

Chapter-1: Lesson on Life

Read the chapter properly & write down the answer of following creative questions:

❖ **Creative Question: 01**

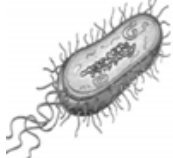


Fig: A



Fig: B

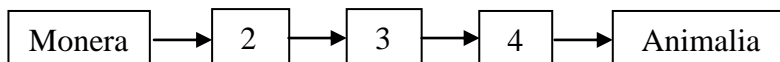
- a) What is conjugation? 1
- b) What do you mean by classification? 2
- c) Which branch of biology may the Fig-A indicate? Explain with reason. 3
- d) Why are Fig: A and Fig-B not included in the same kingdom?—Analyze with logic. 4

❖ **Creative Question: 02**

Mr. Haque, the Biology teacher observed the surrounding trees of school with his students. Later he discussed about a topic showing various trees. Father of that topic is Carolus Linnaeus. At last he analyzes the system of binomial nomenclature introduced by above mentioned scientist.

- a) What is taxa? 1
- b) The members of Kingdom-Fungi cannot prepare food.—Explain. 2
- c) Describe the aim of the subject-matter discussed by the teacher. 3
- d) In the case of naming of man, is the invented system of stem mentioned scientist reflected or not?—Analyze. 4

❖ **Creative Question: 03**



- a) What is conjugation? 1
- b) Why is Biotechnology called Applied Biology? 2
- c) Penicillium belongs to which kingdom in the stem.—Explain. 3
- d) "The gradual advancement of the kingdoms in the stem has been occurred."—Analyze with logic. 4

[N. B:— All the writings will be in a new copy (Khata).]

Chapter-2: Cells and Tissues of Organisms

Read the chapter properly & write down the answer of following creative questions:

Creative Question: 01



Fig: A

- a) What is microvilli?
- b) Write down the difference between somatic cell and gametic cell.
- c) Explain the structural characteristics of Fig: A.
- d) How is energy produced in Fig: A?—Analyze with logic.

Creative Question: 02



Fig: A

- a) What is cristae?
- b) Write down the difference between cell wall and cell membrane.
- c) Explain the structural characteristics of Fig: A.
- d) Analyze and state your opinion if the above figure does not exist in plant.

Creative Question: 03

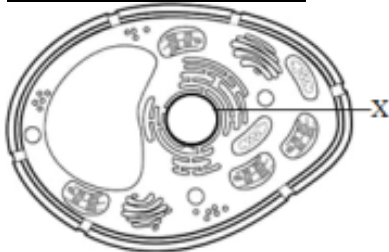


Fig: A

- a) What is oxysome?
- b) What is meant by centrosome?
- c) Explain the structural characteristics of 'X' marked part of Fig: A.
- d) X marked part of Fig: A in the stem controls all the biological activities of the cell.—Evaluate it.

Creative Question: 04



Fig: A



Fig: B



Fig: C

- a) What is true cell?
- b) What is meant by Golgi body?
- c) Explain the structural characteristics of Fig: C.
- d) Analyze the structural and functional similarities and dissimilarities of Fig: A and Fig: B and Fig: C of the stem

Creative Question: 05

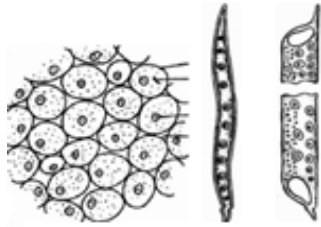


Fig: X Fig: Y Fig: Z

- What is stone cell?
- What is meant by cell vacuole?
- Explain the structural characteristics of Fig: X.
- Analyze the structural and functional similarities and dissimilarities of Fig: Y and Fig: Z of the stem.

Creative Question: 06

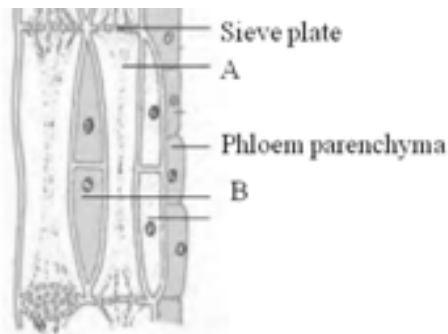


Fig: X

- What is aerenchyma?
- What do you mean by protoxylem and metaxylem.
- Explain the location and structure of 'A' and 'B' marked part in above figure.
- "Fig: X has a great economic importance."—Analyze

Creative Question: 07

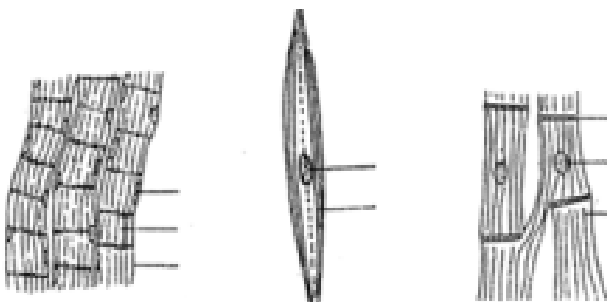


Fig: A

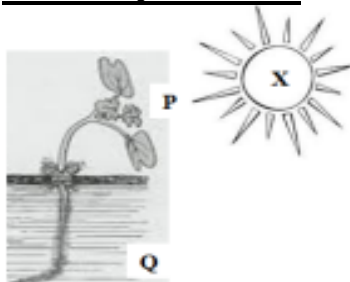
Fig: B

Fig: C

- What is lymph?
- What are the functions of lysosome?
- Write down the differences between Fig: A and Fig: B mentioned above stem.
- "Although the tissue 'A' and 'C' as mentioned in the stem are structurally similar, they are functionally different."—Analyze.

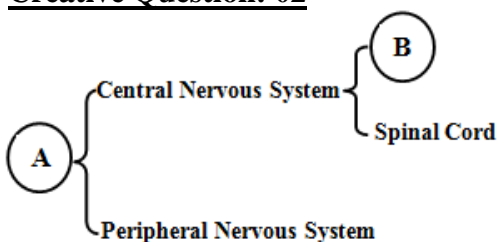
Read the chapter properly & write down the answer of following creative questions:

Creative Question: 01



- a) What is biological clock? 1
- b) What do you mean by vernalization? 2
- c) Which hormone is responsible for the movement of 'P' towards 'X' in the above stem? Explain. 3
- d) Why is movement of 'Q' opposite to 'P' in the stem?—Evaluate. 4

Creative Question: 02



- a) What is synapse? 1
- b) Write down the function of hormone. 2
- c) Draw a labeled diagram of the structural and functional unit of 'A' mentioned in the stem. 3
- d) Functions of different parts of 'B' are different.—Analyze it. 4

Creative Question: 03

We immediately turn off hand from the source of stimulation when needle pricks in the hand. We feel this pain through a special tissue and this incident occurs by a sudden action.

- a) What is maninges? 1
- b) What is meant by pons? 2
- c) Describe the structural and functional unit of the above mentioned tissue with diagram. 3
- d) "The above mentioned phenomenon of the stem is occurred by a sudden action."—Analyze. 4

Creative Question: 04

Gland	Hormone
A	TSH
B	Insulin and glucagon

- a) What is corpus callosum? 1
- b) What do you mean by reflex action? 2
- c) Why is 'A' called main hormone producing gland?—Explain. 3
- d) What type of problem will be arisen if the gland 'B' does not work properly?—Analyze. 4

Creative Question: 05

Rana, son of Mr. Rahman was not mentally developing. Recently Mr. Rahman is urinating frequently and was getting loss his weight. While he was meeting the doctor with Rana, the doctor suggested Rana to eat iodized salt. At the same time he informed to Mr. Rahman that his disease can be controlled by following three'D'.

- a) What stroke? 1
- b) What is meant by synapse? 2
- c) Discuss the reason for giving mentioned advice to Rana by the doctor. 3
- d) "The disease of Mr. Rahman cannot be fully cured but controllable."—Analyze. 4

Creative Question: 06

Drug addiction has significantly increased in the whole world, especially in the South Asian countries like Bangladesh. The trend of drug consumption is higher in youth and teenagers, their age spanning between 15 and 30 years. Students are mostly falling victims to drug abuse, which eventually lowers their standard s of education and attendance at schools and colleges.

