct option: d**
- 21. According to Lamarck, giraffes have long necks because of:

- a) M<mark>utati</mark>ons
- b) Use of neck
- c) Migration
- d) Climate
- Correct option: b

22. According to Darwin, variation arises due to:

a) Need

- b) Inheritance
- c) Environment
- d) Random chance

**Correct option: d** 

23. Which theory supports the idea of inherited characteristics?

- a) Natural selection
- b) Theory of use and disuse
- c) Ge<mark>ne theory SOCHERADEO BY MAK</mark>
- d) Chromosome theory

**Correct option: b** 

- 24. According to Darwin, variation is:
- a) Inherited
- b) Acquired
- c) Temporary
- d) None

#### **Correct option:** a

- 25. Which animal shows evolutionary link between reptiles and birds?
- a) Dinosaur
- b) Archaeopteryx
- c) Bat
- d) Lizard
- **Correct option: b**
- 26. Modern humans evolved from:
- a) Neanderthals
- b) Au<mark>stral</mark>opithecus
- c) Homo erectus
- d) Ch<mark>impanzees</mark>
- **Correct option: c**

27. Which one is considered as the father of evolution?

a) Mendel

- b) Lamarck
- c) Darwin
- d) Linnaeus
- **Correct option: c**
- 28. Which one is a vestigial organ in snakes?
- a) Limbs
- b) Eyes
- c) Lu<mark>ngs</mark>
- d) To<mark>ngue</mark>
- Correct option: a 3 0 C H B A D L O BY M A K
- 29. Variation is important because it:
- a) Increases pollution
- b) Makes organisms stronger
- c) Provides raw material for evolution
- d) Stops evolution

**Correct option: c** 

- 30. The first life appeared on Earth:
- a) 1 billion years ago
- b) 2.5 billion years ago
- c) 3.5 billion years ago
- d) 5 billion years ago
- **Correct option: c**
- 31. Organisms that survive and reproduce pass on:
- a) Weak traits
- b) Acquired traits: O C H B A D L O B Y M A K
- c) Favorable traits
- d) All traits
- **Correct option: c**
- 32. Mutations are changes in:
- a) Organs
- b) Chromosomes
- c) Environment

### d) Food

**Correct option: b** 

**33.** Which of these supports the theory of common ancestry?

SOCH BADLO BY MAK

- a) Homologous structures
- b) Different DNA
- c) Analogous organs
- d) Migration

Correct option: a

34. Survival of the fittest means:

- a) Only the strong survive
- b) Only the big survive
- c) Best adapted survive
- d) All survive
- Correct option: c

**35. Evolution leads to:** 

- a) Extinction only
- b) Diversity of life
- c) Uniformity
- d) Mutation only
- **Correct option: b**

**36.** The theory of acquired characteristics was proposed by:

SOCH BADLO BY MAK

- a) Lamarck
- b) Darwin
- c) M<mark>ende</mark>l
- d) Wallace
- **Correct option:** a

37. Natural selection is a process where:

- a) Nature chooses the best
- b) Humans choose traits
- c) Environment changes
- d) Species mutate randomly

**Correct option: a** 

- 38. Which is an example of natural selection in action?
- a) Cutting a tail
- b) Antibiotic resistance
- c) Cloning
- d) Mutation in a lab
- **Correct option: b**
- 39. Which of these is a cause of evolution?

- a) Mi<mark>gration</mark>
- b) Mutation
- c) Na<mark>tura</mark>l selection
- d) All of these
- **Correct option: d**

40. Which organism evolved earliest?

- a) Fish
- **b)** Amphibians

- c) Bacteria
- d) Humans
- **Correct option: c**
- 41. Species that no longer exist are called:
- a) Modern
- b) Ancient
- c) Extinct
- d) Fo<mark>ssiliz</mark>ed
- **Correct option: c**
- 42. Comparative embryology supports evolution because:

- a) Embryos of many species look alike
- b) All embryos are different
- c) Embryos are fossils
- d) Embryos don't change
- **Correct option:** a

43. Who co-discovered natural selection with Darwin?

- a) Lamarck
- b) Wallace
- c) Mendel
- d) Linnaeus
- **Correct option: b**

44. The age of fossils is determined by:

- a) Color
- b) Size
- d) Te<mark>xtur</mark>e
- **Correct option: c**
- 45. Evolution results in:
- a) Fewer species
- b) No change
- c) Better-adapted species
- d) Loss of all traits

#### **Correct option: c**

# 46. Fossils in lower layers of Earth are:

- a) Younger
- b) Older
- c) Modern
- d) Artificial

**Correct option: b** 

- 47. The genetic material responsible for evolution is:
- a) RNA
- b) DNA
- c) Protein
- d) ATP
- **Correct option: b**