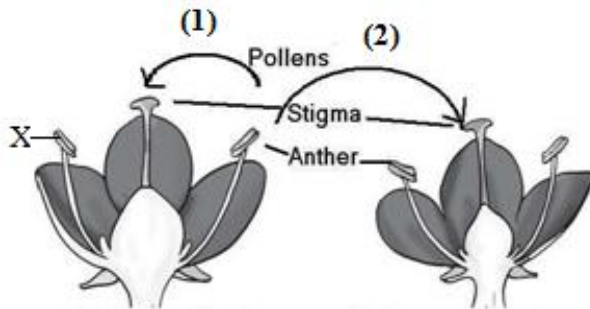
- a) When was the Directorate of Narcotic Control established? 1
- b) What do you mean by reflex arc? 2
- c) Describe which part of our body which gets damaged due to the reason mentioned in the stem. 3
- d) "Social mobilization and strongly enforcement of laws are very important to control addiction."—Justify the statement with logic. 4

[N. B:— All the writings will be in a new copy (Khata).]

Chapter-11: Reproduction in Organism
Creative Question: 01

A	Usually round and developed at the tip of floral axis
B	The outermost whorl of flower
C	Usually colorful of flower
D	Pollens are developed here
E	It is at center of a flower

- a) What is dioecious plant? 1
- b) What do you mean by inflorescence? 2
- c) Draw a figure with A, B, C, D and E parts. 3
- d) 'D' and 'E' directly take part in reproduction.—Analyze. 4

Creative Question: 02


- a) What is gamopetalous flower? 1
- b) Why is mustard an insect-pollinated flower? 2
- c) Explain the formation of gamete in 'X' marked part. 3
- d) Which pollination among (1) and (2) play role in creating new characteristics? Give your comments after having a comparative discussion. 4

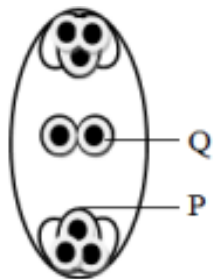
Creative Question: 03


Fig: A

- a) What is implantation? 1
- b) What are the importances of formation of placenta? 2
- c) Explain the producing of the labeled part 'P' in the figure 'A'. 3
- d) "After fertilization the changed state of the labeled part 'Q' plays a significant role for the living world."—Analyze the statement. 4

Creative Question: 04

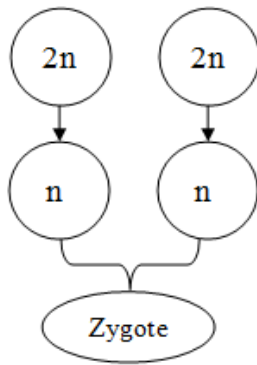


Chart: A

- a) What is sexual reproduction? 1
- b) What do you mean by external fertilization? 2
- c) How is the chart 'A' related with the living being?—Explain. 3
- d) Describe the basic significance of the process of chart 'A'. 4

Creative Question: 05

Hormone	Reproduction	Placenta
A	B	C

- a) What is menopause? 1
- b) Differentiate between external and internal fertilization. 2
- c) Explain the role of 'A' in the process of 'B'. 3
- d) Describe the significance of 'C' organ. 4

Creative Question: 06

Sibli has been sent to Bangladesh from USA due to having a disease which was first discovered in 1981.

- a) What is implantation? 1
- b) What do you mean by embryonic membrane? 2
- c) Draw the figure of the germ of the disease of Sibli. 3
- d) Describe the causes and symptoms of the disease of Sibli. 4

Multiple Choice Questions
Chapter One
Lesson on Life
Name : **Date:**.....

Class : IX
Subject: Biology

1. From which word is the term 'biology' derived?
 - a) Latin
 - b) Greek
 - c) Indian
 - d) Arabic
2. In which region was biology not practiced from the beginning of the civilization?
 - a) India
 - b) Egypt
 - c) America
 - d) Middle East
3. Living organisms are constituted of—
 - i. living things
 - ii. nonliving things
 - iii. both living and nonliving things
 Which one is correct?
 - a) i
 - b) ii
 - c) i and ii
 - d) i, ii and iii
4. $\text{CO}_2 + 12\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O} + 6\text{O}_2$. It is discussed in—
 - a) Cytology
 - b) Histology
 - c) Physiology
 - d) Morphology
5. Embryology discusses—
 - i. the origin of life
 - ii. the origin of gamete
 - iii. the development of embryo
 Which one is correct?
 - a) ii
 - b) iii
 - c) ii and iii
 - d) i, ii and iii
6. Which branch of biology discusses with the prehistoric life forms?
 - a) Cytology
 - b) Evolution
 - c) Histology
 - d) Palaeontology
7. Physical branch of biology includes—
 - i. Biogeography
 - ii. Biotechnology
 - iii. Bioinformatics
 Which one is correct?
 - a) i and ii
 - b) i and iii
 - c) ii and iii
 - d) i, ii and iii
8. Which science deals with the industry of medicine?
 - a) Pharmacy
 - b) Microbiology
 - c) Biotechnology
 - d) Medical science
9. Virus, bacteria and fungi are discussed in—
 - i. Parasitology
 - ii. Microbiology
 - iii. Medical Science
 Which one is correct?
 - a) i
 - b) ii
 - c) i and ii
 - d) i, ii and iii
10. Genetic engineering associated with—
 - i. gene
 - ii. heredity
 - iii. gene technology
 Which one is correct?
 - a) i
 - b) iii
 - c) i and iii
 - d) i, ii and iii
11. A survey report has been published that there are 200 tigers in the Sundarbans. It is the subject matter of—
 - a) Forestry
 - b) Wildlife
 - c) Biostatistics
 - d) Biogeography
12. Evolution deals with—
 - i. origin of life
 - ii. development of zygote
 - iii. gradual development of life
 Which one is correct?
 - a) i and ii
 - b) i and iii
 - c) ii and iii
 - d) i, ii and iii
13. What is not discussed in endocrinology?
 - a) Insulin
 - b) Glucose
 - c) Thyroxin
 - d) Gonadotropin
14. Entomology deals with—
 - i. birds
 - ii. mosquito
 - iii. honey bee
 Which one is correct?
 - a) ii
 - b) iii
 - c) ii and iii
 - d) i, ii and iii
15. What is not discussed in medical science?
 - a) Diseases
 - b) Medicine
 - c) Treatment
 - d) Analysis of cancer
16. Applied branch of biology includes—
 - i. Fisheries
 - ii. Agriculture
 - iii. Endocrinology
 Which one is correct?
 - a) i
 - b) ii
 - c) i and ii
 - d) i, ii and iii
17. Which one is not the subject of applied branch of biology?
 - a) Biochemistry
 - b) Biotechnology
 - c) Biogeography
 - d) Genetic Engineering
18. The aim of classification—
 - i. to classify the living world easily
 - ii. to know the living world accurately
 - iii. to describe the history the living world
 Which one is correct?

- a) i b) ii
c) i and ii d) i, ii and iii
19. How many plant species have been discovered so far?
a) 3 billion b) 4 billion
c) 4 million d) 5 million
20. How many animal species have been discovered so far?
a) 13 billion b) 13 billion
c) 14 million d) 15 million
21. Carolus Linnaeus was—
i. botanist
ii. zoologist
iii. physician
Which one is correct?
a) i b) ii
c) i and ii d) i, ii and iii
22. In which subject did Carolus Linnaeus receive his doctoral degree from the University of Uppsala in 1735?
a) Botany b) Zoology
c) Medicine d) Taxonomy
23. Into how many kingdoms did Carolus Linnaeus classify the living world?
a) 2 b) 4
c) 6 d) 8
24. The basis of classification of R H Whittaker—
i. mode of nutrition
ii. type of DNA and RNA
iii. features and number of cells
Which one is correct?
a) i b) iii
c) i and iii d) i, ii and iii
25. Who divided the living world into two super kingdoms?
a) Margulis b) Linnaeus
c) Caviler Smith d) R H Whittaker
26. The blue green algae—
i. is prokaryotic
ii. is filamentous
iii. contains photosynthetic pigment
Which one is correct?
a) ii b) iii
c) i and iii d) i, ii and iii
- Observe the stem and answer the question nos. 27 and 28.



Fig: A



Fig: B

27. Which one falls in the kingdom of Fig: A?
a) Diatom b) *Nostoc*
c) *Spyrogyra* d) *Paramecium*

28. Both the organisms of Fig: A and Fig: B—
i. unicellular
ii. filamentous
iii. photosynthetic
Which one is correct?
a) i b) ii
c) i and ii d) ii and iii
29. Which one does not accomplish its asexual reproduction by the process of mitosis?
a) *Amoeba* b) Diatom
c) *Spyrogyra* d) Bacterium
30. *Penicillium*—
i. is constituted of mycelium
ii. reproduces by haploid spore
iii. reproduces through conjugation
Which one is correct?
a) i and ii b) i and iii
c) ii and iii d) i, ii and iii
31. Which organism contains chitinous cell wall?
a) Yeast b) *Nostoc*
c) Diatom d) *Amoeba*
32. Into how many divisions is the Kingdom-Plantae divided?
a) 2 b) 3
c) 4 d) 5
- Observe the stem and answer the question nos. 33 and 34.
- | P | Q | R | S |
|--------|-------|-------|-------|
| Diatom | Yeast | Cycas | Tiger |
33. Sexual reproduction of which organism is conjugation?
a) P b) Q
c) R d) S
34. Both R and S—
i. develop embryo
ii. have advanced tissue system
iii. have cell with cell wall, vacuole etc.
Which one is correct?
a) i b) i and ii
c) ii and iii d) i, ii and iii
35. Which one is autotrophic
a) *Nostoc* b) *Amoeba*
c) Mushroom d) *Paramecium*
36. Sexual reproduction of which organism is anisogamous?
a) Tiger b) Yeast
c) *Amoeba* d) Jackfruit Tree
37. Who renamed the Kingdom-Monera as the kingdom of bacteria?
a) Margulis b) Linnaeus
c) Caviler Smith d) R H Whittaker
38. Family of human being includes—
i. gorilla
ii. monkey

- iii.* chimpanzee
Which one is correct?
a) i b) ii
c) iii d) i, ii and iii
39. Which one does not fall in the Order-Primate?
a) Man b) Gorilla
c) Hyena d) Monkey
40. *Homo sapiens*—
i. has thin skull
ii. has wide forehead
iii. developed eye sight
Which one is correct?
a) ii b) iii
c) ii and iii d) i, ii and iii
41. Which one of the following contains more number of organisms?
a) Class b) Order
c) Family d) Phylum
42. *Solanum tuberosum* is the scientific name of—
a) Maize b) Ginger
c) Potato d) Tobacco
43. The aim of binomial nomenclature is—
i. to classify the organisms
ii. to describe every organism easily
iii. to unambiguously identify every organism
Which one is correct?
a) i b) iii
c) i and iii d) i, ii and iii
44. Who defined the term genus and species?
a) Margulis b) Linnaeus
c) Caviler Smith d) R H Whittaker
45. In which book did Carolus Linnaeus begin his task with the modern system of naming of organism effectively?
a) *Systema Naturae*
b) *Origin of Species*
c) *Species Plantarum*
d) *Philosophia Botanica*
46. Which of the following scientific name is correct?
a) *Katla katla* b) *Panthera lio*
c) *Oryza sativa* d) *Labao rohita*
47. Who is the founder of the Zoology Department of Dhaka University?
a) Md. Zakir b) Kazi Zakir
c) Kazi Zakaria d) Kazi Zaker Hossain
48. What is the scientific name of the frog which is only found in Dhaka?
a) *Zakiriana dacca* b) *Kazirana dhaka*
c) *Zakerana dhaka* d) *Zacirena dacca*
49. The scientific name, *Oryza sativa*—
i. is a Latin name
ii. is given by Carolous Linnaeus
iii. should be italic when handwritten
Which one is correct?
a) i b) ii
c) i and ii d) i, ii and iii
50. Scientific name of which organism has been changed?
a) Tiger b) Honey bee
c) Asian toad d) Oriental magpie

Multiple Choice Questions
Chapter Two
Cells and Tissues of Organisms**Name :****Date:****Class : IX****Subject: Biology**

-
-
- When did scientists, Loey and Siekevitz describe a cell? In—
a) 1919 b) 1959
c) 1969 d) 1979
 - According to Loey and Siekevitz, a cell—
i. is the unit of living activity
ii. is surrounded by a selectively permeable membrane
iii. can exactly duplicate itself without any different living medium
Which one is correct?
a) *i* and *ii* b) *i* and *iii*
c) *ii* and *iii* d) *i*, *ii* and *iii*
 - How many types of cells are there on the basis of the organization of the nucleus?
a) 2 b) 3
c) 3 d) 4
 - Which cell organelle is present in a prokaryotic cell?
a) Ribosome b) Lysosome
c) Golgi body d) Mitochondria
 - In the cell of blue green algae—
i. all cell organelles except ribosome are present
ii. chromosomal structure consists of unwrapped DNA
iii. nuclear materials are not surrounded by nuclear membrane
Which one is correct?
a) *i* and *ii* b) *i* and *iii*
c) *ii* and *iii* d) *i*, *ii* and *iii*
 - How many types of cells are there on the basis of function?
a) 2 b) 3
c) 3 d) 4
 - Somatic cell—
i. divides through mitotic
ii. divides through binary fission
iii. takes part in the development of embryo
Which one is correct?
a) *i* b) *ii*
c) *i* and *ii* d) *i*, *ii* and *iii*
 - By which process is a gametic cell divided?
a) Mitosis b) Meiotic
c) Amitosis d) Binary fission
 - By which process is a zygote divided?
a) Mitosis b) Meiotic
c) Amitosis d) Binary fission
 - A bacterial cell wall is composed of—
i. lipid
ii. protein
iii. polysaccharide
Which one is correct?
a) *i* b) *ii*
c) *i* and *ii* d) *i*, *ii* and *iii*
 - Which one is the component of a fungal cell wall?
a) Lipid b) Chitin
c) Protein d) Cellulose
 - What are formed in the cell wall to exchange materials with adjacent cells?
a) Pits b) Lamella
c) Microvilli d) Plasmodesmata
 - Protoplasm is—
i. translucent
ii. surrounded by cell wall
iii. contains all the cell organelles
Which one is correct?
a) *i* and *ii* b) *i* and *iii*
c) *ii* and *iii* d) *i*, *ii* and *iii*
 - What are called the foldings of a cell membrane?
a) Cristae b) Stroma
c) Microvilli d) Plasmodesmata
 - Plasmalemma is composed of—
i. lipid
ii. chitin
iii. protein
Which one is correct?
a) *i* and *ii* b) *i* and *iii*
c) *ii* and *iii* d) *i*, *ii* and *iii*
 - Through which process the cell membrane controls the movement of water and minerals?
a) Osmosis b) Diffusion
c) Respiration d) Imbibitions
 - Cytoplasm is—
i. semi-fluid
ii. surrounded by cell wall
iii. contains all the cell organelles
Which one is correct?
a) *i* b) *ii*
c) *iii* d) *i*, *ii* and *iii*
 - When did Carl Benda first coin the term mitochondria? In—
a) 1898 b) 1961
c) 1965 d) 1998