48. Which of the following best defines evolution?

a) Sudden change

b) Genetic change over generations

- c) Acquired traits
- d) Change in environment

**Correct option: b** 

- 49. Adaptive radiation is the:
- a) Loss of species
- b) Evolution of diverse species from a common ancestor
- c) Radiation effect
- d) Movement of organisms
- 50. The earliest fossils are of:
- a) Di<mark>nosaurs</mark>
- b) Fish
- c) Bacteria
- d) Mammals

**Correct option: c** 

**Chapter 15:Ecology** 

- **1. Ecology is the study of:**
- a) Cells
- b) Environment
- c) Interactions between organisms and their environment
- d) Climate only

**Correct option: c** 

- 2. The largest unit of ecological organization is:
- a) Population
- b) Community
- c) Ec<mark>osyst</mark>em
- d) Bi<mark>osphere</mark>
- **Correct option: d**

3. A group of organisms of the same species living in an area is called:

a) Community

- b) Population
- c) Habitat
- d) Biome
- **Correct option: b**

4. An ecosystem includes:
a) Only living things
b) Only non-living things
c) Biotic and abiotic components
d) Climate only

Correct option: C S O C H B A D L O B Y M A K

- 5. Which of the following is a biotic factor?
- a) W<mark>ater</mark>
- b) Soil
- c) Light
- d) Plants

**Correct option: d** 

- 6. Abiotic components include:
- a) Fungi
- b) Bacteria
- c) Water and soil
- d) Trees
- **Correct option: c**
- 7. A place where an organism lives is its:
- a) Ha<mark>bitat</mark>
- b) Ni<mark>che</mark>
- c) Ec<mark>osyst</mark>em
- d) Co<mark>mm</mark>unity
- **Correct option:** a
- 8. The role an organism plays in its environment is called:

- a) Habitat
- b) Niche
- c) Biome

# d) Ecosystem

**Correct option: b** 

- 9. Producers in an ecosystem are usually:
- a) Animals
- b) Plants
- c) Fungi
- d) Bacteria

**Correct option: b** 

- **10. Green plants make food by:**
- a) Di<mark>gesti</mark>on
- b) Respiration
- c) Ph<mark>otosy</mark>nthesis
- d) Fermentation
- **Correct option: c**

**11.** Consumers that eat plants only are called:

- a) Carnivores
- b) Herbivores
- c) Omnivores
- d) Decomposers
- **Correct option: b**
- 12. Animals that feed on other animals are called:
- a) Producers
- b) Herbivores
- c) Ca<mark>rnivo</mark>res
- d) O<mark>mniv</mark>ores
- **Correct option: c**
- **13.** An organism that eats both plants and animals is called:

- a) Herbivore
- b) Carnivore
- c) Omnivore
- d) Decomposer
- **Correct option: c**

- 14. Fungi and bacteria are examples of:
- a) Producers
- b) Decomposers
- c) Carnivores
- d) Scavengers
- **Correct option: b**
- 15. A food chain shows the flow of:

- a) W<mark>ater</mark>
- b) Ox<mark>ygen</mark>
- c) Energy
- d) Soil
- **Correct option: c**

16. In a food chain, energy flows from:

- a) Consumers to producers
- b) Sun to producers

- c) Decomposers to consumers
- d) Animals to plants
- **Correct option: b**
- **17. The primary source of energy for life on Earth is:**
- a) Moon
- b) Plants
- c) Animals
- d) Sun
- **Correct option: d**
- **18. A network of interconnected food chains is called:**

- a) En<mark>ergy</mark> cycle
- b) Fo<mark>od web</mark>
- c) Trophic level
- d) Ecology
- Correct option: b

- 19. Each step in a food chain is called a:
- a) Trophic level
- b) Consumer level
- c) Food level
- d) Chain level
- **Correct option: a**
- 20. The first trophic level in any food chain is occupied by:
- a) Herbivores b) Carnivores c) Decomposers d) Producers
- Correct option: d
- 21. Pyramid of energy shows:
- a) Biomass
- b) Energy transfer
- c) Nutrients
- d) Food production

#### **Correct option: b**

- **22. Ecological** pyramids represent:
- a) Population and energy
- b) Only energy
- c) Oxygen
- d) Biomes
- **Correct option:** a
- 23. Which pyramid can never be inverted?
- a) Py<mark>ramid of number</mark>
- b) Pyramid of biomass
- c) Pyramid of energy
- d) All can be inverted