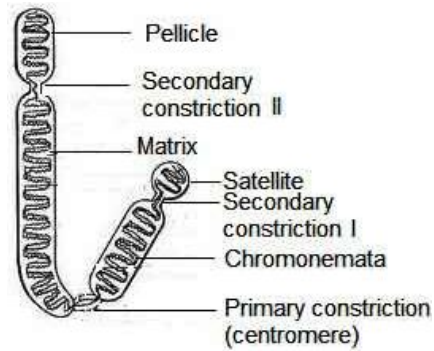
19. The membrane of a mitochondrion is composed of—
i. lipid
ii. protein
iii. phospholipids
 Which one is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
20. What is called the infoldings of mitochondria?
 a) Cristae b) Stroma
 c) Microvilli d) Plasmodesmata
21. What is called the round body studded with the cristae?
 a) Ribosome b) Oxysome
 c) Lysosome d) Centrosome
22. What does an oxysome contain?
 a) Lipid b) Pectin
 c) Enzyme d) Cellulose
23. In how many stages is aerobic respiration occurred?
 a) 2 b) 3
 c) 4 d) 5
24. In mitochondria—
i. Glycolysis occurs
ii. Kreb's cycle occurs
iii. Acetyl-CoA formation occurs
 Which one is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
25. In which stage of aerobic respiration is maximum energy produced?
 a) Glycolysis
 b) Kreb's cycle
 c) Acetyl-CoA formation
 d) Electron transport sytem
26. In which of the following cell is mitochondrion present? In—
 a) Sperm b) Bacterium
 c) Trichomonus d) Monocercomonoides
27. How many types of plastids are there in plant?
 a) 2 b) 3
 c) 4 d) 5
28. Grana of plastid—
i. captures solar energy
ii. helps to produce carbohydrate
iii. converts solar energy into chemical energy
 Which one is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
29. What is absent in chromoplast?
 a) Carotene b) Chlorophyll
 c) Xanthophyll d) Phycoerythrin
30. In which part of plant is leucoplast absent?
 a) Root b) Leaf
 c) Ovary d) Embryo
31. In which cell organelle is stroma found?
 a) Plastid b) Nucleus
 c) Golgi body d) Mitochondria
32. Golgi body—
i. stores protein
ii. plays role in metabolic activities
iii. is involve in secretion of some hormones
 Which one is correct?
 a) iii b) i and iii
 c) ii and iii d) i, ii and iii
33. Which cell organelle transport enzymes for other cells?
 a) Nucleus b) Golgi body
 c) Mitochondria d) Endoplasmic reticulum
34. Which cell organelle plays role in the development of mitochondria, vacuole etc.?
 a) Nucleus b) Lysosome
 c) Golgi body d) Endoplasmic reticulum
35. Cell vacuole contains—
i. pigment
ii. inorganic salt
iii. inorganic acid
 Which one is correct?
 a) i b) ii
 c) i and ii d) i, ii and iii
- Observe the following figure and answer the question nos. 36 and 37.
-
36. Which cell organelle does the above figure indicate?
 a) Ribosome b) Lysosome
 c) Centrosome d) Mitochondria
37. The organelle mentioned in the above figure—
i. produces enzyme
ii. protects cells from germ
iii. destroys other organelles due to lack of O₂
 Which one is correct?
 a) i b) ii
 c) ii and iii d) i, ii and iii
38. Which one of the following is not a non-membranous organelle of a cell?
 a) Ribosome b) Lysosome
 c) Centrosome d) Cytoskeleton
39. Which one is not the structural component of the fibers of cytoskeleton?
 a) Actin b) Myosin
 c) Tubulin d) Globulin
40. Cytoskeleton—
i. shapes the cell
ii. holds the organelles in place
iii. is located beneath the plasmalemma
 Which one is correct?

- a) i b) ii
c) i and ii d) i, ii and iii
41. Which organelle is found in all types of cells?
a) Ribosome b) Lysosome
c) Golgi body d) Mitochondria
42. Which organelle carries out the bondage in polypeptide chains?
a) Nucleus b) Ribosome
c) Lysosome d) Mitochondria
43. Centrosome—
i. contains centrosphere
ii. contains two centrioles
iii. is found in most animal cells
a) i b) ii
c) i and ii d) i, ii and iii
44. Which one constructs spindle apparatus at the time of cell division?
a) Nucleus b) Centriole
c) Lysosome d) Mitochondria
45. Nucleus of a cell—
i. stores protein
ii. synthesizes protein
iii. transfers heredity traits
Which one is correct?
a) ii b) iii
c) i and ii d) i, ii and iii
46. Which part of nucleus controls the transport system from nucleus to cytoplasm?
a) Nucleolus b) Nucleoplasm
c) Nuclear membrane d) Chromatin reticulum
47. Nuclear membrane is composed of—
i. lipids
ii. proteins
iii. phospholipids
Which one is correct?
a) ii b) iii
c) i and ii d) i, ii and iii
48. What does nucleoplasm not contain?
a) Lignin b) Protein
c) Enzyme d) Nucleic acid
49. Nucleolus is composed of—
i. RNA
ii. lipids
iii. proteins
Which one is correct?
a) i and ii b) i and iii
c) ii and iii d) i, ii and iii
50. Which part of nucleus carries the units of heredity?
a) Nucleolus b) Nucleoplasm
c) Nuclear membrane d) Chromatin reticulum
51. Nucleolus of nucleus—
i. produces enzymes
ii. synthesizes protein
iii. stores nucleic acids

Which one is correct?

- a) ii b) iii
c) ii and iii d) i, ii and iii

Observe the following figure and answer the question nos. 52 and 53.



52. What does the figure indicate?
a) Ribosome b) Lysosome
c) Centrosome d) Chromosome
53. The above figure—
i. contains genes
ii. carries the units of heredity
iii. is fixed in numbers in a specific species
Which one is correct?
a) i and ii b) i and iii
c) ii and iii d) i, ii and iii
54. How many types of simple tissue are there?
a) 2 b) 3
c) 4 d) 5
55. Which one is not the characteristic of a parenchyma cell?
a) Thin walled b) Isodiametric
c) Lignified wall d) Turgid with protoplasm
56. Which one is not the function of a parenchyma tissue?
a) Store food b) Produce food
c) Transport food d) Provide rigidity
57. In which plant are aerenchyma cells found?
a) Grass b) Maize
c) Sugarcane d) Water hyacinth
58. Which one is not the characteristic of a collenchyma cell?
a) Elongated
b) Oblique bordered cell
c) Regular thickened wall
d) Turgid with protoplasm
59. The cells of collenchyma tissue—
i. stores food
ii. produces food
iii. provides mechanical support
Which one is correct?
a) ii b) iii
c) ii and iii d) i, ii and iii
60. Which one is called stone cell?
a) Fiber b) Sclereids
c) Parenchyma d) Collenchyma

Observe the following figure and answer the question nos. 61 and 62.

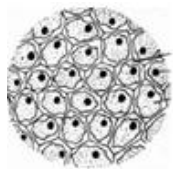


Fig: A

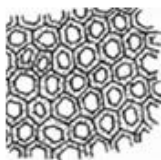


Fig: B

61. Where is Fig: A found?
 a) Tip of root b) Coat of seed
 c) Peel of fruit d) Vein of leaves
62. Tissue of Fig: B—
 i. is of two types
 ii. provides mechanical support
 iii. composed of cell with thick wall
 Which one is correct?
 a) ii b) iii
 c) ii and iii d) i, ii and iii
63. Into how many types are the complex tissues grouped?
 a) 2 b) 3
 c) 4 d) 5
64. How many types of primary xylem are there?
 a) 2 b) 3
 c) 4 d) 5
65. Which one is not found in xylem?
 a) Vessels b) Tracheids
 c) Sieve cell d) Xylem fiber
66. Where is tracheids not found? In—
 a) Fern b) Moss
 c) Angiosperm d) Gymnosperm
67. Xylem vessels—
 i. short and tubular
 ii. slender and sharp end
 iii. walls differently thickened
 Which one is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
68. In which plant is xylem vessel much longer?
 a) Grass b) Maize
 c) Creeper d) Sugarcane
69. Where is primary type of vessel found? In—
 a) Grass b) Maize
 c) *Gnetum* d) Sugarcane
70. Xylem vessel—
 i. transports prepared food
 ii. transports water and minerals
 iii. provides the organs with proper rigidity
 Which one is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
71. Which one lacks nucleus?
 a) Sieve cell b) Parenchyma
 c) Phloem fibre d) Companion cell
72. Companion cell is—
 i. thick walled
 ii. turgid with protoplasm
 iii. parenchyma type of cell
 Which one is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
73. What type of cell is the fiber of jute?
 a) Parenchyma b) Collenchyma
 c) Sclerenchyma d) Chlorenchyma
74. In which branch of biology are the different types of tissues discussed?
 a) Genetics b) Cytology
 c) Histology d) Embryology
75. How many types of animal tissue are there?
 a) 2 b) 3
 c) 4 d) 5
76. What is not the function of epithelial tissue?
 a) Digestion of food materials
 b) Secretion of waste products
 c) Absorption of water and nutrients
 d) Transcellular transport of specific materials
77. How many types of epithelial tissue are there on the basis of the size of cell, the location in the animal body and the nature of work?
 a) 2 b) 3
 c) 4 d) 5
78. The epithelial tissue found in kidney is—
 i. cuboidal epithelial tissue
 ii. columnar epithelial tissue
 iii. squamous epithelial tissue
 Which one is correct?
 a) i b) i and iii
 c) ii and iii d) i, ii and iii
79. What is not the function of epithelial tissue which is found in the internal wall of intestine of vertebrates?
 a) Secretion b) Digestion
 c) Protection d) Absorption
80. How many types of epithelial tissue are there on the basis of the cell layers arranged on the base membrane?
 a) 2 b) 3
 c) 4 d) 5
81. Where is pseudo-stratified epithelial tissue found?
 a) Kidney b) Trachea
 c) Intestine d) Wall of stomach
82. The wall of trachea is composed of—
 i. simple epithelial tissue
 ii. ciliated epithelial tissue
 iii. pseudo-stratified epithelial tissue
 Which one is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii

83. Where is flagellated epithelial tissue found?

- a) Hydra b) Amoeba
c) Spongilla d) Round worm

84. In connective tissue—

- i. matrix is more
ii. cells are less in number
iii. cells are more in number

Which one is correct?

- a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

85. How many types of connective tissue are there?

- a) 2 b) 3
c) 4 d) 5

86. Where is mast cell found? In—

- a) Glandular tissue
b) Fluid connective tissue
c) Fibrous connective tissue
d) Skeletal connective tissue

87. Fibrous connective tissue is found—

- i. sparsely in muscle
ii. in the lymphatic gland
iii. below the body-integument

Which one is correct?

- a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

88. How many types of skeletal tissue are there?

- a) 2 b) 3
c) 4 d) 5

89. Where is lacunae found? In the cell of—

- a) Bone b) Blood
c) Cartilage d) Integument

90. Cartilage is found in—

- i. nose
ii. pinna of ear
iii. end of femur

Which one is correct?

- a) ii b) iii
c) ii and iii d) i, ii and iii

91. What is the color of plasma?

- a) Bluish b) Reddish
c) Colorless d) Yellowish

92. What type of compound is haemoglobin?

- a) Iron compound b) Zinc compound
c) Iodine compound d) Copper compound

93. With what does haemoglobin mix easily?

- a) H₂ b) N₂
c) O₂ d) CO₂

94. Lymph is—

- i. yellowish
ii. slightly salty
iii. slightly alkaline

Which one is correct?

- a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

95. How many types of muscular tissue are there?

- a) 2 b) 3
c) 4 d) 5

96. Muscular tissue—

- i. almost lacks matrix
ii. originates from mesoderm
iii. capable of contracting and expanding

Which one is correct?

- a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

Observe the following figure and answer the question nos. 97 and 98.

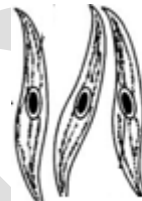


Fig: A



Fig: B

97. Where is tissue of Fig: A not found? In—

- a) Vein b) Heart
c) Stomach d) Intestine

98. Fig: B in the stem—

- i. has transverse striations
ii. intercalated discs are present
iii. structure is similar to smooth muscle

Which one is correct?

- a) iii b) i and ii
c) ii and iii d) i, ii and iii

99. What is absent in nerve cell?

- a) Centriole b) Ribosome
c) Golgi body d) Mitochondria

100. Which one is not the part of digestive system?

- a) Larynx b) Rectum
c) Duodenum d) Esophagus

Multiple Choice Questions
Chapter Ten
Co-ordination

Name : **Date:**
Class : X **Subject : Biology**

- | | |
|--|--|
| <p>1. What is hormone?
 a) Nutrient
 b) Vitamin
 c) Growth substance
 d) Biochemical substance</p> <p>2. Plant's life cycle is regulated by—
 <i>i.</i> phytohormones
 <i>ii.</i> rhythm of light and dark
 <i>iii.</i> weather and climatic factors
 Which one is correct?
 a) i b) ii
 c) i and ii d) i, ii and iii</p> <p>3. Which one is an example of postulated hormone?
 a) Auxin b) Ethylene
 c) Vernalin d) Gibberellin</p> <p>4. Florigen—
 <i>i.</i> is formed in the leaves
 <i>ii.</i> is formed in the base of petiole
 <i>iii.</i> transforms vegetative bud into floral bud
 Which one is correct?
 a) ii b) iii
 c) i and iii d) i, ii and iii</p> <p>5. Which hormone helps in flowering in plants?
 a) Auxin b) Florigen
 c) Ethylene d) Gibberellin</p> <p>6. Who discovered Auxin?
 a) Darwin b) Mendel
 c) Linnaeus d) Hagen Snit</p> <p>7. After the application of Auxin—
 <i>i.</i> root grows from grafted bud
 <i>ii.</i> rate of diffusion gets increased
 <i>iii.</i> mature shedding of fruits gets stopped
 Which one is correct?
 a) i b) iii
 c) i and iii d) i, ii and iii</p> <p>8. Which hormone is used to produce seedless fruit?
 a) Ethylene b) Pheromone
 c) Gibberellin d) Abscic acid</p> <p>9. Organism of which kingdom is responsible for the Bakanae disease of rice?
 a) Fungi b) Plantae
 c) Monera d) Protista</p> <p>10. Gibberellin is found in—
 <i>i.</i> seedling
 <i>ii.</i> matured seed
 <i>iii.</i> meristematic region</p> | <p>Which one is correct?
 a) i b) iii
 c) i and ii d) i, ii and iii</p> <p>Observe the stem and answer the question nos. 11 and 12.</p> <p>Asif came to know about a hormone from a horticulturalist which causes the over growth of rice plant. It also helps the development of fruits and the growth of plants.</p> <p>11. About which hormone did Asif come to know from the horticulturalist?
 a) Auxin b) Florigen
 c) Ethylene d) Gibberellin</p> <p>12. The hormone that Asif knew—
 <i>i.</i> elongates the internodes
 <i>ii.</i> plays role in blooming flower
 <i>iii.</i> shorten the period of dormancy in seed
 Which one is correct?
 a) i b) iii
 c) i and iii d) i, ii and iii</p> <p>13. Which hormone acts in blooming flowers and shortening the period of dormancy of seed?
 a) Auxin b) Florigen
 c) Ethylene d) Gibberellin</p> <p>14. Which hormone plays role for breaking the dormancy of seed and organs?
 a) Auxin b) Florigen
 c) Gibberellin d) Cytokinin</p> <p>15. Which hormone helps in cell division?
 a) Auxin b) Cytokinin
 c) Gibberellin d) Pheromone</p> <p>16. Cytokinin—
 <i>i.</i> shorten the aging process
 <i>ii.</i> plays role in the growth of cells
 <i>iii.</i> plays role in the development of organ
 Which one is correct?
 a) i b) iii
 c) i and iii d) ii and iii</p> <p>17. Which one is found in gaseous form?
 a) Auxin b) Florigen
 c) Ethylene d) Gibberellin</p> <p>18. Which hormone does not break the dormancy of seeds?
 a) Auxin b) Ethylene
 c) Cytokinin d) Gibberellin</p> <p>19. Which hormone is used to control insects?
 a) Auxin b) Cytokinin
 c) Gibberellin d) Pheromone</p> |
|--|--|

Observe the stem and answer the question nos. 20 and 21.

A	Ripens fruit
B	Plays role in germination
C	Delays the process of aging
D	Triggers the initiation of growing flower

20. Which one is found in the water of green coconuts?

- a) A b) B
c) C d) D

21. Both C and D are found in—

- i. roots
ii. seeds
iii. fruits

Which one is correct?

- a) ii b) iii
c) i and iii d) ii and iii

22. What is Indole acetic acid? One kind of—

- a) Auxin b) Florigen
c) Ethylene d) Cytokinin

23. Which one improves the effectiveness of cambium to heal up the injuries?

- a) Ethylene b) Cytokinin
c) Abscisic acid d) Indole acetic acid

24. Which hormone becomes inactive in the presence of light?

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

25. The parts of plant which can feel the stimulus of gravitation—

- i. radicle
ii. cotyledon
iii. tip of plumule

Which one is correct?