**Correct option: c** 

24. The process of water movement through the ecosystem is:

a) Nitrogen cycle

- b) Water cycle
- c) Carbon cycle
- d) Oxygen cycle
- **Correct option: b**
- 25. Which of the following is not part of the nitrogen cycle?
- a) Nitrogen fixation
- b) Nitrification
- c) De<mark>nitri</mark>fication
- d) Ph<mark>otos</mark>ynthesis
- Correct option: d 3 O C H B A D L O B Y M A X
- 26. Carbon dioxide is used by plants in:
- a) Respiration
- b) Transpiration
- c) Photosynthesis
- d) Decomposition
- **Correct option: c**

### 27. Decomposers release nutrients into:

- a) Water
- b) Air
- c) Soil
- d) Plants
- **Correct option: c**

28. Which of the following is a pollutant?

SOCH BADLO BY MAK

- a) Ox<mark>ygen</mark>
- b) Ni<mark>trogen</mark>
- c) Su<mark>lphu</mark>r dioxide
- d) Ca<mark>rbon</mark>
- **Correct option: c**

#### 29. Which is a renewable resource?

- a) Coal
- b) Oil
- c) Water

# d) Natural gas

**Correct option: c** 

# **30.** The main cause of global warming is:

- a) Oxygen
- b) Nitrogen
- c) Carbon dioxide
- d) Hydrogen

**Correct option: c** 

### **31. Ozone layer protects Earth from:**

SOCH BADLO BY MAK

- a) IR radiation
- b) Vi<mark>sible</mark> light
- c) UV rays
- d) Gamma rays
- Correct option: c

32. Which gas is responsible for acid rain?

- a) O2
- b) CO2
- c) SO2
- d) N2
- **Correct option: c**
- 33. Which organism is at the top of the food chain?

- a) Decomposer
- b) Pr<mark>oduc</mark>er
- c) Ca<mark>rnivo</mark>re
- d) Herbivore
- **Correct option: c**
- 34. Overpopulation leads to:
- a) Balance in ecosystem
- b) More food
- c) Resource depletion
- d) Less pollution
- **Correct option: c**

- 35. Which is a non-renewable resource?
- a) Solar energy
- b) Wind energy
- c) Petroleum
- d) Water
- **Correct option: c**
- **36.** The living part of an ecosystem is called:

- a) Bi<mark>otic</mark>
- b) Abiotic
- c) Climate
- d) Ha<mark>bita</mark>t
- **Correct option: a**
- 37. The non-living part of an ecosystem is:
- a) Biotic
- b) Abiotic

- c) Decomposer
- d) Consumer
- **Correct option: b**
- 38. Which of these is not a biotic component?
- a) Trees
- b) Fungi
- c) Bacteria
- d) So<mark>il</mark>
- **Correct option: d**
- **39. Which of the following is a tertiary consumer?**

- a) Grass
- b) Ra<mark>bbit</mark>
- c) Snake
- d) Hawk
- Correct option: d

40. Biomass refers to:
a) Mass of decomposers
b) Mass of inorganic matter
c) Total mass of living matter
d) Air weight
Correct option: c

41. Which of the following helps in nitrogen fixation?

- a) Ye<mark>ast</mark>
- b) Rh<mark>izob</mark>ium
- c) Fu<mark>ngi</mark>
- d) Pl<mark>asmo</mark>dium
- **Correct option: b**
- 42. The burning of fossil fuels adds:
- a) Oxygen
- b) Nitrogen
- c) CO2
- d) Ozone

#### **Correct option: c**

## **43. Eutrophication** is caused by excess:

- a) Carbon
- b) Nutrients
- c) Oxygen
- d) Water
- **Correct option: b**
- 44. Deforestation leads to: () A () ( O () Y (A A X
- a) Increased oxygen
- b) So<mark>il ero</mark>sion
- c) More rainfall
- d) Ozone formation
- **Correct option: b**

45. Which of these is a secondary consumer?

a) Grass

- b) Grasshopper
- c) Frog
- d) Lion
- **Correct option: c**
- 46. The base of all food chains is formed by:
- a) Consumers
- b) Decomposers
- c) Pr<mark>oduc</mark>ers
- d) O<mark>mniv</mark>ores
- Correct option: c 3 O C H B A D L O B Y M A K
- 47. Which factor directly affects plant growth?
- a) Su<mark>nlight</mark>
- b) Herbivores
- c) Air pressure
- d) Migration
- **Correct option:** a

- 48. Which of the following is an artificial ecosystem?
- a) Forest
- b) Desert
- c) Aquarium
- d) River
- **Correct option: c**

49. Which cycle is involved in returning water to the atmosphere?

SOCH BADLO BY MAX

- a) Ni<mark>troge</mark>n
- b) Ca<mark>rbon</mark>
- c) Water
- d) Oxygen
- **Correct option: c**

#### 50. Pollution due to plastics is:

- a) Biodegradable
- b) Recyclable only
- c) Non-biodegradable