- a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

26. What is called the rhythm of light and dark in plants?

- a) Phototropism b) Vernalization
c) Geoperception d) Biological clock

27. What is called the acceleration of flowering of plants by applying cold?

- a) Phototropism b) Vernalization
c) Geoperception d) Tropic movement

28. Into how many types are the plants divided on the basis of the rhythm of light and dark?

- a) 2 b) 3
c) 4 d) 5

29. Which one is day neutral plant?

- a) Dahlia b) Lettuce
c) Sunflower d) Chrysanthemum

30. Which one is a short day plant?

- a) Jhinga b) Lettuce
c) Sunflower d) Chrysanthemum

31. Which one is a long day plant?

- a) Dahlia b) Lettuce
c) Sunflower d) Chrysanthemum

32. Flowering in plants is influenced by—

- i. heat
ii. light
iii. gravitation

Which one is correct?

- a) i b) ii
c) i and ii d) i and iii

33. When is flowering in wheat prolonged? If it is cultivated in—

- a) Spring b) Winter
c) Autumn d) Summer

Observe the stem and answer the question nos. 34 and 35.

Light Time (Hours)	A	B	C	D
	04-08	08-12	12-16	16-20

34. Which phase of light causes inhibition to the flowering of garland chrysanthemum?

- a) A b) B
c) C d) D

35. A, B, C and D phases have no role on flowering of—

- i. lettuce
ii. sunflower
iii. garden cucumber

Which one is correct?

- a) iii b) i and iii
c) ii and iii d) i, ii and iii

36. In which temperature is normal flowering occurred in wheat?

- a) Rice b) Barly
c) Wheat d) Maize

37. Into how many types can the movement in plants be categorized?

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

38. Which one does not show movement of locomotion?

- a) Fungi b) *Volvox*
c) Diatom d) *Chlamydomonas*

39. Which part of plant does not show movement of curvature?

- a) Root b) Stem
c) Tendril d) Gamete

40. What type of hormone does the ant secret from the source of food to its destination?

- a) Auxin b) Ethylene
c) Pheromone d) Abscisic acid

41. Necessary co-ordination in animals is done by—

- i. nerves
ii. enzymes
iii. hormones

- Which one is correct?
- a) i and ii b) i and iii
c) ii and iii d) i, ii and iii
42. Which one carries hormone from the place of origin to distant places?
- a) Blood b) Saliva
c) Lymph d) Nerve cell
43. Which one is chemical messenger?
- a) Blood b) Lymph
c) Hormone d) Nerve cell
44. Stimulus from the external environment are—
- i. sight
ii. taste
iii. touch

- Which one is correct?
- a) i b) ii
c) i and ii d) i, ii and iii
45. Which one is not an internal stimulant?
- a) Heat b) Sound
c) Pressure d) Chemical substance

46. Internal and external stimuli can create stimulation to the—
- i. relay neuron
ii. motor neuron
iii. sensory neuron

- Which one is correct?
- a) i b) ii
c) ii and iii d) i, ii and iii
47. Which one is the manager of nervous system?
- a) Brain b) Neuron
c) Enzyme d) Hormone
48. Which one is the largest part of brain?
- a) Pons b) Cerebrum
c) Cerebellum d) Medulla oblongata
49. What is the name of the exterior surface of cerebrum?
- a) Cortex b) Myeline
c) Meninges d) Corpus callosum

50. Cerebrum—
- i. is the higher organ of brain
ii. controls the conscious activities
iii. sends responses to the various organs

- Which one is correct?
- a) i b) ii
c) i and ii d) i, ii and iii
51. Which one is not a part of prosencephalon?
- a) Thalamus b) Cerebellum
c) Hypothalamus d) Corpus Callosum

52. Mesencephalon plays an important role in—
- i. vision
ii. hearing
iii. balancing

- Which one is correct?
- a) iii b) i and ii
c) i and iii d) ii and iii

53. Which one is not a part of rhombencephalon?
- a) Pons b) Cerebellum
c) Cerebrum d) Medulla oblongata
54. Medulla oblongata is connected with the—
- i. pons
ii. cerebellum
iii. spinal cord

Which one is correct?

- a) ii b) iii
c) i and iii d) i, ii and iii

Observe the stem and answer the question nos. 55 and 56.

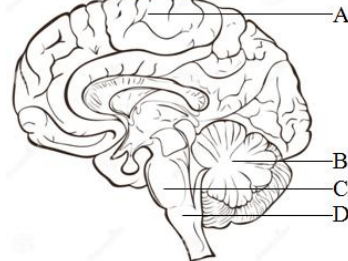


Fig: X

55. Which one is the pons in Fig: X?
- a) B b) C
c) D d) E

56. D marked part in Fig: X—
- i. controls muscle stress
ii. controls the function of heart
iii. is associated with hearing, balancing etc.

- Which one of the following is correct?
- a) i and ii b) i and iii
c) ii and iii d) i, ii and iii
57. How many pairs of cranial nerves are there?
- a) 8 b) 12
c) 16 d) 31

58. How many nerves are originated from the medulla oblongata?
- a) 8 b) 12
c) 16 d) 31

59. How many nerves are originated from the cerebrum?
- a) 8 b) 12
c) 16 d) 31

60. Spinal cord—
- i. extends up to the lumbar vertebra
ii. leaves the skull through foramen magnum
iii. composed of gray matter and white matter

- Which one is correct?
- a) i b) ii
c) i and ii d) i, ii and iii

61. Meninges of brain is—
- a) One layered b) Two layered
c) Three layered d) Four layered

62. The cerebral cortex is—
- i. grayish
ii. whitish
iii. convoluted

- Which one of the following is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
63. Because of absence of what is neuron cell not divided?
 a) Nucleus b) Centriole
 c) Centromere d) Mitochondria
64. What is the color of cell body of neuron?
 a) Pale b) Gray
 c) White d) Black
65. What is the color of nerve fiber or the axon of neuron?
 a) Pale b) Gray
 c) White d) Black
66. What is the name of the thin layer that encloses the axon?
 a) Myelin b) Axolema
 c) Neurilemma d) Plasmalemma
67. What is called the fatty layer between the neurilemma and the axon?
 a) Myelin b) Axolema
 c) Neurilemma d) Plasmalemma
68. Which part of neuron receives stimuli from other neuron?
 a) Axon b) Dendron
 c) Synapse d) Axon terminals
69. True about synapse—
 i. it is a gap
 ii. neurohumor is present in it
 iii. it is a junction between two neurons
 Which one of the following is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
70. How many neurons are present in human brain approximately?
 a) 10 millions b) 10 billions
 c) 100 millions d) 100 billions
71. How many constituents does a reflex arc have?
 a) 2 b) 3
 c) 4 d) 5
72. To how many neurons is one neuron connected?
 a) 5000-10000 b) 6000-10000
 c) 7000-10000 d) 8000-10000
73. Reflex action is—
 i. inborn action
 ii. automatic action
 iii. involved with brain
 Which one of the following is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
74. Which one carries sensation from sense organ to spinal cord?
 a) Relay neuron b) Motor nerve
 c) Efferent nerve d) Afferent nerve
75. Which one transmits the impulse?
 a) Relay neuron b) Motor nerve
 c) Efferent nerve d) Afferent nerve
76. Which one carries message from spinal cord to the muscle?
 a) Relay neuron b) Sensory nerve
 c) Efferent nerve d) Afferent nerve
- From the stem below, answer question nos. 77 and 78.
 Recently Prova has learnt to ride a bicycle. She became tired after long cycling. Returning home, she sat to read and asleep. Her elder sister Preema made a fun and smoothly pricks a pin in her hand. Unknowingly she withdrew her hand.
77. Which part of brain works for Prova's cycling?
 a) Pons b) Cerebrum
 c) Cerebellum d) Medulla oblongata
78. Withdrawing of Prova's hand is related to—
 i. brain
 ii. receptor
 iii. Relay neuron
 Which one of the following is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
79. How many nerves are originated from the spinal cord?
 a) 8 b) 12
 c) 31 d) 62
80. Which of the following produces the sensation to the brain?
 a) Irish b) Pupil
 c) Retina d) Cornea
81. Autonomic nervous system controls—
 i. lung
 ii. head
 iii. secretary gland
 Which one of the following is correct?
 a) i and ii b) i and iii
 c) ii and iii d) i, ii and iii
82. What is the approximate velocity of impulse?
 a) 10 ms^{-1} b) 100 ms^{-1}
 c) 1000 ms^{-1} d) 10000 ms^{-1}
83. Hormones—
 i. are carried by the blood
 ii. are secreted from ductile glands
 iii. influence the biochemical functions
 Which one is correct?
 a) iii b) i and iii
 c) ii and iii d) i, ii and iii
84. Which one of the following hormone is not secreted by hypophysis?
 a) Prolactin b) Thyrotropin
 c) Thymoxine d) Gonadotropin

85. Which hormone is secreted by the gland that is located just above the kidneys?

- a) Calcitonin b) Thyroxine
c) Adrenaline d) Somatotropin

86. Hormone of which gland takes part in calcium and phosphorus metabolism?

- a) Thymus b) Thyroid
c) Pituitary d) Parathyroid

87. Where is the gland located that takes part in carbohydrate metabolism?

- a) In the neck b) In the pancreas
c) Beneath the brain d) Above the kidneys

88. The hormones secreted from gonad—

- i.* control metabolic process
ii. develop reproductive organs
iii. express secondary sexual characters

Which one is correct?

- a) iii b) i and iii
c) ii and iii d) i, ii and iii

From the stem below, answer question nos. 89 and 90.

Endocrine gland	Location
A	In the neck
B	Beneath the brain
C	Above the kidneys
D	Upper part of trachea

89. Which one is the main hormone producing gland?

- a) A b) B
c) C d) D

90. Hormone secreted by gland, A—

- i.* is absent in adult age
ii. regulates essential metabolic process
iii. helps in developing immunity system

Which one is correct?

- a) iii b) i and iii
c) ii and iii d) i, ii and iii

91. Which one helps to produce the thyroid hormone?

- a) Ilish b) Bean
c) Meat d) Carrot

92. Deficiency of thyroid hormone creates—

- i.* rough skin
ii. distinct facial features
iii. obstruction in mental development

Which one is correct?

- a) iii b) i and iii
c) ii and iii d) i, ii and iii

93. How many types of diabetes are there?

- a) 2 b) 3
c) 4 d) 5

94. Diabetes—

- i.* is a hereditary disease
ii. is a contagious disease
iii. occurs due to the influence of environment

Which one is correct?

- a) iii b) i and iii
c) ii and iii d) i, ii and iii

95. What is not true about diabetes?

- a) It cannot be fully cured
b) It is a hereditary disease
c) It is not a contagious disease
d) Those who eat sugar have chance of having diabetes

96. What is the main cause of brain hemorrhage?

- a) Angina b) Diabetes
c) Insomnia d) Hypertension

97. Which one is not the symptom of stroke?

- a) Vomiting b) Severe chest pain
c) Severe headache d) Hardness of shoulder

98. Which disease starts with convulsion?

- a) Angina b) Paralysis
c) Epilepsy d) Parkinson

99. Which one helps in muscular movement?

- a) Insulin b) Prolactin
c) Dopamine d) Glucagon

100. When was the Directorate of Narcotic Control established in Bangladesh? In—

- a) 1950 b) 1960
c) 1970 d) 1980

Multiple Choice Questions
Chapter Eleven
Reproduction in Organism

Name : **Date:**
Class : X **Subject: Biology**

- How many types of reproduction are there?
 a) 2 b) 3
 c) 4 d) 5
 - Sexual reproduction occurs in—
 i. fern
 ii. tiger
 iii. bacteria
 Which one is correct?
 a) i b) iii
 c) i and ii d) i, ii and iii
 - Through which process does the reproductive cell divide?
 a) Mitosis b) Meiosis
 c) Amitosis d) Binary fission
 - What is called the plant when two types of reproductive cells are produced in the same body?
 a) Dioecious b) Monoecious
 c) Syngenesious d) Gamosepalous
 - Reproduction is possible in large number using very little energy in—
 i. goat
 ii. bacteria
 iii. protozoa
 Which one is correct?
 a) i b) iii
 c) i and iii d) ii and iii
 - Through which process does the zygote cell divide?
 a) Mitotic b) Meiotic
 c) Amitosis d) Binary fission
 - Sexual reproduction is—
 i. laborious
 ii. complicated
 iii. time consuming
 Which one is correct?
 a) ii b) iii
 c) i and iii d) i, ii and iii
 - Which one is a sessile flower?
 a) Datura b) Pumpkin
 c) Bottle gourd d) Indian heliotrope
 - Which one is a complete flower?
 a) Datura b) Papaya
 c) Pumpkin d) Bottle gourd
 - China rose is a—
 i. bisexual flower
 ii. complete flower
 iii. unisexual flower
 - Which one is correct?
 a) i b) iii
 c) i and ii d) i, ii and iii
 - Which one is not a unisexual flower?
 a) Datura b) Papaya
 c) Pumpkin d) Bottle gourd
 - The flower in which both androecium and gynoecium are absent is—
 i. neuter flower
 ii. bisexual flower
 iii. incomplete flower
 Which one is correct?
 a) i b) i and ii
 c) i and iii d) i, ii and iii
 - What is called if the sepals of the calyx are separated in a flower?
 a) Aposepalous b) Polysepalous
 c) Syngenesious d) Gamosepalous
 - Which part of flower saves the inner parts of a flower from the sun, rain and attack of insects and pest?
 a) Calyx b) Corolla
 c) Gynoecium d) Androecium
 - Which part of flower is photosynthetic?
 a) Calyx b) Corolla
 c) Gynoecium d) Androecium
- Observe the stem and answer the question nos. 16 and 17.
- | | |
|---|------------------------------------|
| A | colourful whorl of flower |
| B | outermost whorl of flower |
| C | every part of it, is called carpel |
| D | every part of it, is called stamen |
- Which part helps in pollination?
 a) A b) B
 c) C d) D
 - Both C and D—
 i. attract insects
 ii. produce gametes
 iii. directly take part in reproduction
 Which one is correct?
 a) ii b) iii
 c) ii and iii d) i, ii and iii
 - Which one is the third whorl of a flower?
 a) Calyx b) Corolla
 c) Gynoecium d) Androecium
 - Which one is polydelphous flower?
 a) Datura b) Pumpkin
 c) Chinese hibiscus d) *Salmalia malabarica*

20. A stamen has—

- i. anther
- ii. filament
- iii. connective

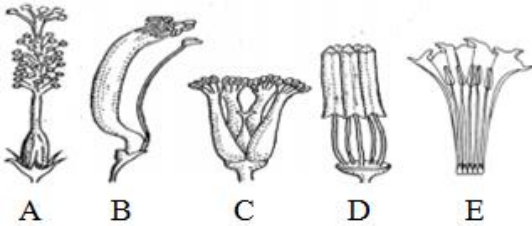
Which one is correct?

- a) i
- b) i and ii
- c) ii and iii
- d) i, ii and iii

21. What is called when the filaments of the stamens are merged together into two groups?

- a) Dioecious
- b) Diadelphous
- c) Syngenesious
- d) Gamosepalous

Observe the figures and answer the question nos. 22 and 23.



22. Which one is syngenesious flower?

- a) A
- b) B
- c) C
- d) D

23. Figure: E is a—

- i. bisexual flower
- ii. complete flower
- iii. epipetalous flower

Which one is correct?

- a) i
- b) iii
- c) i and ii
- d) i, ii and iii

24. How many parts are there in a carpel?

- a) 2
- b) 3
- c) 4
- d) 5

25. What is called when a gynoecium of a flower is formed with many more carpels which are completely merged with each other?

- a) Epipetalous
- b) Syncarpous
- c) Syngenesious
- d) Gamosepalous

26. How many types of inflorescence are there?

- a) 2
- b) 3
- c) 4
- d) 5

27. Which two consecutive steps occur in reproduction?

- a) Pollination and fertilization
- b) Pollination and gamete formation
- c) Gamete formation and fertilization
- d) Microsporogenesis and megasporogenesis

28. How many types of pollination are there?

- a) 2
- b) 3
- c) 4
- d) 5

29. Which one is a cross pollinated flower?

- a) Datura
- b) Papaya
- c) Brassica
- d) Cucumber

30. Through cross pollination—

- i. new character appears

- ii. purity in species is maintained
- iii. the rate of germination goes up

Which one is correct?

- a) i
- b) iii
- c) i and iii
- d) i, ii and iii

31. Which one is not occurred in cross pollination?

- a) Wastage of pollen grain is more
- b) New varieties of plants are emerged
- c) The process is not dependent on carrier
- d) Much more vigorous seeds are produced

32. Which one is not an insect pollinated flower?

- a) Gourd
- b) Mustard
- c) Hibiscus
- d) Oryza sativa

33. Entomophilic flowers—

- i. are colourful
- ii. are big in size
- iii. have nectar gland

Which one is correct?

- a) i
- b) ii
- c) i and ii
- d) i, ii and iii

34. Which one is not the characteristic of air pollinated flowers?

- a) Have light weight
- b) Have no fragrance
- c) Have nectar secreting gland
- d) Stigmas are branched and sticky

35. Which one is a water pollinated flower?

- a) Taro
- b) Kadam
- c) Cotton tree
- d) Vallisnaria

36. Which one is not the characteristic of water pollinated flowers?

- a) Have no fragrance
- b) Are small and have light weight
- c) Petiole of female flower is longer
- d) If small, they are arranged in inflorescence

37. Which one is not a zoophilic flower?

- a) Taro
- b) Kadam
- c) Cotton tree
- d) Chinese hibiscus

38. Zoophilic flowers—

- i. are large in size
- ii. have light weight
- iii. have attractive colour

Which one is correct?

- a) i
- b) ii
- c) i and iii
- d) i, ii and iii

39. What is the first cell of gametophyte?

- a) Pollen
- b) Zygote
- c) Gamete
- d) Pollen mother cell

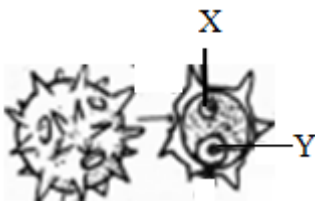
40. How many pollen does each pollen mother cell produce in every division?

- a) 2
- b) 4
- c) 8
- d) 16

41. Through which process does pollen mother cell produce pollen?

- a) Mitotic b) Meiotic
c) Amitosis d) Binary fission

Observe the figure and answer the question nos. 42 and 43.



42. Through which process are X and Y produced in above figure?

- a) Mitotic b) Meiotic
c) Amitosis d) Binary fission

43. X in the above figure—

- i. is a tube cell
ii. is a generative cell
iii. produces two male gametes

Which one is correct?

- a) i b) ii
c) i and ii d) ii and iii

44. How many nuclei are there in four embryo sacs of flower?

- a) 8 b) 16
c) 32 d) 64

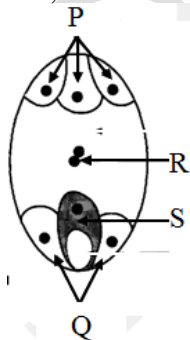
45. How many cells are there in ten embryo sacs of flower?

- a) 12 b) 36
c) 60 d) 70

46. How many times is cell division occurred in embryo sac?

- a) 2 times b) 3 times
c) 4 times d) 5 times

Observe the figure and answer the question nos. 47, 48 and 49.



47. Which one is egg?

- a) P b) Q
c) R d) S

48. Which one is diploid?

- a) P b) Q
c) R d) S

49. Male gamete—

- i. fuses with P
ii. fertilizes S and develop zygote
iii. fertilizes R and develop endosperm

Which one is correct?

- a) i b) ii
c) i and ii d) ii and iii

50. Which one develops triploid endosperm?

- a) Somatic cell
b) Synergid cell
c) Antipodal cell
d) Secondary nucleus

51. What is called the cell of opposite side of egg apparatus inside the embryo sac?

- a) Zygote cell b) Somatic cell
c) Synergid cell d) Antipodal cell

52. What is the nature of endospermic cell?

- a) Haploid b) Diploid
c) Triploid d) Double diploid

53. The other male gamete which does not fuse with the egg, develops—

- a) Seed b) Fruit
c) Ovule d) Cereal grains

54. What is the first cell of a sporophyte?

- a) Pollen b) Ovum
c) Zygote d) Endosperm

55. What is called the cell towards the micropyle?

- a) Basal cell b) Apical cell
c) Diploid cell d) Antipodal cell

56. Which cell turns into embryo?

- a) Basal cell b) Apical cell
c) Diploid cell d) Antipodal cell

57. After fertilization—

- i. stimulation starts in the ovary
ii. ovary of the flower turns into fruit
iii. ovule with endosperm turns into seed

Which one is correct?

- a) ii b) iii
c) i and iii d) i, ii and iii

58. Into how many categories are all the fruits grouped?

- a) 2 b) 3
c) 4 d) 5

59. In case of false fruit—

- i. only ovary turns into fruit
ii. apple and dellenia are false fruits
iii. floral parts along with ovary turn into fruit

Which one of the following is correct?

- a) i b) iii
c) i and iii d) ii and iii

60. Which one is not included in asexual reproduction?

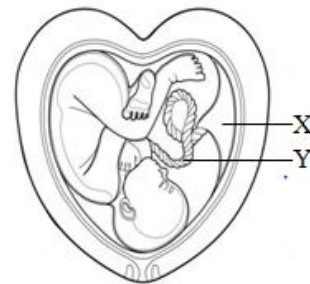
- a) Budding b) Fertilization
c) Binary fission d) Fragmentation

61. How many types of fertilizations are there?

- a) 2 b) 3
c) 4 d) 5

62. Which one is the example of internal fertilization?

- a) Ilish b) Shark
c) Salmon d) Cat fish
63. The hormones produced by pituitary gland—
i. controls mammary gland
ii. regulate the contraction of uterus
iii. regulate growth of reproductive glands
Which one is correct?
a) i b) i and iii
c) ii and iii d) i, ii and iii
64. Which hormone is not secreted by ovary?
a) Relaxin b) Estrogen
c) Androgen d) Progesterone
65. Thyroxin hormone—
i. regulates metabolic function
ii. expresses sexual characteristics
iii. ensures physical and mental development
Which one is correct?
a) i b) i and ii
c) ii and iii d) i, ii and iii
66. Which one is not the function of hormones secreted by ovary?
a) Menstruation
b) Formation of ovum
c) Enlargement of mammary glands
d) Enlargement of the wall of uterus
67. What is called the transitional period of adolescence and youth?
a) Adult b) Puberty
c) Maturity d) Grown-up
68. Which one is not a change in boys during puberty?
a) Softness in skin
b) Widening of shoulder
c) Deepening of the voice
d) Growing of beard on the face
69. During puberty in girls,—
i. shoulders get widen
ii. loveliness in appearance happens
iii. monthly discharge of blood starts
Which one is correct?
a) i b) ii
c) i and iii d) ii and iii
70. After how many years of puberty does a girl gain the ability of reproduction?
a) 1-2 years b) 2-3 years
c) 3-4 years d) 4-5 years
71. When is menopause occurred in women? Age between—
a) 40-45 years b) 40-50 years
c) 45-50 years d) 50-55 years
72. Menstrual cycle gets stopped—
i. during pregnancy
ii. during menopause
iii. after 6 week of child birth
Which one is correct?
- a) ii b) iii
c) i and ii d) ii and iii
73. Where is the fusion of sperm and egg nucleus occurred? In—
a) Ovary b) Uterus
c) Vagina d) Oviduct
74. A sperm—
i. is motile
ii. has a tail to swim
iii. has one set of chromosomes
Which one is correct?
a) i b) iii
c) i and iii d) i, ii and iii
75. What is called the process by which blastocyst gets embedded with the uterine wall?
a) Cleavage b) Pregnancy
c) Implantation d) Menstruation
76. How long the embryo or fetus take to develop in the uterus?
a) 38-40 weeks b) 38-42 weeks
c) 38-45 weeks d) 40-50 weeks
77. How long is it needed for the completion of implantation?
a) 1-2 days b) 2-3 days
c) 3-4 days d) 4-5 days
78. The placenta is composed of—
i. the cells of developing embryo
ii. a huge amount of blood capillaries
iii. the cells of the endoderm of the uterus
Which one is correct?
a) i b) ii
c) i and ii d) i, ii and iii
79. Which one not the function of placenta?
a) It acts as lung
b) It acts as kidney
c) It secretes some hormones
d) It helps in the development of uterus
- Observe the figure and answer the question nos. 80 and 81.



80. When is X marked part formed after zygote formation? Within—
a) 84 days b) 11 weeks
c) 10 weeks d) 4 months
81. Hormones secreted from Y marked part—
i. protect the embryo
ii. facilitate child birth
iii. help to produce milk

